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Ministry of the Environment · Denmark

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Annual Danish Emission Inventory Report to UNECE

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Data sheet

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Abstract: This report is a documentation report on the emission inventories for Denmark as reported to the UNECE Secretariat under the Convention on Long Range Transboundary Air Pollution due by 15 February 2006. The report contains information on Denmark's emission inventories regarding emissions of (1) SO_X for the years 1980-2004, (2) NO_X, CO, NMVOC and NH_3 for the years 1985-2004; (3) Particulate matter: TSP, PM_{10}, $PM_{2.5}$ for the years 2000-2004, (4) Heavy Metals: Pb, Cd, Hg, As, Cr, Cu, Ni, Se and Zn for the years 1990-2004, and (5) Polyaromatic hydrocarbons (PAH): Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and indeno(1,2,3-cd)pyrene for the years 1990-2004. Further, the report contains information on background data for emissions inventory.

Keywords:	Emission Inventory; Emissions; Projections; UNECE; EMEP; NO_X; CO; NMVOC; SO_X; NH_3; TSP; PM_{10}; $PM_{2.5}$; Pb; Cd; Hg; As; Cr; Cu; Ni; Se; Zn; Polyaromatic hydrocarbons; Benzo(a)pyrene, Benzo(b)fluoranthene.
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I Background information on emission inventories

Annual report

This report is Denmark's Annual Emissions Inventory Report due May 2006 to the UNECE-Convention on Long-Range Transboundary Air Pollution (LRTAP). The report contains information on Denmark's inventories for all years from the base years of the protocols to 2004.

The gases reported under the LRTAP Convention are SO_2, NO_X, NMVOC, CO, NH_3, As, Cd, Cr, Cu, Hg, Ni, Pb, Se, Zn, dioxins/furans, PAHs, TSP, $PM_{2.5}$ and PM_{10}.

The annual emission inventory for Denmark is reported in the Nomenclature for Reporting (NFR) format as requested in the reporting guidelines. The complete set of NFR files are provided in the report.

The issues addressed in this report are: trends in emissions, description of each NFR category, uncertainty estimates, recalculations, planned improvements and procedures for quality assurance and control. The structure of the report is, as far as possible, the same as the National Inventory Report to UNFCCC.

This report and the NFR tables are available to the public on the National Environmental Research Institute's homepage

(http://www.dmu.dk/1_Viden/2_Miljoe-tilstand/3_luft/4_adaei/default_en.asp).

Responsible institute

The National Environmental Research Institute (NERI), under the Danish Ministry of Environment, is responsible for the annual preparation and submission to the UNECE-LRTAP Convention of the Annual Danish Emissions Report and the inventories in the NFR format in accordance with the guidelines. NERI participates in meetings under the UNECE Task Force on Emission Inventories and Projections and the related expert panels, where parties to the convention prepare the guidelines and methodologies on inventories.

II Trends in emissions

Acidifying gases

Figure S.1 shows the emission of Danish acidifying gases in terms of acid equivalents. In 1990, the relative contribution in acid equivalents was almost equal for the three gases. In 2004, the most important acidification factor in Denmark was ammonia nitrogen and the relative contributions for SO_2, NO_X and NH_3 were 7 %, 38 % and 55 %, respectively. However, regarding long-range transport of air pollution, SO_2 and NO_X are still the most important pollutants.

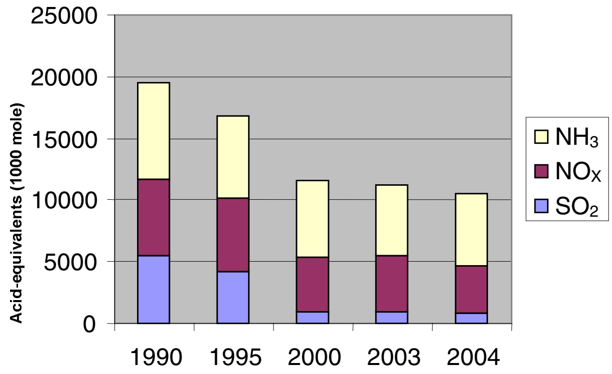


Figure S.1 Emissions of NH_3, NO_X and SO_2 in acid equivalents.

SO_2

The main part of the SO_2 emission originates from combustion of fossil fuels, i.e. mainly coal and oil, in public power and district heating plants. From 1980 to 2004, the total emission decreased by 95%. The large reduction is mainly due to installation of desulphurisation plant and use of fuels with lower content of sulphur in public power and district heating plants. Despite the large reduction in SO_2 emissions, these plants make up 42% of the total emission. Also, emissions from industrial combustion plants, non-industrial combustion plants and other mobile sources are important. National sea traffic (navigation and fishing) contributes with around 11% of the total SO_2 emission. This is due to the use of residual oil with high sulphur content.

NO_X

The largest source of emissions of NO_X is other mobile sources followed by road transport and combustion in energy industries (mainly public power and district heating plants). The transport sector was the sector contributing the most to the emission of NO_X and, in 2004, 39% of the Danish NO_X emission stemmed from road transport, national navigation, railways and civil aviation. Also, emissions from national fishing and off-road vehicles contribute significantly to the NO_X emission. For non-industrial combustion plants, the main sources are combustion of gas oil, natural gas and wood in residential plants. Emissions from public power plants and district heating plants decreased by 57% from 1985 to 2004. In the same period, the total emission decreased by 38%. The reduction is due to the increasing use of catalyst cars and installation of low-NO_X burners and de-nitrifying units in power and district heating plants.

NH_3

Almost all atmospheric emissions of NH_3 result from agricultural activities. Only a minor part originates from road transport. This part is, however, increasing due to increasing use of catalyst cars.

The major part of the emission from agriculture stems from livestock manure (78%) and the largest losses of ammonia occur during the handling of the manure in stables and in field application. Other contributions come from crops (15%), use of mineral fertilisers (6%), sewage sludge used as fertiliser and ammonia used for treatment of straw (less than 1%). The total ammonia emission decreased by 32% from 1985 to 2004. This is due to the active national environmental policy efforts of the past twenty years.

Other air pollutants

NMVOC

The emissions of NMVOC originate from many different sources and can be divided into two main groups: incomplete combustion and evaporation. The main sources of NMVOC emissions from incomplete combustion processes are road vehicles and other mobile sources such as national navigation vessels and off-road machinery. Road transportation vehicles are still the main contributors, even though the emissions from this source have declined since the introduction of catalyst cars in 1990. Evaporative emissions mainly originate from the use of solvents. Emissions from the energy industries have increased during the nineties because of increasing use of stationary gas engines, which have much higher emissions of NMVOC than conventional boilers. Total anthropogenic emissions decreased by 35% from 1985 to 2004, mainly due to the increasing use of catalyst cars and reduced emissions from use of solvents.

CO

Transport accounts for the dominant share of the total CO emission. Also, other mobile sources and non-industrial combustion plants contribute significantly to the total emission of this pollutant. The drop in emissions seen in 1990 was a consequence of a law forbidding the burning of agricultural waste on fields. The emission decreased by 23% from 1990 to 2004, mainly because of decreasing emissions from road transportation.

PAHs

The present emission inventory for PAH (poly aromatic hydrocarbons) includes the four PAHs reported to UNECE: benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene and indeno-(1,2,3-cd) pyrene. The most important sources of the PAH emission are combustion of wood in the residential sector and road transportation. The increasing emission trend is due to increasing combustion of wood in the residential sector.

Particulate Matter

The particulate matter (PM) emission inventory has been reported for the years 2000-2004. The inventory includes total emission of particles TSP (Total Suspended Particles), emission of particles smaller than 10 µm (PM_{10}) and emission of particles smaller than 2.5 µm ($PM_{2.5}$).

The largest $PM_{2.5}$ emission sources are the residential sector (55%), road traffic (18%) and other mobile sources (13%). For the latter, the most important source is off-road vehicles and machinery in the agricultural/forestry sector (58 %). For the road transport sector, exhaust emissions account for the major part (85%) of the emission.

The largest TSP emission sources are the agricultural sector and the residential sector. The TSP emissions from transport are also important and include both exhaust emissions and non-exhaust emissions from brake and tyre wear and road abrasion. The non-exhaust emissions account for 26% of the TSP emission from road transport.

Heavy metals

In general, the most important sources of heavy metal emissions are combustion of fossil fuels and waste. The heavy metal emissions have decreased substantially over recent years. The reductions span from 18% to 96%, for Cu and Pb respectively. The reason for the reduced emissions is mainly the increased use of gas cleaning devices at power and district heating plants (including waste incineration plants). The large reduction in the Pb emission is due to a gradual shift towards unleaded gasoline, the latter being essential for catalyst cars.

III Recalculations and Improvements

In general, considerable work is being carried out to to improve the inventories. New investigations and research carried out in Denmark and abroad are, as far as possible, included as the basis for the emission estimates and included as data in the inventory databases. Furthermore, the updates of the EMEP/CORINAIR guidebook and the work in the Task Force on Emission Inventories and its expert groups are followed closely in order to be able to incorporate the best scientific information as the basis for the inventories. Further important references in this regard are the IPCC guidelines and IPCC good practice guidance.

Implementation of new results in inventories is made in a way so that improvements better reflect Danish conditions and circumstances. In improving the inventories, care is taken to consider implementation of improvements for the whole time-series of inventories, to promote consistency. Such efforts lead to recalculation of previously submitted inventories.

For total national emissions, the general impact of the recalculations made in 2005 is small. The most important recalculations for the various sectors are mentioned below.

Stationary combustion

Recalculation is mainly a result of an update of fuel rates according to the latest energy statistics. The update included the years 1980-2003. The criteria for including a plant as a point source has been defined and included in this reporting. A number of emission factors for SO_2 and NO_x have been corrected, see Annex 2, Appendix 4. The emission factor for N_2O for coal-powered plants has been updated based on new research.

Some additional improvements, causing only very limited changes in the estimated total emission from stationary combustion, are discussed in Section 3.2.5.

Transport

The following most important recalculations and improvements of the emission inventories have been made since the emission reporting in 2005.

For road transport, a revision of the 1985-2003 time-series of emissions has been made, based on revised fleet and mileage data from the Danish Road Directorate, and corrections have been made to road transport gasoline fuel use in accordance with a new gasoline fuel use estimate for non-road machinery. Additionally, a new model has been developed at NERI, based on the COPERT methodology and emission factors. This decision was made in order to gain flexibility in output formats and to save working time during inventory update and debugging procedures.

For inland waterways/agriculture/forestry/household-gardening, a complete revision of the 1985-2003 time-series of fuel use and emissions has been made, using results from a specific Danish non-road research project (Winther et al., 2006). This change also affects the 1985-2003 time-series of diesel fuel use and emissions for fisheries.

For military and domestic aviation, smaller inventory changes have been made and, in these cases, further details are presented in Section 3.3.

Industry

NMVOC from roofing and road paving with asphalt is now included in the inventory.

Solvents

A new approach for calculating the emissions of Non-Methane Volatile Organic Carbon (NMVOC) from industrial and household use in Denmark has been introduced. It focuses on single chemicals rather than activities. The procedure is to quantify the use of the chemicals and estimate the fraction of the chemicals that is emitted as a consequence of use. Improvements and additions are continuously being implemented in the new approach, due to the comprehensiveness and complexity of the use and application of solvents in industries and households. The improvements in the 2004 reporting include revisions of the following: 1) Propane and butane use, 2) Refinement of distribution of use categories in industrial branches, and 3) Emission factors for use and for production and processing.

Agriculture

Few changes have been made in relation to the ammonia emission 19850-2003, and they influence the total emission of 2003 and 2004 by less than 1% (refer to Section 6.7). There are no changes in the particulate matter emission calculations.

Sammenfatning

I Baggrund for emissionsopgørelser

Årlig rapport

Denne rapport er Danmarks årlige rapport om emissionsopgørelser sendt til UNECE-konventionen om langtransporteret grænseoverskridende luftforurening (LRTAP) i maj 2006. Rapporten indeholder oplysninger om Danmarks opgørelser for alle år fra basisårene for protokollerne til 2004.

Gasserne der rapporteres til LRTAP-konventionen er SO_2, NO_X, NMVOC, CO, NH_3, As, Cd, Cr, Cu, HG, Ni, Pb, Se, Zn, dioxiner/furaner, PAH, TSP, $PM_{2,5}$ og PM_{10}.

Den årlige emissionsopgørelse for Danmark rapporteres i det format (NFR) som angivet i retningslinierne for rapportering. Det fuldkomne sæt af NFR-filer er inkluderet i rapporten.

Emnerne behandlet i rapporten er: Udvikling i emissioner, beskrivelse af hver NFR-kategori, usikkerheder, rekalkulationer, planlagte forbedringer og procedure for kvalitetssikring og -kontrol. Strukturen i rapporten er, så vidt muligt, den samme som den nationale emissionsopgørelsesrapport sendt til FN's konvention om klimaændringer (UNFCCC).

Denne rapport og NFR-tabellerne er tilgængelige for offentligheden på DMU's hjemmeside.

(http://www.dmu.dk/1_Viden/2_Miljoe-tilstand/3_luft/4_adaei/default_en.asp)

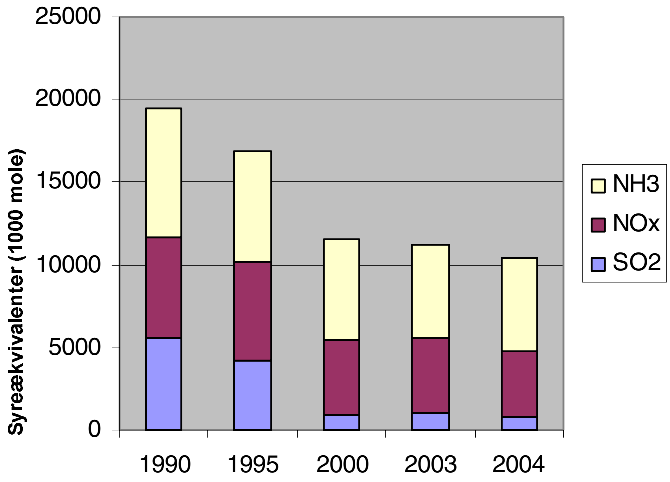
Ansvarligt institut

Danmarks Miljøundersøgelser (DMU) under Miljøministeriet er ansvarlig for udarbejdelse af den årlige danske emissionsrapport og opgørelserne i NFR-format i overensstemmelse med retningslinierne samt rapportering til UNECE-LRTAP-konventionen. DMU deltager i møder under UNECEs arbejdsgruppe for emissionsopgørelser og –fremskrivninger samt ekspertpaneler, hvor parter i konventionen udarbejder retningslinier og metoder for emissionsopgørelserne.

II Udviklingen i emissioner

Forsurende gasser

Figur S.1 viser emissionen af danske forsurende gasser opgjort i syreækvivalenter. I 1990 var det relative bidrag af syreækvivalenter næsten ens for de tre gasarter. I 2004 var ammoniak den vigtigste forsurende faktor i Danmark og de relative bidrag for SO_2, NO_X og NH_3 var på henholdsvis 7 %, 38 % og 55 %. Med hensyn til langtransporteret luftforurening er det dog stadig SO_2 og NO_X, der er de største kilder.



Figur S.1 Emissioner af NH_3, NO_X og SO_2 i syreækvivalenter.

SO_2

Hovedparten af SO_2-emissionerne stammer fra forbrænding af fossile brændsler, dvs. primært kul og olie, på kraftværker, kraftvarmeværker og fjernvarmeværker. Fra 1980 til 2004 er det totale udslip reduceret med 95 %. Den store reduktion er primært opnået gennem installation af afsvovlingsanlæg og brug af brændsler med lavt svovlindhold på kraftværker og fjernvarmeværker. Trods den store reduktion er disse værker kilde til 42 % af det samlede udslip. Også emissioner fra industrielle forbrændingsanlæg, ikke-industrielle forbrændingsanlæg og andre mobile kilder er væsentlige bidragsydere til emissionen. National søfart (sejlads og fiskeri) bidrager med omkring 11 % af den totale SO_2-emission. Dette skyldes brug af fuelolie med et højt svovlindhold.

NO_X

Den største kilder til emissioner af NO_X er andre mobile kilder efterfulgt af vejtransport og forbrænding i energisektoren (hovedsageligt kraftværker og fjernvarmeværker). Transportsektoren er den sektor, der bidrager mest til udledningen af NO_X og i 2004 stammede 39 % af de danske NO_X-emissioner fra vejtransport, national sejlads, jernbaner og civil luftfart. Også emissioner fra nationalt fiskeri og off-road køretøjer (entreprenør-, landbrugsmaskiner, m.m.) bidrager betydeligt til NO_X-emissionen. For ikke-industrielle forbrændingsanlæg er de primære kilder forbrænding af gasolie, naturgas og træ i husholdninger. Emissionerne fra kraftværker og fjernvarmeværker er faldet med 57 % fra 1985 til 2004. I sammen periode er den totale emission faldet med 38 %. Reduktionen skyldes øget brug af katalysatorer i biler og installation af lav-NO_X-brændere og de-NO_X-anlæg på kraftværker og fjernvarmeværker.

NH_3

Stort set alle atmosfæriske emissioner af NH_3 stammer fra aktiviteter i landbruget. Kun en mindre del skyldes vejtransport. Denne del er dog stigende pga. den øgede brug af biler med katalysator. Hovedparten af emissionen fra landbruget stammer fra husdyrgødning (78 %) og de største tab af ammoniak optræder under håndtering af gødningen i stalden og under spredning på marken. Andre bidrag kommer fra afgrøder (15 %), brug af kunstgødning (6 %), slam fra rensningsanlæg brugt som gødning og ammoniak brugt til behandling af halm (mindre end 1 %). Den totale ammoniakemission er faldet 32 % fra 1985-2004. Dette er et resultat af den nationale miljøpolitik, der er ført gennem de seneste 20 år.

Anden luftforurening

NMVOC

Emissionen af NMVOC stammer fra mange forskellige kilder og kan opdeles i to hovedgrupper: Ufuldstændig forbrænding og fordampning. Hovedkilderne til NMVOC-emissioner fra ufuldstændig forbrændingsprocesser er vejtrafik og andre mobile kilder, som national sejlads og ikke vejgående maskiner. Køretøjer til vejtransport er fortsat den største bidragsyder, selvom emissionerne er faldet siden introduktionen af biler med katalysator i 1990. Emissionerne fra fordampning stammer hovedsageligt fra brugen af opløsningsmidler. Emissionerne fra energisektoren er steget igennem 90'erne pga. øget brug af stationære gasmotorer, som har meget højere emissioner af NMVOC end konventionelle kedler. De totale menneskeskabte emissioner er faldet med 35 % fra 1985 til 2004, primært som følge af øget brug af biler med katalysator og reducerede emissioner fra brug af opløsningsmidler.

CO

Selvom biler med katalysator blev introduceret i 1990, er vejtransport stadig årsag til den største del af den totale CO-emission. Også andre mobile kilder og ikke-industrielle forbrændingsanlæg bidrager betydeligt til den totale emission af denne gas. Faldet i emissioner set i 1990 var en konsekvens af loven, der forbyder markafbrænding. Emissionen faldt med 23% fra 1990 til 2004 hovedsageligt pga. faldende emissioner fra vejtransport.

PAH'er

Den nuværende emissionsopgørelse for PAH (polycycliske aromatiske hydrocarboner) inkluderer de fire PAH'er der rapporteres til LRTAP-konventionen: Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene og indeno(1,2,3-cd)pyrene. De vigtigste kilder til emission af PAH er forbrænding af træ i husholdningerne samt vejtransport. De stigende emissioner skyldes øget forbrænding af træ i husholdningerne.

Partikler

Emissionsopgørelsen for partikler (Particulate Matter, forkortet PM) er blevet rapporteret for årene 2000-2004. Opgørelsen inkluderer den totale emission af partikler TSP (Total Suspended Particles), emissionen af partikler mindre end 10 µm (PM_{10}) og emissionen af partikler mindre end 2,5 µm ($PM_{2,5}$).

De største kilder til $PM_{2,5}$-emission er husholdninger (55 %), vejtrafik (18 %) og andre mobile kilder (13 %). For den sidstes vedkommende er off-road køretøjer samt landbrugs- og skovbrugsmaskiner de vigtigste kilder (58%). I transportsektoren tegner udstødningsemissioner sig for størstedelen (85 %).

De største kilder til TSP-emission er landbrugssektoren og husholdningerne. TSP-emissionen fra transport er også vigtig og inkluderer både udstødningsemissioner og ikke-udstødningsrelaterede emissioner fra slid af bremser, dæk og vej. De ikke-udstødningsrelaterede emissioner udgør 26 % af TSP-emissionen fra transport.

Tungmetaller

Generelt er de vigtigste kilder til emissioner af tungmetaller forbrænding af fossile brændsler og affald. Emissionerne af tungmetaller er faldet betydeligt de seneste år. Reduktionerne spænder fra 18 % til 96% for henholdsvis Cu og Pb. Årsagen til de reducerede emissioner er hovedsageligt den øgede brug af røggasrensning på kraftværker og fjernvarmeværker (inklusive affaldsforbrændingsanlæg). Den store reduktion i emissionen af Pb skyldes et løbende skift til fordel for blyfri benzin, som er nødvendigt for biler med katalysator.

III Rekalkulationer og forbedringer

Generelt pågår der et betydeligt arbejde med at forbedre emissionsopgørelserne. Nye undersøgelser og forskning fra Danmark og udlandet inkluderes så vidt muligt som basis for emissionsestimaterne. Desuden følges arbejdet med opdateringer af EMEP/CORINAIR-retningslinjerne for emissionsopgørelser nøje med henblik på at indarbejde de bedste videnskabelige informationer som basis for opgørelserne. Andre vigtige kilder er IPCCs retningslinier (IPCC Guidelines og IPCC Good Practice Guidance).

Opgørelserne opdateres løbende med ny viden, således opgørelserne bedst mulig afspejler danske forhold. Ved forbedringer lægges vægt på, at opdateringer omfatter hele tidsserier for at sikre konsistente data. Disse tiltag medfører rekalkulation af tidligere indberettede opgørelser. Rekalkulationerne har kun medført små ændringer i de nationaltotale emissioner. De vigtigste rekalkulationer for de forskellige sektorer er nævnt i nedenstående.

Stationære forbrændingsanlæg

Rekalkulationer skyldes hovedsageligt opdatering af brændselsforbrug i henhold til den seneste udgave af Energistatistikken. Opdateringen gælder årene 1980-2003. Enkelte emissionsfaktorer for SO_2 og NO_x er blevet ændret, se anneks 2a, appendiks 4. N_2O emissionsfaktoren for kulfyrede kraftværker er blevet opdateret for hele tidsserien baseret på forskning udført af Elsam. Se afsnit 3.2.5 for yderligere forbedringer.

Transport

For vejtransport er emissionerne ændret i en tidsserie fra 1985-2003 pga. ændrede trafik- og bestandsdata fra Vejdirektoratet og et revideret forbrugsestimat for benzin. Den sidste revision er gjort på basis af de nye forbrugsberegninger for arbejdsredskaber og maskiner. Derudover beregnes vejtrafikkens emissioner nu i en intern DMU-model der bygger på COPERT III modellens struktur. Formålet er at opnå mere fleksibilitet i outputformaterne og at spare tid ved fremtidige modelopdateringer. For fritidsfartøjer, landbrug, skovbrug og havehushold er energiforbrug og emissioner blevet opdateret i en tidsserie fra 1985-2003 på basis af ny dansk forskningsviden (Winther et al., 2006). Disse ændringer påvirker også energiforbruget og emissionerne fra fiskeri.

Flere detaljer er beskrevet i sektion 3.3.

Industri

NMVOC emissioner fra tag- og vejbelægning med asfalt og asfaltprodukter er nu inkluderet i opgørelsen.

Opløsningsmidler

En ny metode til beregning af NMVOC-emissioner fra industri og husholdninger er anvendt. Metoden tager udgangspunkt i enkelte kemikalier og ikke som tidligere i aktiviteter. Fremgangsmåden er en kvantificering af brugen af kemikalier og en estimering af fraktionen af kemikalierne, der emitteres som følge af forbrug i industri og husholdninger. Forbedringer og tilføjelser implementeres løbende i den nye metode på grund af den meget omfattende mængde kemikalier og kompleksitet af anvendelser og emissioner. Forbedringer i forhold til 2003 opgørelsen omfatter følgende hovedpunkter: 1) Anvendelse af propan og butan, 2) Forbedring af fordeling af stoffer i de forskellige industrielle brancher, 3) Forbedring af emissionsfaktorer for forbrug og production.

Landbrug

Der er kun fortaget få opdateringer i beregningen af NH_3-emissionen. Ændringen i den beregnede emission er under 1 % (se afsnit 6.7). Der ingen ændringer i beregning af partikelemissionerne.

1 Introduction

1.1 Background information on emission inventories

1.1.1 Annual report

According to the Guidelines for Estimating and Reporting Emission Data/2002/7 prepared by the Task Force on Emission Inventories and Projections, countries party to the UNECE-Convention on Long-Range Transboundary Air Pollution are required annually to submit an informative report to the Secretariat.

This report is Denmark's Annual Emissions Inventory Report due May 2006. The report contains information on Denmark's inventories for all years from the base years of the protocols to 2004.

The annual emission inventory for Denmark is reported in the Nomenclature for Reporting (NFR) format as requested in the reporting guidelines. The complete sets of NFR files are available in Annex 1.

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This report and NFR tables are available to the public on NERI's homepage (http://www.dmu.dk/1_Viden/2_Miljoetilstand/3_luft/4_adaei/default_en.asp).

1.2 A description of the institutional arrangement for inventory preparation

The National Environmental Research Institute (NERI), under the Danish Ministry of Environment, is responsible for the annual preparation and submission to the UNECE-LRTAP Convention of the Annual Danish Emissions Report, and the inventories in the NFR Format in accordance with the guidelines. NERI participates in meetings under the UNECE Task Force on Emission Inventories and Projections and the related expert panels where parties to the convention prepare the guidelines and methodologies on inventories.

The work concerning the annual emissions inventory is carried out in co-operation with other Danish ministries, research institutes, organisations and companies:

Danish Energy Authority, The Ministry of Transport and Energy: Annual energy statistics in a format suitable for the emission inventory work and fuel consumption data for the large combustion plants.

Danish Environmental Protection Agency, The Ministry of the Environment: Database on waste.

Statistics Denmark, The Ministry of Economic and Business Affairs: Statistical yearbook, sales statistics for manufacturing industries and agricultural statistics.

Danish Institute of Agricultural Sciences, The Ministry of Food, Agriculture and Fisheries: Data on use of mineral fertiliser, feedstuff consumption and nitrogen turnover in animals.

The Road Directorate, The Ministry of Transport and Energy: Number of vehicles grouped in categories corresponding to the EU classification, mileage (urban, rural, highway), trip speed (urban, rural, highway).

Danish Centre for Forest, Landscape and Planning, The Royal Veterinary and Agricultural University: Background data for Forestry and CO_2 uptake by forest.

Civil Aviation Agency of Denmark, The Ministry of Transport and Energy: City-pair flight data (aircraft type and origin and destination airports) for all flights leaving major Danish airports.

Danish Railways, The Ministry of Transport and Energy: Fuel-related emission factors for diesel locomotives.

Danish companies: Audited environmental statements, green accounts ("Grønne regnskaber") and direct information gathered from producers and agency enterprises.

Formerly, data provision was on a voluntary basis, but more formal agreements are now being prepared.

1.3 Brief description of the process of inventory preparation

Background data (activity data and emission factors) for estimation of the Danish emission inventories is stored in central databases placed at NERI. The databases are in Access format and handled with software developed by the European Environmental Agency and NERI. As input to the databases, various sub-models are used to estimate and aggregate the background data so they fit the format and level in the central databases. The methodologies and data sources used for the different sectors are described in Chapter 1.4 and Chapters 3 to 6. As part of the QA/QC (quality assurance/quality control) plan, a data structure is proposed that describes the pathway from collection of raw data to data compilation, modelling and final reporting (Illerup et al., 2006).

For each submission, databases and additional tools and submodels are frozen together with the resulting CRF-reporting format.

This material is placed on central institutional servers, which are subject to routine back-up services. Back-up material is archived safely. A further documentation and archiving system is the official journal for NERI, for which there exist obligations for NERI as a governmental institute. In this journal, system correspondence, in-going and out-going, is registered, which in this case involves registration of submissions as well as communication on inventories with the UNFCCC-Secretariat, with the European Commission, with review teams, etc.

Figure 1.1 shows a schematic overview of the process of inventory preparation. The figure illustrates the process of inventory preparation from the first step of collecting external data to the last step, where the reporting schemes are generated to UNFCCC and the EU (the CRF format (Common Reporting Format)) and to the United Nations Economic Commission for Europe/Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (UNECE/EMEP) (the NFR format (Nomenclature For Reporting)). For data handling, the software tool is CollectER (Pulles et al., 1999a); for the CRF reporting, the software tool is ReportER (Pulles et al., 1999b); and CRF correction templates have been developed by NERI. Data files and programme files used in the inventory preparation process are listed in Table 1.1.

Table 1.1 List of current data structure; data files and programme files in use

Level	Name	Application	Path	Type	Input sources	Remarks
5	NFR-tables (UNECE/EMEP)	External report	I:\ROSPROJ\LUFT_EMI\2002_unece	MS Excel	NFR_Report_Automatisk.xls	NFR-format
5	CFR-tables (UNFCCC and EU)	External report	I:\ROSPROJ\LUFT_EMI\2002_EU	MS Excel	ReportER CRF-skabeloner CRF-Retteskabelon	CRF-format
4	CRF-Retteskabelon (correction templates)	Help tool	I:\ROSPROJ\LUFT_EMI\2002_EU\2002_EU_15March2004	MS Excel	manual input	Notations keys, etc.
4	CollectER	Management tool	I:\ROSPROJ\LUFT_EMI\programmer\CollectER\programfiler	(exe + mdb)	manual input	Version: 1.3 3 from Spirit
4	ReportER	Reporting tool	I:\ROSPROJ\LUFT_EMI\programmer\ReportER\programfiler	(exe + mdb)	CollectER databases ReportER database	Version: 3.1 Beta dbversion:4 from Spirit
3	dk1972.mdb.dkxxxx.mdb	Data storage	I:\ROSPROJ\LUFT_EMI\Collect	MS Access	CollectER MS Access	CollectER databases
4	NFR-template	Presentation template	I:\ROSPROJ\LUFT_EMI\Collect\v4\NFRsheets_original_koder.xls	MS Excel	none	
4	DMURep.mdb	Help tool	I:\ROSPROJ\LUFT_EMI\DMURep	MS Access	dk1972.mdb..dkxxxx.mdb ReportER database manual input	
4	NFR_Report_Automatisk.xls	Help tool, Report compiler	I:\ROSPROJ\LUFT_EMI\DMURep\Excel skabeloner	MS Excel	DMURep(_ny).mdb;qXLS_NFR_Report NFR-skabelon	
5	EMEP_NFR.xlt	Internal Time-series report	I:\ROSPROJ\LUFT_EMI\DMURep\Excel skabeloner	MS Excel	DMURep.mdb	

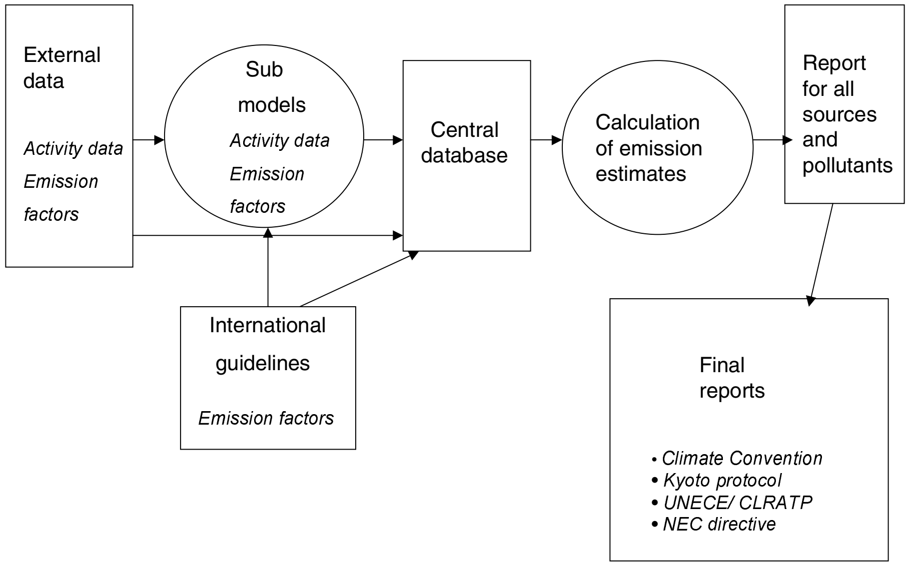

Figure 1.1 Schematic diagram of the process of inventory preparation

1.4 Brief description of methodologies and data sources used

Denmark's air emission inventories are based on the "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories" (Houghton et al., 1997), the "Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories" (Penman et al., 2000) and the CORINAIR methodology. CORINAIR (COoRdination of Information on AIR emissions) is a European air emission inventory programme for national sector-wise emission estimations, harmonised with the IPCC guidelines. To ensure estimates as timely, consistent, transparent, accurate and comparable as possible, the inventory programme has developed calculation methodologies for most sub-sectors, and software for storage and further data processing (Richardson, S. (Ed), 1999).

A thorough description of the CORINAIR inventory programme used for Danish emission estimations is given in Illerup et al. (2000). The CORINAIR calculation principle is to calculate the emissions as activities multiplied by given factors. Activities are numbers referring to specific processes which generate emissions, while an emission factor is the mass of emissions per unit activity. Information on activities for the CORINAIR inventory is mainly based on official statistics. The most consistent emission factors have been used, either as national values or default factors proposed by the CORINAIR methodology. The documentation on the CORINAIR methodology can be obtained from the "Joint EMEP/-CORINAIR Atmospheric Emission Inventory Guidebook", Second edition (Richardson, S. (Ed), 1999). The documentation on COPERT III is given in Ntziachristos et al. (2000).

A list of all sub-sectors at the most detailed level is given in Illerup et al. (2000). Incorporated in the CORINAIR software is a feature to serve the specific UNFCCC and UNECE convention needs for emission reporting. The translations between CORINAIR and IPCC codes for sector classifications are listed in Illerup et al. (2000).

The specific methodologies regarding Stationary Combustion Plants

Stationary combustion plants are part of the CRF emission sources *1A1 Energy Industries*, *1A2 Manufacturing Industries* and *1A4 Other sectors*.

The Danish emission inventory for stationary combustion plants is based on the CORINAIR system described in the "EMEP/CORINAIR Emission Inventory Guidebook", 3rd edition. The inventory is based on activity rates from the Danish energy statistics and on emission factors for different fuels, plants and sectors.

The Danish Energy Authority aggregates fuel consumption rates in the official Danish energy statistics to SNAP categories.

For each of the fuel and SNAP categories (sector and e.g. type of plant), a set of general emission factors has been determined. Some emission factors refer to the EMEP/CORINAIR guidebook and some are country specific and refer to Danish legislation, Danish research reports or calculations based on emission data from a considerable number of plants.

A number of large plants, e.g. power plants and municipal waste incineration plants are registered individually as large point sources and emission data from the actual plants are used. This enables use of plant-specific emission factors that refer to emission measurements stated in annual environmental reports. Emission factors of SO_2, NO_X, HM and PM are often plant specific.

Please refer to Chapter 3 and Annex 2A for further information on emission inventories for stationary combustion plants.

1.4.1 Fugitive emissions from oil (CRF Table 1.B.2. a)

Offshore activities

Emissions from offshore activities are estimated according to the methodology described in the the EMEP/CORINAIR guidebook, 3rd edition. The sources include extraction of oil and gas, onshore oil tanks, and onshore and offshore loading of ships. The emission factors are based on the figures given in the guidebook except for in the case of onshore oil tanks where national values are used.

Oil Refineries – Petroleum products processing

The VOC emissions from petroleum refinery processes cover non-combustion emissions from feed stock handling/storage, petroleum products processing, product storage/handling and flaring. SO_2 is also emitted from non-combustion processes and includes emissions from product processing and sulphur-recovery plants. The emission calculations are based on information from the Danish refineries and the energy statistics.

1.4.2 Fugitive emissions from natural gas (1.B.2.b)

Natural gas transmission and distribution

Inventories of NMVOC emission from gas transmission and distribution are based on annual environmental reports from the Danish gas transmission company, DONG, and on a Danish inventory for the years 1999-2003 reported by the Danish gas sector (transmission and distribution companies).

Please refer to Chapter 3 for further information on fugitive emissions from fuels.

Specific methodologies regarding transport

The emissions from transport referring to SNAP category 07 (Road transport) and the sub-categories in 08 (Other mobile sources) are made up in the IPCC categories; 1A3b (Road transport), 1A2f (Industry-other), 1A3a (Civil aviation), 1A3c (Railways), 1A3d (Navigation), 1A4c (Agriculture/forestry/fisheries), 1A4b (Residential) and 1A5 (Other).

An internal NERI model with a structure similar to the European COPERT III emission model is used to calculate the Danish annual emissions for road traffic. The emissions are calculated for operationally hot engines, during cold start and fuel evaporation. The model also includes the emission effect of catalyst wear. Input data for vehicle stock and mileage is obtained from the Danish Road Directorate, and is grouped according to average fuel consumption and emission behaviour. For each group, the emissions are estimated by combining vehicle type and annual mileage figures with hot emission factors, cold:hot ratios and evaporation factors (Tier 2 approach).

For air traffic, the 2001, 2002 and 2003 estimates are made on a city-pair level, using flight data from the Danish Civil Aviation Agency (CAA-DK), and LTO and distance-related emission factors from the CORINAIR guidelines (Tier 2 approach). For previous years, the background data consists of LTO/aircraft type statistics from Copenhagen Airport and total LTO numbers from CAA-DK. With appropriate assumptions, consistent time-series of emissions are produced back to 1990 and include the findings from a Danish city-pair emission inventory in 1998.

Off-road working machines and equipment are grouped in the following sectors: inland waterways, agriculture, forestry, industry, and household and gardening. In general, the emissions are calculated by combining information on the number of different machine types and their respective load factors, engine sizes, annual working hours and emission factors (Tier 2 approach).

The most thorough recalculations have changed the estimates for agriculture, forestry, industry, household/gardening and recreational craft. The recalculations influence the emission estimates for all emission components, and the emission factors of NO_x, NMVOC, CO, TSP, PM_{10} and $PM_{2.5}$ for the sectors Agriculture/forestry/fisheries (1A4c), Industry (1A2f), Residential (1A4b) and Navigation (1A3d).

For mobile sources in 2004, the uncertainty of the SO_2 and TSP emissions were 46 and 56 %, respectively. The 2004 uncertainty estimates of NO_x, NMVOC, CO, PM_{10} and $PM_{2.5}$ lie between these two percentage values. The 1990-2004 uncertainties are 7 and 13 % for TSP and CO, and the trend uncertainties for SO_2, NO_x, NMVOC, PM_{10} and $PM_{2.5}$ lie between these values. For NH_3, heavy metals and POPs, 2004 emissions have uncertainty levels of around 800 and 1 000 %. The emission trend uncertainties are significantly lower (except for NH_3) than their uncertainty levels – still, large fluctuations do exist between the calculated values for the different emission components. Apart from that for NH_3 (trend uncertainty of 3 507 %), the smallest and largest uncertainties are 7 (As) and 151 % (Cd).

Please refer to Chapter 3 and Annex 2B for further information on emissions from transport.

Specific methodologies regarding industrial processes

Energy consumption associated with industrial processes and the emissions thereof is included in the inventory for stationary combustion plants. This is due to the overall use of energy balance statistics for the inventory.

1.4.3 Mineral products

The sub-sector includes production of cement, lime, container glass/glass wool, mineral wool, other production (consumption of limestone), and roofing and road paving with asphalt. The activity data as well as emission data are primarily based on information from environmental statements termed "Green National Accounts" (In Danish: "Grønne regnskaber") prepared by companies according to obligations under Danish law. The published information is supplemented with information obtained directly from companies or by use of standard emission factors. The distribution of TSP between PM_{10} and $PM_{2.5}$ is based on European average data.

1.4.4 Chemical industry

The sub-sector includes production of nitric acid, catalysts, fertilisers and pesticides. The activity data as well as emission data are based on information from the companies as accounted for and published in the "Green National Accounts" combined with information obtained by contact to the companies. The distribution of TSP between PM_{10} and $PM_{2.5}$ is based on European average data. Production of nitric acid ceased in the middle of 2004.

1.4.5 Metal production

The sub-sector includes production of steel sheets and bars, cast iron, aluminium, lead and lead products and various other metal products. The activity data as well as emission data for the steelworks are based on information from the companies as accounted for and published in the "Green National Accounts", combined with information obtained by contact with the companies. The activity data or the other processes are based on information from Statistics Denmark combined with Danish average emission factors and standard emission factors. The distribution of TSP between PM_{10} and $PM_{2.5}$ is based on European average data.

1.4.6 Other production

The sub-sector includes breweries. The activity data is obtained from Statistics Denmark and the emission factors are obtained from the IPCC guidelines.

Please refer to Chapter 4 for further information on industrial processes.

Specific methodologies regarding solvents (3)

The approach for calculating the emissions of Non-Methane Volatile Organic Carbon (NMVOC) from industrial and household use in Denmark focuses on single chemicals rather than activities. This leads to a clearer picture of the influence from each specific chemical, which enables a more detailed differentiation according to product and with regard to the influence of product use on emissions. The procedure is to quantify the use of chemicals and estimate the fraction of the chemicals that is emitted as a consequence of use.

Simple mass balances for calculating the use and emissions of chemicals are set up: 1) use = production + import – export, 2) emission = use * emission factor. Production, import and export figures are extracted from Statistics Denmark databases, from which a list of 427 single chemicals, a few groups and products are generated. For each of these a "use" amount in tonnes per year (from 1995 to 2004) is calculated. It is found that 44 different NMVOCs comprise over 95 % of the total use, and it is these 44 chemicals that are investigated further. The "use" amounts are distributed in industrial activities according to the Nordic SPIN (Substances in Preparations in Nordic Countries) database, where information on industrial use categories and products is available in a NACE coding system. The chemicals are also related to specific products. Emission factors are obtained from regulators or the relevant industry.

Outputs from the inventory are: a list where the 44 most predominant NMVOCs are ranked according to emissions to air; specification of emissions from industrial sectors and from households; contribution from each chemical to emissions from industrial sectors and households; tidal (annual) trend in NMVOC emissions, expressed as total NMVOC and single chemicals, and specified in industrial sectors and households.

Please refer to Chapter 5 for further information on emission inventories for solvents.

Specific methodologies regarding agriculture (4)

(NFR: 4B, 4D, 4F)

The emissions from the agricultural sector include emissions of ammonia and particulate matter. The emissions are registered in NFR tables 4B Manure Management and 4D Agricultural Soils. Table 4F Field Burning of Agricultural Wastes has only been completed until 1989, because burning of plant residue has been prohibited since 1990.

The calculation of the ammonia emission is based on the EMEP-CLRTAP emission inventory guidelines. In Denmark, a model-based system is applied for calculation of ammonia emissions, particulate matter and greenhouse gases. This model is called DIEMA (Danish Integrated Emission Model for Agriculture), and data on activity and emissions are collected, evaluated and discussed in close corporation with the Danish Institute of Agricultural Sciences and the Danish Agricultural Advisory Centre.

Presently, there are no guidelines for estimation of particulate matter from the agricultural sector. The estimation of particulate emission is based on investigations of North European livestock housing units (Takai et al., 1998) and the CEPMEIP database established by TNO.

Livestock numbers and data concerning the land use and crop yield are based on the Agricultural Statistics published by Statistics Denmark (2004). The emission factors used to calculate the emissions are primarily based on information from the Danish Institute of Agricultural Science and the Danish Agricultural Advisory Centre. Furthermore, activity data from the Danish Environmental Protection Agency and the Danish Plant Directorate are used.

Uncertainties for ammonia emissions from manure management and agricultural soils have been estimated. The estimated emissions for particulate matter are associated with very high uncertainties, which are estimated to be of several hundred percent. To ensure data quality, activity data and data for estimation of emission factors are collected and discussed in corporation with specialists and researchers at different institutes and research departments. This means that the emission inventories are continuously evaluated according to the latest knowledge and information. Furthermore, time-series of both emission factors and activity data are prepared, and considerable variations are checked and revised.

Please refer to Chapter 6 and Appendix 2C for further information on emission inventories for agriculture.

1.5 Information on the QA/QC plan including verification and treatment of confidential issues where relevant

In the Danish National Inventory Report to UNFCCC (Illerup et al., 2006), a plan is outlined for implementing Quality Control (QC) and Quality Assurance (QA) for greenhouse gas emission inventories prepared by the Danish National Environmental Research Institute. The plan is in accordance with the guidelines provided by the UNFCCC (IPCC, 1997) and the “Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories” (IPCC, 2000). The ISO 9000 standards are also used as important input for the plan. The plan also, to some extent, includes the gases reported to the UNECE-LRTAP Convention.

In the preparation of Denmark's annual emission inventory, several quality control (QC) procedures are carried out already as described in Chapters 3-6. The QA/QC plan will improve on these activities in the future.

1.6 General uncertainty evaluation, including data on the overall uncertainty for the inventory totals

The uncertainty estimates are based on the simple Tier 1 approach in the EMEP/CorinAir *Good Practice Guidance for LRTAP Emission Inventories* (Pulles & Aardenne 2001).

The uncertainty estimates are based on emission data for the base year and year 2004, and on uncertainties for activity rates and emission factors for each of the main SNAP sectors. For particulate matter, the year 2000 is considered as the base year, but for all other pollutants the base year is 1990.

Uncertainty estimates include uncertainty of the total emission as well as uncertainty of the trend. The estimated uncertainties are shown in Table 1.2.

The uncertainty estimates include the sectors: stationary combustion, transport, industry and agriculture.

Table 1.2 Danish uncertainty estimates, 2004

Pollutant	Uncertainty Total emission [%]	Trend[2] 1990[1])-2004 [%]	Uncertainty Trend [%-age points]
SO_2	9	-86	±0,9
NO_x	31	-34	±5
NMVOC	33	-42	±11
CO	36	-24	±11
NH_3	27	-27	±18
TSP [1]	274	-3	±21
As	120	-56	±7
Cd	269	-49	±70
Cr	189	-82	±28
Cu	734	-12	±203
Hg	236	-68	±48
Ni	165	-62	±17
Pb	278	-96	±35
Se	115	-59	±17
Zn	220	-34	±215
Benzo(b)fluoranthene	952	71	±39
Benzo(k)fluoranthene	921	72	±111
Benzo(a)pyrene	972	69	±25
Indeno(1,2,3-c,d)	963	48	±29

1. The base year for PM is 2000
2. Only including the emission sources for which uncertainty estimates have been estimated

1.7 General assessment of the completeness

The Danish emissions inventory due 15 February 2006 includes all sources identified by the EMEP/CORINAIR guidebook except the following:

1.7.1 Industrial processes

- Mineral products (NFR 2A): The inventory will be improved regarding completion of pollutants included. The methodology used for some of the pollutants from glass production is inconsistent and will be improved.
- Chemical industry (NFR 2B): The inventory covering the chemical industry is considered to be complete.
- Metal production (NFR 2C): The time-series will be completed. For especially secondary aluminium and zinc production, potential emissions of heavy metals will be investigated.
- Other production (NFR 2D): The time-series for emission of NMVOC from the production of beer is planned to be completed. Furthermore, production of bread and other food products are planned to be included.

1.7.2 Agriculture

The PM emission from stables will be included for the years 1985 to 1999.

It is planned to move the emission from sewage sludge used as fertiliser and applied on agricultural soils from NFR category 4.B13 – Manure Management "Other" to NFR category 4.D – Agricultural Soils.

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2 Trends in Emissions

2.1 Acidifying gases

Acid deposition of sulphur and nitrogen compounds mainly derives from emissions of SO_2, NO_X and NH_3. The effects of acidification are apparent in a number of ways, including defoliation and reduced vitality of trees, and declining fish stocks in acid-sensitive lakes and rivers.

SO_2 and NO_X can be oxidised into sulphate (SO_4^{--}) and nitrate (NO_3^-) - either in the atmosphere or after deposition - resulting in the formation of two and one H^+, respectively. NH_3 may react with H^+ to form ammonium (NH_4^+) and, by nitrification in soil, NH_4^+ is oxidised to NO_3^- and H^+ ions are formed.

Weighting the individual substances according to their acidification effect, total emissions in terms of acid equivalents can be calculated as:

$$Acidification\,index = \frac{m_{SO_2}}{M_{SO_2}} \cdot 2 + \frac{m_{NO_x}}{M_{NO_x}} + \frac{m_{NH_3}}{M_{NH_3}} = \frac{m_{SO_2}}{64} \cdot 2 + \frac{m_{NO_x}}{46} + \frac{m_{NH_3}}{17}$$

where m_i is the emission of pollutant *i* in tonnes

M_i is the mole weight [tonne/Mmole] of pollutant *i*

The actual effect of the acidifying substances depends on a combination of two factors: the amount of acid deposition and the natural capacity of the terrestrial or aquatic ecosystem to counteract the acidification. In areas where the soil minerals easily weather or have a high chalk content, acid deposition will be relatively easily neutralised.

Figure 2.1 shows the emission of Danish acidifying gases in terms of acid equivalents. In 1990, the relative contribution in acid equivalents was almost equal for the three gases. In 2003, the most important acidification factor in Denmark was ammonia nitrogen and the relative contributions for SO_2, NO_X and NH_3 were 7 %, 38 % and 55 %, respectively. However, with regard to long-range transport of air pollution, SO_2 and NO_X are still the most important pollutants.

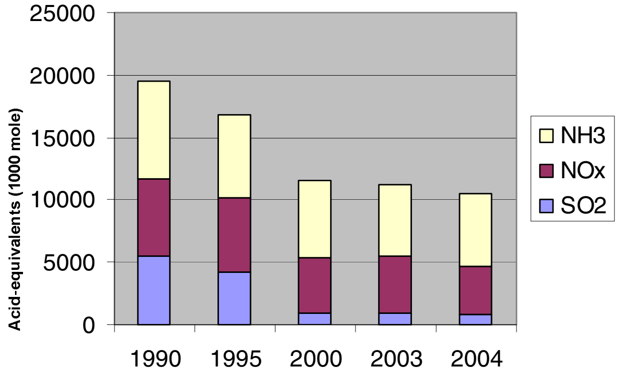


Figure 2.1 Emissions of NH_3, NO_X and SO_2 in acid equivalents

2.2 Description and interpretation of emission trends by gas

2.2.1 SO_2

The main part of the SO_2 emission originates from combustion of fossil fuels, i.e. mainly coal and oil, in public power and district heating plants. From 1980 to 2004 the total emission decreased by 95%. The large reduction is mainly due to installation of desulphurisation plant and use of fuels with lower content of sulphur in public power and district heating plants. Despite the large reduction of the SO_2 emissions, these plants make up 42% of the total emission. Also, emissions from industrial combustion plants, non-industrial combustion plants and other mobile sources are important. National sea traffic (navigation and fishing) contributes with approx. 11% of the total SO_2 emission. This is due to the use of residual oil with high content of sulphur.

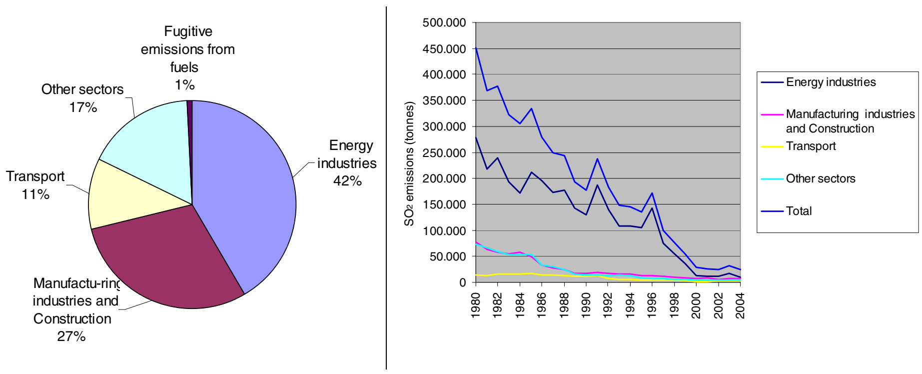


Figure 2.2 SO_2 emissions. Distribution on the main sectors (2004) and time-series for 1980 to 2004.

2.2.2 NO_X

The largest source of emissions of NO_X is other mobile sources, followed by road transport and combustion in energy industries (mainly public power and district heating plants). The transport sector is the sector contributing the most to the emission of NO_X and, in 2004, 39% of the Danish emissions of NO_X stem from road transport, national navigation, railways and civil aviation. Also, emissions from national fishing and off-road vehicles contribute significantly to the NO_X emission. For non-industrial combustion plants, the main sources are combustion of gas oil, natural gas and wood in residential plants. The emissions from public power plants and district heating plants decreased by 57% from 1985 to 2004. In the same period, the total emission has decreased by 38%. The reduction is due to increasing use of catalyst cars and installation of low-NO_X burners and de-nitrifying units in power and district heating plants.

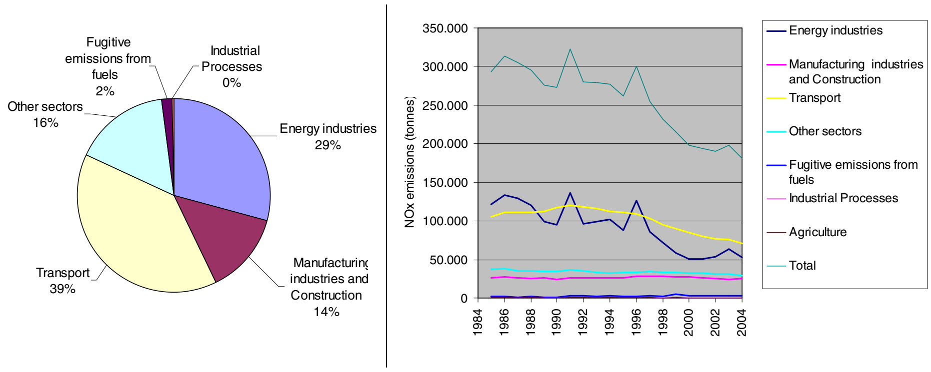


Figure 2.3 NO_X emissions. Distribution by main sector (2004) and time-series for 1985 to 2004.

2.2.3 NH_3

Almost all atmospheric emissions of NH_3 result from agricultural activities. Only a minor fraction originates from road transport. This fraction is, however, increasing due to increasing use of catalyst cars. The major part of the emission from agriculture stems from livestock manure (78%) and the largest losses of ammonia occur during the handling of the manure in stables and in field application. Other contributions come from crops (15%), use of mineral fertilisers (6%), sewage sludge used as fertiliser and ammonia used for straw treatment (less than 1%). The total ammonia emission decreased by 32% from 1985 to 2004. This is due to the active national environmental policy efforts over the past twenty years. Due to the action plans for the aquatic environment and the Ammonia Action Plan, a series of measures to prevent loss of nitrogen in agricultural production has been initiated. The measures have included demands for improved utilisation of nitrogen in livestock manure, a ban against application of livestock manure in winter, prohibition of broadspreading of manure is prohibited, requirements for establishment of catch crops, regulation of the number of livestock per hectare and a ceiling for the supply of nitrogen to crops. As a result, despite an increase in the production of pigs and poultry, the ammonia emission has been reduced considerably.

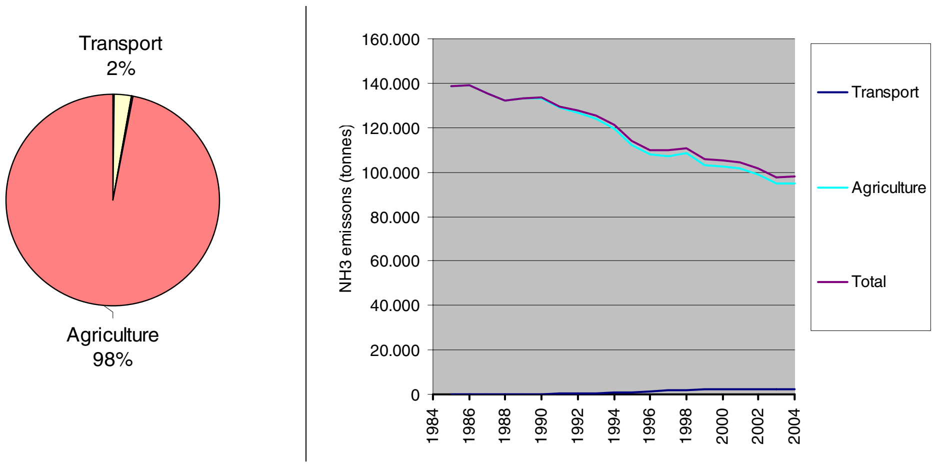


Figure 2.4 NH_3 emissions. Distribution on the main sectors (2004) and time-series for 1985 to 2004.

2.3 Other air pollutants

2.3.1 NMVOC

Emissions of NMVOC originate from many different sources and can be divided into two main groups: incomplete combustion and evaporation. The main sources of NMVOC emissions from incomplete combustion processes are road vehicles and other mobile sources such as national navigation vessels and off-road machinery. Road transportation vehicles are still the main contributors, even though the emissions from this source have declined since the introduction of catalyst cars in 1990. Evaporative emissions mainly originate from the use of solvents. The emissions from energy industries have increased during the nineties because of increasing use of stationary gas engines, which have much higher emissions of NMVOC than conventional boilers. The total anthropogenic emissions decreased by 35% from 1985 to 2004, mainly due to an increasing use of catalyst cars and reduced emissions from use of solvents.

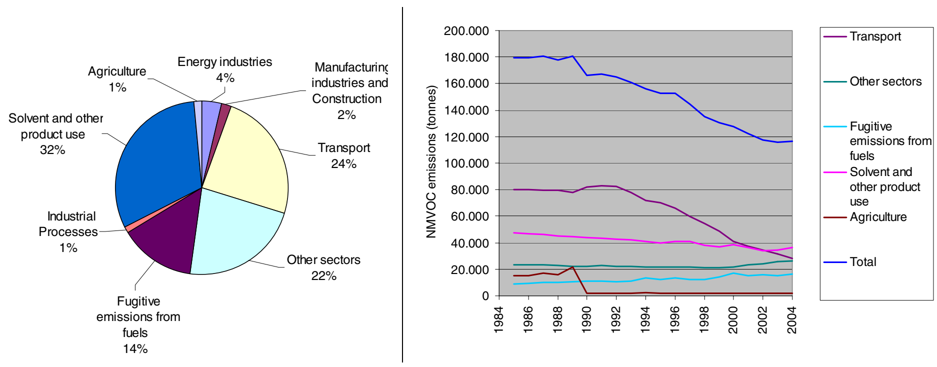


Figure 2.5 NMVOC emissions. Distribution by main sector (2004) and time-series for 1985 to 2004.

2.3.2 CO

Transport accounts for the dominant share of the total CO emission. Also other mobile sources and non-industrial combustion plants contribute significantly to the total emission of this pollutant. The drop in the emissions seen in 1990 was a consequence of a law forbidding burning of agricultural waste on fields. The emission decreased by 23% from 1990 to 2004, mainly because of decreasing emissions from road transportation.

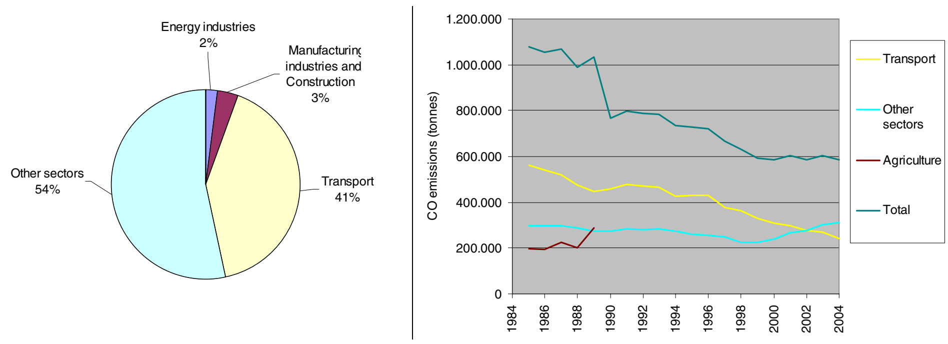


Figure 2.6 CO emissions. Distribution by main sector (2004) and time-series for 1985 to 2004.

2.3.3 PAHs

The present emission inventory for PAH (polyaromatic hydrocarbons) includes the four PAHs reported to UNECE: benzo(a)pyrene, benzo(b)-fluoranthene, benzo(k)fluoranthene and indeno(1,2,3-cd) pyrene. The most important sources of PAH emissions are combustion of wood in the residential sector and road transportation. The increasing emission trend is due to increasing combustion of wood in the residential sector.

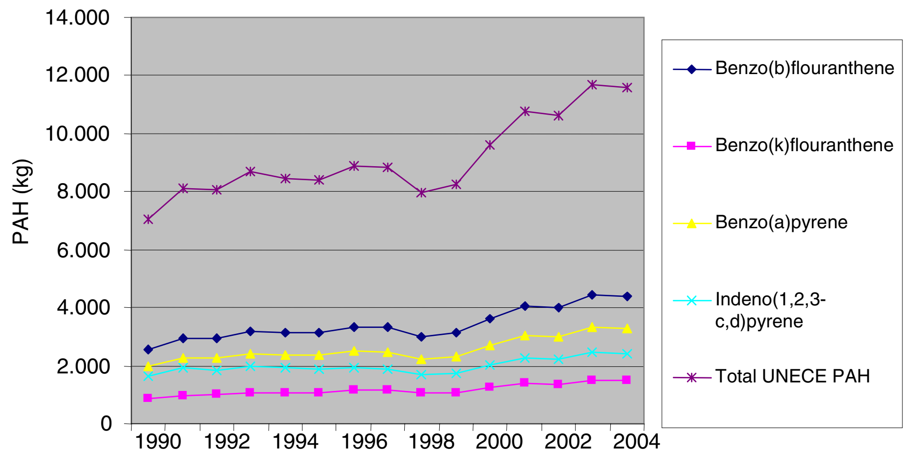


Figure 2.7 PAH emissions. Time-series for 1990 to 2004.

2.3.4 Particulate Matter

The particulate matter (PM) emission inventory has been reported for the years 2000-2004. The inventory includes the total emission of particles TSP (Total Suspended Particles), emission of particles smaller than 10 µm (PM_{10}) and emission of particles smaller than 2.5 µm ($PM_{2.5}$).

The largest $PM_{2.5}$ emission sources are the residential sector (55%), road traffic (18%) and other mobile sources (13%). For the latter, the most important source is off-road vehicles and machinery in the agricultural-/forestry sector (58%). For the road transport sector, exhaust emissions account for the major part (85%) of the emissions.

The largest TSP emission sources are the agricultural sector and the residential sector. The TSP emissions from transport are also important and include both exhaust emissions and the non-exhaust emissions from brake and tyre wear and road abrasion. The non-exhaust emissions account for 26% of the TSP emission from road transport.

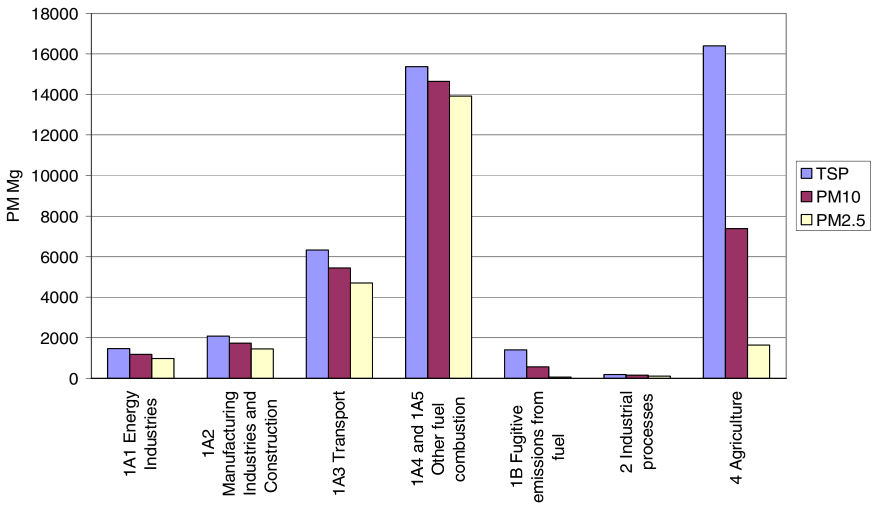
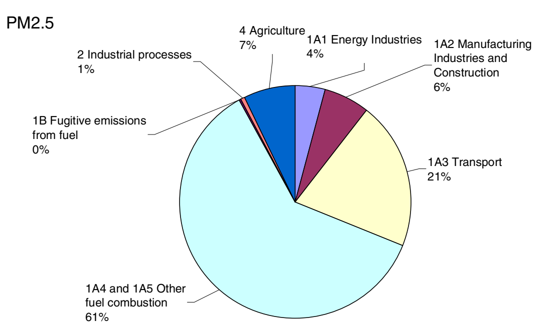


Figure 2.8 PM emissions for 2004.



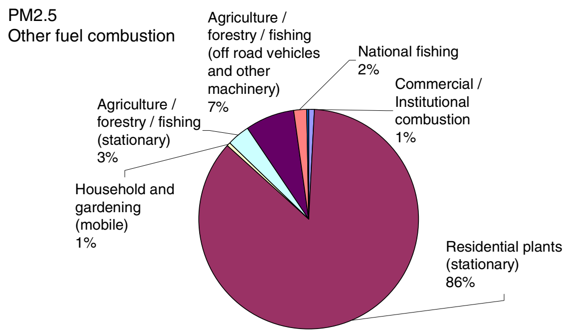


Figure 2.9 $PM_{2.5}$ emissions. Distribution by main sector and on sub-sectors for other fuels combustion for 2004.

Heavy metals

In general, the most important sources of heavy metal emissions are combustion of fossil fuels and waste. The heavy metal emissions have decreased substantially in recent years. The reductions span from 18% to 96% for Cu and Pb, respectively. The reason for the reduced emissions is mainly increased use of gas cleaning devices at power and district heating plants (including waste incineration plants). The large reduction in the Pb emission is due to a gradual shift towards unleaded gasoline, the latter being essential for catalyst cars.

Tabel 2.1 Emissions of heavy metals.

(Kg)	As	Cd	Cr	Cu	Hg	Ni	Pb	Se	Zn
1990	1504	1139	6326	10253	3339	25244	122074	4470	35458
2004	657	577	1161	8447	1064	9546	5254	1837	23412
Reduction in %	56	49	82	18	68	62	96	59	34

According to the UNECE Heavy Metal Protocol, the priority metals are Pb, Cd and Hg and the objective is to reduce emissions of these heavy metals.

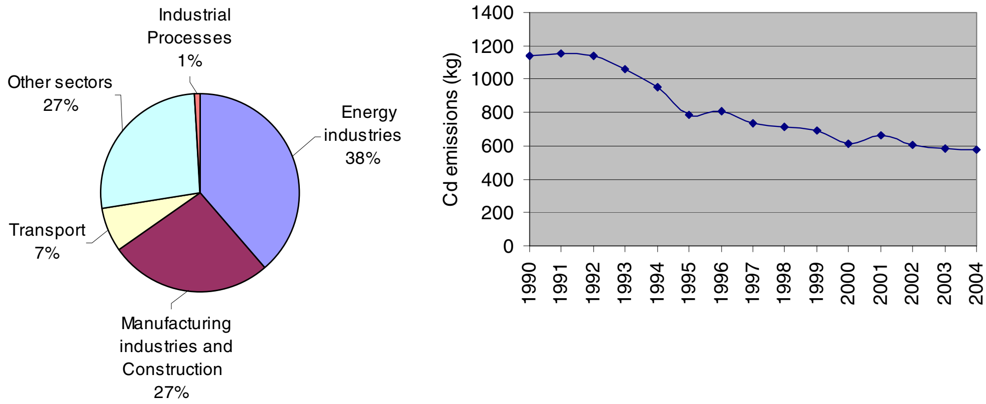


Figure 2.10 Cd emissions. Time-series for 1990 to 2004 and distribution by main sector for 2004.

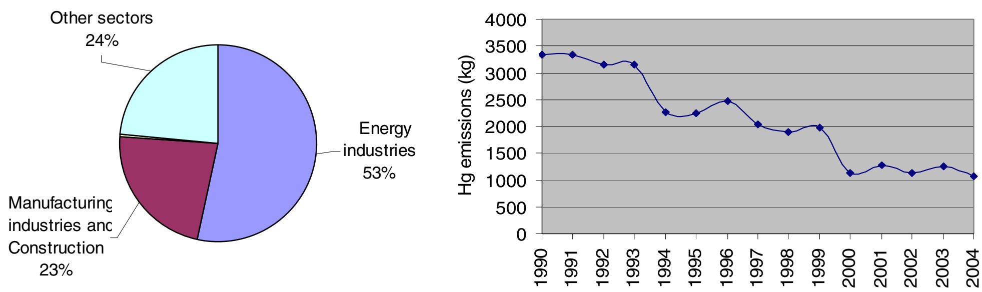


Figure 2.11 Hg emissions. Time-series for 1990 to 2004 and distribution by main sector for 2004.

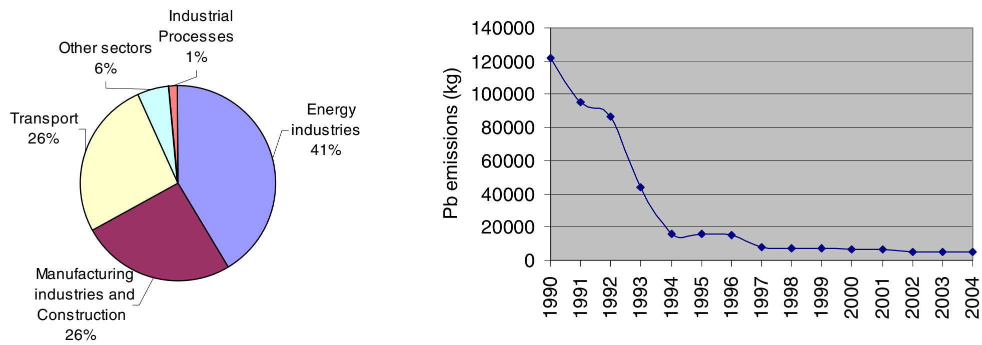


Figure 2.12 Pb emissions. Time-series for 1990 to 2004 and distribution by main sector for 2004.

3 Energy (NFR sector 1)

3.1 Overview of the sector

The energy sector is reported in three main chapters:

3.2 Stationary combustion plants (NFR sector 1A1, 1A2 and 1A4)

3.3 Transport (NFR sector 1A2, 1A3, 1A4 and 1A5)

3.4 Fugitive emissions (NFR sector 1B)

Although industrial combustion forms part of stationary combustion, detailed documentation for some of the specific industries is discussed in the industry chapters. The emissions are reported in NFR sector 1A2. Emissions from full fuel consumption in the industrial sector are included in the data presented in Chapter *3.2 Stationary Combustion*.

Table 3.1 shows detailed source categories for the energy sector and plant category in which the sector is discussed in this report.

Table 3.1 NFR source categories for the energy sector.

NFR id	NFR sector name	NERI documentation
1	Energy	Stationary combustion, Transport, Fugitive, Industry
1A	Fuel Combustion Activities	Stationary combustion, Transport, Industry
1A1	Energy Industries	Stationary combustion
1A1a	Electricity and Heat Production	Stationary combustion
1A1b	Petroleum Refining	Stationary combustion
1A1c	Solid Fuel Transf./Other Energy Industries	Stationary combustion
1A2	Fuel Combustion Activities/Industry (ISIC)	Stationary combustion, Transport, Industry
1A2a	Iron and Steel	Stationary combustion, Industry
1A2b	Non-Ferrous Metals	Stationary combustion, Industry
1A2c	Chemicals	Stationary combustion, Industry
1A2d	Pulp, Paper and Print	Stationary combustion, Industry
1A2e	Food Processing, Beverages and Tobacco	Stationary combustion, Industry
1A2f	Other (please specify)	Stationary combustion, Transport, Industry
1A3	Transport	Transport
1A3a	Civil Aviation	Transport
1A3b	Road Transportation	Transport
1A3c	Railways	Transport
1A3d	Navigation	Transport
1A3e	Other (please specify)	Transport
1A4	Other Sectors	Stationary combustion, Transport
1A4a	Commercial/Institutional	Stationary combustion
1A4b	Residential	Stationary combustion, Transport
1A4c	Agriculture/Forestry/Fishing	Stationary combustion, Transport
1A5	Other (please specify)	Stationary combustion, Transport
1A5a	Stationary	Stationary combustion
1A5b	Mobile	Transport
1B	Fugitive Emissions from Fuels	Fugitive
1B1	Solid Fuels	Fugitive
1B1a	Coal Mining	Fugitive
1B1a1	Underground Mines	Fugitive
1B1a2	Surface Mines	Fugitive
1B1b	Solid Fuel Transformation	Fugitive
1B1c	Other (please specify)	Fugitive
1B2	Oil and Natural Gas	Fugitive
1B2a	Oil	Fugitive
1B2a2	Production	Fugitive
1B2a3	Transport	Fugitive
1B2a4	Refining/Storage	Fugitive
1B2a5	Distribution of oil products	Fugitive
1B2a6	Other	Fugitive
1B2b	Natural Gas	Fugitive
1B2b1	Production/processing	Fugitive
1B2b2	Transmission/distribution	Fugitive
1B2c	Venting and Flaring	Fugitive
1B2c1	Venting and Flaring Oil	Fugitive
1B2c2	Venting and Flaring Gas	Fugitive
1B2d	Other	Fugitive

Summary tables for the emissions from the energy sector are shown below.

Table 3.2 SO_2, NO_X, NMVOC, CO and PM emission from the energy sector, 2004

	NO_X	CO	NMVOC	SO_X	TSP	PM_{10}	$PM_{2.5}$
	Gg NO_2	Gg	Gg	Gg SO_2	Mg	Mg	Mg
1A1 Energy Industries	52.66	12.14	4.13	10.20	1.464	1.175	980
1A2 Manufacturing industries and Construction	25.01	20.54	2.33	7.19	2.084	1.735	1 442
1A3 Transport	71.11	241.87	28.33	2.69	6.323	5.438	4 692
1A4 Other Sectors	28.09	311.79	26.00	4.18	15.327	14.464	13 869
1A5 Other	1.08	0.72	0.13	0.00	53	53	53
1B1 Fugitive Emissions from fuels, Solid Fuels	0.00	31.78	0.00	0.00	1.404	562	56
1B2 Fugitive Emissions from fuels, Oil and Natural gas	3.13	0.27	16.45	0.18	3	3	3
Energy, Total	181.06	619.12	77.36	24.43	26.658	23.559	21.095

Table 3.3 HM emissions from the energy sector, 2004

	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1A1 Energy Industries	2.18	0.22	0.57	0.36	0.47	0.63	2.78	0.77	13.72
1A2 Manufacturing industries and Construction	1.35	0.16	0.24	0.21	0.39	0.62	4.59	0.80	1.54
1A3 Transport	1.38	0.04	0.01	0.02	0.21	6.70	1.51	0.07	4.00
1A4 Other Sectors	0.21	0.15	0.25	0.07	0.10	0.91	0.67	0.20	3.45
1A5 Other	0.08	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.08
1B1 Fugitive Emissions from fuels, Solid Fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1B2 Fugitive Emissions from fuels, Oil and Natural gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy, Total	5.19	0.57	1.06	0.66	1.16	8.98	9.55	1.84	22.78

Table 3.4 PAH emission from the energy sector, 2004

	benzo(a)-pyrene	benzo(b)-fluoran-thene	benzo(k)-fluoran-thene	Indeno-(1,2,3-c,d)-pyrene
	Mg	Mg	Mg	Mg
1A1 Energy Industries	0.007	0.029	0.014	0.007
1A2 Manufacturing industries and Construction	0.031	0.102	0.021	0.012
1A3 Transport	0.050	0.068	0.075	0.058
1A4 Other Sectors	3.209	4.188	1.385	2.347
1A5 Other	0.000	0.001	0.001	0.000
1B1 Fugitive Emissions from fuels, Solid Fuels	-	-	-	-
1B2 Fugitive Emissions from fuels, Oil and Natural gas	-	-	-	-
Energy, Total	3.297	4.388	1.496	2.424

3.2 Stationary combustion (NFR sector 1A1, 1A2 and 1A4)

This chapter includes stationary combustion plants in the NFR sectors 1A1, 1A2 and 1A4. Further details of the inventories for stationary combustion are enclosed in Annex 2A.

3.2.1 Source category description

Emission source categories, fuel consumption data and emission data are presented in this chapter.

Emission source categories

In the Danish emission database, all activity rates and emissions are defined in SNAP sector categories (Selected Nomenclature for Air Pollution) according to the CORINAIR system. The emission inventories are prepared from a complete emission database based on the SNAP sectors. Aggregation to the NFR sector codes is based on a correspondence list between SNAP and NFR enclosed in Annex 2A. Stationary combustion is defined as combustion activities in the SNAP sectors 01-03.

Stationary combustion plants are included in the emission source subcategories:

- 1A1 Energy, Fuel consumption, Energy Industries
- 1A2 Energy, Fuel consumption, Manufacturing Industries and Construction
- 1A4 Energy, Fuel consumption, Other Sectors

The emission and fuel consumption data included in tables and figures in Chapter 3.2 only include emissions originating from stationary combustion plants of a given NFR sector. The NFR sector codes have been applied unchanged, but some sector names have been changed to reflect the stationary combustion element of the source.

Fuel consumption

In 2004 total fuel consumption for stationary combustion plants was 564 PJ of which 466 PJ was fossil fuels.

Fuel consumption distributed on the stationary combustion subsectors is shown in Figure 3.1 and Figure 3.2. The majority – 60 % - of all fuels is combusted in the sector, *Public electricity and heat production.* Other sectors with high fuel consumption are *Residential* and *Industry*.

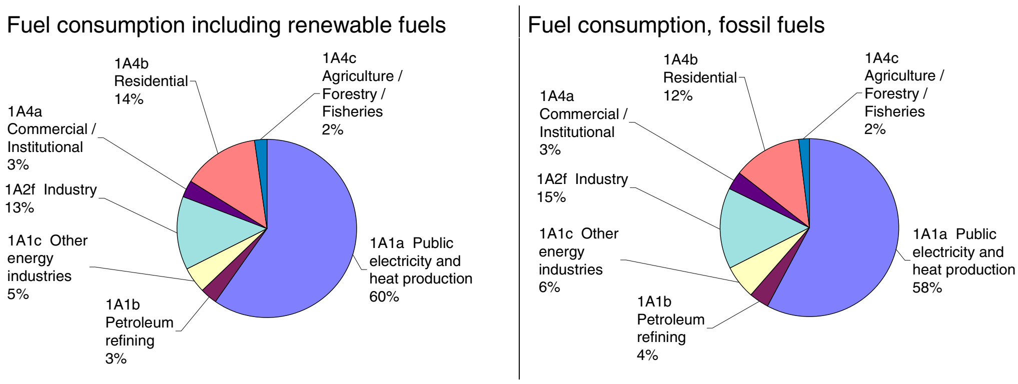


Figure 3.1 Fuel consumption rate of stationary combustion, 2004 (based on DEA 2005a)

Coal and natural gas are the most utilised fuels in stationary combustion plants. Coal is mainly used in power plants and natural gas is used in power plants and decentralised CHP plants, as well as in industry, district heating and households.

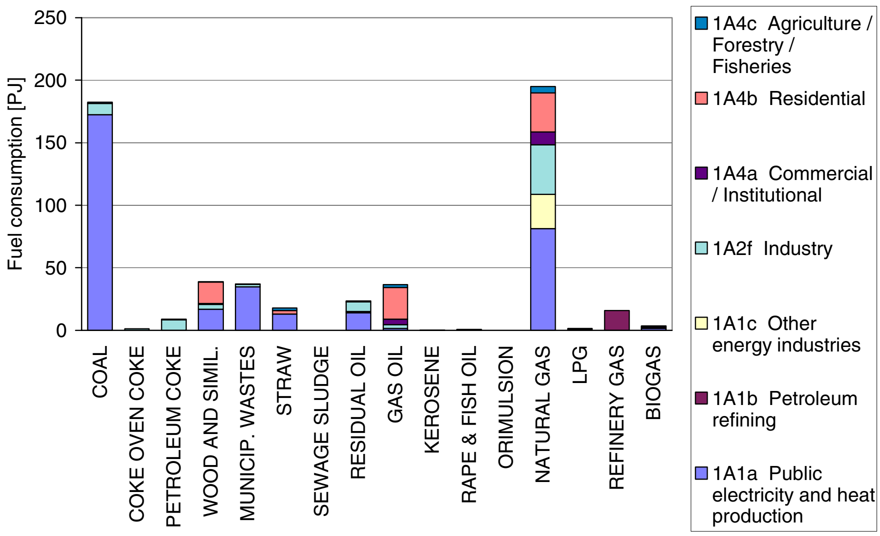


Figure 3.2 Fuel consumption in stationary combustion plants 2004 (based on DEA 2005a).

Fuel consumption time-series for stationary combustion plants are presented in Figure 3.3. Total fuel consumption increased by 13% from 1990 to 2004, while fossil fuel consumption only increased by 4.2%. The consumption of natural gas and renewable fuels has increased since 1990, whereas coal consumption has decreased.

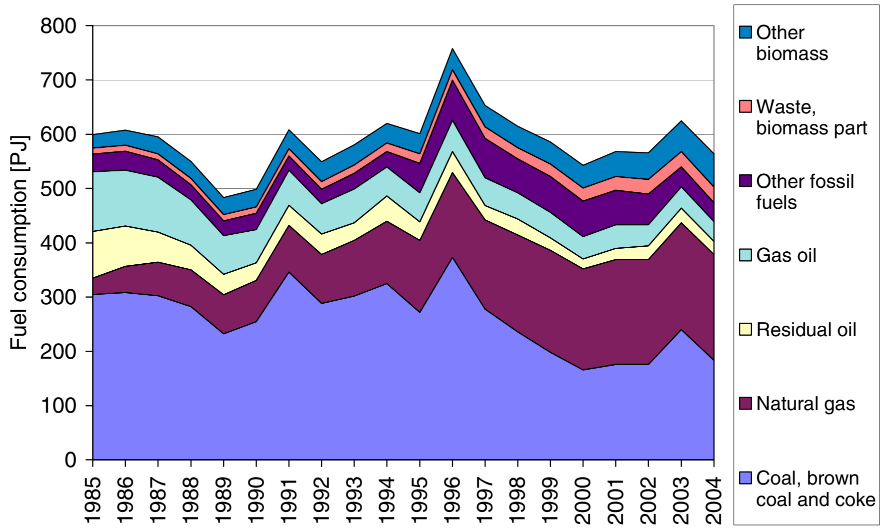


Figure 3.3 Fuel consumption time-series, stationary combustion (based on DEA 2005a)

The fluctuations in the time-series for fuel consumption are mainly a result of electricity import/export activity, but also of outdoor temperature variations from year to year. This, in turn, leads to fluctuations in emission levels. The fluctuations in electricity trade, fuel consumption and NO_X emissions are illustrated and compared in Figure 3.4. In 1990 the Danish electricity import was large causing relatively low fuel consumption in Denmark's stationary combustion plants, whereas the fuel consumption was high in 1996 due to a large electricity export. In 2004 the net electricity export was 10 340 TJ, which is significantly lower than in 2003. The electricity export in 2004 was the result of low rainfall in Norway and Sweden causing insufficient hydropower production in both countries.

To be able to follow the national energy consumption, as well as for statistical and reporting purposes, the Danish Energy Authority produces a correction of the actual fuel consumption without random variations in electricity imports/exports and ambient temperature. This fuel consumption trend is also illustrated in Figure 3.4. The corrections are included here to explain the fluctuations in the emission time-series.

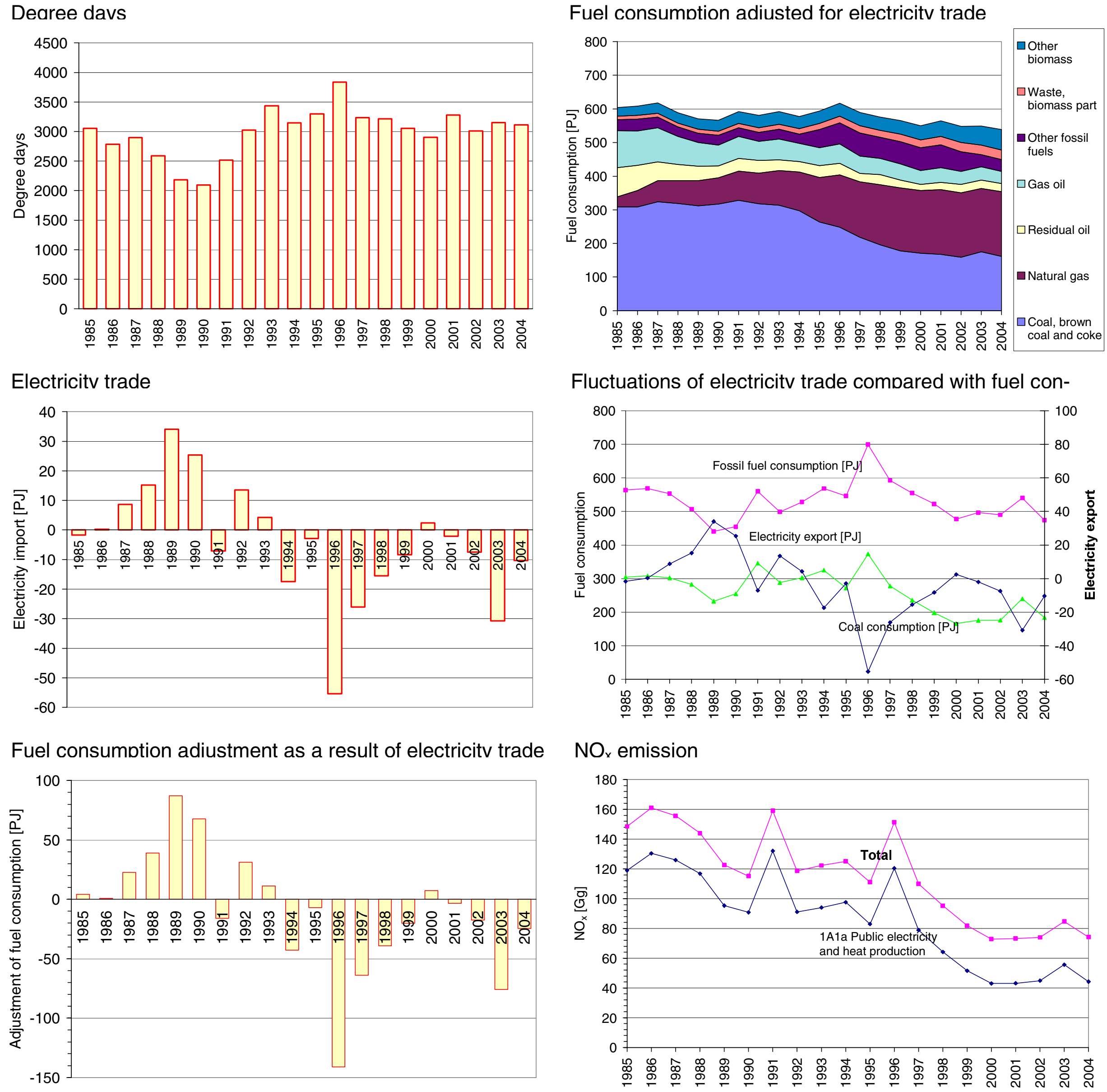


Figure 3.4 Comparison of time-series fluctuations for electricity trade, fuel consumption and NO_X emission (DEA 2005b).

3.2.2 Emissions

SO_2

In the 2004 inventory, stationary combustion is the most important emission source for SO_2 accounting for 83% of the total Danish emission. Table 3.5 shows the SO_2 emission inventory for the stationary combustion subsectors.

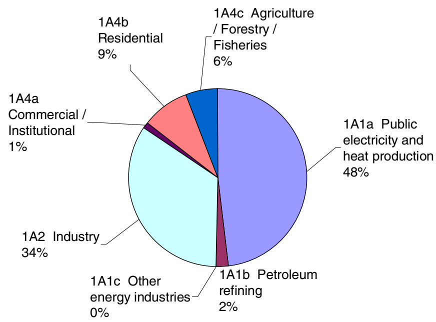
Electricity and heat production is the largest emission source accounting for 48 % of the emission. However, the SO_2 emission share is lower than the fuel consumption share for this sector, which is 60%. This is possible due to effective flue gas desulphurisation equipment installed in power plants combusting coal. The largest part (72%) of the emission in the subsector originates from power plants >300MW$_{th}$.

The SO_2 emission from *Industry* is 34%, a remarkably high emission share compared with fuel consumption. The main emission sources in the industrial sector are combustion of coal and residual oil, but emissions from the cement industry also represent a considerable emission source.

Time-series for the SO_2 emission from stationary combustion are shown in Figure 3.5. The SO_2 emission from stationary combustion plants decreased by 95% from 1980 and 84% from 1995. The large emission decrease is mainly a result of the reduced emission from *Electricity and heat production*, made possible due to installation of desulphurisation plant and due to the use of fuels with lower sulphur content.

Table 3.5 SO_2 emission from stationary combustion plants 2004 1)

SO_2	2004	
1A1a Public electricity and heat production	9765	Mg
1A1b Petroleum refining	422	Mg
1A1c Other energy industries	9	Mg
1A2 Industry	6927	Mg
1A4a Commercial / Institutional	264	Mg
1A4b Residential	1739	Mg
1A4c Agriculture / Forestry / Fisheries	1172	Mg
Total	20299	Mg



1) Only emission from stationary combustion plants in the sectors is included

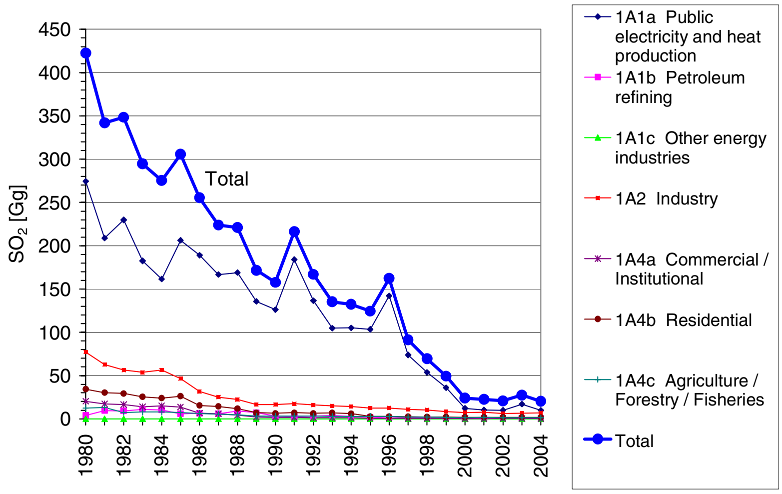


Figure 3.5 SO_2 emission time-series for stationary combustion

3.2.3 NO_X

Stationary combustion accounts for 41% of the total Danish NO_X emission. Table 3.6 shows the NO_X emission inventory for stationary combustion sub-sectors.

Electricity and heat production is the largest emission source, accounting for 60% of the emission from stationary combustion plants.

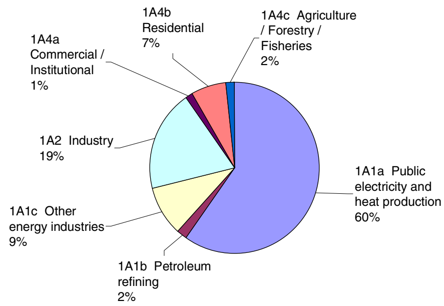
Industrial combustion plants are also an important emission source, accounting for 19 % of the emission. The main industrial emission source is cement production, accounting for 66 % of the emission.

Time-series for the NO_X emission from stationary combustion are shown in Figure 3.6. NO_X emissions from stationary combustion plants decreased by

50% from 1985 and 33% from 1995. The reduced emission is mainly a result of the reduced emission from *Electricity and heat production* due to installation of low-NO_X burners and selective catalytic reduction (SCR) units. The fluctuations in the time-series follow the fluctuations in *Electricity and heat production*, which, in turn, result from electricity trade fluctuations.

Table 3.6 NO_X emission from stationary combustion plants 2004 [1)]

	2004	
1A1a Public electricity and heat production	44209	Mg
1A1b Petroleum refining	1608	Mg
1A1c Other energy industries	6843	Mg
1A2 Industry	14265	Mg
1A4a Commercial / Institutional	1087	Mg
1A4b Residential	4881	Mg
1A4c Agriculture / Forestry / Fisheries	1301	Mg
Total	74194	Mg



1) Only the emission from stationary combustion plants in the sectors is included

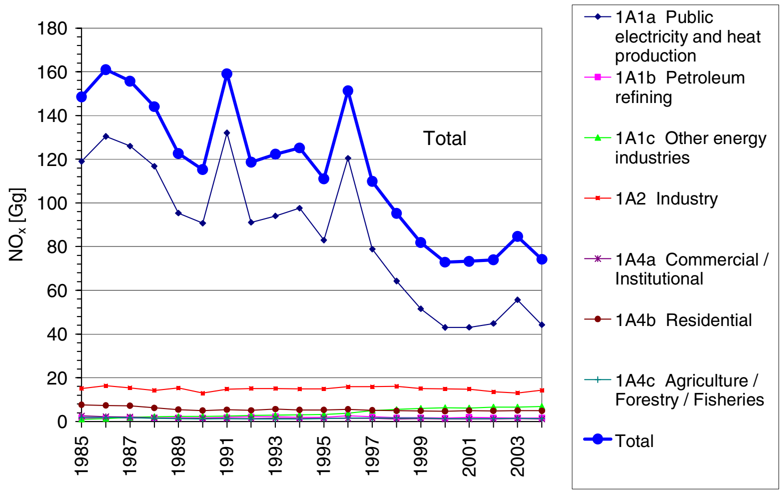


Figure 3.6 NO_X emission time-series for stationary combustion

3.2.4 NMVOC

Stationary combustion plants account for 17% of the total Danish NMVOC emission. Table 3.7 shows the NMVOC emission inventory for the stationary combustion subsectors.

Residential plants are the largest emission source accounting for 65 % of the total emission from stationary combustion plants. For residential plants, NMVOC is mainly emitted from wood and straw combustion, see Figure 3.7.

Electricity and heat production is also a considerable emission source, accounting for 21 % of the total emission. Lean-burn gas engines have a relatively high NMVOC emission factor and are the most important emission source in this subsector. The gas engines are either natural gas or biogas fuelled.

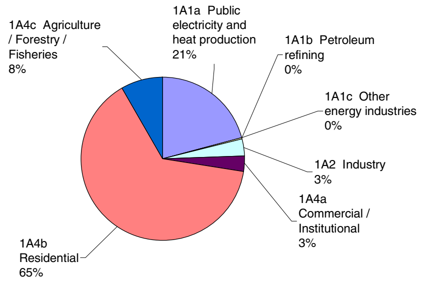
Time-series for the NMVOC emission from stationary combustion are shown in Figure 3.8. The emission has increased by 51% from 1985 and 22%

from 1995. The increased emission is mainly a result of the increased use of lean-burn gas engines in CHP plants.

The emission from residential plants was 45 % higher in 2003 than in 1990, but the NMVOC emission from wood combustion almost doubled since 1990 due to increased wood consumption. However, the emission from straw combustion in farmhouse boilers has decreased over this period.

Table 3.7 NMVOC emission from stationary combustion plants 2004 [1)]

	2004	
1A1a Public electricity and heat production	4085	Mg
1A1b Petroleum refining	2	Mg
1A1c Other energy industries	41	Mg
1A2 Industry	652	Mg
1A4a Commercial / Institutional	573	Mg
1A4b Residential	12558	Mg
1A4c Agriculture / Forestry / Fisheries	1609	Mg
Total	19519	Mg



1) Only the emission from stationary combustion plants in the sectors is included

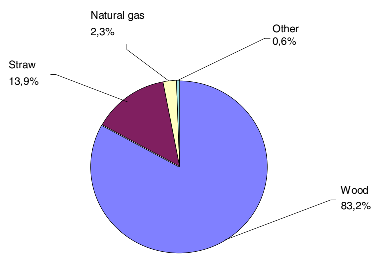


Figure 3.7 NMVOC emission from residential plants, 2004

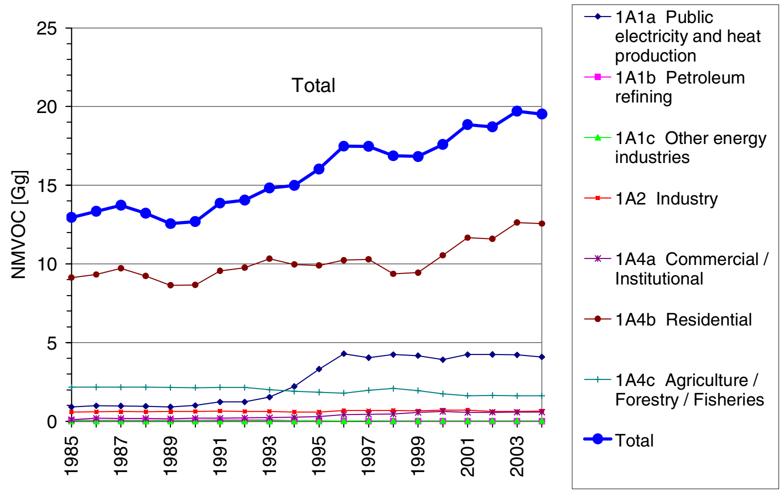


Figure 3.8 NMVOC emission time-series for stationary combustion

3.2.5 CO

Stationary combustion accounts for 35% of the total Danish CO emission. Table 3.8 presents the CO emission inventory for stationary combustion subsectors.

Residential plants represent the largest emission source, accounting for 84% of the emission. Wood combustion accounts for 92% of the emission from residential plants, see Figure 3.9. This is in spite of the fact that the fuel consumption share is only 22%. Combustion of straw also represents a considerable emission source, whereas the emission from other fuels used in residential plants is almost negligible.

Time-series for CO emission from stationary combustion are shown in Figure 3.10. The emission increased by 14% from 1985 and increased 9% from 1995. The time-series for CO from stationary combustion plants follows the time-series for CO emission from residential plants.

The consumption of wood in residential plants has increased by 94% since 1990 leading to an increase in the CO emission. The increase in CO emission from residential plants is lower than the increase in wood consumption, because CO emission from straw-fired farmhouse boilers has decreased considerably. Both the annual straw consumption in residential plants and the CO emission factor for farmhouse boilers have decreased.

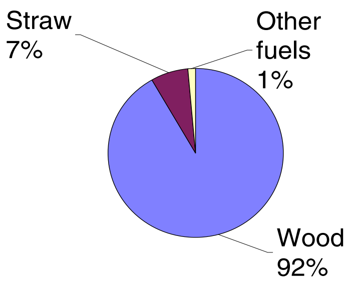
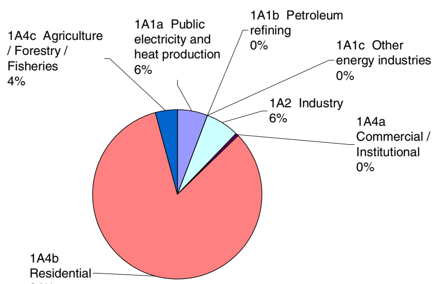


Figure 3.9 CO emission sources, residential plants, 2004

Table 3.8 CO emission from stationary combustion plants 2004 [1)]

	2004	
1A1a Public electricity and heat production	11708	Mg
1A1b Petroleum refining	237	Mg
1A1c Other energy industries	197	Mg
1A2 Industry	12941	Mg
1A4a Commercial / Institutional	906	Mg
1A4b Residential	170809	Mg
1A4c Agriculture / Forestry / Fisheries	8561	Mg
Total	205360	Mg



1) Only the emission from stationary combustion plants in the sectors is included

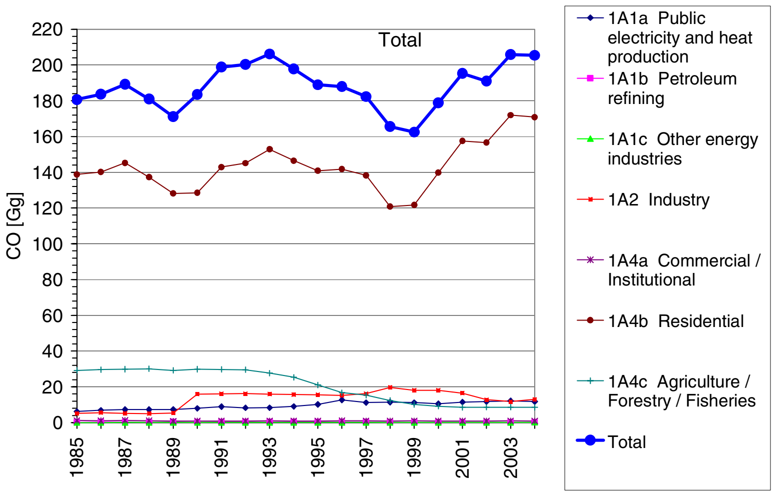


Figure 3.10 CO emission time-series for stationary combustion

3.2.6 PM

To date, only PM emissions from stationary combustion, transport, agriculture and part of the industrial sector have been included in the Danish inventory. TSP from stationary combustion accounts for 35% of the total Danish emission. The emission shares for PM_{10} and $PM_{2.5}$ are 49% and 61%, respectively.

Table 3.9 shows the PM emission inventory for the stationary combustion subsectors. Residential plants represent the largest emission source, accounting for 86% of the $PM_{2.5}$ emission from stationary combustion plants.

Table 3.9 PM emission from stationary combustion plants, 2003

	TSP	PM_{10}	$PM_{2.5}$	
1A1a Public electricity and heat production	1328	1051	862	Mg
1A1b Petroleum refining	133	122	117	Mg
1A1c Other energy industries	3	2	1	Mg
1A2 Industry	1047	699	405	Mg
1A4a Commercial / Institutional	133	130	123	Mg
1A4b Residential	13309	12626	11952	Mg
1A4c Agriculture / Forestry / Fisheries	515	481	451	Mg
Total	16469	15111	13911	Mg

1) Only emission from stationary combustion plants in the sectors is included

The primary sources of PM emissions are:

- Residential boilers, stoves and fireplaces combusting wood
- Farmhouse boilers combusting straw
- Power plants primarily combusting coal
- Coal and residual oil combusted in industrial boilers and processes

Furthermore, there are considerable emissions from:

- Residential boilers using gas oil
- Refineries

The PM emission from wood combusted in residential plants is the predominant source. Thus, 80% of the $PM_{2.5}$ emission from stationary combustion is emitted from residential wood combustion. This corresponds to 49% of the overall Danish emission. Wood combustion accounts for 92% of the $PM_{2.5}$ emission from residential plants in spite of the limited wood consumption share.

A literature review (Nielsen et al. 2003) and a Nordic Project (Sternhufvud et al. 2004) have demonstrated that the emission factor uncertainty for residential combustion of wood in stoves and boilers is extremely high.

Emission inventories for PM have only been reported for the years 2000-2004 and the emission level has not changed considerably over this period.

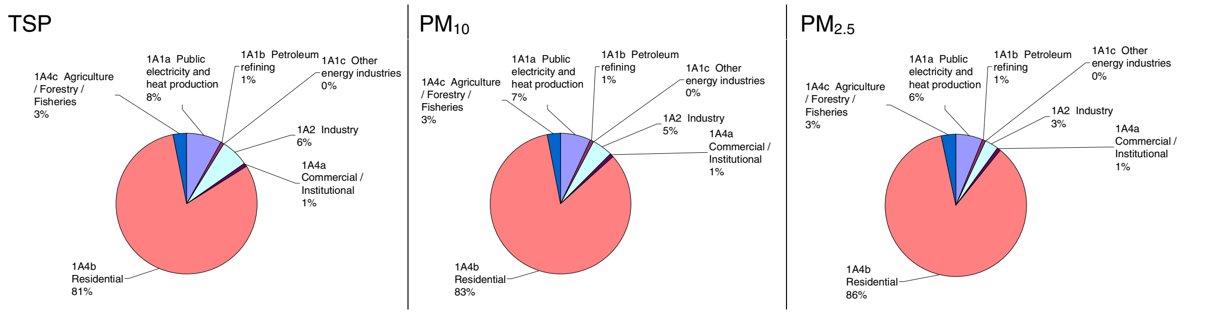


Figure 3.11 PM emission sources, stationary combustion plants, 2004

3.2.7 Heavy metals

Emission inventories for nine heavy metals are reported to the LRTAP Convention. Three of the metals are considered priority metals: Pb, Cd and Hg. The 2004 emissions are presented in Table 3.10.

Stationary combustion plants are the most important emission sources for heavy metals. For Cu, the emission share from stationary combustion plants is 11%, but for all other heavy metals the emission share is more than 70%.

The sectors *Electricity and heat production* and *Industry* have the highest emission shares. *Electricity and heat production* accounts for 58%, 40% and 53% of the emission of the priority metals Pb, Cd and Hg, respectively.

Table 3.10 Heavy metal emission from stationary combustion plants, 2004 [1)]

	As	Cd	Cr	Cu	Hg	Ni	Pb	Se	Zn	
1A1a Public electricity and heat production	346	208	432	611	562	2094	2152	753	13713	kg
1A1b Petroleum refining	15	14	36	14	5	688	25	13	3	kg
1A1c Other energy industries	0	0	0	0	0	0	0	0	0	kg
1A2 Industry	205	152	373	168	242	4573	1345	799	1270	kg
1A4a Commercial / Institutional	11	8	11	14	52	76	21	22	183	kg
1A4b Residential	32	127	28	153	169	49	132	119	2694	kg
1A4c Agriculture / Forestry / Fisheries	16	13	30	18	22	473	35	21	74	kg
Total	625	522	909	979	1051	7952	3711	1727	17937	kg

1) Only emission from stationary combustion plants in the sectors is included

Time-series for heavy metal emissions are provided in Figure 3.12. Heavy metal emissions have decreased considerably since 1990. Table 3.11 shows the decrease of each heavy metal since 1990. Emissions have decreased despite increased incineration of municipal waste. This has been made possible due to installation and improved performance of gas cleaning devices in waste incineration plants and also in large power plants, the latter being a further important emission source.

Table 3.11 Decrease in heavy metal emission 1990-2004

	Decrease since 1990
As	57%
Cd	50%
Cr	85%
Cu	73%
Hg	66%
Ni	63%
Pb	76%
Se	60%
Zn	7%

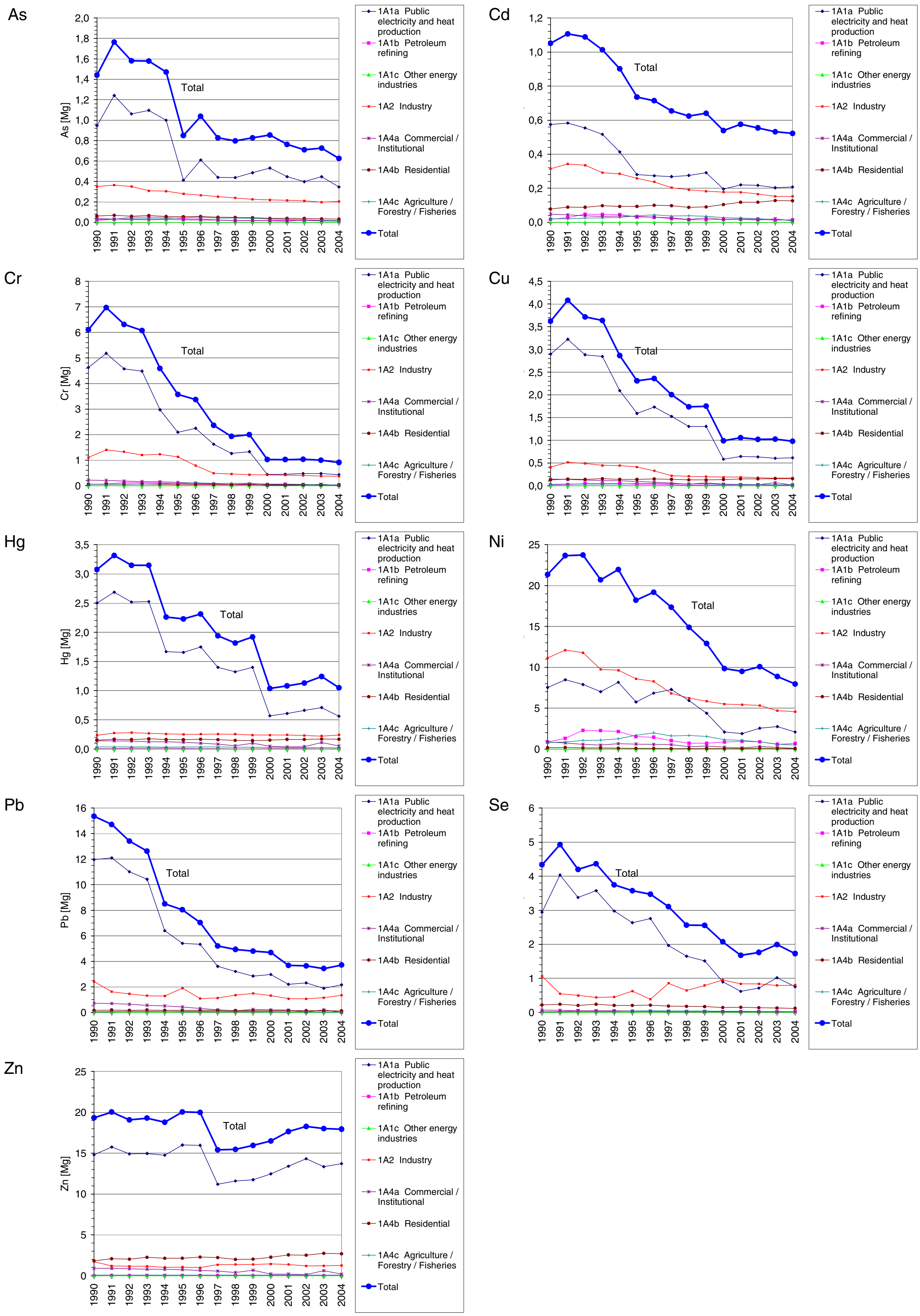


Figure 3.12 Heavy metal emission time-series, stationary combustion plants

3.2.8 PAH

Emission inventories for 4 PAHs are reported to the LRTAP Convention. A new dioxin emission inventory is currently in external review; when the process is finalised the results will be made available to UNECE. Stationary combustion plants account for more than 90% of the PAH emission.

Table 3.12 shows the PAH emission inventory for the stationary combustion subsectors. Residential combustion is the largest emission source. Combustion of wood is the predominant source, accounting for more than 98% of the emission in residential plants. The increasing emission trend is a result of the increased combustion of wood in residential plants. The time-series for wood combustion in residential plants is also provided in Figure 3.14.

Table 3.12 PAH emission from stationary combustion plants, 2004

	Benzo(a)-Pyrene (Mg)	Benzo(b)-fluoranthene (Mg)	Benzo(k)-fluoranthene (Mg)	Indeno(1,2,3-c,d)pyrene (Mg)
1A1a Public electricity and heat production	7	29	14	7
1A1b Petroleum refining	0	1	0	0
1A1c Other energy industries	0	0	0	0
1A2 Industry	28	96	15	9
1A4a Commercial / Institutional	115	151	50	82
1A4b Residential	2 980	3 906	1 301	2 104
1A4c Agriculture / Forestry / Fisheries	109	119	25	148
Total	3 239	4 302	1 406	2 350

1) Only the emission from stationary combustion plants in the sectors is included

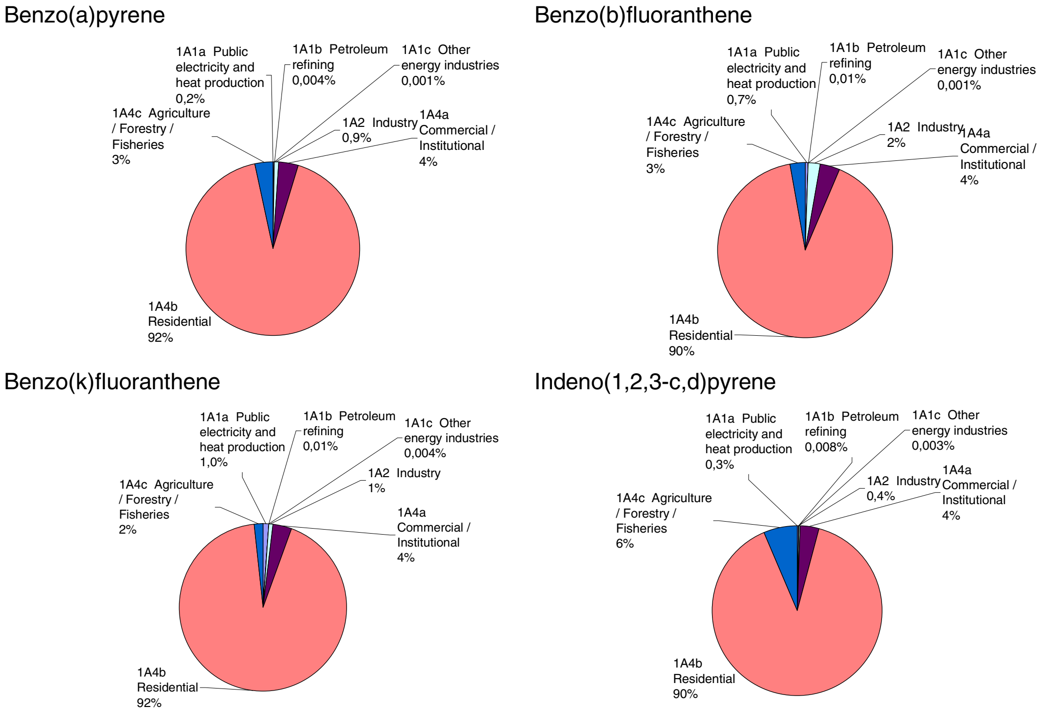
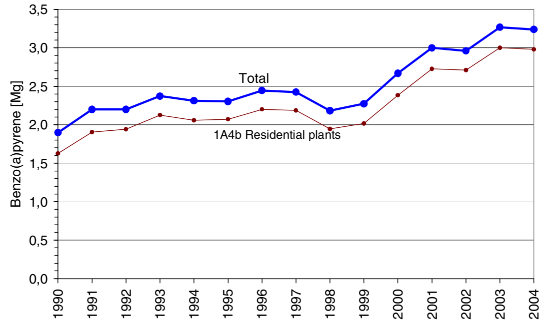
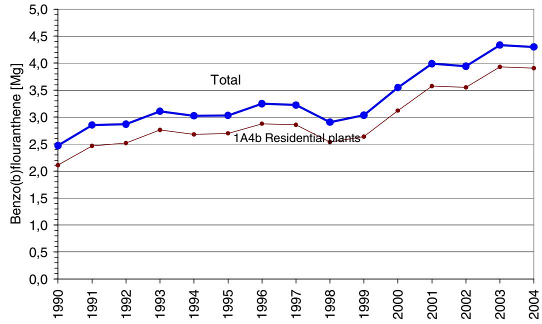


Figure 3.13 PAH emission sources, stationary combustion plants, 2004

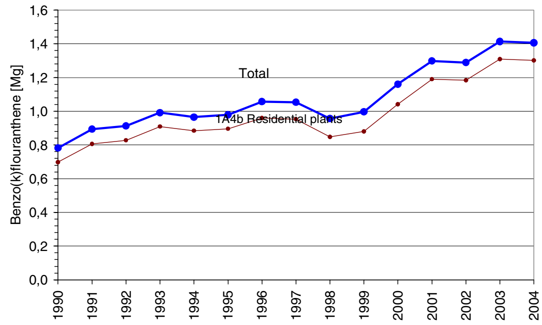
Benzo(a)pyrene



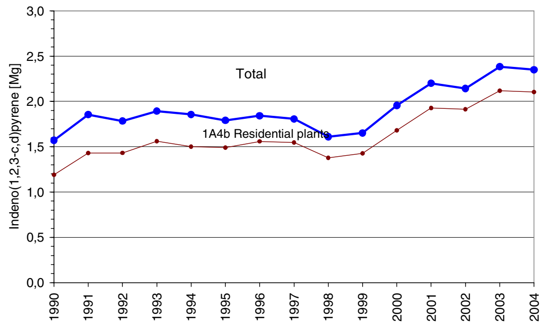
Benzo(b)fluoranthene



Benzo(k)fluoranthene



Indeno(1,2,3-c,d)pyrene



Combustion of wood in residential plants

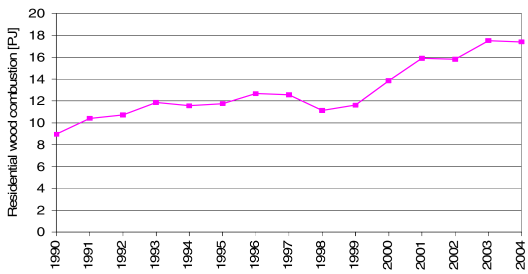


Figure 3.14 PAH emission time-series, stationary combustion plants. Comparison with wood consumption in residential plants.

3.2.9 Methodological issues

The Danish emissions inventory is based on the CORINAIR (CORe INventory on AIR emissions) system, which is a European programme for air emission inventories. CORINAIR includes the methodology structure and software for inventories. The methodology is described in the "EMEP/Corinair Emission Inventory Guidebook", 3rd edition, prepared by the UNECE/EMEP Task Force on Emissions Inventories and Projections (EMEP/Corinair 2004). Emission data are stored in an Access database, from which data are transferred to the reporting formats.

The emission inventory for stationary combustion is based on activity rates from the Danish energy statistics. General emission factors for various fuels, plants and sectors have been determined. Some large plants, such as power plants, are registered individually as large point sources and plant-specific emission data are used.

Large point sources

Large emission sources such as power plants, industrial plants and refineries are included as large point sources in the Danish emission database. Each point source may consist of more than one part, e.g. a power plant with several units. By registering the plants as point sources in the database it is possible to use plant-specific emission factors.

In the inventory for the year 2004, 72 stationary combustion plants are specified as large point sources. These point sources include:

- Power plants and decentralised CHP plants (combined heat and power plants)
- Municipal waste incineration plants
- Large industrial combustion plants
- Petroleum refining plants

The criteria for selection of point sources consist of the following:

- All centralised power plants, including smaller units.
- All units with a capacity of above 25 MW_e.
- All district heating plants with an installed effect of 50 MW or above and a significant fuel consumption
- All waste incineration plants included in the Danish law "Bekendtgørelse om visse listevirksomheders pligt til at udarbejde grønt regnskab".
- Industrial plants
    - With an installed effect of 50 MW or above and significant fuel consumption.
    - With a significant process-related emission.

The fuel consumption of stationary combustion plants registered as large point sources is 361 PJ (2004). This corresponds to 64% of the overall fuel consumption for stationary combustion.

Further details on large point sources are shown in Annex 2A. The number of large point sources registered in the databases increased from 1990 to 2004. In the emission databases for the years before 1990, only one large point source was registered.

If plant-specific emission factors are not available, general area source emission factors are used. Plant-specific emission data are obtained from:

- Annual environmental reports
- Annual plant-specific reporting of SO_2 and NO_X from power plants >25MW_e prepared for the Danish Energy Authority due to a Danish legislatory requirement
- Emission data reported by Elsam and E2, the two major electricity suppliers
- Emission data reported from industrial plants

Annual environmental reports for the plants include a considerable number of emission datasets. Emission data from annual environmental reports are, in general, based on emission measurements, but some emissions have potentially been calculated from general emission factors.

Area sources

Fuels not combusted in large point sources are included as sector-specific area sources in the emission database. Plants such as residential boilers, small district heating plants, small CHP plants and some industrial boilers are defined as area sources. Emissions from area sources are based on fuel consumption data and emission factors. Further information on emission factors is provided below.

Activity rates, fuel consumption

The fuel consumption rates are based on the official Danish energy statistics prepared by the Danish Energy Authority. The Danish Energy Authority aggregates fuel consumption rates to SNAP sector categories (DEA 2005a). Some fuel types in the official Danish energy statistics are added to obtain a less detailed fuel aggregation level, see Annex 2A. The calorific values on which the energy statistics are based are also enclosed in Annex 2A.

The fuel consumption of the NFR sector *1A2 Manufacturing industries and construction* (corresponding to SNAP sector *03 Combustion in manufacturing industries)* is not disaggregated into specific industries in the NERI emission database. To date, disaggregation into specific industries has only been estimated for reporting to the Climate Convention. Disaggregation for LRTAP Convention reporting is planned for next year.

Both traded and non-traded fuels are included in the Danish energy statistics. Thus, for example, estimation of the annual consumption of non-traded wood is included.

Petroleum coke purchased abroad and combusted in Danish residential plants (border trade of 251 TJ) is added to the apparent consumption of petroleum coke and the emissions are included in the inventory.

The Danish Energy Authority (DEA) compiles a database for the fuel consumption of each district heating and power-producing plant, based on data reported by plant operators. The fuel consumption of large point sources specified in the Danish emission database refers to the DEA database (DEA 2005c).

The fuel consumption of area sources is calculated as total fuel consumption minus fuel consumption of large point sources.

Emissions from non-energy use of fuels have not been included in the Danish inventory. The Danish energy statistics include three fuels used for non-energy purposes: bitumen, white spirit and lube oil. The fuels used for non-energy purposes add up to less than 2% of the total fuel consumption in Denmark.

In Denmark, all municipal waste incineration is utilised for heat and power production. Thus, incineration of waste is included as stationary combustion in the NFR Energy sector (source categories *1A1*, *1A2* and *1A4)*.

Fuel consumption data are presented in Chapter 3.2.1.2.

Emission factors

For each fuel and SNAP category (sector and e.g. type of plant), a set of general area source emission factors has been determined. The emission factors are either nationally referenced or based on the international guidebooks: EMEP/Corinair guidebook (EMEP/Corinair 2004) and the IPCC reference manual (IPCC 1996).

A complete list of emission factors for 2004, time-series for emission factors and detailed references are enclosed in Annex 2A. The area source emission factors in 2004 for SO_2, NO_X, NMVOC and CO are shown in Table 3.13.

Table 3.13 SO_2, NO_X, NMVOC and CO emission factors 2004

Fuel	NFR sector	SNAP	SO_2 [g/GJ]	NO_X [g/GJ]	NMVOC [g/GJ]	CO [g/GJ]
COAL	1A1a	010101, 010102, 010103	42	131	1.5	10
COAL	1A1a, 1A2f, 1A4c	010202, 010203, 0301, 0203	574	95	15	10
COAL	1A4b	0202	574	95	15	2 000
BROWN COAL BRI.	1A4b	0202	574	95	15	2 000
COKE OVEN COKE	1A2f	0301	574	95	15	10
COKE OVEN COKE	1A4b	0202	574	95	15	2 000
PETROLEUM COKE	1A2f	0301	605	95	1.5	61
PETROLEUM COKE	1A4a, 1A4b, 1A4c	0201, 0202, 0203	605	50	1.5	1 000
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	1.74	69	3.3	79
WOOD AND SIMIL.	1A1a	010105	25	130	48	50
WOOD AND SIMIL.	1A1a, 1A2f	010202, 010203, 0301, 030102, 030103	25	130	48	240
WOOD AND SIMIL.	1A4a, 1A4c	0201, 020105, 0203	25	130	600	240
WOOD AND SIMIL.	1A4b	0202	25	120	600	9 000
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	23.9	124	0.98	7.4
MUNICIP. WASTES	1A1a, 1A2f, 1A4a	010203, 030102, 0201, 020103	67	164	9	10
STRAW	1A1a	010102, 010103	47.1	131	0.8	63
STRAW	1A1a, 1A2f, 1A4c	010202, 010203, 030105, 020302	130	153	50	325
STRAW	1A4b, 1A4c	0201, 0203	130	153	600	4 000
RESIDUAL OIL	1A1a	0101, 010101, 010102, 010103, 010104, 010105	349	131	3	15
RESIDUAL OIL	1A1a, 1A4a, 1A4b, 1A4c	010202, 010203, 0201, 0202, 0203, 020302	344	142	3	30
RESIDUAL OIL	1A1b	010306	537	142	3	30
RESIDUAL OIL	1A2f	0301, 030102, 030103	344	130	3	30
RESIDUAL OIL	1A2f	030104	344	130	3	15
RESIDUAL OIL	1A2f	030105	344	130	3	100
RESIDUAL OIL	1A4c	020304	344	142	3	100
GAS OIL	1A1a	0101, 010101, 010102	23	249	1.5	15
GAS OIL	1A1a, 1A2f	Gas turbines: 010104, 030104	23	350	2	15
GAS OIL	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Engines: 010105, 010205, 010505, 030105, 020105, 020304	23	700	100	100
GAS OIL	1A1a	010103	23	65	1.5	15
GAS OIL	1A1a, 1A1b, 1A2f	010202, 010203, 010306, 0301, 030102, 030103, 030106	23	65	1.5	30
GAS OIL	1A4a, 1A4c	0201, 020103, 0203	23	52	3	30
GAS OIL	1A4b	0202	23	52	3	43
KEROSENE	all	all	5	50	3	20
FISH & RAPE OIL	1A1a	010103	1	220	1.5	15
FISH & RAPE OIL	1A1a	010202, 010203	1	65	1.5	15
FISH & RAPE OIL	1A2f, 1A4c	030105, 020304	1	700	100	100
ORIMULSION	1A1a	010101	12	86	3	15
NATURAL GAS	1A1a	0101, 010101, 010102	0.3	97	2	15
NATURAL GAS	1A1a, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 030104, 020104, 020303	0.3	124	1.4	6.2
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	0.3	168	117	175
NATURAL GAS	1A1a, 1A2f	010103, 010202, 010203, 0301, 030103, 030106	0.3	42	2	28
NATURAL GAS	1A1c	010504	0.3	250	1.4	6.2
NATURAL GAS	1A4a, 1A4c	0201, 020103, 0203	0.3	30	2	28
NATURAL GAS	1A4b	0202, 020202	0.3	30	4	20
LPG	1A1a, 1A2f	010203, 0301	0.13	96	2	25
LPG	1A4a, 1A4c	0201, 0203	0.13	71	2	25
LPG	1A4b	0202	0.13	47	2	25
REFINERY GAS	1A1b	010304	1	170	1.4	6.2
BIOGAS	1A1a, 1A2f, 1A4a, 1A4c	010102, 010103, 010203, 0301, 0201, 020103, 0203	25	28	4	36
BIOGAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas engines: 010105, 010505, 030105, 020105, 020304	19.2	540	14	273
BIOGAS	1A2f	030102	25	59	4	36

Most country-specific emission factors refer to:

- Danish legislation
- A emission measurement programme for decentralised CHP plants
- Other Danish research reports
- Calculations based on plant-specific emissions from a considerable number of power plants
- Calculations based on plant-specific emissions from a considerable number of municipal waste incineration plants

SO_2 and NO_X emissions from large point sources are often plant specific i.e. based on emission measurements. Emissions of CO, NMVOC, PM and heavy metals are also plant specific in some cases.

Some of the area source emission factors for power plants and municipal waste CHP plants take into account that large plants are included in the inventory as large point sources with plant-specific emission data. Thus, some area source emission factors are default values which assume that the remaining fuel consumption is combusted in smaller units with less effective flue gas cleaning. The area source emission factors are, therefore, not necessarily average values for these plant categories.

3.2.10 Uncertainties and time-series consistency

Time-series for fuel consumption and emission are shown and discussed in Chapter 3.2.1.2 and 3.2.1.3.

Methodology

The applied methodology for uncertainty estimates refers to Pulles & Aardenne (2001). The Danish uncertainty estimates are based on the simple Tier 1 approach.

The uncertainty estimates are based on emission data for the base year and the year 2004 as well as on uncertainties for fuel consumption and emission factors for each of the main SNAP sectors. For particulate matter, 2000 is considered to be the base year, but for all other pollutants the base year is 1990. The applied uncertainty estimates for activity rates and emission factors are default values referring to Pulles & Aardenne 2001. The uncertainty for PM is, however, estimated by NERI. The default uncertainty estimates for emission factors are given in letter codes representing an uncertainty range. It has been assumed that the uncertainty estimates were in the lower end of the range for all sources and pollutants. The values applied for emission factors are listed in Table 3.14. The uncertainty for fuel consumption in stationary combustion plants was assumed to be 2%.

Table 3.14 Uncertainty values for emission factors [%].

SNAP sector	SO_2	NO_X	NMVOC	CO	PM	HM	PAH
01	10	20	50	20	50	100	100
02	20	50	50	50	500	1 000	1 000
03	10	20	50	20	50	100	100

Results

Uncertainty estimates include uncertainty regarding the total emission as well as uncertainty relating to the trend. The estimated uncertainties for stationary combustion emission inventories are shown in Table 3.15. Detailed calculation sheets are shown in Annex 2A.

The total emission uncertainty is 7% for SO_2, 16% for NO_X, 39% for NMVOC and 44% for CO. For PM, heavy metals, except Pb, and PAH, the uncertainty estimate is greater than 100%.

Table 3.15 Danish uncertainty estimates, 2004

Pollutant	Uncertainty Total emission [%]	Trend 1990-2003 [%]	Uncertainty Trend [%-age points]
SO_2	7	-87,1	±0,6
NO_X	16	-36	±2
NMVOC	39	54	±13
CO	44	19	±4,1
TSP [1)]	424	8,7	±2,8
PM_{10} [1)]	438	8,2	±3,5
$PM_{2.5}$ [1)]	450	8,5	±3,1
As	115	-57	±6
Cd	287	-50	±72
Cr	100	-85	±6
Cu	201	-73	±29
Hg	238	-66	±44
Ni	101	-63	±5
Pb	86	-76	±7
Se	114	-60	±16
Zn	182	-7	±18
Ben-zo(b)fluoranthene	971	74	±7
Ben-zo(k)fluoranthene	979	80	±39
Benzo(a)pyrene	989	71	±5
Indeno(1,2,3-c,d)	993	50	±10

1. The base year for PM is year 2000

3.2.11 Source specific QA/QC and verification

A QA/QC plan is under implementation. A thorough description can be found in Denmark's National Inventory Report (Illerup et al. 2006a)

The QC is not fully implemented yet. The QC includes:

- Checking of time-series in the IPCC and SNAP source categories. Considerable changes are controlled and explained.
- Comparison with the inventory of the previous year. Any major changes are verified.
- Total emission, when aggregated to IPCC and LRTAP reporting tables, is compared with totals based on SNAP source categories (control of data transfer).
- A manual log table in the emission databases is applied to collect information about recalculations.
- The IPCC reference approach validates the fuel consumption rates and CO_2 emissions of fuel combustion. Fuel consumption rates and CO_2 emissions differ by less than 1.55% (1990-2004). The reference approach is further discussed below.

- The emission from each large point source is compared with the emission reported the previous year.
- Some automated checks have been prepared for the emission databases:
  - Check of units for fuel rate, emission factor and plant-specific emissions
  - Check of emission factors for large point sources. Emission factors for pollutants that are not plant-specific should be the same as those defined for area sources.
  - Additional checks on database consistency
- Most emission factor references are now incorporated in the emission database, itself.
- Annual environmental reports are kept for subsequent control of plant-specific emission data.
- QC checks of the country-specific emission factors have not been performed, but most factors are based on work from companies that have implemented some QA/QC work. The two major power plant owners / operators in Denmark: E2 and Elsam both obtained the ISO 14001 certification for an environmental management system. Danish Gas Technology Centre and dk-Teknik[1] both run accredited laboratories for emission measurements.

3.2.12 Source specific recalculations

Improvements and recalculations since the 2005 emission inventory include:

- Update of fuel rates according to the latest energy statistics. The update included the years 1980-2003.
- The criteria for including a plant as a point source has been defined and included in this reporting.
- The emission factor for N_2O for coal-powered plants in SNAP categories 0101xx has been updated based on new research.
- Some emission factors for SO_2 and NO_x have been corrected, see Annex 2, Appendix 4.

3.2.13 Source specific planned improvements

The planned improvements of the inventory include:

1) Improved documentation for emission factors
   Reporting of and references for the applied emission factors have been improved in the current year and will be further developed in future inventories.
2) QA/QC and validation
   The QA/QC and validation of the inventories for stationary combustion will be implemented as part of the work that has been initiated for the Danish inventory as a whole. The work has started and is documented in Denmark's National Inventory Report (Illerup et al. 2006a)
3) Uncertainty estimates
   Uncertainty estimates are based mainly on default uncertainty levels for activity rates and emission factors. More country-specific uncertainty estimates will be incorporated in future inventories.
4) Other improvements
   HM emission factors should be compared with new Danish legislation and updated if necessary.

[1] Now FORCE

3.3 Transport and other mobile sources (NFR sector 1A2, 1A3, 1A4 and 1A5)

The emission inventory basis for mobile sources is fuel use information from the Danish energy statistics. In addition, background data for road transport (fleet and mileage), air traffic (aircraft type, flight numbers, origin and destination airports) and non-road machinery (engine no., engine size, load factor and annual working hours) are used to make the emission estimates sufficiently detailed. Emission data mainly comes from the EMEP/CORINAIR Emission Inventory Guidebook. However, for railways, measurements specific to Denmark are used.

In the Danish emission database, all activity rates and emissions are defined in SNAP sector categories (Selected Nomenclature for Air Pollution), according to the CORINAIR system. The emission inventories are prepared from a complete emission database based on the SNAP sectors. The aggregation to the sector codes used for both the UNFCCC and UNECE Conventions is based on a correspondence list between SNAP and NFR classification codes shown in Table 3.16 below (mobile sources only).

Table 3.16 SNAP – NFR correspondence table for transport

SNAP classification	IPCC classification
07 Road transport	1A3b Transport-Road
0801 Military	1A5 Other
0802 Railways	1A3c Railways
0803 Inland waterways	1A3d Transport-Navigation
080402 National sea traffic	1A3d Transport-Navigation
080403 National fishing	1A4c Agriculture/forestry/fisheries
080404 International sea traffic	1A3d Transport-Navigation (international)
080501 Dom. airport traffic (LTO < 1000 m)	1A3a Transport-Civil aviation
080502 Int. airport traffic (LTO < 1000 m)	1A3a Transport-Civil aviation (international)
080503 Dom. cruise traffic (> 1000 m)	1A3a Transport-Civil aviation
080504 Int. cruise traffic (> 1000 m)	1A3a Transport-Civil aviation (international)
0806 Agriculture	1A4c Agriculture/forestry/fisheries
0807 Forestry	1A4c Agriculture/forestry/fisheries
0808 Industry	1A2f Industry-Other
0809 Household and gardening	1A4b Residential

Military transport activities (land and air) refer to the NFR sector Other (1A5), while the Transport-Navigation sector (1A3d) comprises national sea transport (ship movements between two Danish ports) and small boats and pleasure craft. The working machinery and equipmemt in industry is grouped in Industry-Other (1A2f), while agricultural and forestry machinery is accounted for in the Agriculture/forestry/fisheries (1A4c) sector together with fishing activities.

3.3.1 Source category description

The following description of source categories explains the development in fuel consumption and emissions for road transport and other mobile sources.

Fuel consumption

Table 3.17 Fuel use (PJ) for domestic transport in 2004 in NFR sectors

NFR ID	Fuel use (PJ)
Industry-Other (1A2f)	12
Civil Aviation (1A3a)	2
Road (1A3b)	164
Railways (1A3c)	3
Navigation (1A3d)	7
Residential (1A4b)	4
Ag./for./fish. (1A4c)	20
Military (1A5)	3
Total	215

Table 3.17 shows fuel use for domestic transport based on DEA statistics for 2004 in NFR sectors. The fuel use figures in time-series 1990-2004 are given in Annex 2.B.16 (NFR format) and are shown for 1990 and 2004 in Annex 2.B.12 (CollectER format). Road transport accounts for a major share of the fuel consumption for domestic transport. In 2004, the fule use share of this sector was 76%, while the shares for Agriculture/forestry/fisheries and Industry-Other are 9 and 6%, respectively. For the remaining sectors, the total fuel use share is 9%.

From 1985 to 2004, diesel and gasoline fuel use increased by 32 and 29%, respectively, and in 2004 the fuel use shares for diesel and gasoline were 58 and 39%, respectively (Figures 3.15 and 3.16). Other fuels only account for a 3% share of the domestic transport total. Almost all gasoline is used in road transportation vehicles. Gardening machinery and private boats and pleasure craft consume merely small contibutors. Regarding diesel, fuel use in most of the domestic transport categories is considerable, whereas a more limited use of residual oil and jet fuel, respectively, takes place in the fisheries/navigation sectors and in aviation (civil and military flights).

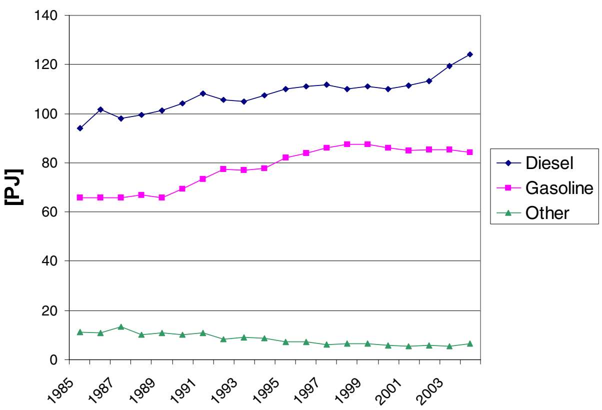


Figure 3.15 Fuel consumption per fuel type for domestic transport 1985-2004

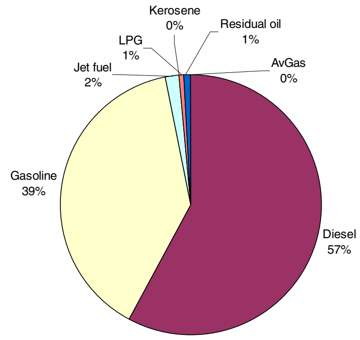


Figure 3.16 Fuel-use share per fuel type for domestic transport in 2004

Road transport

As shown in Figure 3.17, the energy used for road transport increased until 2000, whereafter a small decline is noted. From 2002 onwards, fuel use increases. This development is due to a slight decrease in the use of gasoline fuels from 1999 onwards combined with a steady growth in the amount of diesel fuel used. Within sub-sectors, passenger cars comprise the vehicle category, which consumes the most fuel, followed by heavy-duty vehicles, light duty vehicles and 2-wheelers, in decreasing order (Figure 3.18).

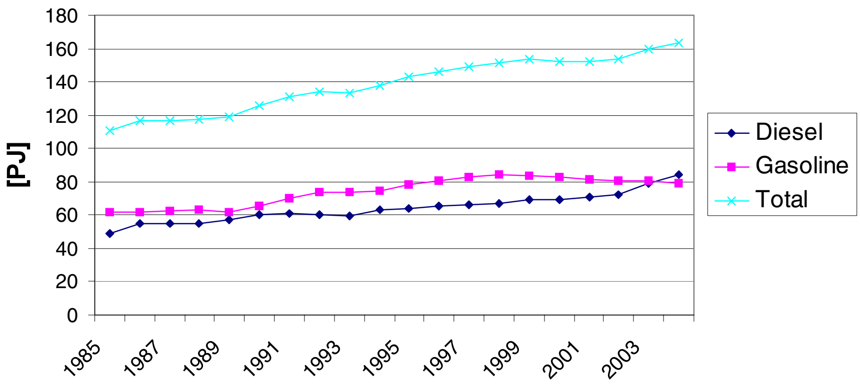


Figure 3.17 Fuel consumption per fuel type and as a total for road transport 1985-2004

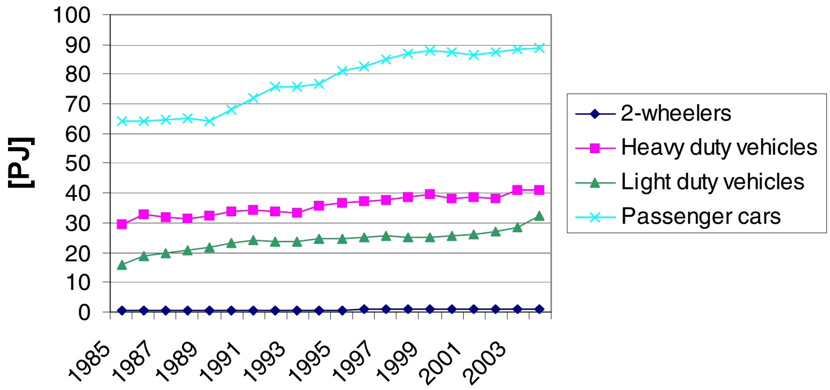


Figure 3.18 Total fuel consumption per vehicle type for road transport 1985-2004

As shown in Figure 3.19, the fuel use development for gasoline passenger cars dominates the total gasoline fuel use trend. The development in diesel fuel use in recent years (Figure 3.20) is characterised by an increasing use of fuel in diesel passenger cars and light duty vehicles, whereas the fuel use for trucks and buses (heavy-duty vehicles) has fluctuated since 1999. However, for the latter vehicle types, the sudden fuel use increase in 2003 is significant.

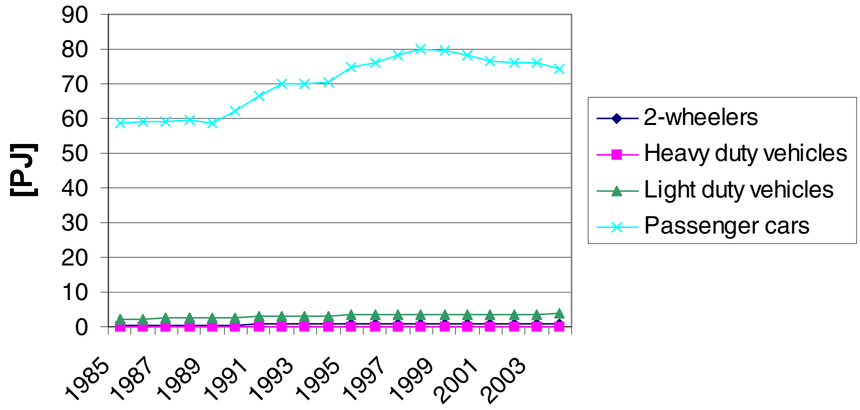


Figure 3.19 Gasoline fuel consumption per vehicle type for road transport 1985-2004

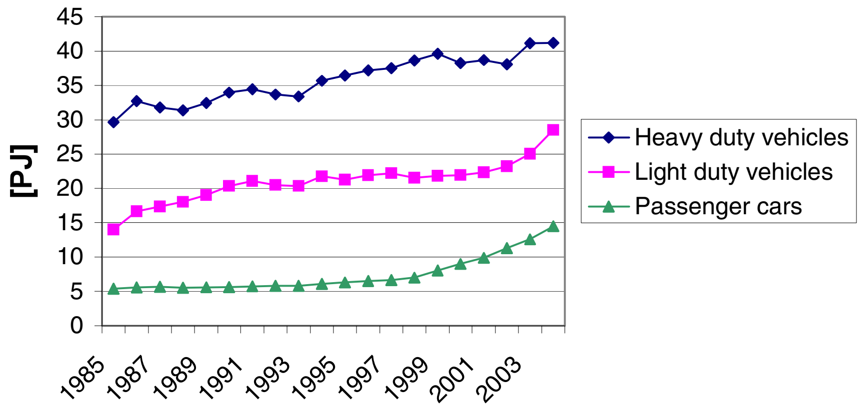


Figure 3.20 Diesel fuel consumption per vehicle type for road transport 1985-2004

In 2004, fuel use shares for gasoline passenger cars, heavy-duty vehicles, diesel light-duty vehicles, diesel passenger cars and gasoline light-duty vehicles were 46, 25, 17, 9 and 2%, respectively (Figure 3.21).

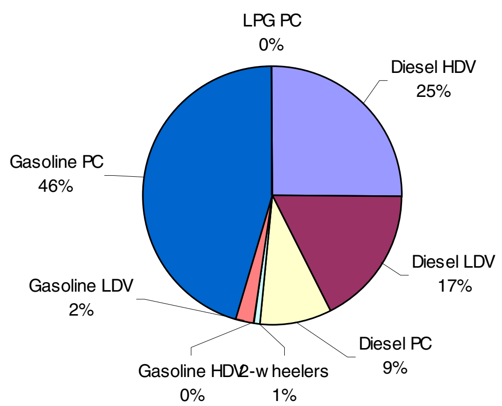


Figure 3.21 Fuel-use share (PJ) per vehicle type for road transport in 2004

Other mobile sources

It should be noted that the fuel use figures behind the Danish inventory for mobile equipment in the agricultural, forestry, industrial, household and gardening (residential) and inland waterways (part of navigation) sectors, are less certain than for other mobile sectors. For these types of machinery, the DEA statistical figures do not directly provide fuel use information and fuel use totals are subsequently estimated from activity data and fuel use factors.

As seen in Figure 3.22, classified according to the NFR, the most important sectors are Agriculture/forestry/fisheries (1A4c), Industry-Other (mobile machinery part of 1A2f) and Navigation (1A3d). Sectors of more minor importance with regard to fuel consumption are Civil Aviation (1A3a), Railways (1A3c), Other (military mobile fuel use: 1A5) and Residential (1A4b).

The 1985-2004 time-series are shown per fuel type in Figures 3.23-3.25 for diesel, gasoline and jet fuel, respectively.

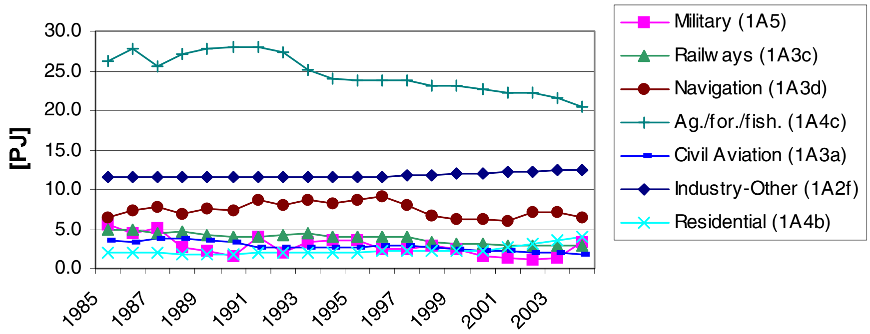


Figure 3.22 Total fuel use in NFR sectors for other mobile sources 1985-2004

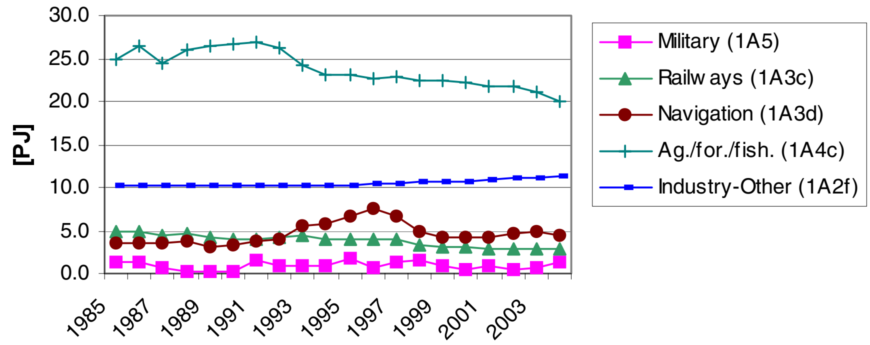


Figure 3.23 Diesel fuel use in NFR sectors for other mobile sources 1985-2004

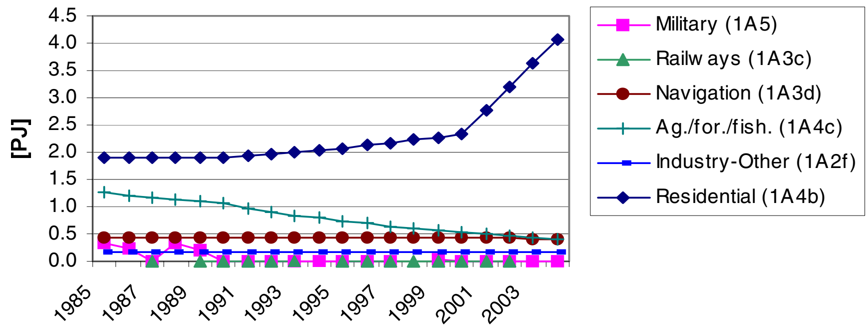


Figure 3.24 Gasoline fuel use in NFR sectors for other mobile sources 1985-2004

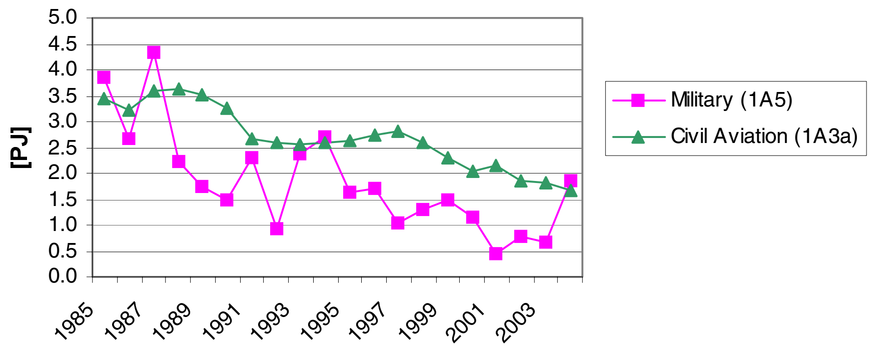


Figure 3.25 Jet fuel use in NFR sectors for other mobile sources 1985-2004

In the Agriculture/forestry/fisheries sector, diesel fuel use by agricultural machines accounts for two thirds of total fuel use. The decrease in total fuel use is the result of fluctuations in diesel fuel use for fishery and the steady fuel use decrease for agricultural machines, most markedly from the beginning of the 1990s.

The Navigation sector comprises national sea transport (fuel use between two Danish ports) and recreational craft. For the latter category, fuel use increased significantly from 1985 to 2004 due to the greater number of gasoline- and diesel-fuelled private boats. For national sea transport, diesel fuel use has shown some fluctuations over the same period. However for 1997 and 1998, a sudden decline in fuel use is apparent. The most important explanation here is the shut down of ferry services in connection with the opening of the Great Belt Bridge in 1997.

The largest gasoline fuel use is found for household and gardening machinery in the Residential (1A4b) sector; and especially from 2001 onwards there is a significant fuel use increase, due to a large growth in the machinery stock. The decline in gasoline fuel use for Agriculture/forestry/fisheries (1A4c) is due to the gradual phase out of gasoline-fuelled agricultural tractors.

The considerable year by year variations in military jet fuel use are due to planning and budgetary reasons and the prevailing demand for flying activities. Consequently, for some years a certain degree of jet fuel stock-building might disturb the real picture of aircraft fuel use. Civil aviation has decreased since the building of the Great Belt Bridge, both in terms of number of flights and total jet fuel use. For railways, the gradual shift towards electrification explains the lowering trend in diesel fuel use and emissions for this transport sector. The fuel used (and associated emissions) to produce electricity are accounted for in the stationary source part of the Danish inventories.

Bunkers

The residual oil and diesel oil fuel use fluctuations reflect the quantity of fuel sold in Denmark to international ferries, international warships, other ships with foreign destinations, transport to Greenland and the Faroe Islands, tank vessels and foreign fishing boats. For jet petrol, the sudden fuel use drop in 2002 is explained by the recession in the air traffic sector due to the events of September 11, 2001 and structural changes in the aviation business.

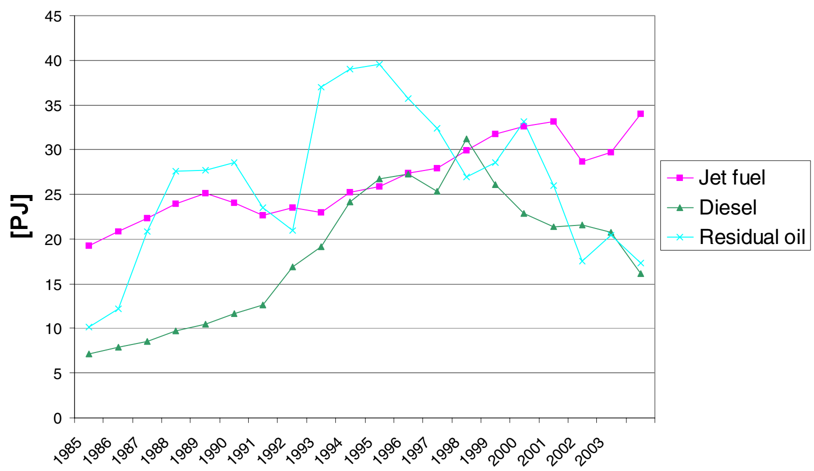


Figure 3.26 Bunker fuel use 1985-2004

Emissions of SO_2, NO_X, NMVOC and CO

In Table 3.18, SO_2, NO_X, NMVOC and CO emissions for road transport and other mobile sources are shown for 2004 in NFR sectors. The emission figures in the time-series 1985-2004 are given in Annex 2.B.16 (NFR format) and are shown for 1990 and 2004 in Annex 2.B.12 (CollectER format).

From 1985 to 2004, road transport emissions of NMVOC, CO and NO_X emissions have decreased by 66, 58 and 34%, respectively (Figures 21-24). The highest CO, NO_X and NMVOC emissions occur in 1991, after which the emissions drop by 50, 43 and 67%, respectively, until 2004.

For other mobile sources, emissions of NO_X decreased by 14% from 1985 to 2004 and for SO_2, the emission drop is as much as 73%. In the same period the emissions of NMVOC declined by 10%, whereas the 1985 and 2004 CO emission totals are the same (Figures 3.40-3.43).

Table 3.18 Emissions of SO_2, NO_X, NMVOC and CO in 2004 for road transport and other mobile sources

NFR ID	SO_2 [tonnes]	NO_X [tonnes]	NMVOC [tonnes]	CO [tonnes]
Industry-Other (1A2f)	263	10 744	1 676	7 600
Civil Aviation (1A3a)	41	552	158	857
Railways (1A3c)	7	3 478	217	599
Navigation (1A3d)	2 259	7 990	1 474	7 767
Residential (1A4b)	9	317	8 731	114 073
Ag./for./fish. (1A4c)	951	20 501	2 528	17 445
Military (1A5)	46	1 079	129	718
Total other mobile	3 576	44 661	14 913	149 058
Road (1A3b)	378	59 085	26 477	232 650
Total mobile	3 955	103 746	41 390	381 709

Road transport

The step-wise lowering of the sulphur content in diesel fuel has brought about a substantial decrease in road transport emissions of SO_2 (Figure 3.35). In 1999, the sulphur content was reduced from 500 ppm to the present level of 50 ppm (the same as for gasoline). Since Danish diesel and gasoline fuels have the same sulphur-percentages at present, the 2004 shares for SO_2 emissions and fuel use for passenger cars, heavy-duty vehicles, light-duty vehicles and 2-wheelers remain the same in each case, from 2000 to 2004; 53, 26, 20 and 1%, respectively (Figure 3.39).

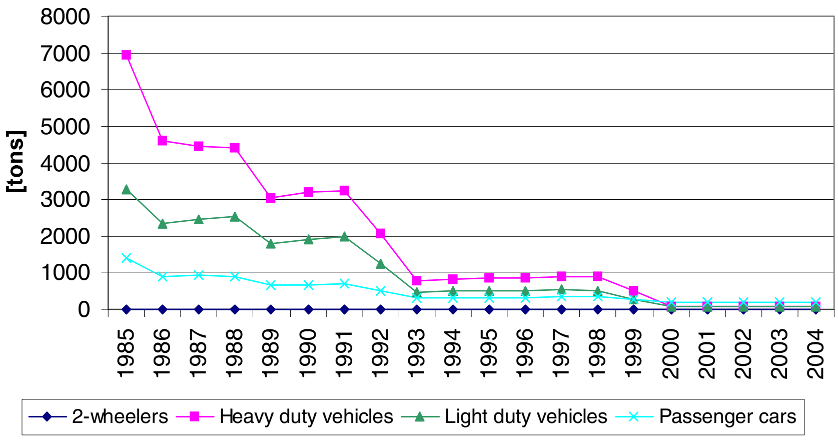


Figure 3.35 SO_2 emissions (ktonnes) per vehicle type for road transport 1985-2004

Historically, emission totals of NO_X and especially NMVOC and CO have been dominated by contributions coming from private cars, as shown in Figures 3.36-3.38. However, the emissions from this vehicle type have shown a steady decreasing tendency since the introduction of catalyst private cars in 1990 (EURO I), and the introduction of even more emission efficient EURO II and III private cars (introduced in 1997 and 2001, respectively). In general, the total emission reductions of NO_X, NMVOC and CO have been fortified by the introduction of new gradually stricter EURO emission standards for all other vehicle classes. However, the significant increase in diesel fuel use causes the NO_X emissions to increase for light-duty vehicles in 2004 and for heavy-duty vehicles in 2003.

In 2004, emission shares for passenger cars, heavy-duty vehicles, light-duty vehicles and 2-wheelers were 43, 38, 19 and 0%, respectively, for NO_X; 70, 10, 8 and 12%, respectively, for NMVOC; and 87, 2, 6 and 5%, respectively, for CO (Figure 3.39).

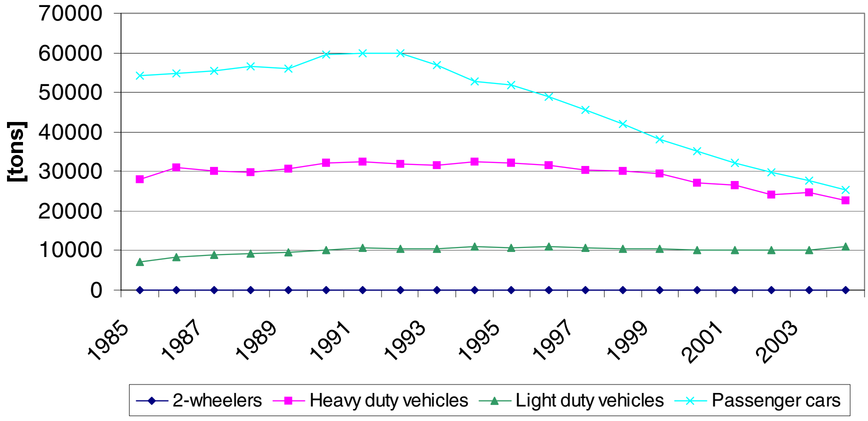


Figure 3.36 NO_X emissions (tonnes) per vehicle type for road transport 1985-2004

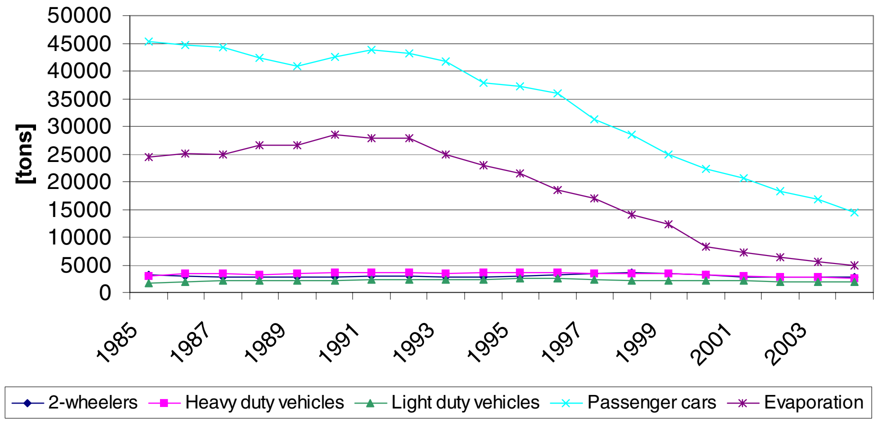


Figure 3.37 NMVOC emissions (tonnes) per vehicle type for road transport 1985-2004

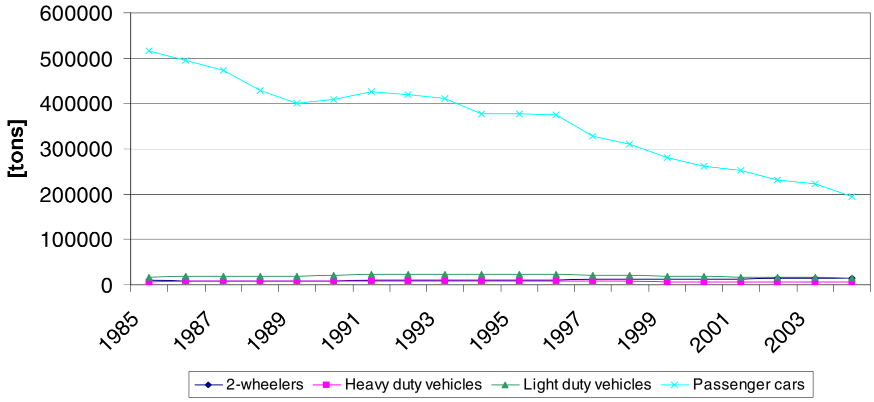


Figure 3.38 CO emissions (tonnes) per vehicle type for road transport 1985-2004

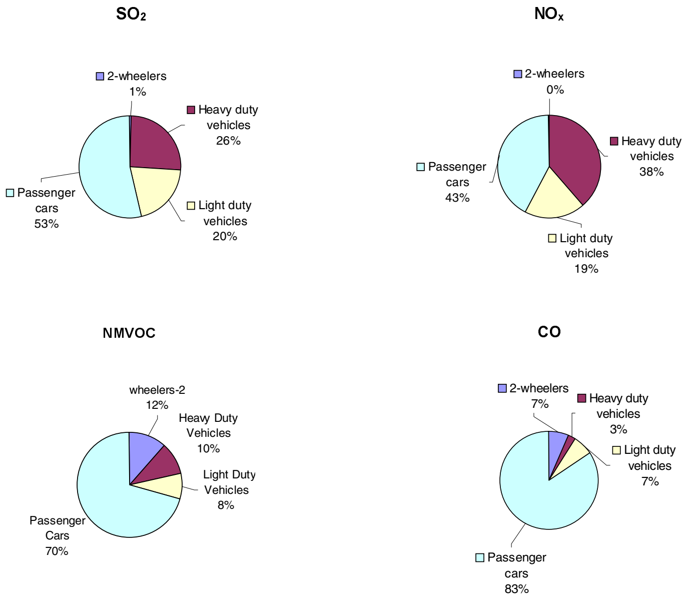


Figure 3.39 SO_2, NO_X, NMVOC and CO emission shares per vehicle type for road transport in 2004

Other mobile sources

SO_2 emissions decreased significantly from 1985 to 1996, as shown in Figure 3.40. The lowering is due to the reduction in sulphur content in marine diesel fuel used in Navigation (1A3d) and diesel fuel used by, among others, Railways (1A3c) and non-road machinery in Agriculture/forestry/fisheries (1A4c) and Industry (1A2f).

In general, the emissions of NO_X, NMVOC and CO from diesel-fuelled working equipment and machinery in agriculture, forestry and industry have decreased slightly since the end of the 1990s due to the implementation of a two-stage EU emission directive.

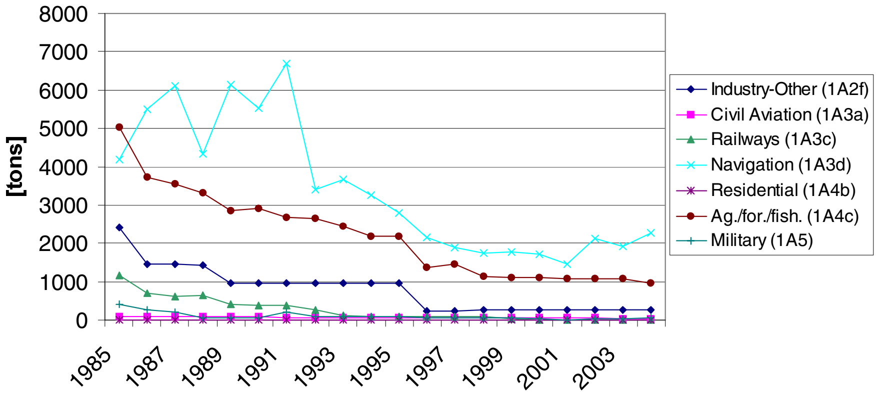


Figure 3.40 SO_2 emissions (ktonnes) in NFR sectors for other mobile sources 1985-2004

NO_X emissions mainly come from diesel machinery and the most important sources are Agriculture/forestry/fisheries (1A4c), Industry (1A2f), Navigation (1A3d) and Railways (1A3c), as shown in Figure 3.41. The 2004 emission shares are 46, 24, 18 and 8%, respectively (Figure 3.44). Minor emissions come from Civil Aviation (1A3a), Military (1A5) and Residential (1A4b).

The NO_X emission trend for Agriculture/forestry/fisheries is determined by fuel use (and hence emission) fluctuations for fishery and the development of fuel use and emission factors for diesel-fuelled agricultural machines. For the latter machinery type, there has been a generally decreasing trend in total fuel use (most markedly from the beginning of the 1990s), somewhat higher NO_x emission factors for 1991-stage I machinery and an improved emission performance for stage I and II machinery since the late 1990s.

Emission development for industry NO_x is the product of a slight fuel use increase from 1985 to 2004, and a development in emission factors as explained for agricultural machinery. The development in fuel use for national sea transport explains the emission trend for navigation. The most influential parameter is the shut down of ferry services in connection with the opening of the Great Belt Bridge in 1997. For railways, the gradual shift towards electrification explains the lowering trend in diesel fuel use and NO_X emissions for this transport sector.

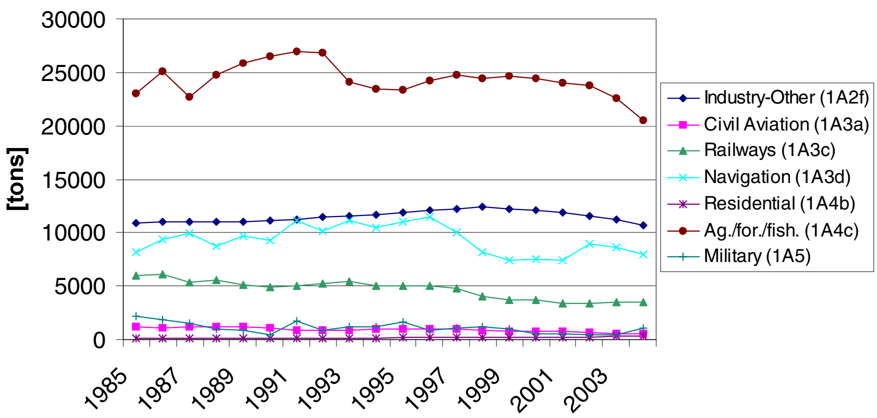


Figure 3.41 NO_X emissions (tonnes) in NFR sectors for other mobile sources 1985-2004

The 1985-2004 time-series for NMVOC and CO emissions are shown in Figures 3.42 and 3.43 for other mobile sources. The 2004 sector emission shares are shown in Figure 3.44. For NMVOC, the most important sectors are Residential (1A4b), Agriculture/forestry/fisheries (1A4c), Industry (1A2f) and Navigation (1A3d), with 2004 emission shares of 59, 17, 11 and 10%, respectively. The same four sectors also contribute with most of the CO emissions in the same consecutive order; the emission shares are 77, 12, 5 and 5%, respectively. Minor NMVOC and CO emissions come from Railways (1A3c), Civil Aviation (1A3a) and Military (1A5).

For NMVOC and CO, the significant emission increases for the residential sector after 2000 are due to the increased number of gasoline working machines. Improved NMVOC emission factors for diesel machinery in agriculture and gasoline equipment in forestry (chain saws) are the most important explanations for the NMVOC emission decline in the Agriculture/forestry/fisheries sector. This explanation also applies for the Industry sector, which is dominated by diesel-fuelled machinery. From 1997 onwards, the NMVOC emissions from Navigation decrease due to the gradual phase out of 2-stroke engine technology for recreational craft. The main reason for the significant 1985-2004 CO emission decrease for Agriculture/forestry/fisheries is the phase out of gasoline tractors.

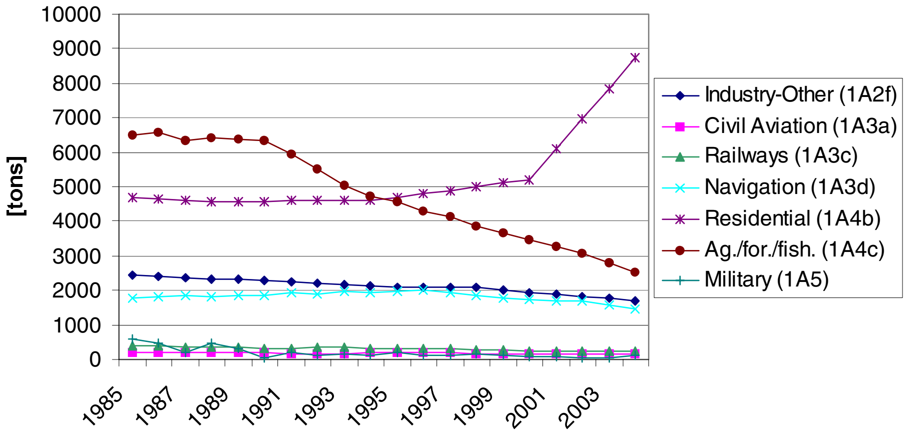


Figure 3.42 NMVOC emissions (tonnes) in NFR sectors for other mobile sources 1985-2004

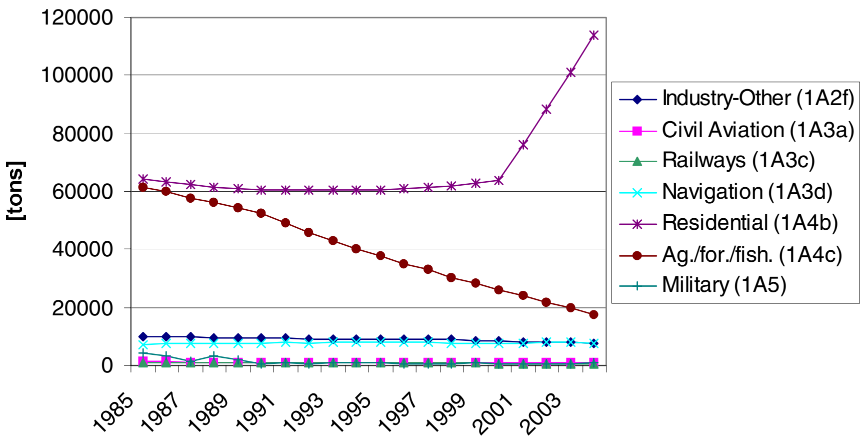


Figure 3.43 CO emissions (tonnes) in NFR sectors for other mobile sources 1985-2004

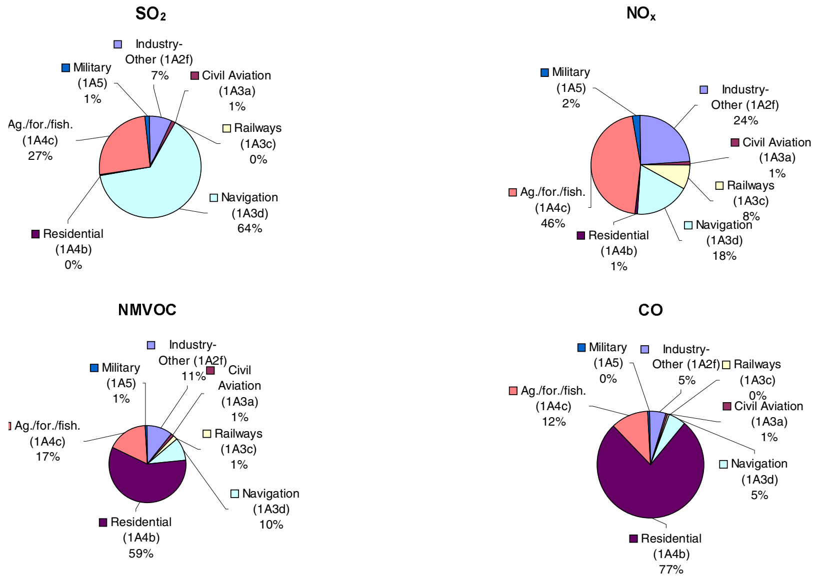


Figure 3.44 SO_2, NO_X, NMVOC and CO emission shares for other mobile sources in 2004

Particulate matter (PM)

The Danish emission inventories comprise the exhaust emission estimates of particulate matter (PM) for all mobile sources. In addition, the inventories include the non-exhaust PM emissions coming from road transport brake and tyre wear, and road abrasion.

In Table 3.19, the TSP, PM_{10} and $PM_{2.5}$ emissions for road transport and other mobile sources are shown for 2004 in NFR sectors. The emission figures (exhaust only) in the time-series for the period 1985-2004 are given in Annex 2.B.13 (NFR format). Exhaust PM emissions are also shown for 1990 and 2004 in Annex 2.B.12 (CollectER format), while 2004 non-exhaust emission figures are shown in Annex 2.B.13.

From 1985 to 2004, road transport PM emissions (exhaust only) decreased by 35% (from Figure 3.37). The highest emissions occur in 1991, after which the emissions drop by 45%, until 2004. The TSP emissions for other mobile sources decreased by 46% from 1985 to 2004 (from Figure 3.39).

Table 3.19 Emissions of TSP, PM10 and PM2.5 in 2004 from road transport and other mobile sources

NFR Sector	TSP [tonnes]	PM_{10} [tonnes]	$PM_{2.5}$ [tonnes]
Industry-Other (1A2f)	1 037	1 037	1 037
Civil Aviation (1A3a)	3	3	3
Railways (1A3c)	115	115	115
Navigation (1A3d)	533	514	496
Residential (1A4b)	87	87	87
Ag./for./fish. (1A4c)	1 283	1 269	1 256
Military (1A5)	53	53	53
Total other mobile	3 110	3 077	3 046
Road exhaust (1A3b)	3 214	3 214	3 214
Road brake wear	574	562	224
Road tyre wear	880	528	370
Road abrasion	1 004	502	271
Total Road non-exhaust	2 459	1 593	865
Total Road	5 673	1 631	1 054
Total Mobile	6 324	6 292	6 261

PM emissions from exhaust

Exhaust particulate emissions from road transportation vehicles are well below $PM_{2.5}$. The largest emission contributor in 2004 was light duty vehicles (45%) followed by heavy-duty vehicles (32%), passenger cars (21%) and 2-wheelers (2%), as shown in Figure 3.38.

The emissions from light- and heavy-duty vehicles have significantly decreased since the mid-1990s due to gradually stricter EURO emission standards. The environmental benefit of introducing diesel private cars with lower particulate emissions since 1990 is more or less outbalanced by an increase in sales of new vehicles in recent years (Figure 3.37).

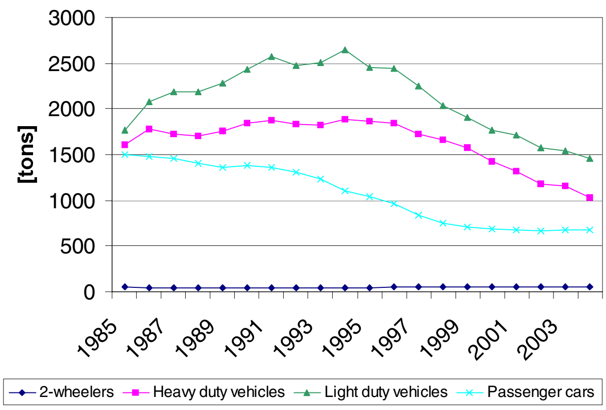


Figure 3.37 Exhaust particulate emissions ($PM_{2.5}$) in tonnes from 1985-2004 for road transport

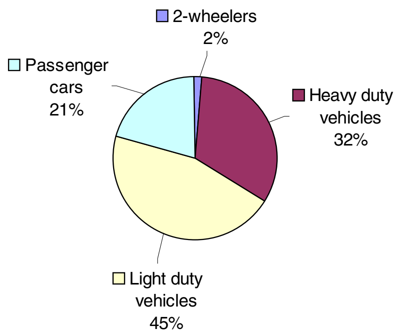


Figure 3.38 Exhaust particulate emission ($PM_{2.5}$) shares for road transport in 2004

As shown in Figure 3.40, for other mobile sources the largest TSP contributors in 2004 are Agriculture/forestry/fisheries (1A4c), Industry (1A2f) and Navigation (1A3d), with emission shares of 41, 33 and 17%, respectively. The remaining sectors: Railways (1A3c), Civil aviation (1A3a), Military (1A5) and Residential (1A4b) represent only minor emission sources.

As for NO_X, the 1985-2004 TSP emission trend for Agriculture/forestry/fisheries is determined by fuel use (and hence emission) fluctuations for fishery and the generally decreasing total diesel fuel use and gradually reducing emission factors over the time period.

The TSP emission development for industrial non-road machinery is the product of a slight fuel use increase from 1985 to 2004 and a development in emission factors, as explained for agricultural machinery. The TSP emission explanations for national sea transport and railways are the same as for NO_x (Figure 3.39).

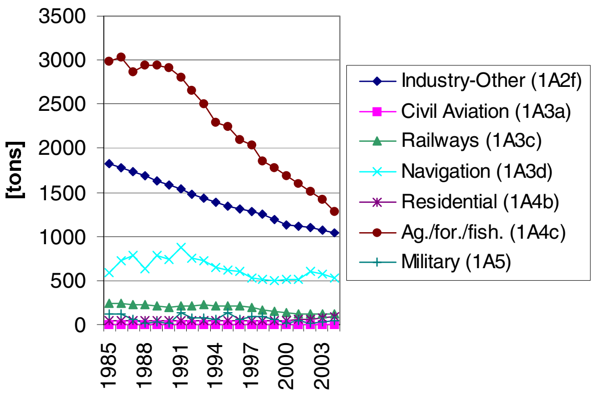


Figure 3.39 Exhaust particulate emissions (TSP) in tonnes from 1985-2004 for other mobile sources

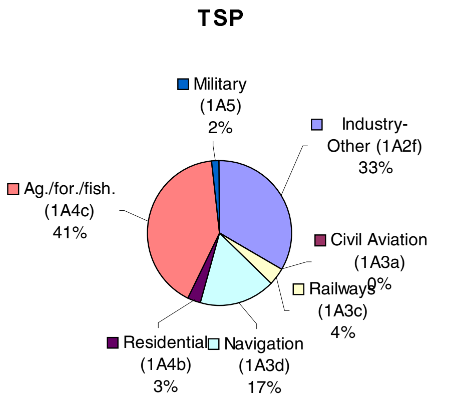


Figure 3.40 Exhaust particulate emissions (TSP) shares for other mobile sources in 2004

Non-exhaust PM

The respective source category distributions for TSP, PM_{10} and $PM_{2.5}$ emissions are identical for each of the non-exhaust emission type's brake wear, tyre wear and road abrasion, and, hence, only the PM_{10} distributions are shown in Figure 3.41. For brake and tyre wear, passenger cars caused the highest emissions in 2004, followed by light-duty vehicles, trucks, buses and 2-wheelers. Trucks cause higher road abrasion emissions than light-duty vehicles, but apart from this, the size order of emission sources is the same as for brake and tyre wear.

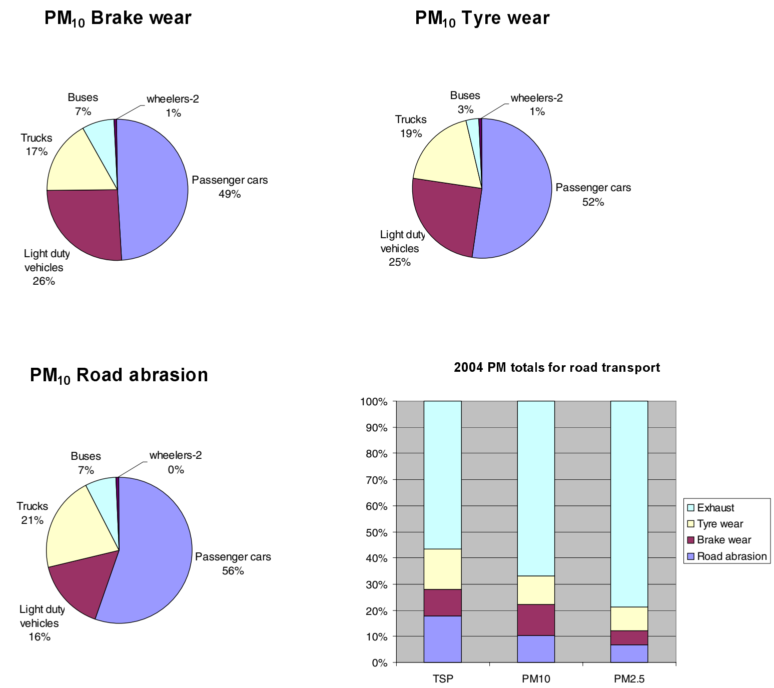


Figure 3.41 Brake and tyre wear and road abrasion PM_{10} emission shares and PM exhaust/non-exhaust distributions for road traffic in 2004

The exhaust emission shares of total road transport TSP, PM_{10} and $PM_{2.5}$ are 57, 67 and 79%, respectively, in 2004. For brake and tyre wear and road abrasion the TSP shares are 10, 16 and 18%, respectively. The same three sources have PM_{10} shares of 12, 11 and 10%, respectively, and $PM_{2.5}$ shares of 5, 9 and 7%, respectively. In general, the non-exhaust shares of total particulate emissions are expected to increase in the future as total exhaust emissions decline. The latter emission trend is due to the stepwise strengthening of exhaust emission standards for all vehicle types.

Heavy metals

In Table 3.20, the heavy metal emissions for road transport and other mobile sources are shown for 2004 in NFR sectors. The emission figures in the time-series 1990-2004 are given in Annex 2.B.16 (NFR format) and are shown for 1990 and 2004 in Annex 2.B.14 (CollectER format).

The heavy metal emission factors (except Pb) are taken from the EMEP/CORINAIR guidebook and are constant throughout the 1990-2004 period. Consequently, emission development follows the trends in fuel use. The road transport emissions have increased by 30% from 1990 to 2004. For Pb, however, there has been an almost 100% emission decline, due to the phasing out of leaded gasoline fuels to 1994 (Figure 3.43). For other mobile sources, emissions generally decrease throughout the time period and the phasing out of lead is also the reason for the 79% decline in Pb emissions from other mobile sources. Here, household and gardening equipment and recreational craft are the the main gasoline fuel consumers. In addition, from 1990 to 2004, gasoline fuel use almost reached zero for agricultural tractors. The 54% decline in Ni emissions is due to lower residual fuel use in navigation.

Table 3.20 Heavy metal emissions in 2004 for road transport and other mobile sources

NFR Sector	As [kg]	Cd [kg]	Cr [kg]	Cu [kg]	Hg [kg]	Ni [kg]	Pb [kg]	Se [kg]	Zn [kg]
Industry-Other (1A2f)		3	13	454		19	0	3	267
Civil Aviation (1A3a)	0	0	2	69	0	3	1 304	0	41
Railways (1A3c)		1	3	116		5		1	68
Navigation (1A3d)	24	2	13	80	5	1 233	17	33	110
Residential (1A4b)		1	5	158		7	3	1	93
Ag./for./fish. (1A4c)	8	5	22	564	7	59	15	33	402
Military (1A5)	0	1	4	129	0	5	82	1	76
Total other mobile	32	12	63	1 570	12	1 330	1 421	71	1 057
Road (1A3b)		38	189	6 432		265	54	38	3 784
Total mobile	32	50	252	8 002	12	1 594	1 476	109	4 841

As shown in Figure 3.42, the road transport emissions of Cd, Cr, Cu and Zn account for around two thirds of the total for all mobile sources in 2004. No road transport emissions occur for As and Hg. Instead, the emissions of these species come from the use of marine diesel oil and residual oil in fisheries and navigation. The latter sector also contributes with a high emission of Ni (from residual oil), whereas the Se emission comes from agriculture/forestry/fisheries, road transport and navigation, in almost equal shares.

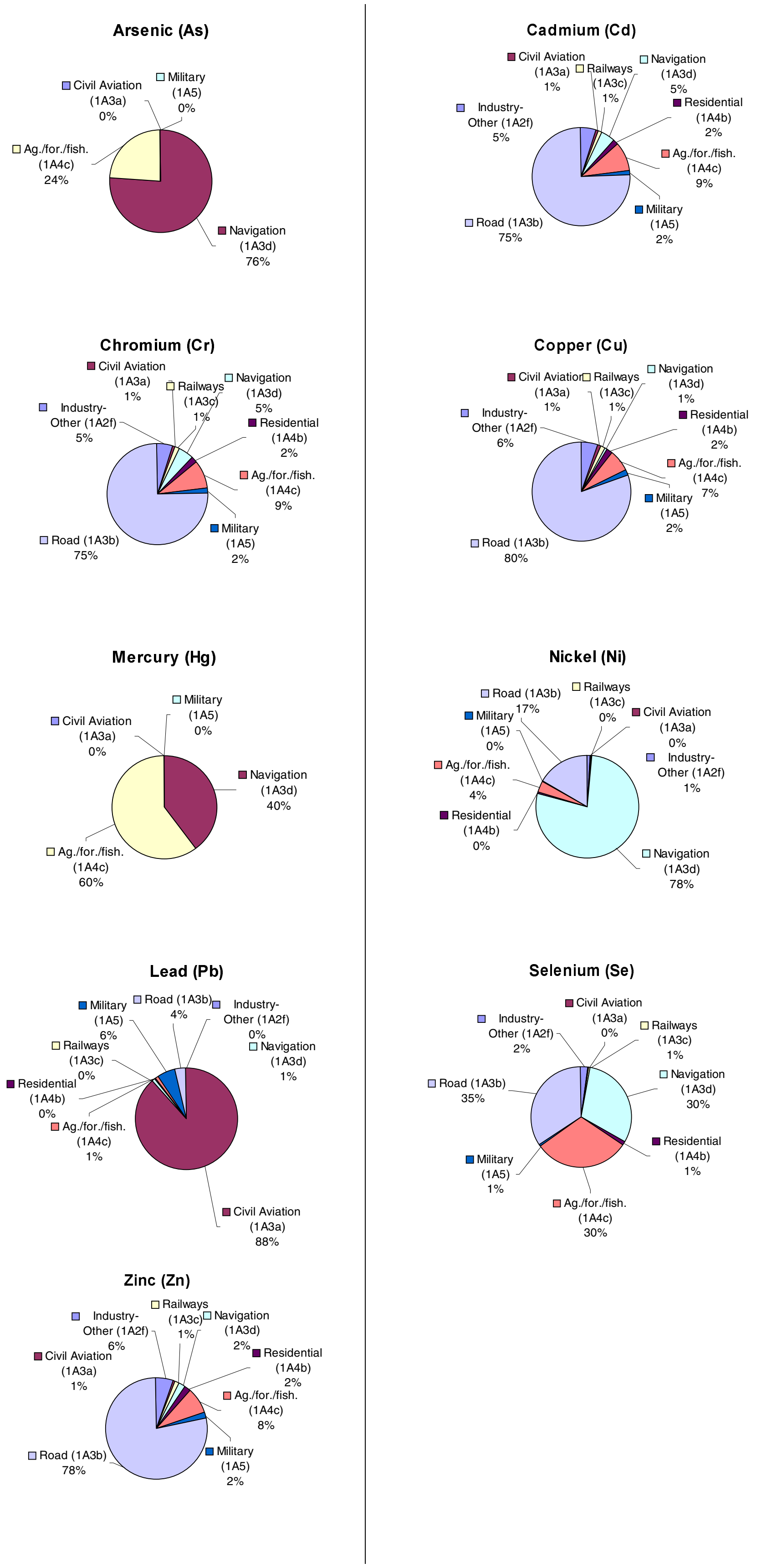


Figure 3.42 Heavy metal emission shares for road transport and other mobile sources in 2004

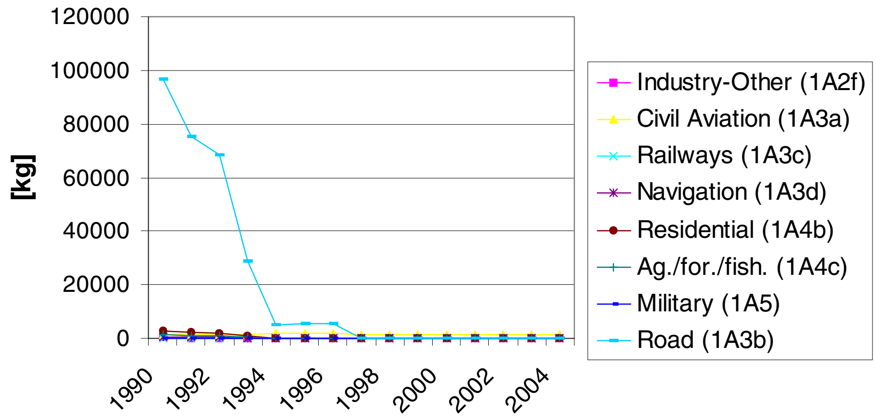


Figure 3.43 Pb emissions (kg) in NFR sectors for road transport and other mobile sources 1990-2004

Dioxin and PAH

In Table 3.21, the dioxin and PAH emissions for road transport and other mobile sources are shown for 2004 in NFR sectors. The emission figures in the time-series 1990-2004 are given in Annex 2.B.16 (NFR format) and are shown for 1990 and 2004 in Annex 2.B.15 (CollectER format).

Table 3.21 Dioxin and PAH emissions in 2004 for road transport and other mobile sources

NFR ID	Dioxins/ Furans	Flouranthene	Benzo(b) flouranthene	Benzo(k) flouranthene	Benzo(a) pyrene	Benzo(g,h,i) perylene	Indeno (1,2,3-c,d) pyrene
	[g]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]
Industry-Other (1A2f)	0	50	6	6	3	5	3
Civil Aviation (1A3a)	0	0	0	0	0	0	0
Railways (1A3c)	0	4	1	1	0	0	0
Navigation (1A3d)	0	40	3	2	1	6	5
Residential (1A4b)	0	18	1	0	0	3	1
Ag./for./fish. (1A4c)	0	108	11	9	4	16	11
Military (1A5)	0	6	1	1	0	1	0
Total other mobile	0	226	23	18	9	30	20
Road (1A3b)	0	655	64	72	49	93	54
Total mobile	0	881	86	90	58	124	74

For mobile sources, road transport displays the largest emission of dioxins and PAH (Figure 3.44). The dioxin emission share for Rroad transport is 54% of all mobile emissions in 2004, whereas Agriculture/forestry/fisheries and Navigation have smaller shares of 22 and 16%. For the different PAH components, road transport shares are around two thirds or more of total emissions for mobile sources. The remaining emissions almost solely come from Agriculture/forestry-/fisheries, Navigation and Industry with Agriculture/forestry/fishe-ries as the largest source.

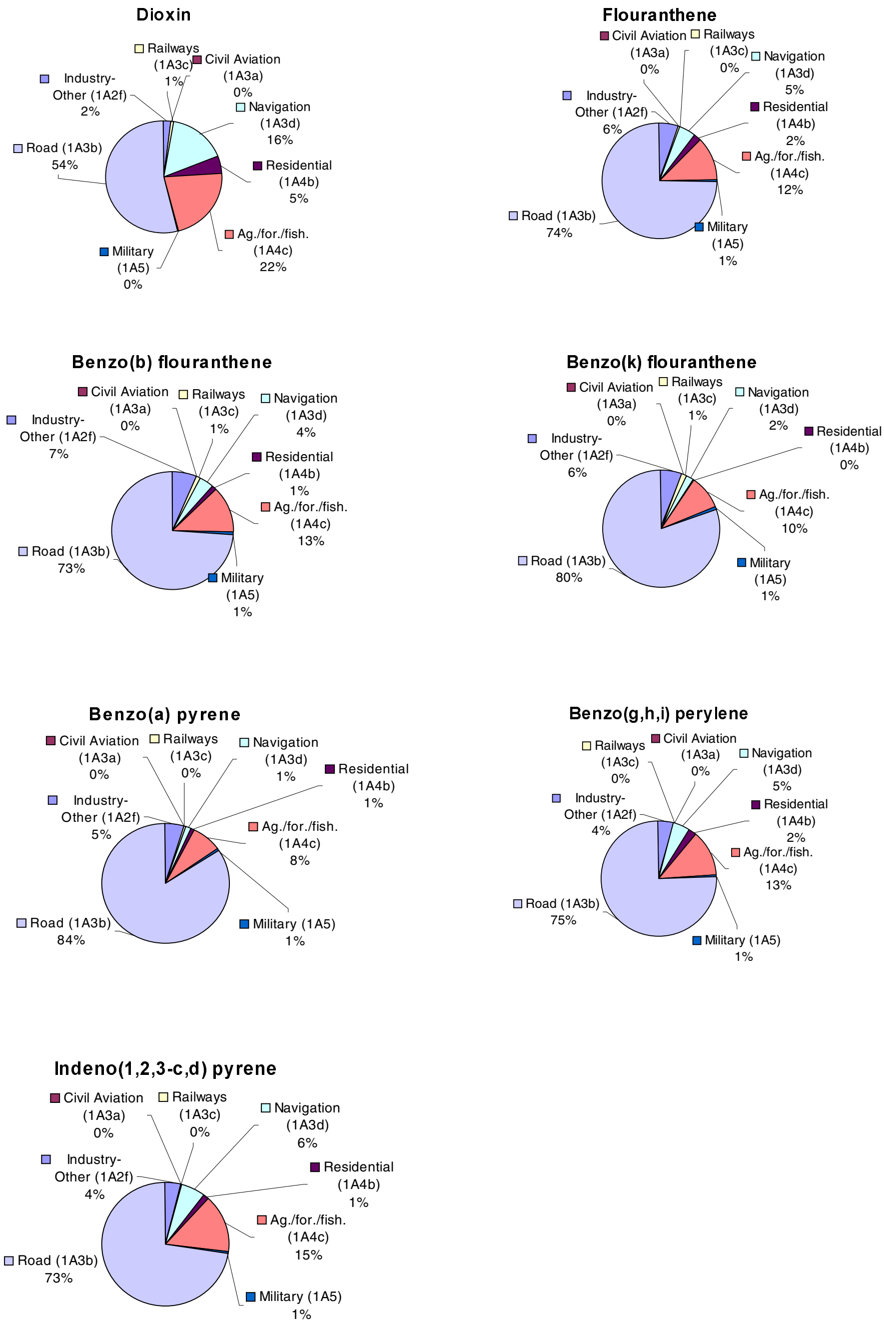


Figure 3.44 Dioxin and PAH emission shares for road transport and other mobile sources in 2004

Bunkers

The most important emissions from bunker fuel use (fuel use for international transport) are SO_2, NO_X and CO_2 (and TSP: not shown). However, compared with the Danish national emission total (all sources), greenhouse gas emissions from bunkers are small. The bunker emission totals are shown in Table 3.22 for 2004, split into sea transport and civil aviation. All emission figures in the time-series 1985-2004 are given in Annex 2.B.16 (NFR format). In Annex 2.B.12, the emissions are also given in CollectER format for the years 1990 and 2004.

Table 3.22 Emissions in 2004 for international transport and national totals

NFR sector	SO_2 [tonnes]	NO_X [tonnes]	NMVOC [tonnes]	CH_4 [tonnes]	CO [tonnes]	CO_2 [ktonnes]	N_2O [tonnes]
Navigation int. (1A3d)	34 821	69 705	1 865	58	5 928	2 545	161
Civil Aviation int. (1A3a)	781	10 439	448	47	1 848	2 447	85
International total	35 603	8 0144	2 312	104	7 776	4 992	245

The differences in emissions between navigation and civil aviation are much larger than differences in fuel use (and derived CO_2 emissions) and display a poor emission performance for international sea transport. In broad terms, the emission trends shown in Figure 3.45 are similar to the fuel use development. Minor differences occur for navigation (SO_2, NO_X and CO_2) due to fluctuating amounts of marine diesel and residual oil, and for civil aviation (NO_X) due to yearly variations in LTO/aircraft type (earlier than 2001) and city-pair (2001 onwards) statistics.

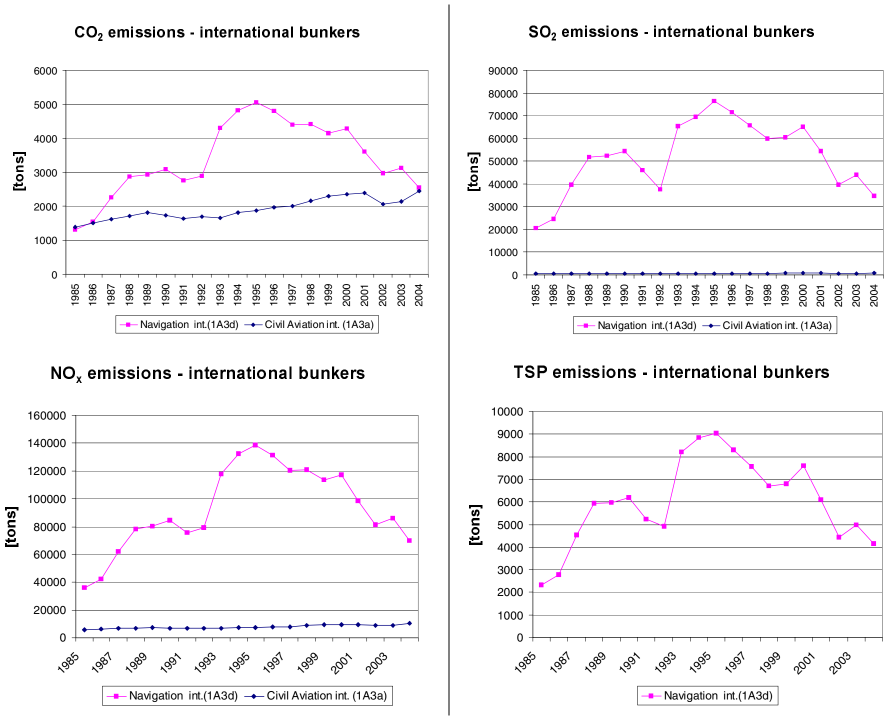


Figure 3.45 CO_2, SO_2, NO_X and TSP emissions for international transport 1985-2004

3.3.2 Methodological issues

The description of methodologies and references for the transport part of the Danish inventory is given in two sections; one for road transport and one for the other mobile sources.

Methodology and references for Road Transport

For road transport, detailed methodology is used to make annual estimates of the Danish emissions as described in the "EMEP/CORIN-AIR Emission Inventory Guidebook" (EMEP/CORINAIR, 2003). The actual calculations are made with a model developed by NERI, using the European COPERT III model methodology. The latter model approach is explained by Ntziachristos et al. (2000). In COPERT III, fuel use and emission simulations can be made for operationally hot engines taking into account gradually stricter emission standards and emission degradation due to catalyst wear. Furthermore, the emission effects of cold start and evaporation are simulated.

Vehicle fleet and mileage data

Corresponding to the COPERT fleet classification all present and future vehicles in the Danish traffic are grouped into vehicle classes, sub-classes and layers. The layer classification is a further division of vehicle sub-classes into groups of vehicles with the same average fuel use and emission behaviour according to EU emission legislation levels. Table 3.23 gives an overview of the different model classes and sub-classes, and the layer level with implementation years are shown in Annex 2.B.1.

Table 3.23 Model vehicle classes and sub-classes, trip speeds and mileage split

			Trip speed [km/h]			Mileage split [%]		
Vehicle classes	Fuel type	Engine size/weight	Urban	Rural	Highway	Urban	Rural	Highway
PC	Gasoline	< 1.4 l.	40	70	100	35	46	19
PC	Gasoline	1.4 – 2 l.	40	70	100	35	46	19
PC	Gasoline	> 2 l.	40	70	100	35	46	19
PC	Diesel	< 2 l.	40	70	100	35	46	19
PC	Diesel	> 2 l.	40	70	100	35	46	19
PC	LPG		40	70	100	35	46	19
PC	2-stroke		40	70	100	35	46	19
LDV	Gasoline		40	65	80	35	50	15
LDV	Diesel		40	65	80	35	50	15
Trucks	Gasoline		35	60	80	32	47	21
Trucks	Diesel	3.5 – 7.5 tonnes	35	60	80	32	47	21
Trucks	Diesel	7.5 – 16 tonnes	35	60	80	32	47	21
Trucks	Diesel	16 – 32 tonnes	35	60	80	19	45	36
Trucks	Diesel	> 32 tonnes	35	60	80	19	45	36
Urban buses	Diesel		30	50	70	51	41	8
Coaches	Diesel		35	60	80	32	47	21
Mopeds	Gasoline		30	30	-	81	19	0
Motorcycles	Gasoline	2 stroke	40	70	100	47	39	14
Motorcycles	Gasoline	< 250 cc.	40	70	100	47	39	14
Motorcycles	Gasoline	250 – 750 cc.	40	70	100	47	39	14
Motorcycles	Gasoline	> 750 cc.	40	70	100	47	39	14

Information of the vehicle stock and annual mileage is obtained from the Danish Road Directorate (Ekman, 2005). This covers data for the number of vehicles and annual mileage in first year of registration for all vehicle sub-classes, and mileage split between urban, rural and highway driving, and the respective average speeds. Additional data for moped fleet and motorcycle fleet disaggregation is given by The National Motorcycle Association (Markamp, 2005).

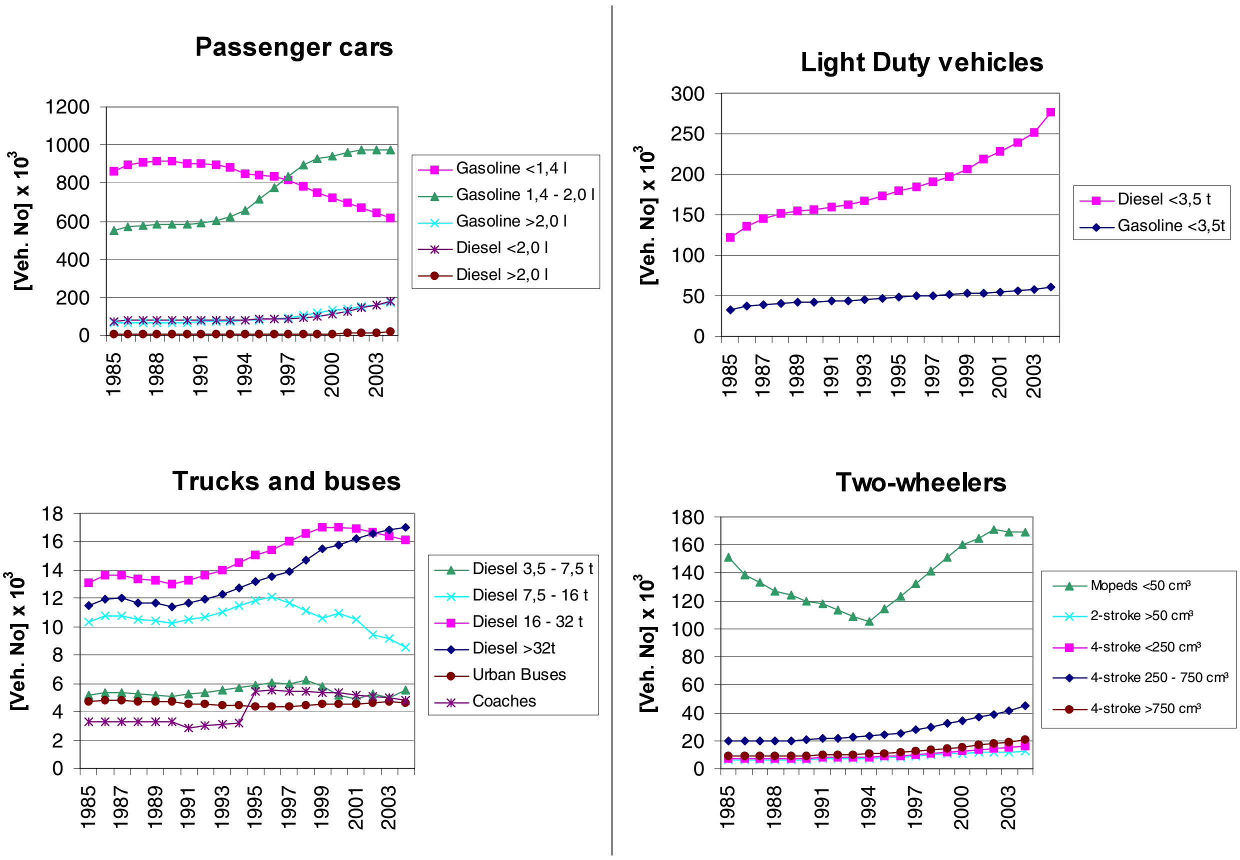


Figure 3.46 Number of vehicles in sub-classes in 1985-2004

Vehicle numbers per sub-class are shown in Figure 3.46. Engine size differentiation is associated with some uncertainty. The increase in the total number of passenger cars is mostly due to a growth in the number of gasoline cars with engine sizes between 1.4 and 2 litres (from 1990-2002) and an increase in the number of gasoline cars (>2 litres) and diesel cars (< 2 litres). In the later years, there has been a decrease in the number of cars with engine sizes smaller than 1.4 litres.

There has been considerable growth in the number of diesel light-duty vehicles from 1985 to 2004. The two largest truck sizes have also increased in numbers during the 1990s. From 2000 onwards, this growth has continued for trucks larger than 32 tonnes, whereas the number of trucks with gross vehicle weights between 16 and 32 tonnes has decreased slightly.

The number of urban buses has been rather constant from 1985 to 2004. The sudden change in the level of coach numbers from 1994 to 1995 is due to uncertain fleet data.

The reason for the significant growth in the number of mopeds from 1994 to 2002 is the introduction of the so-called Moped 45 vehicle type. For motorcycles, the number of vehicles has grown in general throughout the entire 1985-2004 period. The increase is, however, most visible from the mid-1990s onwards.

The vehicle numbers are summed up in layers for each year (Figure 3.47) by using the correspondence between layers and first year of registration:

$$N_{j,y} = \sum_{i=FYear(j)}^{LYear(j)} N_{i,y} \quad (1)$$

Where N = number of vehicles, j = layer, y = year, i = first registration year.

Weighted annual mileages per layer are calculated as the sum of all mileage driven per first registration year divided by the total number of vehicles in the specific layer.

$$M_{j,y} = \frac{\sum_{i=FYear(j)}^{LYear(j)} N_{i,y} \cdot M_{i,y}}{\sum_{i=FYear(j)}^{LYear(j)} N_{i,y}} \quad (2)$$

Vehicle numbers and weighted annual mileages per layer are shown in Annex 2.B.1 and 3.B.2 for 1985-2004. The trends in vehicle numbers per layer are also shown in Figure 3.47. The latter figure shows how vehicles complying with the gradually stricter EU emission levels (EURO I, II, III etc.) have been introduced into the Danish motor fleet.

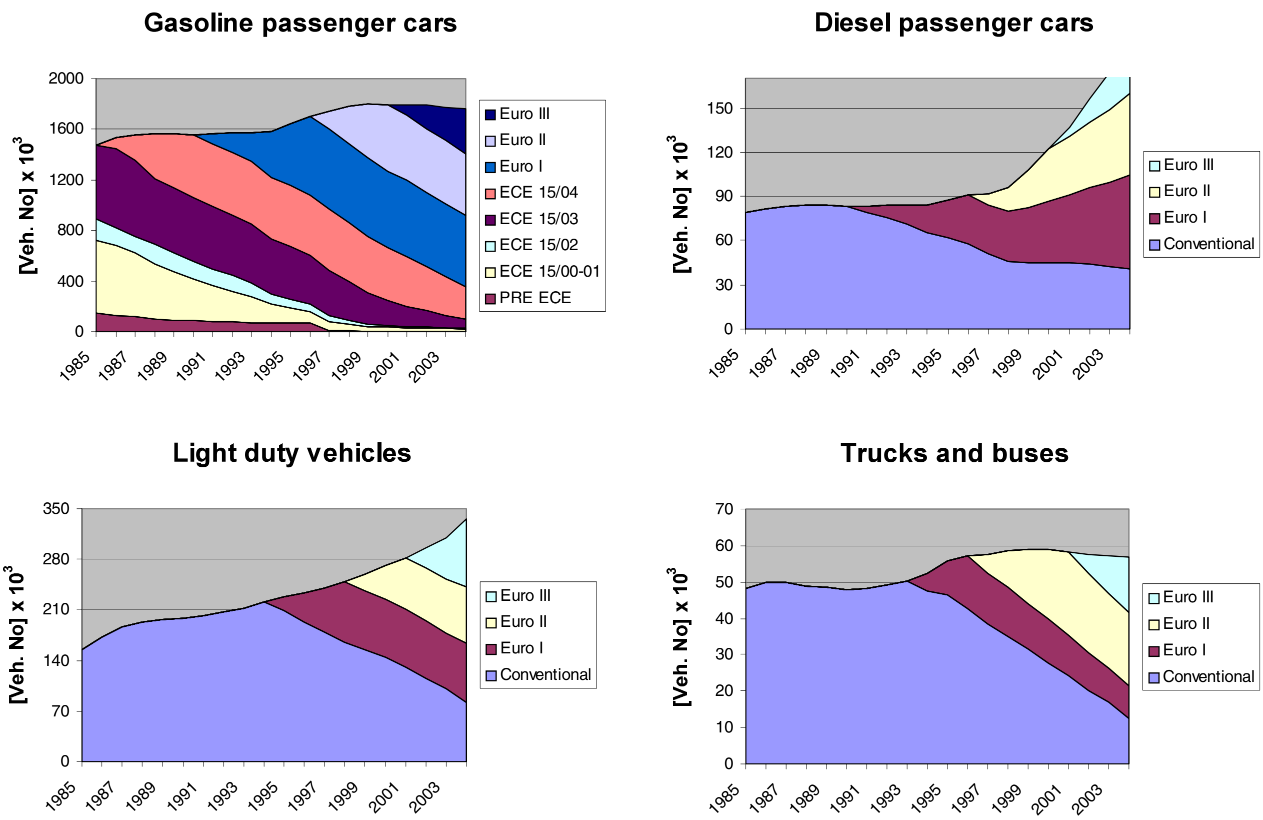


Figure 3.47 Layer distribution of vehicle numbers per vehicle type in 1985-2003

Emission legislation

For passenger cars and light-duty vehicles, emission approval tests are made on a chassis dynamometer. The test cycle used in the EU for emission approval testing of Euro I-IV passenger cars and light-duty vehicles is the EU NEDC (New European Driving Cycle (see Nørgaard and Hansen, 2004). The EU NEDC test is also used for fuel use measurements.

The NEDC cycle consists of two parts, the first part being a 4-time repetition (driving length: 4 km) of the ECE test cycle. The latter test cycle is the so-called urban driving cycle (average speed: 19 km/h). The second part of the test is the run-through of the EUDC (Extra Urban Driving Cycle) test driving segment, simulating fuel use under rural and highway driving conditions. The driving length of the EUDC is 7 km at an average speed of 63 km/h. More information regarding the fuel measurement procedure can be found in the EU-Directive 80/1268/EØF.

For NOx, VOC (NMVOC + CH_4), CO and TSP, the emissions from road transport vehicles have to comply with the various EU directives listed in Table 3.24. The emission directives distinguish between three vehicle classes: passenger cars and light-duty vehicles (<1305 kg), light-duty vehicles (1305-1760 kg) and light-duty vehicles (>1760 kg). The specific emission limits are shown in Annex 2.B.3.

Table 3.24 Overview of the existing EU emission directives for road transport vehicles

Vehicle category	Emission layer	EU Directive	First year of reg.	
			start	end
Private cars (gasoline)	PRE ECE		0	1969
	ECE 15/00-01	70/220 - 74/290	1970	1978
	ECE 15/02	77/102	1979	1980
	ECE 15/03	78/665	1981	1985
	ECE 15/04	83/351	1986	1990
	Euro I	91/441	1991	1996
	Euro II	94/12	1997	2000
	Euro III	98/69	2001	2005
	Euro IV	98/69	2006	9999
Private cars (diesel and LPG)		Conventional	0	1990
	Euro I	91/441	1991	1996
	Euro II	94/12	1997	2000
	Euro III	98/69	2001	2005
	Euro IV	98/69	2006	2010
	Euro V		2011	9999
Light duty veh. (gasoline and		Conventional	0	1994
	Euro I	93/59	1995	1998
	Euro II	96/69	1999	2001
	Euro III	98/69	2002	2006
	Euro IV	98/69	2007	9999
	Euro V		2012	9999
Heavy duty vehicles		Conventional	0	1993
	Euro I	91/542	1994	1996
	Euro II	91/542	1997	2001
	Euro III	1999/96	2002	2006
	Euro IV	1999/96	2007	2009
	Euro V	1999/96	2010	9999
Mopeds		Conventional	0	1999
	Euro I	97/24	2000	2002
	Euro II	97/24	2003	9999
Motor cycles		Conventional	0	1999
	Euro I	97/24	2000	2003
	Euro II	2002/51	2004	2006
	Euro III	2002/51	2007	9999

In practice, emissions from vehicles in traffic differ from the legislative limit values and, therefore, the latter figures are considered to be too inaccurate for total emission calculations. A major constraint is that the emission approval test conditions only reflect in a minor way the large variety of emission influencing factors in the real traffic such as cumulated mileage driven, engine and exhaust after-treatment system maintenance levels, and driving behaviour.

Therefore, in order to represent the Danish fleet and to support average national emission estimates, emission factors must be chosen which are derived from numerous emissions measurements, using a broad range of real world driving patterns and sufficient numbers of test vehicles. It is similarly important to have separate fuel use and emission data for cold start emission calculations and gasoline evaporation (hydrocarbons).

For heavy-duty vehicles (trucks and buses) the emission limits are given in g/kWh and the measurements are carried out for engines on a test bench, using the EU ESC (European Stationary Cycle) and ETC (European Transient Cycle) test cycles, depending on Euro norms and installed exhaust gas after treatment system. A description of the test cycles is given by Nørgaard and Hansen (2004). Measurement results in g/kWh from emission approval tests cannot be directly used for inventory work. Instead, emission factors used for national estimates must be transformed into g/km and derived from a sufficient number of measurements, which represent the different vehicle size classes, Euro engine levels and real world variations in driving behaviour.

Fuel use and emission factors

For road transport, in general, the basic trip speed dependent factors for fuel use and emissions are taken from the COPERT III model, using trip speeds as shown in Table 3.23. However, the SO_2 emission factors are fuel-related and country-specific and for particulates from gasoline and LPG fuel use, the emission factors from the TNO/CEPMEIP database are used. The factors are listed in Annex 2.B.4. For EU emission levels not represented by actual data, the emission factors are scaled according to the reduction factors given in Annex 2.B.5. For further explanation, see Ntziachristos et al. (2000) or Illerup et al. (2003).

The scientific basis for COPERT III is fuel use and emission information from various European measurement programmes, transformed into trip speed dependent fuel use and emission factors for all vehicle categories and layers. For passenger cars and light-duty vehicles, real measurement results lie behind the emission factors for Euro I vehicles and earlier vehicles, whereas the experimental basis for heavy-duty vehicles are computer simulated emission factors for pre-Euro I engines. In both cases, the emission factors for later engine technologies are produced by using reduction factors. The latter factors are determined by assessing the EU emission limits and the relevant emission approval test conditions, for each vehicle type and Euro class.

Deterioration factors

For three-way catalyst cars the emissions of NO_X, NMVOC and CO gradually increase due to catalyst wear and are, therefore, modified as a function of total mileage by "deterioration factors." Even though the emission curves may be serrated for the individual vehicles, on average, the emissions from catalyst cars stabilise after a given cut-off mileage is reached due to OBD (On Board Diagnostics) and the Danish inspection and maintenance programme.

For each forecast year, the deterioration factors are calculated per first year of registration by using deterioration coefficients and cut-off mileages, as given in Ntziachristos et al. (2000) or Illerup et al. (2002) for the corresponding layer. The deterioration coefficients are given for the two driving cycles ”Urban Driving Cycle” (UDF) and ”Extra Urban Driving Cycle” (EUDF: urban and rural), with trip speeds of 19 and 63 km/h, respectively.

Firstly, deterioration factors are calculated for the corresponding trip speeds of 19 and 63 km/h in each case determined by the total cumulated mileage less than or exceeding the cut-off mileage. The formulas 3 and 4 show the calculations for the “Urban Driving Cycle”:

$$UDF = U_A \cdot MTC + U_B \text{, MTC} < \text{U}_{\text{MAX}} \quad (3)$$

$$UDF = U_A \cdot U_{MAX} + U_B \text{, MTC} >= \text{U}_{\text{MAX}} \quad (4)$$

Where UDF is the urban deterioration factor, U_A and U_B represent the urban deterioration coefficients, MTC = total cumulated mileage and U_{MAX} represents the urban cut-off mileage.

In the case of trip speeds below 19 km/h, the deterioration factor DF equals UDF, whereas for trip speeds exceeding 63 km/h DF=EUDF. For trip speeds between 19 and 63 km/h, the deterioration factor DF is found as an interpolation between UDF and EUDF. Secondly, the deterioration factors, one for each of the three road types, are aggregated into layers by taking into account the vehicle numbers and annual mileages per first year of registration:

$$DF_{j,y} = \frac{\sum_{i=FYear(j)}^{LYear(j)} DF_{i,y} \cdot N_{i,y} \cdot M_{i,y}}{\sum_{i=FYear(j)}^{LYear(j)} DF_{i,y} \cdot N_{i,y}} \quad (5)$$

Where DF is the deterioration factor.

Emissions and fuel use for hot engines

Emissions and fuel use results for operationally hot engines are calculated for each year and for layer and road type. The procedure is to combine fuel use and emission factors (and deterioration factors for catalyst vehicles), number of vehicles, annual mileage numbers and their road type shares given in Table 3.22. For non-catalyst vehicles, this yields:

$$E_{j,k,y} = EF_{j,k,y} \cdot S_k \cdot N_{j,y} \cdot M_{j,y} \quad (6)$$

Here E = fuel use/emission, EF = fuel use/emission factor, S = road type share, k = road type.

For catalyst vehicles, the calculation becomes:

$$E_{j,k,y} = DF_{j,k,y} \cdot EF_{j,k,y} \cdot S_k \cdot N_{j,y} \cdot M_{j,y} \quad (7)$$

Extra emissions and fuel use for cold engines

Extra emissions of SO_2, NO_X, NMVOC, CO, PM and fuel consumption from cold start are simulated separately. In the COPERT III model, each trip is associated with an amount of cold-start emission and is assumed to take place under urban driving conditions. The number of trips is distributed evenly in months. First cold emission factors are calculated as the hot emission factor times the cold:hot emission ratio. Secondly, the extra emission factor during cold start is found by subtracting the hot emission factor from the cold emission factor. Finally, this extra factor is applied to the fraction of the total mileage driven with a cold engine (the β-factor) for all vehicles in the specific layer.

The cold:hot ratios depend on average trip length and monthly ambient temperature distribution. The Danish temperatures for 2004, 2000-2003, 1990-1999 and 1980-1989 are given in Cappelen et al. (2005) and Cappelen (2004, 2000 and 2003). The cold:hot ratios are equivalent for gasoline-fuelled, conventional passenger cars and vans, and for diesel passenger cars and vans, respectively, see Ntziachristos et al. (2000). For conventional gasoline and all diesel vehicles, the extra emissions become:

$$CE_{j,y} = \beta \cdot N_{j,y} \cdot M_{j,y} \cdot EF_{U,j,y} \cdot (CEr - 1) \quad (8)$$

Where CE is the cold extra emissions, β = cold driven fraction, CEr = Cold:Hot ratio.

For catalyst cars, the cold:hot ratio is also trip speed dependent. The ratio is, however, unaffected by catalyst wear. The EURO I cold:hot ratio is used for all future catalyst technologies. However, in order to comply with the gradually stricter emission standards, the catalyst light-off temperature must be reached in even shorter time periods for future EURO standards. Correspondingly, the β-factor for gasoline vehicles is step-wise reduced for EURO II vehicles, onwards.

For catalyst vehicles, the cold extra emissions are found from:

$$CE_{j,y} = \beta_{red} \cdot \beta_{EUROI} \cdot N_{j,y} \cdot M_{j,y} \cdot EF_{U,j,y} \cdot (CEr_{EUROI} - 1) \quad (9)$$

where β_{red} = the β reduction factor.

Evaporative emissions from gasoline vehicles

For each year, evaporative emissions of hydrocarbons are simulated in the forecast model as hot and warm running loss, hot and warm soak, and diurnal emissions. All emission types depend on RVP (Reid Vapour Pressure) and the ambient temperature. The emission factors are shown in Ntziachristos et al. (2000).

Running loss emissions originate from vapour generated in the fuel tank during operation. The distinction between hot and warm running loss emissions depends on the engine temperature. In the model, hot and warm running loss occurs for hot and cold engines, respectively. The emissions are calculated as the annual mileage (broken down into cold and hot mileage totals, using the β-factor) times respective emission factors. For vehicles equipped with evaporation control (catalyst cars), the emission factors are only one tenth of the uncontrolled factors used by conventional gasoline vehicles.

$$R_{j,y} = N_{j,y} \cdot M_{j,y} \cdot ((1-\beta) \cdot HR + \beta \cdot WR) \quad (10)$$

where R is the running loss emissions, and HR and WR are the hot and warm running loss emission factors, respectively.

In the model, hot and warm soak emissions for carburettor vehicles also occur for hot and cold engines, respectively. These emissions are calculated as number of trips (broken down into cold and hot trip numbers, using the β-factor) times respective emission factors:

$$S_{j,y}{}^{C} = N_{j,y} \cdot \frac{M_{j,y}}{l_{trip}} \cdot ((1-\beta) \cdot HS + \beta \cdot WS) \quad (11)$$

where S^C is the soak emission, l_{trip} = the average trip length and HS and WS are the hot and warm soak emission factors, respectively. Since all catalyst vehicles are assumed to be carbon canister controlled, no soak emissions are estimated for this vehicle type. Average maximum and minimum temperatures per month are used in combination with diurnal emission factors to estimate the diurnal emissions from uncontrolled vehicles $E^d(U)$:

$$E_{j,y}{}^{d}(U) = 365 \cdot N_{j,y} \cdot e^{d}(U) \quad (12)$$

Each year's total is the sum of each layer's running loss, soak and diurnal emissions.

Fuel use balance

The calculated fuel use in COPERT III must equal the statistical fuel sale totals from the Danish Energy Authority (DEA, 2005) according to the UNFCCC and UNECE emissions reporting format. The standard approach to achieve a fuel balance in annual emission inventories is to multiply annual mileage with a fuel balance factor derived as the ratio between simulated and statistical fuel figures for gasoline and diesel, respectively. This method is also used in the present model.

Table 3.25 DEA:COPERT III fuel use ratios and mileage adjustment factors for the Danish 2004 road transport emission inventories.

		2004
Fuel ratio	DEA:COPERT III	0.93
	DEA:COPERT III	1.61
Mileage factor	DEA:COPERT III	0.93
	DEA:COPERT III	1.84

In Table 3.25, the COPERT III:DEA gasoline and diesel fuel use ratios are shown for fuel sales and fuel consumption in 2004. The figures for 1985-2004 are shown in Annex 2.B.8. The latter figures relate to traffic on Danish roads. As previously mentioned, fuel sales figures underpin the national emission estimates due to convention definitions.

For gasoline vehicles, all mileage numbers are equally scaled in order to obtain gasoline fuel equilibria and, hence, the gasoline mileage factor used is the reciprocal value of the COPERT III:DEA gasoline fuel use ratio.

For diesel, the fuel balance is arrived at by adjusting the mileage for light- and heavy-duty vehicles and buses, given that the mileage and fuel consumption factors for these vehicles are regarded as the most uncertain parameters in the diesel engine emission simulations. Consequently, the diesel mileage factor used is slightly higher than the reciprocal value of the COPERT III:DEA diesel fuel use ratio.

From Table 3.25, it appears that the inventory fuel balances for gasoline and diesel would be improved if the DEA statistical figures for fuel consumption were used instead of fuel sales figures. The fuel difference for diesel is, however, still significant. The reason for this inaccuracy is a combination of the uncertainties related to COPERT III fuel use factors, allocation of vehicle numbers in sub-categories, annual mileages, and trip speeds and mileage splits for urban, rural and highway driving conditions.

For future inventories it is intended to use improved fleet and mileage data from the Danish vehicle inspection programme (performed by the Danish motor vehicle inspection office). The update of road traffic fleet and mileage data will be made as soon as this information is provided from the Danish Ministry of Transport and Energy in a COPERT model input format. In addition, a new version of the COPERT model – COPERT IV - will be available in 2006. The scientific basis for the new model version is the work on emission models and measurements performed in the EU 5th Framework Programme.

The final fuel use and emission factors are shown in Annex 2.B.6 for 1990-2004. Total fuel use and emissions are shown in Annex 2.B.7 per vehicle category and as grand totals for 1990-2004 (and in the NFR format in Annex 2.B.16). In Annex 2.B.12, fuel use and emission factors as well as total emissions are given in CollectER format for 1990 and 2004.

In Table 3.26, the aggregated emission factors for SO_2, NO_X, NMVOC and TSP are shown per fuel type for Danish road transport.

Table 3.26 Fuel-based emission factors for SO_2, NO_X, NMVOC and TSP for road transport in Denmark (2004)

SNAP ID	Category	Fuel type	Mode	Emission factors[1] [g/GJ]			
				SO_2	NO_X	NMVOC	TSP
70101	Passenger cars	Diesel	Highway driving	2.34	278.56	11.59	38.99
70101	Passenger cars	Gasoline 2-stroke	Highway driving	2.28	288.90	2357.34	48.15
70101	Passenger cars	Gasoline conventional	Highway driving	2.28	1362.36	333.59	10.38
70101	Passenger cars	Gasoline catalyst	Highway driving	2.28	243.63	27.94	0.34
70101	Passenger cars	LPG	Highway driving	0.00	1151.70	187.09	10.06
70102	Passenger cars	Diesel	Rural driving	2.34	250.86	18.93	25.07
70102	Passenger cars	Gasoline 2-stroke	Rural driving	2.28	352.84	2476.82	41.51
70102	Passenger cars	Gasoline conventional	Rural driving	2.28	1163.16	452.60	11.59
70102	Passenger cars	Gasoline catalyst	Rural driving	2.28	175.60	29.93	0.38
70102	Passenger cars	LPG	Rural driving	0.00	1248.46	305.18	14.49
70103	Passenger cars	Diesel	Urban driving	2.34	256.86	53.08	46.58
70103	Passenger cars	Gasoline 2-stroke	Urban driving	2.28	51.89	4470.04	19.72
70103	Passenger cars	Gasoline conventional	Urban driving	2.28	635.44	858.78	11.28
70103	Passenger cars	Gasoline catalyst	Urban driving	2.28	169.53	213.29	0.32
70103	Passenger cars	LPG	Urban driving	0.00	618.83	421.82	11.83
70201	Light duty vehicles	Diesel	Highway driving	2.34	312.66	30.60	49.23
70201	Light duty vehicles	Gasoline conventional	Highway driving	2.28	1369.26	170.29	16.17
70201	Light duty vehicles	Gasoline catalyst	Highway driving	2.28	140.96	16.71	0.24
70202	Light duty vehicles	Diesel	Rural driving	2.34	330.79	35.07	45.72
70202	Light duty vehicles	Gasoline conventional	Rural driving	2.28	1188.86	262.59	15.25
70202	Light duty vehicles	Gasoline catalyst	Rural driving	2.28	124.02	22.63	0.23
70203	Light duty vehicles	Diesel	Urban driving	2.34	364.26	56.95	56.50
70203	Light duty vehicles	Gasoline conventional	Urban driving	2.28	626.11	685.91	8.91
70203	Light duty vehicles	Gasoline catalyst	Urban driving	2.28	132.44	124.38	0.17
70301	Heavy duty vehicles	Diesel	Highway driving	2.34	472.55	51.41	20.16
70301	Heavy duty vehicles	Gasoline	Highway driving	2.28	1037.78	474.61	55.35
70302	Heavy duty vehicles	Diesel	Rural driving	2.34	559.70	64.29	24.82
70302	Heavy duty vehicles	Gasoline	Rural driving	2.28	1141.55	820.40	60.88
70303	Heavy duty vehicles	Diesel	Urban driving	2.34	606.35	73.07	29.34
70303	Heavy duty vehicles	Gasoline	Urban driving	2.28	456.62	696.09	40.59
704	Mopeds	Gasoline		2.28	25.40	6338.24	109.59
70501	Motorcycles	Gasoline	Highway driving	2.28	218.43	1170.15	31.96
70502	Motorcycles	Gasoline	Rural driving	2.28	175.99	1404.95	38.31
70503	Motorcycles	Gasoline	Urban driving	2.28	94.93	1877.22	38.57

[1] References. SO_2: Country specific; NO_X and NMVOC: COPERT III; TSP diesel: COPERT III; TSP gasoline and LPG: TNO/CEPMEIP database

Non-exhaust particulate emissions from road transport

The TSP, PM_{10} and $PM_{2.5}$ emissions arising from tyre and brake wear (SNAP 0707) and road abrasion (SNAP 0708) are estimated for the years 2000-2004 as prescribed by the UNECE convention reporting format. The emissions are calculated by multiplying the total annual mileage per vehicle category with the correspondent average emission factors for each source type. The calculation procedure is consistent with the COPERT III model approach used to estimate the Danish national emissions coming from exhaust. A more thorough explanation of the calculations is given by Winther (2004), and emission factors are taken from EMEP/CORINAIR (2003). The emission factors and total emissions for 2004 are shown in Annex 2.B.13.

Methodologies and references for other mobile sources

The other mobile sources are divided into several sub-sectors: sea transport, fishery, air traffic, railways, military and working machinery and equipment in the industry, forestry, agriculture and household and gardening sectors. The emission calculations are made using the detailed method as described in the "EMEP/CORINAIR Emission Inventory Guidebook" (EMEP/CORINAIR, 2003) for air traffic and off-road working machinery and equipment, while for the remaining sectors the simple method is used.

3.3.3 Activity data

Air traffic

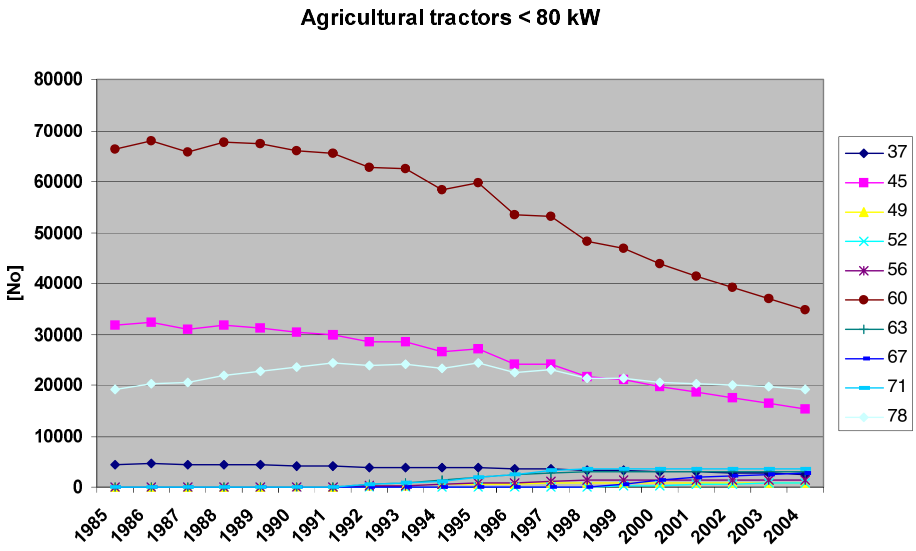
The activity data for air traffic consists of air traffic statistics provided by the Danish Civil Aviation Agency (CAA-DK) and Copenhagen Airport. For 2001 onwards, records are given per flight by CAA-DK as data for aircraft type and origin and destination airports. For inventory years prior to 2001, detailed LTO/aircraft type statistics are obtained from Copenhagen Airport (for this airport only), while information of total take-off numbers for other Danish airports is provided by CAA-DK. Fuel statistics for jet fuel use and aviation gasoline are obtained from the Danish energy statistics (DEA, 2005).

Prior to emission calculations, aircraft types are grouped into a smaller number of representative aircrafts for which fuel use and emission data exist in the EMEP/CORINAIR databank. In this procedure the actual aircraft types are classified according to their overall aircraft type (jets, turbo props, helicopters and piston engine). Secondly, information on the aircraft MTOM (Maximum Take Off Mass) and number of engines is used to append a representative aircraft to the aircraft type in question. A more thorough explanation is given in Winther (2001a, b).

Non-road working machinery and equipment

Non-road working machinery and equipment are used in agriculture, forestry and industry, for household/gardening purposes and inland waterways (recreational craft). A new Danish research project has provided new information of the number of different types of machines, their load factors, engine sizes and annual working hours (Winther et al., 2006). The stock development from 1985-2004 for the most important types of machinery are shown in Figures 3.48-3.55, below. The stock data are also listed in Annex 2.B.10, together with figures for load factors, engine sizes and annual working hours. As regards stock data for the remaining machinery types, please refer to Winther et al., (2006).

For agriculture, the total number of agricultural tractors and harvesters per year are shown in the Figures 3.48-3.49, respectively. The Figures clearly show a decrease in the number of small machines, their being replaced by machines in the larger engine size ranges.



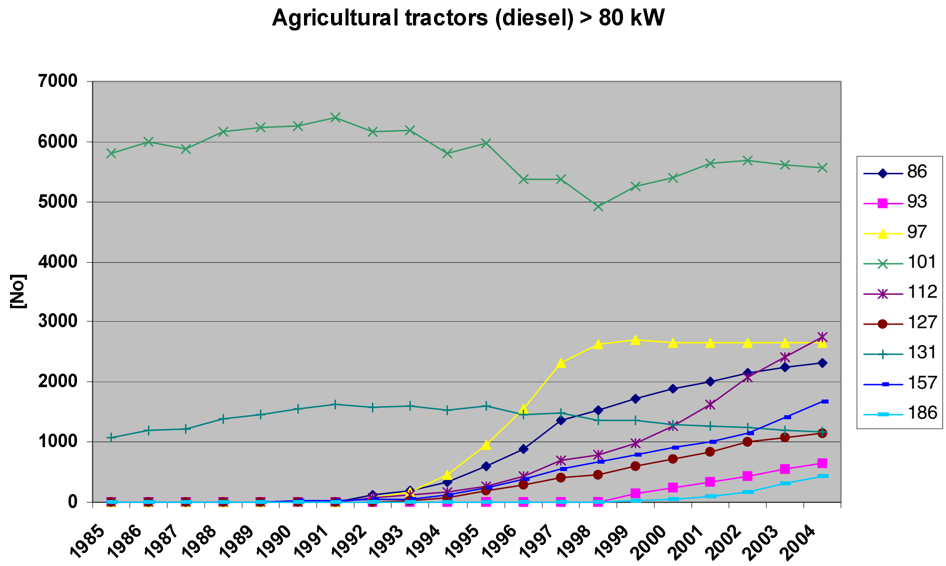


Figure 3.48 Total numbers in kW classes for tractors from 1985 to 2004

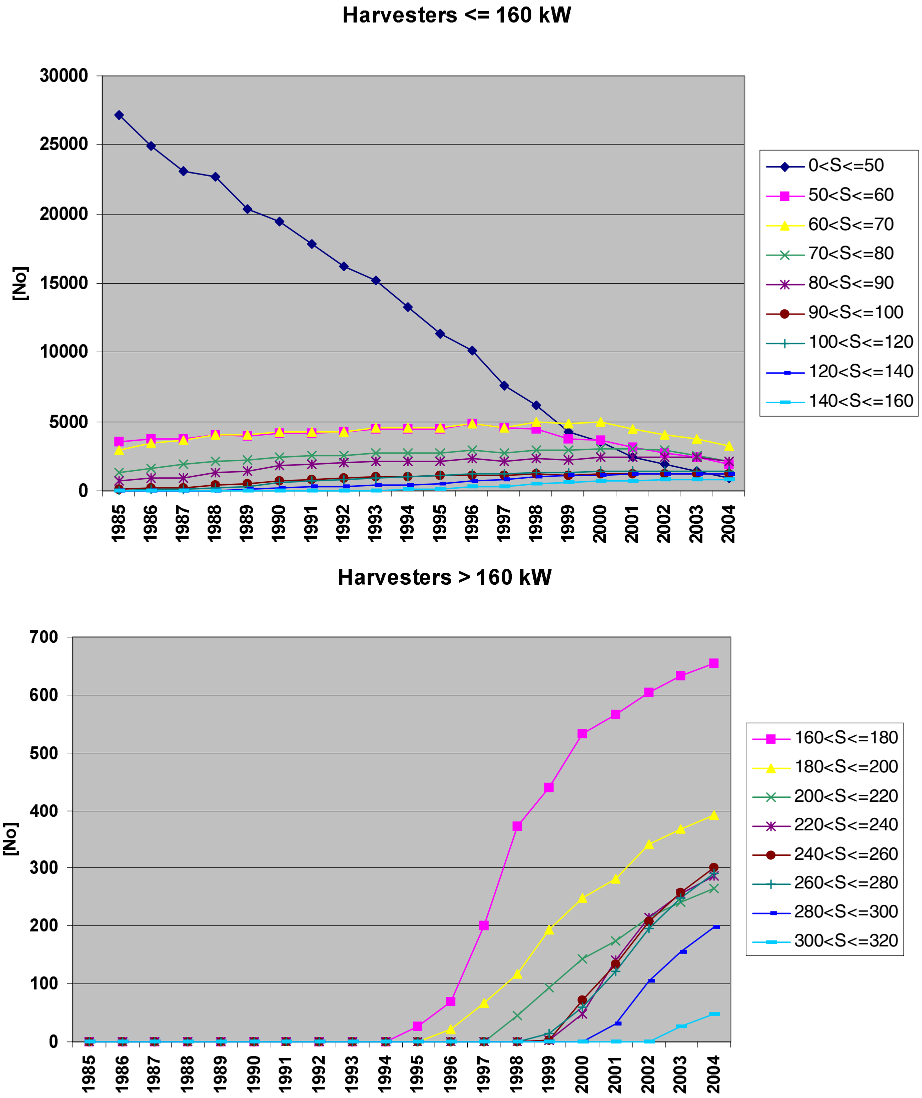


Figure 3.49 Total numbers in kW classes for harvesters from 1985 to 2004

The development in tractor and harvester numbers towards fewer vehicles and larger engines, shown in Figure 3.50, is very clear. From 1985 to 2004, the number of tractors and harvesters decreased by around 20 and 50%, respectively, whereas the average engine size increase for tractors was 16%, and more than 100% for harvesters, in the same time period.

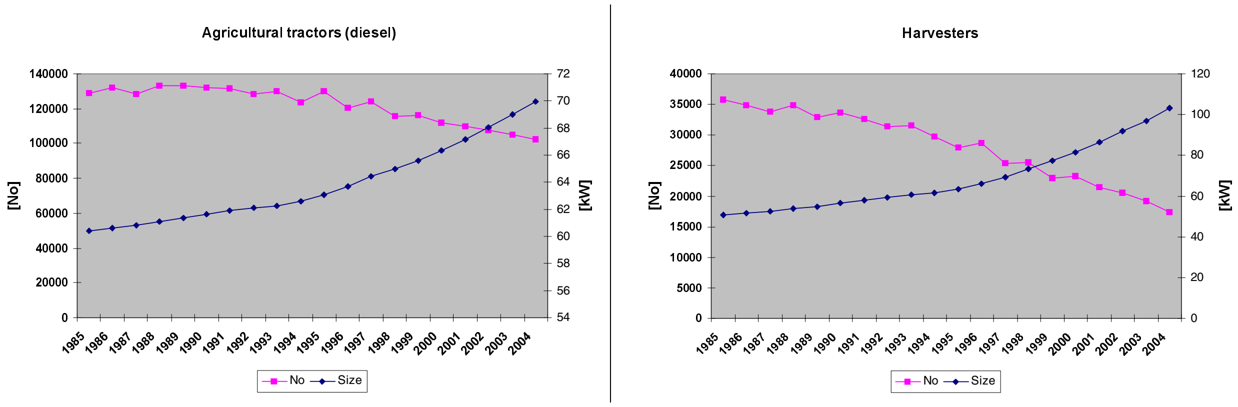
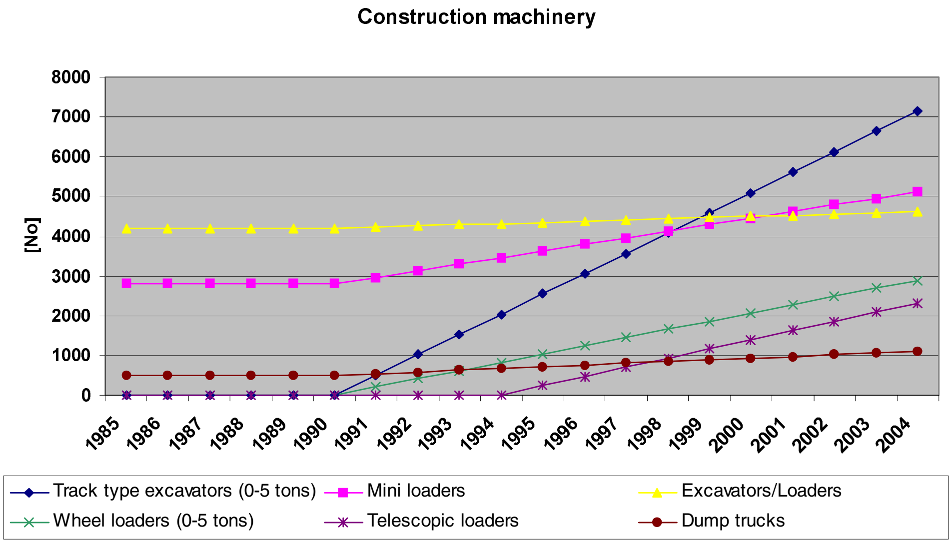


Figure 3.50 Total number of and average engine size for tractors and harvesters (1985 to 2004)

The most important machinery types for industrial use are different types of construction machinery and fork lifts. Figures 3.51 and 3.52 show the 1985-2004 stock development for specific types of construction machinery and diesel fork lifts. Due to lack of data, the construction machinery stock for 1990 is used also for 1985-1989. For most of the machinery types, there has been an increase in machinery numbers from 1990 onwards, due to increased construction activities. It is assumed that track type excavators/wheel type loaders (0-5 tonnes), and telescopic loaders first entered into use in 1991 and 1995, respectively.



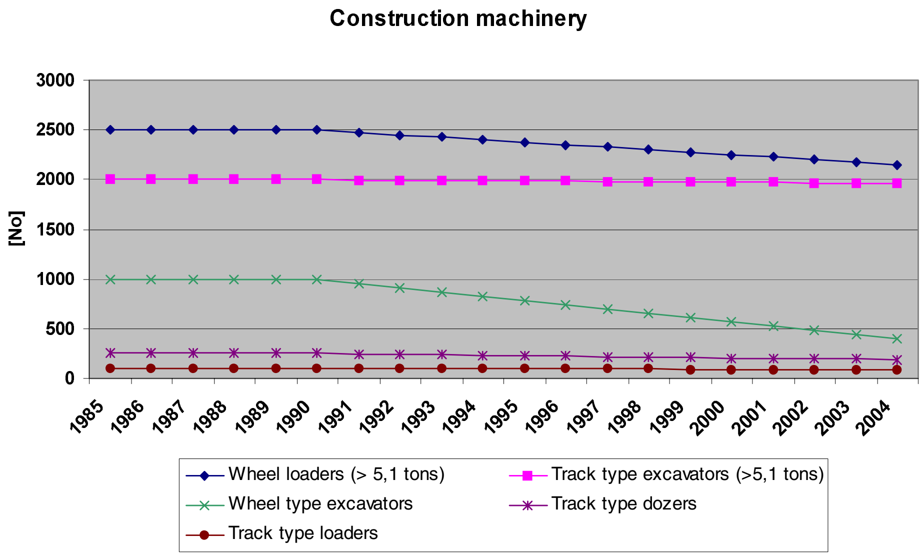


Figure 3.51 1985-2004 stock development for specific types of construction machinery

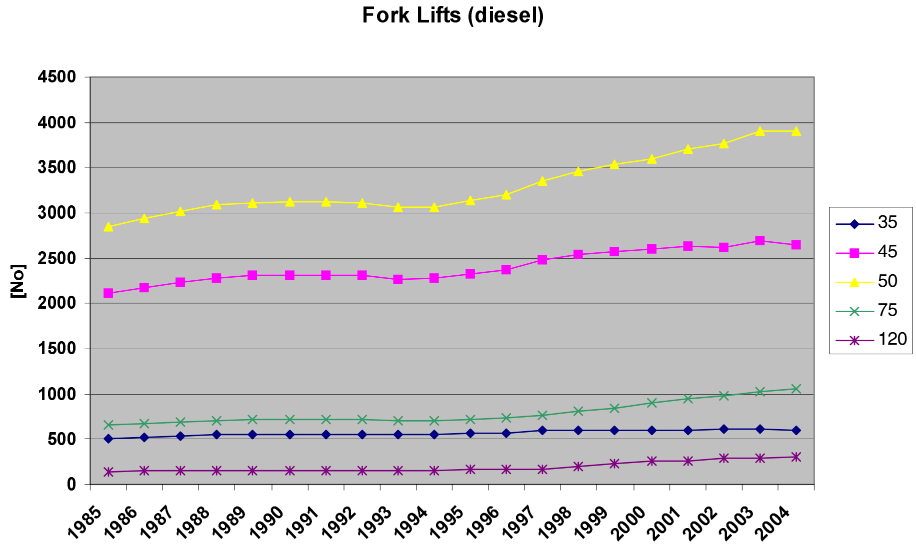


Figure 3.52 Total number of diesel fork lifts in kW classes from 1985 to 2004

The emission level shares for tractors, harvesters, construction machinery and diesel fork lifts are shown in Figure 3.53, and present an overview of the penetration of the different pre-Euro engine classes, and engine stages complying with the gradually stricter EU stage I and II emission limits. The average lifetimes of 30, 25, 20 and 10 years for tractors, harvesters, fork lifts and construction machinery, respectively, influence the individual engine technology turnover speeds.

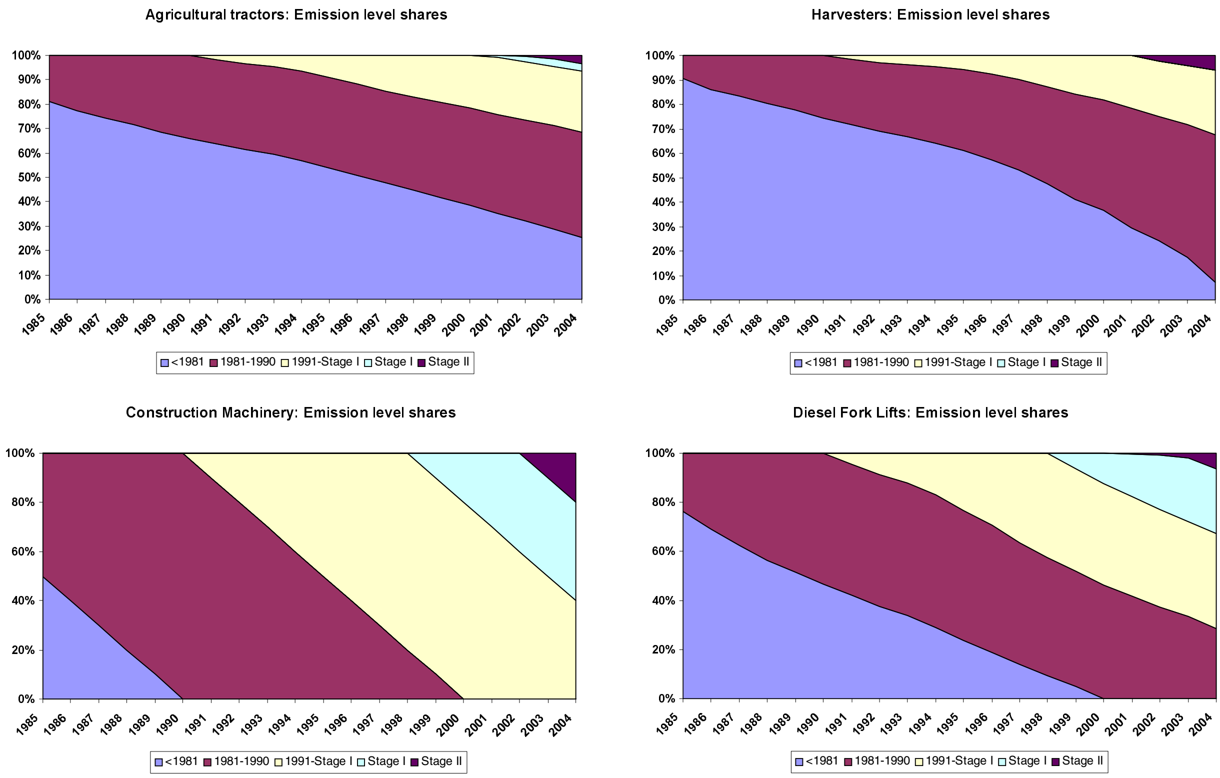


Figure 3.53 Emission level shares for tractors, harvesters, construction machinery and diesel fork lifts (1985 to 2004)

The EU Emissions Directive Stage I and II implementation years rely on engine size, and for all four machinery groups the emission level shares for the specific size segments will differ slightly from the picture shown in Figure 3.53. Due to scarce data for construction machinery, the emission level penetration rates are assumed to be linear and the general technology turnover pattern is as shown in Figure 3.53.

The 1985-2004 stock development for the most important household and gardening machinery types are shown in Figure 3.54. For lawn movers and cultivators, the machinery stock remains the same for all years, whereas the stock figures for riders, chain saws, shrub clearers, trimmers and hedge cutters increase from 1990 onwards. The yearly stock increases in most cases become larger after 2000. Lifetimes for gasoline machinery are short and, thus, there is a quick penetration of new emission levels (not shown).

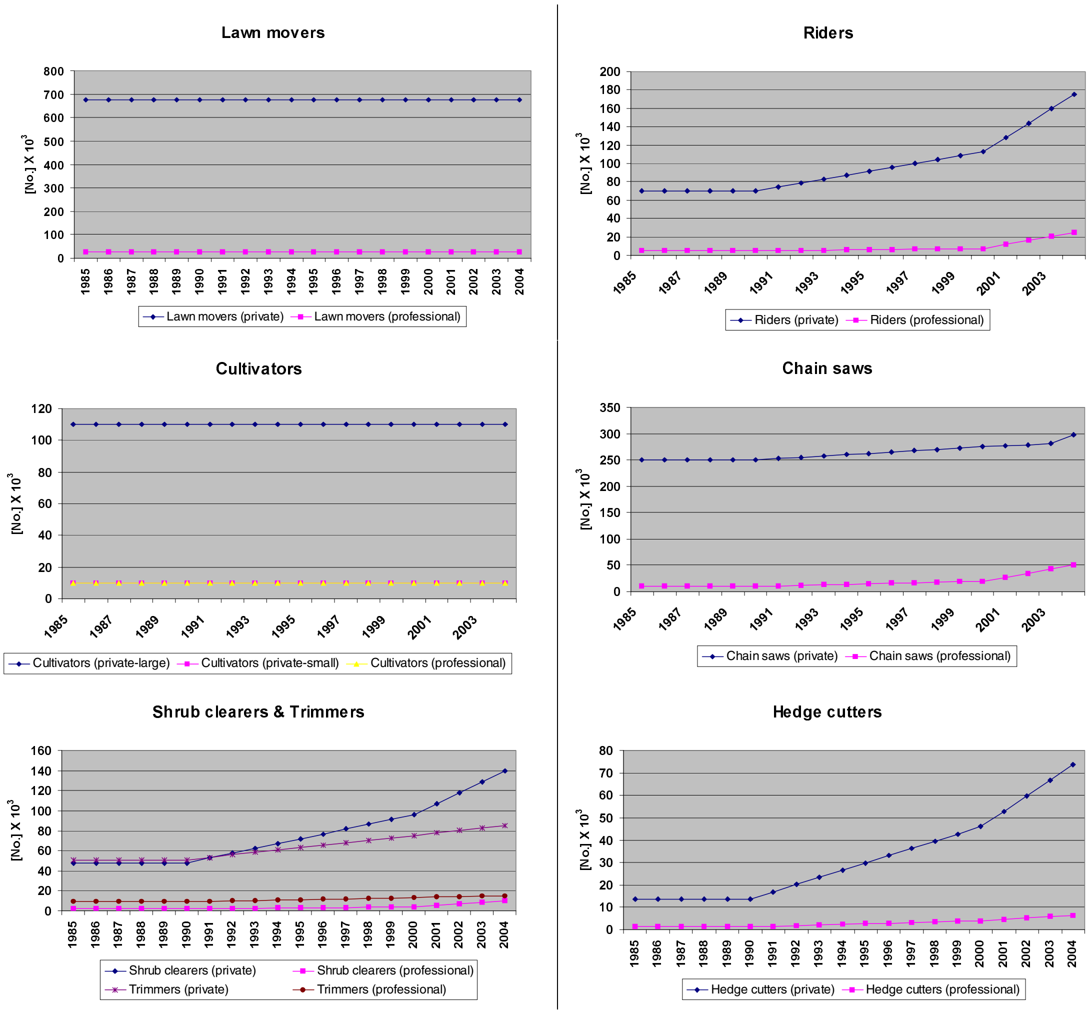


Figure 3.54 Stock development 1985-2004 for the most important household and gardening machinery types

Figure 3.55 shows the development in the number of different recreational craft from 1985-2004. For diesel boats, increases in stock and engine size are expected during the whole period, except for the number of motor boats (< 27 ft) and the engine sizes for sailing boats (<26 ft), where figures remain unchanged. A decrease in the total stock of sailing boats (<26 ft) by 21% and increases in the total stock of yawls/cabin boats and other boats (<20 ft) by around 25% are expected. Due to a lack of specific information for Denmark, the shifting rate from 2-stroke to 4-stroke gasoline engines is based on a German non-road study (IFEU, 2004).

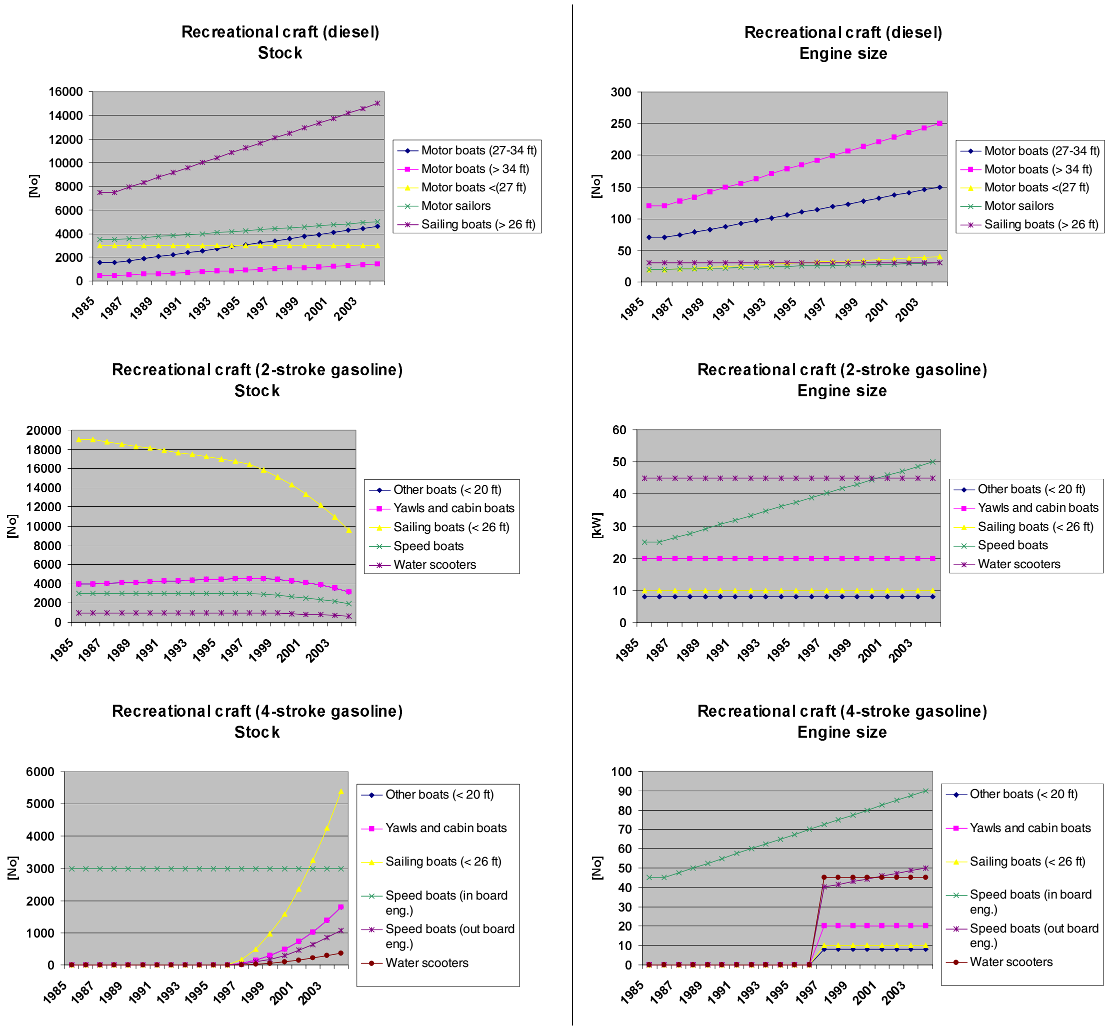


Figure 3.55 1985-2004 Stock and engine size development for recreational craft

Other sectors

Activity data for military, railways, sea transport and fishery consists of fuel use information from DEA (2004). For sea transport the basis is fuel sold in Danish ports and, depending on the destination of the vessels in question, the traffic is defined as either national or international as prescribed by the IPCC guidelines.

For all sectors fuel use figures are given in Annex 2.B.14 for the years 1990 and 2004 in CollectER format.

Emission legislation

For non-road working machinery and equipment, recreational craft and railway locomotives/motor cars, the emission directives list specific emission limit values (g/kWh) for CO, VOC, NO_x (or VOC + NO_x) and TSP, depending on engine size (kW for diesel, ccm for gasoline) and date of implementation (referring to engine market date).

For diesel, Directives 97/68 and 2004/26 relate to non-road machinery other than agricultural and forestry tractors and the directives have different implementation dates for machinery operating under transient and constant loads. The latter directive also comprises emission limits for railway machinery. For tractors, the relevant directives are 2000/25 and 2005/13. For gasoline, Directive 2002/88 distinguishes between handheld (SH) and non handheld (NS) types of machinery.

For engine type approval, emissions (and fuel use) are measured using various test cycles (ISO 8178). Each test cycle consists of a number of measurement points for specific engine loads during constant operation. The specific test cycle used depends on the machinery type in question and the test cycles are described in more details in the directives.

Table 3.27 Overview of EU emission directives relevant for diesel-fuelled non-road machinery

Stage/Engine	CO	VOC	NO_x	VOC+NO_x	PM	Diesel machinery			Tractors	
							Impl. date		EU	Impl.
size [kW]			[g/kWh]			EU Directive	Transient	Constant	Directive	date
Stage I										
37<=P<75	6.5	1.3	9.2	-	0.85	97/68	1/4 1999	-	2000/25	1/7 2001
Stage II										
130<=P<560	3.5	1	6	-	0.2	97/68	1/1 2002	1/1 2007	2000/25	1/7 2002
75<=P<130	5	1	6	-	0.3		1/1 2003	1/1 2007		1/7 2003
37<=P<75	5	1.3	7	-	0.4		1/1 2004	1/1 2007		1/1 2004
18<=P<37	5.5	1.5	8	-	0.8		1/1 2001	1/1 2007		1/1 2002
Stage IIIA										
130<=P<560	3.5	-	-	4	0.2	2004/26	1/1 2006	1/1 2011	2005/13	1/1 2006
75<=P<130	5	-	-	4	0.3		1/1 2007	1/1 2011		1/1 2007
37<=P<75	5	-	-	4.7	0.4		1/1 2008	1/1 2012		1/1 2008
19<=P<37	5.5	-	-	7.5	0.6		1/1 2007	1/1 2011		1/1 2007
Stage IIIB										
130<=P<560	3.5	0.19	2	-	0.025	2004/26	1/1 2011	-	2005/13	1/1 2011
75<=P<130	5	0.19	3.3	-	0.025		1/1 2012	-		1/1 2012
56<=P<75	5	0.19	3.3	-	0.025		1/1 2012	-		1/1 2012
37<=P<56	5	-	-	4.7	0.025		1/1 2013	-		1/1 2013
Stage IV										
130<=P<560	3.5	0.19	0.4	-	0.025	2004/26	1/1 2014		2005/13	1/1 2014
56<=P<130	5	0.19	0.4	-	0.025		1/10 2014			1/10 2014

Table 3.28 Overview of the EU emission directive 2002/88 for gasoline fuelled non road machinery

	Category	Engine size [ccm]	CO [g/kWh]	HC [g/kWh]	NO_x [g/kWh]	HC+NO_x [g/kWh]	Implementation date
	Stage I						
Hand held	SH1	S<20	805	295	5.36	-	1/2 2005
	SH2	20=<S<50	805	241	5.36	-	1/2 2005
	SH3	50=<S	603	161	5.36	-	1/2 2005
Not hand held	SN3	100=<S<225	519	-	-	16.1	1/2 2005
	SN4	225=<S	519	-	-	13.4	1/2 2005
	Stage II						
Hand held	SH1	S<20	805	-	-	50	1/2 2008
	SH2	20=<S<50	805	-	-	50	1/2 2008
	SH3	50=<S	603	-	-	72	1/2 2009
Not hand held	SN1	S<66	610	-	-	50	1/2 2005
	SN2	66=<S<100	610	-	-	40	1/2 2005
	SN3	100=<S<225	610	-	-	16.1	1/2 2008
	SN4	225=<S	610	-	-	12.1	1/2 2007

For recreational craft, Directive 2003/44 comprises the emission legislative limits for diesel, and for 2-stroke and 4-stroke gasoline engines, respectively. The CO and VOC emission limits depend on engine size (kW), and the inserted parameters given in the calculation formulas in Table 3.29. For NO_x, a constant limit value is given for each of the three engine types. For TSP, the constant emission limit regards diesel engines only.

Table 3.29 Overview of the EU Directive 2003/44 for recreational craft

Engine type	Impl. date	$CO=A+B/P^n$			$HC=A+B/P^n$			NO_x	TSP
		A	B	n	A	B	n		
2-stroke gasoline	1/1 2007	150.0	600.0	1.0	30.0	100.0	0.75	10.0	-
4-stroke gasoline	1/1 2006	150.0	600.0	1.0	6.0	50.0	0.75	15.0	-
Diesel	1/1 2006	5.0	0.0	0	1.5	2.0	0.5	9.8	1.0

Tabel 3.30 Overview of the EU Directive 2004/26 for railway locomotives and motor cars

	Engine size [kW]		CO [g/kWh]	HC [g/kWh]	NOx [g/kWh]	HC+NOx [g/kWh]	PM [g/kWh]	Impl.date
Locomotives	Stage IIIA							
	130<=P<560	RL A	3.5	-	-	4	0.2	1/1 2007
	560<P	RH A	3.5	0.5	6	-	0.2	1/1 2009
	2000<=P and piston displacement >= 5 l/cyl.	RH A	3.5	0.4	7.4	-	0.2	1/1 2009
	Stage IIIB	RB	3.5	-	-	4	0.025	1/1 2012
Motor cars	Stage IIIA							
	130<P	RC A	3.5	-	-	4	0.2	1/1 2006
	Stage IIIB							
	130<P	RC B	3.5	0.19	2	-	0.025	1/1 2012

Aircraft engine emissions of NO_x, CO, VOC and smoke are regulated by the ICAO (International Civil Aviation Organization). The legislation is relevant for aircraft engines with rated engine thrust larger than 26.7 kN. A further description of the emission legislation and emission limits is given in ICAO Annex 16 (1993).

For seagoing vessels, NO_x emissions are regulated as explained in Marpol 73/78 Annex VI, formulated by IMO (International Maritime Organisation). The legislation is relevant for diesel engines with a power output higher than 130 kW, which are installed on a ship constructed on or after 1 January 2000 and diesel engines with a power output higher than 130 kW which undergo major conversion on or after 1 January 2000.

Emission factors

In general, the SO_2 emission factors for other mobile sources are fuel-related and country-specific. For military ground equipment, aggregated emission factors for gasoline and diesel are derived from road traffic emission simulations. For aviation gasoline fuel use, aggregated emission factors for conventional cars are used. For railways, specific Danish measurements from the Danish State Railways (DSB) (Næraa, 2004) are used to calculate the emission factors of NO_x, VOC, CO and TSP, and a $NMVOC/CH_4$ split is made based on own judgment. For agriculture, forestry, industry, household gardening and inland waterways, the NO_x, VOC, CO and TSP emission factors are derived from various European measurement programmes; see IFEU (2004) and Winther et al. (2006). The $NMVOC/CH_4$ split is taken from USEPA (2004).

The source for aviation (jet fuel) and navigation emission factors is the EMEP/CORINAIR guidebook (CORINAIR, 2003). The same emission factor source is used for all other mobile sources in relation to NH_3, heavy metal and PAH emissions.

For all sectors, emission factors are given in CollectER format in Annex 2.B.14 for the years 1990 and 2004.

Table 3.31 shows the aggregated emission factors for SO_2, NO_X, NMVOC and TSP for road transport in Denmark in 2004 used to calculate the emissions from other mobile sources in Denmark.

Table 3.31 Fuel based emission factors for SO_2, NO_X, NMVOC and TSP for other mobile sources in Denmark (2004)

					Emission factors[1] [g/GJ]			
SNAP ID	NFR ID	Category	Fuel type	Mode	SO_2	NO_X	NMVOC	TSP
801	1A5	Military	Diesel		2.34	429.41	51.37	35.73
801	1A5	Military	Jet fuel	< 3000 ft	22.99	250.57	24.94	1.16
801	1A5	Military	Jet fuel	> 3000 ft	22.99	250.57	24.94	1.16
801	1A5	Military	Gasoline		2.28	288.90	279.15	2.60
801	1A5	Military	Av. gasoline		22.99	859.00	1242.60	10.00
802	1A3c	Railways	Diesel		2.34	1190.53	74.44	39.28
803	1A3d	Inland waterways	Diesel		93.68	877.17	170.01	104.92
803	1A3d	Inland waterways	Gasoline		2.28	398.23	2524.24	120.51
80402	1A3d	National sea traffic	Residual oil		1101.71	1393.60	56.90	139.40
80402	1A3d	National sea traffic	Diesel		93.68	1334.90	54.50	42.15
80402	1A3d	National sea traffic	Kerosene		4.60	50.00	3.00	97.56
80402	1A3d	National sea traffic	LPG		0.00	1249.00	384.90	12.44
80403	1A4c	Fishing	Residual oil		1101.71	1393.60	56.90	139.40
80403	1A4c	Fishing	Diesel		93.68	1334.90	54.50	42.15
80403	1A4c	Fishing	Kerosene		4.60	50.00	3.00	97.56
80403	1A4c	Fishing	Gasoline		2.28	64.34	10809.60	23.25
80403	1A4c	Fishing	LPG		0.00	1249.00	384.90	12.44
80404	Memo item	International sea traffic	Residual oil		1575.67	2127.10	56.90	200.50
80404	Memo item	International sea traffic	Diesel		468.38	2037.50	54.50	42.15
80501	1A3a	Air traffic, other airports	Jet fuel	Dom. < 3000 ft	22.99	252.17	29.42	1.16
80501	1A3a	Air traffic, other airports	Av. gasoline		22.83	859.00	1242.60	10.00
80502	Memo item	Air traffic, other airports	Jet fuel	Int. < 3000 ft	22.99	299.33	14.63	1.16
80502	Memo item	Air traffic, other airports	Av. gasoline		22.83	859.00	1242.60	10.00
80503	1A3a	Air traffic, other airports	Jet fuel	Dom. > 3000 ft	22.99	280.06	21.04	1.16
80504	Memo item	Air traffic, other airports	Jet fuel	Int. > 3000 ft	22.99	242.26	5.87	1.16
806	1A4c	Agriculture	Diesel		23.42	878.84	100.12	73.73
806	1A4c	Agriculture	Gasoline		2.28	86.41	1032.34	22.10
807	1A4c	Forestry	Diesel		23.42	822.93	65.33	45.59
807	1A4c	Forestry	Gasoline		2.28	48.43	6386.40	74.18
808	1A2f	Industry	Diesel		23.42	827.97	113.65	91.66
808	1A2f	Industry	Gasoline		2.28	191.31	1458.32	12.99
808	1A2f	Industry	LPG		0.00	1328.11	146.09	4.89
809	1A4b	Household and gardening	Gasoline		2.28	77.77	2141.22	21.37
80501	1A3a	Air traffic, Copenhagen airport	Jet fuel	Dom. < 3000 ft	22.99	255.88	39.13	1.16
80501	1A3a	Air traffic, Copenhagen airport	Av. gasoline		22.83	859.00	1242.60	10.00
80502	Memo item	Air traffic, Copenhagen airport	Jet fuel	Int. < 3000 ft	22.99	335.05	38.17	1.16
80502	Memo item	Air traffic, Copenhagen airport	Av. gasoline		22.83	859.00	1242.60	10.00
80503	1A3a	Air traffic, Copenhagen airport	Jet fuel	Dom. > 3000 ft	22.99	286.55	18.99	1.16
80504	Memo item	Air traffic, Copenhagen airport	Jet fuel	Int. > 3000 ft	22.99	310.56	11.03	1.16

[1] References. SO_2: Country-specific; Military: Aggregated emission factors for road transport; Railways (NO_x, NMVOC and TSP): Danish State Railways; Agriculture, forestry, industry, household gardening and inland waterways (NO_x, VOC and TSP): IFEU (2004); Aviation (jet fuel) and navigation (NO_X, NMVOC and TSP): EMEP/CORINAIR; Aviation (av.gasoline): Aggregated emission factors for conventional gasoline cars

3.3.4 Calculation method

Air traffic

For aviation, the estimates are made separately for landing and take-off (LTOs < 3000 ft), and cruising (> 3000 ft). From 2001, the estimates are made on a city-pair level, by combining activity data and emission factors and subsequently grouping the emission results into domestic and international totals. The overall fuel precision in the model is around 0.8, derived as the fuel ratio between model estimates and statistical sales. The fuel difference is accounted for by adjusting cruising fuel use and emissions in the model according to domestic and international cruising fuel shares.

Prior to 2001, the calculation procedure was first to estimate each year's fuel use and emissions for LTO. Secondly, total cruising fuel use was found year by year as the statistical fuel use total minus the calculated fuel use for LTO. Lastly, the cruising fuel use was split into a domestic and international part by using the results from a Danish city-pair emission inventory in 1998 (Winther, 2001a). For more details of this latter fuel allocation procedure, see Winther (2001b).

Non-road working machinery and recreational craft

Prior to adjustments for deterioration effects and transient engine operations, the fuel use and emissions in year X, for a given machinery type, engine size and engine age are calculated as:

$$E_{Basis}(X)_{i,j,k} = N_{i,j,k} \cdot HRS_{i,j,k} \cdot P \cdot LF_i \cdot EF_{y,z} \quad (13)$$

where E_{Basis} = fuel use/emissions in the base situation, N = number of engines, HRS = annual working hours, P = average rated engine size in kW, LF = load factor, EF = fuel use/emission factor in g/kWh, i = machinery type, j = engine size, k = engine age, y = engine size class and z = emission level. The basis fuel use and emission factors are shown in Annex 2.B.9.

The deterioration factor for a given machinery type, engine size and engine age in year X, depends on the engine size class (only for gasoline), y, and the emission level, z. The deterioration factors for diesel and gasoline 2-stroke engines are found from:

$$DF_{i,j,k}(X) = \frac{K_{i,j,k}}{LT_i} \cdot DF_{y,z} \quad (14)$$

where DF = deterioration factor, K = engine age, LT = lifetime, i = machinery type, j = engine size, k = engine age, y = engine size class and z = emission level.

For gasoline 4-stroke engines, the deterioration factors are calculated as:

$$DF_{i,j,k}(X) = \sqrt{\frac{K_{i,j,k}}{LT_i}} \cdot DF_{y,z} \quad (15)$$

The deterioration factors inserted in (14) and (15) are shown in Annex 2.B.9. No deterioration is assumed for fuel use (all fuel types) or for LPG engine emissions and, hence, DF = 1 in these situations.

The transient factor for a given machinery type, engine size and engine age in year X only relies on emission level and the load factor, and is denominated as:

$$TF_{i,j,k}(X) = TF_z \quad (16)$$

where i = machinery type, j = engine size, k = engine age and z = emission level.

The transient factors inserted in (16) are shown in Annex 2.B.9. No transient corrections are made for gasoline and LPG engines and, hence, TF_z = 1 for these fuel types.

The final calculation of fuel use and emissions in year X, for a given machinery type, engine size and engine age is the product of the expressions 13-16:

$$E(X)_{i,j,k} = E_{Basis}(X)_{i,j,k} \cdot TF(X)_{i,j,k} \cdot (1 + DF(X)_{i,j,k}) \quad (17)$$

The evaporative hydrocarbon emissions from fuelling are calculated as:

$$E_{Evap,fueling,i} = FC_i \cdot EF_{Evap,fueling} \quad (18)$$

Where $E_{Evap,fueling}$, = hydrocarbon emissions from fuelling, i = machinery type, FC = fuel consumption in kg, $EF_{Evap,fueling}$ = emission factor in g NMVOC/kg fuel.

For tank evaporation, the hydrocarbon emissions are found from:

$$E_{Evap,\tan k,i} = N_i \cdot EF_{Evap,\tan k,i} \quad (19)$$

Where $E_{Evap,tank,i}$ = hydrocarbon emissions from tank evaporation, N = number of engines, i = machinery type, $EF_{Evap,fueling}$ = emission factor in g NMVOC/year.

Other sectors

For military, railways, national sea traffic and fishing, the emissions are estimated with the simple method using fuel-related emission factors and fuel use from the DEA:

$$E = FC \cdot EF \quad (20)$$

Where E = emission, FC = fuel consumption, EF = emission factor. The calculated emissions for other mobile sources are shown in CollectER format in Annex 2.B.12 for the years 1990 and 2004, and as time-series 1985-2004 in Annex 2.B.16 (NFR format).

DEA sub-sector totals and NERI non-road estimates

For diesel and LPG, the non-road fuel use estimated by NERI is partly covered by the fuel use amounts in the following DEA sectors: agriculture and forestry, market gardening and building and construction. The remaining quantity of non-road diesel and LPG is taken from the DEA industry sector.

For gasoline, the DEA residential sector together with the DEA sectors mentioned for diesel and LPG contribute to total non-road fuel use. In addition, a certain amount of fuel from road transport is needed to reach the fuel use goal.

The amount of diesel and LPG in the DEA industry sector not used by non-road machinery is included in the sectors “Combustion in manufacturing industry” (0301) and “Non-industrial combustion plants” (0203) in the Danish emission inventory.

For recreational craft, the fuel use totals calculated are subsequently subtracted from the DEA fishery (diesel) and road transport (gasoline) sectors.

Bunkers

The distinction between domestic and international emissions from aviation and navigation should be in accordance with the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories. For the national emission inventory this, in principle, means that fuel sold (and associated emissions) for flights/sea transportation starting from a seaport/airport in the Kingdom of Denmark, with destinations inside or outside the Kingdom of Denmark, are regarded as domestic or international, respectively.

Aviation

For aviation, the emissions associated with flights inside the Kingdom of Denmark are counted as domestic. The flights from Denmark to Greenland and the Faroe Islands are classified as domestic flights in the inventory background data. In Greenland and the Faroe Islands, the jet fuel sold is treated as domestic. This decision can be considered sensible since in the real world almost no fuel is bunkered in Greenland/Faroe Islands by flights other than those going to Denmark.

Navigation

In DEA statistics, the domestic fuel total consists of fuel sold to Danish ferries and other ships sailing between two Danish ports. The DEA international fuel total consists of the fuel sold in Denmark to international ferries, international warships, other ships with foreign destinations, transport to Greenland and the Faroe Islands, tank vessels and foreign fishing boats.

In Greenland, all marine fuel sales are treated as domestic. In the Faroe Islands, fuel sold in Faroese ports for Faroese fishing vessels and other Faroese ships is treated as domestic. The fuel sold to Faroese ships bunkering outside Faroese waters and the fuel sold to foreign ships in Faroese ports or outside Faroese waters is classified as international (Lastein and Winther, 2003).

To comply with the IPCC classification rules, the fuel used by vessels sailing to Greenland and the Faroe Islands should form part of the domestic total. To improve the fuel data quality for Greenland and the Faroe Islands, the fuel sales should be grouped according to vessel destination and IPCC classifications subsequently be made.

Conclusively, the domestic/international fuel split (and associated emissions) for navigation is not determined with the same precision as for aviation. It is considered, however, that the potential of incorrectly allocated fuel quantities is only a small part of the total fuel sold for navigational purposes in the Kingdom of Denmark.

3.3.5 Uncertainties and time-series consistency

Emission uncertainty estimates are made for road transport and other mobile sources using the guidelines formulated in the Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (IPCC, 2000). However, for TSP the latter source indicates no uncertainty factor and, instead, this factor is based on own judgement.

The activity data uncertainty factor is assumed to be 2 and 10% for road transport and other mobile sources, respectively, based on own judgement.

The uncertainty estimates should be regarded as preliminary only and may be subject to changes in future inventory documentation. The calculations are shown in Annex 2.B.17 for all emission components.

Table 3.32 Uncertainties for activity data, emission factors and total emissions in 2004 and as a trend

	Emission factor uncertainties [%]		Emission uncertainties [%]	
Pollutant	Road	Other	Overall 2004	Trend
SO_2	50	50	46	6
NO_x	50	100	52	8
NMVOC	50	100	48	10
CO	50	100	50	13
NH_3	1000	1000	997	3507
TSP	50	100	56	4
PM_{10}	50	100	55	8
$PM_{2.5}$	50	100	55	7
Arsenic	1000	1000	1000	7
Cadmium	1000	1000	792	151
Chromium	1000	1000	791	156
Copper	1000	1000	827	91
Mercury	1000	1000	1000	10
Nickel	1000	1000	850	73
Lead	1000	1000	964	18
Selenium	1000	1000	740	150
Zinc	1000	1000	812	113
Dioxins	1000	1000	709	121
Flouranthene	1000	1000	786	22
Benzo(b) flouranthene	1000	1000	782	38
Benzo(k) flouranthene	1000	1000	824	72
Benzo(a) pyrene	1000	1000	856	33
Benzo(g,h,i) perylene	1000	1000	784	47
indeno(1,2,3-c,d) pyrene	1000	1000	761	16

As regards time-series consistency, background flight data cannot be made available on a city-pair level from 2000 or earlier. However, aided by LTO/aircraft statistics for these years and the use of proper assumptions, a sound level of consistency is still obtained in this part of the transport inventory.

The time-series of emissions for mobile machinery in the agriculture, forestry, industry, household and gardening (residential), and inland waterways (part of navigation) sectors are less certain than time-series for other sectors, since DEA statistical figures do not explicitly provide fuel use information for working equipment and machinery.

3.3.6 Quality assurance/quality control (QA/QC)

It is the intention to publish annually a sector report for road transport and other mobile sources. Due to lack of time resources, the last sector report concerned the 2002 inventory. A sector report documenting the present

2004 inventory is, however, foreseen to be published this year. The recommendation of the 2002 sector report reviewers was to include some text in the sector report for each transport mode, explaining the existing emission legislation and the associated emission test procedures. In addition, more documentation of background data and trends should be given in cases where Tier 2 estimates are made. Apart from for civil aviation, these recommendations have subsequently been taken onboard for the present NIR report.

The QA/QC descriptions of the Danish emission inventories for transport have been substantially expanded, and documentation is given in Illerup et al. (2006).

3.3.7 Recalculations

The following recalculations and improvements of the emission inventories have been made since the emission reporting in 2005.

Road transport

A revision of the 1985-2003 time-series of emissions has been made based on revised fleet and mileage data from the Danish Road Directorate and corrections of road transport gasoline fuel use according to a new gasoline fuel use estimate for non-road machinery. Additionally, a new model has been developed at NERI, based on the COPERT methodology and emission factors. This decision was made in order to gain flexibility in output formats and to save working time during inventory update and debugging procedures.

Military

A revision of the 1985-2003 time-series of emission factors has been made based on new aggregated emission factors from road transport.

Corrections of aviation gasoline fuel use and emissions have been made for 1994.

Railways

No changes have been made.

Fishery

A complete revision of the 1985-2003 time-series of diesel fuel use and emissions has been made using amended diesel fuel use quantities for small boats (inland waterways), which are subtracted from the Danish energy statistics diesel fuel use sum for fishery. These revised diesel fuel figures result from a specific Danish non-road research project (Winther et al., 2006).

Aviation

Small amendments to 2001-2002 fuel use and emissions have been made for large aircraft, based on changes in representative aircraft groupings. For 2003, an error in jet fuel use has been corrected, thus influencing the total emission figures.

For 2002 and 2003, errors in aviation gasoline fuel use have been corrected, thus influencing the total emission figures.

Inland waterways/agriculture/forestry/household-gardening

A complete revision of the 1985-2003 time-series of fuel use and emissions has been made using results from a specific Danish non-road research project (Winther et al., 2006).

3.3.8 Improvements

Domestic sea transport and fisheries

The calculation method for domestic sea transport and fisheries will be upgraded to Tier 2, based on detailed data for vessel numbers.

Heavy metals and POPs

It is the intention this year to update the heavy metal and POP emission inventories for mobile sources.

QA/QC

Based on the improved inventory QA/QC description for mobile sources, a list of work is planned to be carried out this year. For more information, please refer to Illerup et al., (2006).

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3.4 Fugitive emissions (NFR sector 1B)

3.4.1 Source category description

Fugitive emission from solid fuels, NFR sector 1B1a

Coal mining does not take place in Denmark. However, power plants use a considerable amount of coal and the PM emission from storage and handling of coal is included in the Danish inventory.

Fugitive emissions from oil (1B2a)

The category Fugitive emissions from oil (1B2a) include emissions from offshore activities and refineries.

Fugitive emissions from natural gas, transmission and distribution (NFR sector 1B2b)

In the year 2004, the length of transmission pipeline excluding offshore pipeline is 830 km. The length of distribution pipeline was 16 870 km in 2004 (cast iron 0 km, steel 1 660 km, plastics 15 200 km). Two natural gas storages are in operation in Denmark. In 2004, the gas input was 633 Mm^3 and the withdrawal was 431 Mm^3. Emissions from gas storage are included in transmission.

Flaring, gas (NFR sector 1B2c, Flaring ii)

Offshore flaring of natural gas is the main source of emissions in this sector. Flaring in gas treatment and gas storage plants is, however, also included in the sector.

3.4.2 Methodological issues

Fugitive emission from solid fuels, NFR sector 1B1a

The emission inventory for coal storage has been based on data for coal import, referring to the official Danish energy statistics (DEA 2004b). The emission factor for PM refers to the TNO CEPMEIP emission factor database.

Table 3.29 Coal import and emission factors, coal storage and handling

Year	Coal import [Mg coal import]	TSP emission factor 1) [g/Mg coal import]	PM_{10} emission factor 1) [g/Mg coal import]	$PM_{2.5}$ emission factor 1) [g/Mg coal import]
1990	10 255 000	-	-	-
1991	12 810 000	-	-	-
1992	11 942 000	-	-	-
1993	10 46 7000	-	-	-
1994	11 772 000	-	-	-
1995	13 009 000	-	-	-
1996	13 134 000	-	-	-
1997	13 474 000	-	-	-
1998	8 071 000	-	-	-
1999	7 117 000	-	-	-
2000	6 415 000	150	60	6
2001	6 924 000	150	60	6
2002	6 262 000	150	60	6
2003	9 360 791	150	60	6
2004	7 599 256	150	60	6

1) TNO CEPMEIP database

The estimated PM emissions for 2004 are based on coal import for 2003. By next year's submission, this will be corrected.

Fugitive emissions from oil (1B2a)

Offshore activities

Emissions from offshore activities include emissions from the extraction of oil and gas, onshore oil tanks, onshore and offshore loading of ships.

The total emission can then be expressed as:

$$E_{total} = E_{extraction} + E_{ship} + E_{oil\ tanks} \tag{3.5.1}$$

Fugitive emissions from extraction

According to the Guidebook, the total fugitive emissions of VOC from extraction can be estimated by means of equation 3.5.2.

$$E_{VOC,fugitive} = 40.2 \cdot N_P + 1.1 \cdot 10^{-2} P_{gas} + 8.5 \cdot 10^{-6} \cdot P_{oil} \tag{3.5.2}$$

where N_P is the number of platforms, P_{gas} (10^6 Nm^3) is the production of gas and P_{oil} (10^6 tonnes) is the production of oil.

It is assumed that the VOC contains 75% methane and 25% NMVOC, meaning that total emissions of CH_4 and NMVOC for extraction of oil and gas can be calculated as:

$$\begin{aligned} E_{extraction,NMVOC} &= E_{fugitive,NMVOC} + E_{flaring,NMVOC} \\ &= 0.25(40.2 \cdot N_P + 1.1 \cdot 10^{-2} P_{gas} + 8.5 \cdot 10^{-6} \cdot P_{oil}) + \ldots_{ring,NMVOC} \end{aligned} \tag{3.5.3}$$

$$\begin{aligned} E_{extraction,CH4} &= E_{fugitive;CH4} + E_{flaring,CH4} \\ &= 0.75(40.2 \cdot N_P + 1.1 \cdot 10^{-2} P_{gas} + 8.5 \cdot 10^{-6} \cdot P_{oil}) + F_P \cdot EMF_{flaring,CH4} \end{aligned} \tag{3.5.4}$$

In Denmark, venting of gas is assumed to be negligible, because controlled venting is sent through the gas flare system.

Ships

This source includes the transfer of oil from storage tanks or directly from the well into a ship. This activity also includes losses during transport. When oil is loaded, hydrocarbon vapour will be displaced by oil and new vapour will be formed, both of which leading to emissions. The emissions from ships are calculated by means of equation 3.5.5.

$$E_{ships} = EMF_{ships} \cdot L_{oil} \tag{3.5.5}$$

where EMF_{ships} is the emission factor for loading of ships offshore and onshore, and L_{oil} is the amount of oil loaded.

Oil tanks

The emissions from storage of raw oil are calculated by equation 3.5.6.

$$E_{tanks} = EMF_{tanks} \cdot T_{oil} \tag{3.5.6}$$

where EMF_{tanks} is the emission factor for storage of raw oil in tanks.

Activity data

Activity data used in calculation of the emissions is shown in Table 3.30 and is based on information from the Danish Energy Authority (Danish Energy Authority, 2005a and 2005b) or from the "green accounts" from the Danish gas transmission company DONG (DONG, 2005).

Table 3.30 Activity data for 2003

Activity	Symbols	Year 2004	Ref.
Number of platforms	N_p	48	Danish Energy Agency (2005a)
Produced gas (10^6Nm3)	P_{gas}	10 934	Danish Energy Agency (2005a)
Produced oil(10^3m3)	$P_{oil,vol}$	22 614	Danish Energy Agency (2005a)
Produced oil (10^3tonne)	P_{oil}	19 448	Danish Energy Agency (2005a)
Oil loaded (10^3m3)	$L_{oil\ off\text{-}shore}$	4 774	Danish Energy Agency (2005a)
Oil loaded (10^3tonne)	$L_{oil\ off\text{-}shore}$	4 106	Danish Energy Agency (2005a)
Oil loaded (10^3m3)	$L_{oil\ on\text{-}shore}$	14 000	DONG (2005)
Oil loaded (10^3tonne)	$L_{oil\ on\text{-}shore}$	12 040	DONG (2005)

Mass weight raw oil = 0.86 tonne/m^3

In the EMEP/CORINAIR guidebook (Richardson, 1999), emission factors for different countries are given. In the Danish emission inventory, the Norwegian emission factors are used (Table 3.31) (Flugsrud et al., 2000). The emissions for storage of oil are given in the green accounts from DONG for 2004 (DONG, 2005) and the emission factor is calculated on the basis of the amount of oil transported in the pipeline.

Table 3.31 Emission factors.

	CH_4	NMVOC	Unit	Reference
Ships offshore	0.00005	0.001	Fraction of loaded	Richardson, 1999
Ships onshore	0.000002	0.0002	Fraction of loaded	Richardson, 1999
Oil tanks	113	249	kg/10^3m^3	DONG, 2005

From the activity data in Table 3.30 and the emission factors in Table 3.31, the emissions for NMVOC and CH4 are calculated in Table 3.32.

Table 3.32 CH_4 emissions for 2004 (tonnes):

	CH_4	NMVOC
Extraction (fugitive)	1 529	509
Oil tanks	2 045	4 507
Offshore loading of ships	205	4 106
Onshore loading of ships	24	2 408
Total	3 803	11 530

Oil Refineries

Petroleum products processing: In the production process at refineries, a part of the volatile hydrocarbons (VOC) is emitted to the atmosphere. It is assumed that CH_4 accounts for 1% and NMVOC for 99% of the emissions. The VOC emissions from the petroleum refinery processes cover non-combustion emissions from feed stock handling/storage, petroleum products processing, product storage/handling and flaring. SO_2 is also emitted from the non-combustion processes and includes emissions from products processing and sulphur recovery plants. The emission calculations are based on information from the Danish refineries and the energy statistics.

Table 3.33 Oil Refineries. Processed crude oil, emissions and emission factors

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Crude oil (1000 Mg)	7263	7798	8232	8356	8910	9802	10522	7910	7906	8106	8406	8284	8045	8350	8264
CH4 emission (Mg)	37	39	42	43	57	48	62	45	45	45	50	44	43	37	613
CH4 emission factor (g/Mg)	5	5	5	5	6	5	6	6	6	6	6	5	5	4	74
NMVOC emission (Mg)	3667	3937	4203	4219	5855	4546	5875	4547	4558	4558	4983	4338	4302	3708	3732
NMVOC emission factor (g/Mg)	505	505	511	505	657	464	558	575	577	562	593	524	535	444	451

Fugitive emissions from natural gas, transmission and distribution (NFR sector 1B2b)

Inventories of the NMVOC emission from gas transmission and distribution are based on annual environmental reports from the Danish gas transmission company DONG and on a Danish emission inventory for the years 1999-2004 reported by the Danish gas sector (transmission and distribution companies) (Karll 2003, Karll 2005). The inventories estimated by the Danish gas sector are based on the work carried out by Marcogas and the International Gas Union (IGU).

In the 1990-1999 inventories, fugitive NMVOC emissions from storage facilities and gas treatment plant have been included in the emission factor for transmission. In the 2000-2004 emission inventories, transmission, gas storage and gas treatment are registered separately and added.

Gas transmission data are shown in Table 3.34. The emission from gas storage facilities and venting in the gas treatment plant is shown in Table 3.35. Gas distribution data are shown in Table 3.36.

Table 3.34 NMVOC emission from natural gas transmission

TRANSMISSION		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Transmission rate Mm^3	1)	2739	3496	3616	3992	4321	4689	5705	6956	6641	6795	7079	7289	7287	7275	7384
NMVOC emission Mg	2)		94	28	57	46	163	56	72	45	56	26	48	24	27	27
NMVOC IEF kg/Mm^3	3)	27.018	27.018	7.821	14.220	10.665	34.839	10.976	10.300	6.776	8.241	3.704	6.567	3.263	3.688	3.656

In 1990-1997, transmission rates refer to Danish energy statistics; in 1998, the transmission rate refers to the annual environmental report of DONG; in 1999-2004, emissions refer to DONG/Danish Gas Technology Centre (Karll 2003, Karll 2005).

Calculation based on the CH_4 emission and the average gas quality in the year 2000. In 1991-95, CH_4 emissions are based on the annual environmental report from DONG for the year 1995. In 1996-99, the CH_4 emission refers to the annual environmental reports from DONG for the years 1996-99. In 2000-2004, the CH_4 emission refers to DONG/Danish Gas Technology Centre (Karll 2004, Karll 2004).

EF=Emission/transmission_rate. In 1990, the IEF is assumed to be the same as in 1991.

Table 3.35 Additional fugitive NMVOC emissions from natural gas storage facilities and venting in gas treatment plant

	2000	2001	2002	2003	2004
Gas treatment plant	2.27 Mg	0 Mg	0 Mg	0 Mg	0
Gas storage facilities	23.05 Mg	21.96 Mg	20.00 Mg	19 Mg	24

Table 3.36 NMVOC emission from natural gas distribution

DISTRIBUTION		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Distribution rate Mm^3	1)	1574	1814	1921	2185	2362	2758	3254	3276	3403	3297	3181	3675	3420	3420	3248
NMVOC emission Mg	2)										13.11	14.94	17.07	11.86	11.86	45.07
NMVOC IEF kg/Mm^3	3)	4.44	4.44	4.44	4.44	4.44	4.44	4.44	4.44	4.44	3.98	4.70	4.65	3.47	3.47	13.88

In 1999-2004, distribution rates refer to DONG / Danish Gas Technology Centre / Danish gas distribution companies (Karll 2003, Karll 2005). In 1990-98, distribution rates are estimated from the Danish energy statistics. Distribution rates are assumed to equal the total Danish consumption rate minus the consumption rates of sectors that receive the gas at high pressure. The following consumers are assumed to receive high pressure gas: town gas production companies, production platforms and power plants.

Calculation based on the CH_4 emission and the average gas quality in the year 2000. The CH_4 emission for 1999-2004 is based on Karll 2003 and Karll 2005.

In the years 1999-2004, IEF=CH_4 emission / distribution rate. In 1990-1998, an average IEF of 1999-2001 is assumed.

Flaring, gas (NFR sector 1B2c, Flaring)

Emissions from offshore flaring have been estimated based on data for fuel consumption from the Danish energy statistics (Danish Energy Authority, 2005b) and emission factors for flaring. The emissions from flaring in gas treatment and gas storage plants have been estimated based on annual environmental reports of the plants.

The fuel consumption rates for offshore flaring are shown in Table 3.37. Flaring rates in gas treatment and gas storage plants are not available until 1995.

The emission factors for offshore flaring are shown in Table 3.38. The same emission factors have been applied for 1990-2004. The emission time-series fluctuates due to fluctuations in offshore flaring rates.

Table 3.37 Natural gas flaring rate (DEA 2005b)

Year	Flaring, offshore [TJ]	Gas treatment and gas storage [TJ]
1990	4218	-
1991	8692	-
1992	8977	-
1993	7819	-
1994	7709	-
1995	5964	43
1996	6595	30
1997	9629	35
1998	7053	29
1999	15509	32
2000	10023	29
2001	10806	36
2002	8901	44
2003	9333	33
2004	10299	25

Table 3.38 Emission factors for offshore flaring of natural gas

Pollutant	Emission factor	
SO_2	0.3	g/GJ
NO_X	300	g/GJ
NMVOC	3	g/GJ
CO	25	g/GJ
TSP	0.1	g/GJ
PM_{10}	0.1	g/GJ
$PM_{2.5}$	0.1	g/GJ

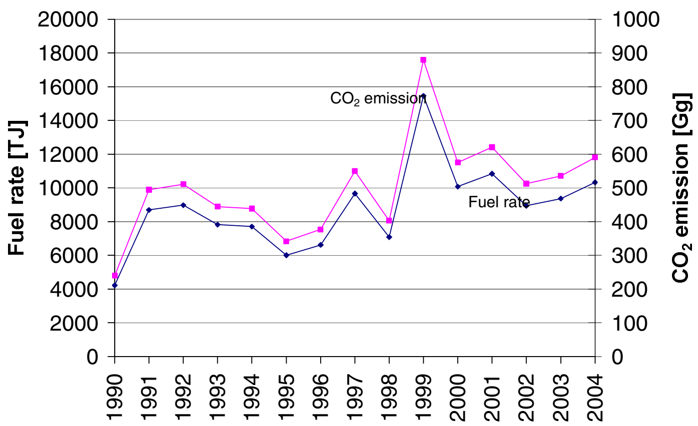

Figure 3.57 Time-series for gas flaring and CO_2 emission in sector 1B2c ii Flaring, gas

The fuel consumption for offshore flaring was higher in 1999 due to the opening of new gas fields. Besides in 1999, consumption has been fairly stable for a number of years. The decrease from 15 509 TJ in 1999 to 9 333 TJ in 2003 represents a decrease of around 40%.

3.4.3 Uncertainties and time-series consistency

Uncertainty estimates are included in the uncertainty estimate for stationary combustion plants.

3.4.4 Source-specific QA/QC and verification

No source-specific QA/QC and verification have been performed.

3.4.5 Source-specific recalculations

No recalculations have been carried out.

3.4.6 Source-specific planned improvements

No source-specific improvements are planned.

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4 Industrial processes (NFR sector 2)

4.1 Overview of the sector

The present sector *"Industrial processes"* (NFR sector 2) comprises combustion processes combined with *"process emissions"* (combustion in manufacturing industry - processes with contact) as well as process emissions without any contact with energy-related emissions. This means that the energy source may be power from central power plants or process heat from e.g. natural gas-fired boilers, turbines or stationary engines. The presentation is outlined as follows:

- Mineral products (NFR 2A) including "Other" (NFR 1A2f)
- Chemical industry (NFR 2B)
- Metal production (NFR 2C) including "Iron and steel" (NFR 1A2a) and "Non-ferrous metals" (NFR 1A2b)
- Other production (NFR 2D)

The industrial processes included in the Danish inventory are those in large companies, e.g. cement factories or steelworks, as well as a number of smaller companies e.g. iron foundries. Furthermore, asphalt concrete plants are to be included in future.

Table 4.1 presents a survey of sources and groups of pollutants included in the present survey as well as pollutants and sources that will be included in the survey. Explanations to the abbreviations are given below the table.

Table 4.1 indicates that some groups of substances are planned to be included in the inventory. In addition to the indicated groups of substances some groups do not include all relevant substances or the time-series are not complete. Detailed information on this subject can be found in the following table with an indication of which substances that will be completed/improved in the inventory.

Table 4.1 Survey of industrial sector with SNAP-code and NFR-code included in the Danish inventory.

Industrial sector	SNAP	NFR	Energy	SO_X/ NO_X/ NH_3	NMVOC/ CO	TSP/ $PM_{10/2.5}$	HM	POP
Grey iron foundries	030303	1A2a	ie	+	+	x	x	-
Secondary lead production	030307	1A2b	ie	-	-	x	x	-
Secondary zinc production	030308	1A2b	ie	-	-	x	+	-
Secondary aluminium production	030310	1A2b	ie	-	-	x	+	-
Cement	030311	1A2f	y	x	x	x	x	-
Lime (incl. iron, steel and paper pulp industry)	030312	1A2f	ie	+	-	x	+	-
Asphalt concrete plants	030313	1A2f	+	+	+	+	-	+/?
Container glass	030315	1A2f	y	x	x	x	x	-
Glass wool	030316	1A2f	ie	x/+	-	x	+	-
Mineral wool	030318	1A2f	y	x/+	x	x	+	-
Paper mill industry	030321	1A2d	y	-	+	x	-	-
Electric arc furnace	040207	2C1	-	-	-	x	x	+/?
Allied metal manufacturing	040306	2C5	-	-	-	+	x	-
Sulphuric acid	040401	2B5	-	x	-	-	-	-
Nitric acid	040402	2B2	y	x	-	x	-	-
NPK-fertiliser	040407	2B5	-	x	ie	x	ie	-
Other (catalysts)	040416	2B5	y	x	-	x	-/?	-
Pesticide production	040525	2B5	-	+	x	+	-	+/?
Bread	040605	2D2	-	-	+	-	-	
Beer	040607	2D2	-	-	x	-	-	
Roof covering with asphalt materials	040610	2A5	-	-	x	-	-	+/?
Road paving with asphalt	040611	2A6	-	+	x	-	-	+/?
Cement (decarbonising)	040612	2A1	-	ie	-	-	+	-
Glass (decarbonising)	040613	2A7	-	ie	-	-	+	-
Lime (decarbonising)	040614	2A2	-	ie	-	-	+	-
Other (sugar, chemical ingredients, slaughterhouse waste)	040617	2A7	y	x/+	x	x	-	+/?
Limestone and dolomite use	040618	2A3	-	-	+	ie	-	-

x Included in the present inventory.
\+ Will be included.
\- Not included/not relevant.
ie Included elsewhere.
y Included in the present inventory.

4.2 Mineral products (NFR 1A2f/2A)

4.2.1 Source category description

The sub-sector *Mineral products* (NFR 1A2f/2A) covers the following processes:

- Production of cement (SNAP 030311/040612)
- Production of lime (quicklime) (SNAP 030312/040614)
- Production of container glass/glass wool (SNAP 030315/030316/040613)
- Production of mineral wool (SNAP 030318)
- Limestone and dolomite use (SNAP 040618)
- Roof covering with asphalt (SNAP 040610)
- Road paving with asphalt (SNAP 040611)
- Other (SNAP 040617; Danisco sugar/Danisco ingredients/ Slaughterhouse waste)

The time-series for emission of acidifying substances, heavy metals, NMVOC and particulate matter from *Mineral products* (NFR 1A2f/2A) are presented in **Table 4.2** and **Table 4.3**.

The emission of SO_2, NO_X and CO from the production of cement depends on raw materials, fuels and combustion conditions. Emissions of NO_X are, among other things, a consequence of high temperature processes and the emission shows only minor fluctuations. The emission follows the activity, with a minor decrease in recent years. The emission of SO_2 depends on the S-content in fuels and raw materials. However, the process acts as a sink for acidifying gases due to the alkaline conditions in the rotary kiln. The emission of CO displays significant fluctuations that cannot be explained by known factors.

The emission of NO_X from production of container glass is increasing slightly, whereas the emission of CO is decreasing in the period 1997-2004. In the same period of time, the activity is nearly constant. Emissions of both substances are related to combustion/process conditions and will be investigated further. Emissions of the heavy metals lead, selenium and zinc are related to the raw materials used. Recycled glass constitutes a considerable part of raw materials and, therefore, the quality/purity of the glass is a determining factor. Emission of lead shows a decreasing trend that is in accordance with the attempts to avoid lead in glass as well as in wine bottle seals.

Production of glass wool is expected to result in approximately the same emissions as in production of container glass. NH_3 shows a decreasing trend from 1996-2004 as can be verified by the decreasing emission per amount produced. Potential emissions of NO_X, CO and heavy metals are planned to be investigated and included in the inventory.

Table 4.2 Time-series for pollutants from *Mineral products* (combustion/process emissions; metals: kg and other pollutants: tonnes).

1A2f	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
SO2	2 128	2 467	2 655	2 680	2 682	2 706	2 804	3 631	3 372	2 186	1 692	2 156	1 431	1 347	1 514
NOx	6 740	8 255	9 116	9 237	9 230	9 569	10 138	10 306	10 478	9 583	10 451	10 300	9 417	8 887	10 011
NMVOC	98	116	124	125	131	136	132	136	129	113	118	103	107	89	102
NH3	489	489	489	489	489	489	475	561	552	560	497	444	358	334	363
CO	12 260	12 601	12 795	12 822	12 820	12 848	12 462	13 506	16 993	15 353	15 302	13 545	10 340	9 246	10 468
TSP											532	567	446	435	456
PM10											467	497	386	379	400
PM2.5											270	287	235	237	246
As	52	78	79	79	81	82	68	57	58	54	55	56	56	53	60
Cd	36	62	59	58	61	58	38	19	19	18	18	19	19	18	20
Cr	592	634	616	512	500	444	441	373	343	322	301	299	291	262	256
Cu	115	211	196	191	203	194	111	30	31	29	29	29	29	28	31
Hg	105	136	147	149	150	152	154	165	167	155	158	161	163	154	173
Ni	344	644	595	579	616	582	318	58	60	56	56	57	57	54	61
Pb	1 180	1 101	950	879	879	1 540	730	205	452	594	362	204	204	302	470
Se	339	316	276	255	271	464	227	290	92	236	359	290	290	252	245
Zn	245	243	227	211	217	292	200	171	187	184	198	167	168	160	177

Table 4.3 Time-series for pollutants from *Mineral products* (process emissions; tonnes).

2A	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CO	241	241	252	263	237	245	245	245	215	234	223	196	196	199	241
NMVOC	554	555	556	558	554	655	656	648	654	617	594	565	563	564	569
NH3	24	32	32	35	32	31	31	30	31	36	34	32	48	157	167
TSP											191	189	172	-[1]	-
PM10											48	47	43	-[1]	-
PM2.5											8	8	7	-[1]	-

Emission of TSP, PM_{10}, $PM_{2.5}$ are related to energy consumption from 2003.

The emission of NMVOC from production of chemical ingredients shows a decreasing trend and can probably be explained by the decreasing emission per amount produced.

4.2.2 Methodological issues

The emissions of SO_2, NO_X, CO and TSP from the production of cement are measured yearly from 1997 to 2004 (TSP from 2000 to 2003). PM_{10} and $PM_{2.5}$ are estimated from the distribution between TSP, PM_{10} and $PM_{2.5}$ from CEPMEIP (2003). For the years 1990-1996, the emission has been estimated from the production of cement, expressed as TCE (total cement equivalents[2]), and emission factors from the company Aalborg Portland (Aalborg Portland, 2005). The emissions of heavy metals are measured in 1997 (Illerup et al., 1999) and estimated for the other years from emission factors (based on the measurements) and TCE. The activity has varied from 1.6 million tonne TCE in 1990 to 2.9 million tonne TCE in 2004.

The emission of NO_X, CO, TSP, lead, selenium, and zinc from production of container glass is measured yearly from 1997 to 2004 (TSP from 2000 to

[2] TCE (total cement equivalent) express the total amount of cement produced for sale and the theoretical amount of cement from the produced amount of clinker for sale.

2004) (Rexam Glass Holmegaard, 2005). PM_{10} and $PM_{2.5}$ are estimated from the distribution between TSP, PM_{10} and $PM_{2.5}$ from CEPMEIP (2003). For 1990 to 1996, emissions of arsenic, cadmium, chromium, copper, mercury and nickel are estimated from standard emission factors and activity data. For 1997 to 2004, the emissions are estimated from emission factors and the actual energy consumption. This change in methodology results in inconsistency in the emission trend that cannot be explained by natural factors. Emission factors for lead, selenium, and zinc from 1990 to 1996 are estimated by interpolation from the 1990 and 1997 figures (Illerup et al., 1999).

The emission of NH_3 and TSP from the production of glass wool has been measured yearly from 1996 to 2004 (TSP from 2000 to 2004) (Saint-Gobain Isover, 2005). PM_{10} and $PM_{2.5}$ are estimated from the distribution between TSP, PM_{10} and $PM_{2.5}$ from CEPMEIP (2003). The activity has varied between 33 600 and 41 350 tonne glass wool from 1996 to 2004 and, during the same period, the emission decreased from approximately 300 to 125 tonne NH_3.

The emission of NMVOC from production of chemical ingredients has been measured from 1996 to 2004 (Danisco Grindsted, 2005). The emission has decreased from 100 to 20 tonnes NMVOC in this period. However, no explanation can be given on these conditions, as information on activity is not available.

The emissions from asphalt roofing and road paving have been estimated from production statistics compiled by Statistics Denmark and default emission factors presented by IPCC/Corinair. The default emission factors are presented in **Table 4.4**.

Table 4.4 Default emission factors for application of asphalt products.

		Road paving with asphalt	Use of cutback asphalt	Asphalt Roofing
CH4	g/tonnes	5	0	0
CO	g/tonnes	75	0	10
NMVOC	g/tonnes	15	64 935	80
Carbon content fraction of NMVOC	%	0.667	0.667	0.8

4.2.3 Uncertainties and time-series consistency

The time-series are presented in **Table 4.2** and **Table 4.3**. The methodologies applied for the different sources within *Mineral products* are considered to be consistent either as measurements or emission factors based on the measurements. However, not all the sources are considered to be complete regarding pollutants and these are expected to be completed in the next inventory, either by use of company-specific information or by application of general emission factors.

The time-series for emissions from production of cement are based on measurements combined with emissions factors based on the measurements.

4.2.4 Source-specific QA/QC and verification

The emission factors have been verified and the order of magnitude confirmed by comparison with standard emission factors (EMEP/CORINAIR, 2004; CEPMEIP, 2003). Detailed discussion of QA/QC can be found in Illerup et al. (2006).

4.2.5 Source-specific recalculations

The inventory has been completed with emissions from roof covering with asphalt and road paving with asphalt.

4.2.6 Source-specific planned improvements

The inventory will be improved regarding coverage of pollutants included. Especially glass wool, mineral wool, chemical ingredients and production of sugar will be extended. The incomplete time-series will also be completed. The inconsistent methodology applied for emission of As, Cd, Cr, Cu, Hg, and Ni from glass production will be improved.

4.3 Chemical industry (NFR 2B)

4.3.1 Source category description

The sub-sector *Chemical industry* (NFR 2B) covers the following processes:

- Production of nitric acid/fertiliser (SNAP 040402/040407)
- Production of catalysts/fertilisers (SNAP 040416/040407)
- Production of pesticides (SNAP 040525)

The time-series for emission of acidifying substances, NMVOC and particulate matter from *Chemical industry* (NFR 2B) are presented in **Table 4.5**.

Table 4.5 Time-series for pollutants from *Chemical industry* (tonnes).

2B	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NOx	842	778	691	619	636	648	543	611	472	509	447	422	419	475	302
NH3	25	35	48	62	104	75	75	50	25	33	27	101	93	113	101
NMVOC	390	150	62	40	54	57	113	44	40	41	29	29	27	25	31
TSP											362	346	310	323	192
PM10											290	277	248	258	153
PM2.5											217	208	186	194	115

The time-series for SO_2 follows the amount of sulphuric acid produced, i.e. the fluctuation follows the activity until the activity ceased in 1997. The same is the case for NO_X from production of nitric acid; however, the emission of NO_X per amount produced is decreasing from 1994 to 2004. The emission of NH_3 does not follow the activity as it appears from the fluctuation in the emission per amount produced. The production of nitric acid and fertiliser stopped in the middle of 2004.

The emission of NO_X from production of catalysts/fertilisers decreases from 1996 to 2004, whereas the emission of NH_3 increases. Fluctuations and the increase in the "emission factor" can explain the increase in NH_3 emission.

The emission of NMVOC from production of pesticides reduced significantly from 1990 to 2004. The decrease can probably be explained by introduction of flue gas cleaning equipment rather than any decrease in activity.

The time-series will be explained further in the following section.

4.3.2 Methodological issues

The emission of SO_2, NO_X, NH_3 and TSP from production of sulfuric acid, nitric acid and fertiliser is measured yearly or estimated, from 1990 to 2004 (TSP from 2000 to 2004) (Kemira GrowHow, 2005). PM_{10} and $PM_{2.5}$ are estimated from the distribution between TSP, PM_{10} and $PM_{2.5}$ from CEPMEIP (2003). The emission for SO_2 and NO_X for 1991 to 1993 was estimated by using interpolated emission factors and activity data. Production of sulphuric acid was stopped in 1997. The emission factor for SO_2 fluctuated and the emission factor for NO_X decreased from 1990 to 2004. Production of sulphuric acid decreased from approximately 150 000 to 60 000 tonne from 1990 to 1996, and production of nitric acid decreased from approximately 450 000 to 229 000 tonne from 1990 to 2004. Overall, production of fertiliser decreased from approximately 800 000 to approximately 395 000 tonne from 1990 to 2004.

The emission of NH_3, NO_X and TSP from production of catalysts and fertilisers is measured yearly from 1996 to 2004 (TSP from 2000 to 2004) (Haldor Topsøe, 2005). PM_{10} and $PM_{2.5}$ are estimated from the distribution between TSP, PM_{10} and $PM_{2.5}$ from CEPMEIP (2003). The process-related NO_X emission has been estimated as 80% of the total NO_X emission; Haldor Topsøe reports this assumption in their environmental report. The emission of NH_3 shows an increasing trend and varies between 13 and 68 tonne from 1990 to 2004. In the same period, the production of catalysts and fertilisers increased from approximately 33 000 to 49 000 tonne.

The emission of NMVOC from production of pesticides is measured yearly from 1990 to 2000 (Cheminova, 2005) and estimated for 2001 to 2003. An emission factor based on 2000 figures is used for estimation of 2001 to 2004 emissions. The emission of NMVOC shows a decreasing trend from 1990 to 2004.

4.3.3 Uncertainties and time-series consistency

The time-series are either based on specific measurements or by using company-specific emission factors and activity data. Therefore, the time-series are considered to be consistent.

4.3.4 Source-specific QA/QC and verification

The emission factors for production of nitric acid and sulphuric acid have been verified by comparison with standard emission factors (EMEP/CORINAIR, 2004). Detailed discussion of QA/QC can be found in Illerup et al. (2006).

4.3.5 Source-specific recalculations

No source-specific recalculations have been performed for the sector *Chemical Industry*.

4.3.6 Source-specific planned improvements

Completion of the time-series for emission of NO_X and NH_3 from production of catalysts and fertilisers is planned and the distribution between energy- and process-related NO_X will be investigated further.

4.4 Metal production (NFR 1A2/2C)

4.4.1 Source category description

The sub-sector *Metal production* (NFR 1A2/2C) covers the following processes:

- Steelworks (SNAP 040207)
- Iron foundries (SNAP 030303)
- Secondary lead production (SNAP 030307)
- Secondary zinc production (SNAP 030308)
- Secondary aluminium production (SNAP 030310)
- Allied metal manufacturing (SNAP 040306)

The time-series for emission of heavy metals and particulate matter from *Metal production* (NFR 1A2/2C) are presented in **Table 4.6** and **Table 4.7**.

The emission inventory for metal production is based on specific emissions from steelworks and secondary aluminium manufacturing as well as average emission factors for iron foundries, secondary lead and zinc manufacturing, and allied metal manufacturing. Regarding the steelworks that use iron and steel scrap as raw material, the emissions to a large degree depend on the quality of the scrap. This fact may result in large annual variations for one or more of the heavy metals. This may be the case for iron foundries, as they also use scrap as raw material, but they have not been subject to the same requirements to analyse emissions of heavy metals to air.

Table 4.6 Time-series for pollutants from *Metal production* (combustion/process emissions; metals: kg and other pollutants: tonnes).

1A2ab	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
TSP											227	206	207	200	204
PM10											89	83	82	76	75
PM2.5											23	22	21	19	18
As	31	-	-	-	-	-	-	26	26	26	29	26	26	26	27
Cd	15	-	-	-	-	-	-	12	12	12	14	12	12	12	13
Cr	113	-	-	-	-	-	-	94	94	95	106	94	96	96	100
Cu	1.1	-	-	-	-	-	-	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Hg	0.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ni	134	-	-	-	-	-	-	111	112	112	125	111	113	113	118
Pb	750	-	-	-	-	-	-	621	627	628	703	626	637	637	661
Se	515	-	-	-	-	-	-	426	429	430	482	429	437	437	453
Zn	515	-	-	-	-	-	-	426	429	430	482	429	437	437	453

Table 4.7 Time-series for pollutants from Metal production (process emissions; metals: kg and other pollutants: tonnes).

2C	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
TSP											41	93	-[1]	-	-
PM10											39	88	-[1]	-	-
PM2.5											25	56	-[1]	-	-
Cd	43	-	-	-	-	-	46	35	43	7	25	41	5	5	5
Cr	-	-	-	-	-	-	7	0	1	0	0	0	-[1]	-	-
Cu	39	40	41	42	43	44	44	45	45	45	45	45	45	45	45
Hg	246	-	-	-	-	-	147	84	61	50	90	184	-[1]	-	-
Ni	758	-	-	-	-	-	294	228	112	86	60	122	-[1]	-	-
Pb	3 026	60	61	63	64	65	794	704	441	735	508	939	68	68	68
Zn	12 041	559	571	584	596	609	6 398	5 656	3 050	2 755	2 024	3 420	634	634	634

The steelworks closed in the beginning of 2002 and re-opened at the end of 2004.

4.4.2 Methodological issues

The emission of heavy metals and TSP from the production of steel bars and sheets from steel scrap are based on measurements from the company Stålvalseværket (Stålvalseværket, 2002). PM_{10} and $PM_{2.5}$ are estimated from the distribution between TSP, PM_{10} and $PM_{2.5}$ from CEPMEIP (2003). The distribution of metals for 1995/96 (Illerup et al., 1999) is used in estimation of the different metals for the following years. The activity has varied between approximately 600 000 and 800 000 tonne from 1990 to 2001. The production ceased in the beginning of 2002 and restarted at the end of 2004 with regard to melting of steel scrap in the electric arc furnace.

The emission of heavy metals from iron foundries is based on standard emission factors and yearly production statistics from The Association of Danish Foundries. The emission of TSP and distribution between TSP, PM_{10} and $PM_{2.5}$ is obtained from CEPMEIP (2003).

The emission of heavy metals from production of secondary lead and allied metal manufacturing is based on average emission factors for Danish producers (Illerup et al., 1999) and activity data from Statistics Denmark. The emission of TSP and distribution between TSP, PM_{10} and $PM_{2.5}$ is obtained from CEPMEIP (2003).

4.4.3 Uncertainties and time-series consistency

The time-series are either based on specific measurements, company-specific emission factors combined with activity data or on standard emission factors combined with public statistics. The same methodology has been applied for the entire time-series and, therefore, the time-series are considered to be consistent.

4.4.4 Source specific recalculations

No source-specific recalculation has been performed for the sector *Metal production*.

4.4.5 Source-specific QA/QC and verification

Detailed discussion of QA/QC can be found in Illerup et al. (2006)

4.4.6 Source-specific planned improvements

The time-series will be completed and new emission factors for the latest years will be established, if possible. Especially for secondary aluminium and zinc production, potential emissions of heavy metals will be investigated.

4.5 Other production (NFR 2D)

4.5.1 Source category description

The sub-sector *Other production* (NFR 2D) covers the following process:

- Beer (SNAP 040607)

The time-series for emission of NMVOC from *Other production* (NFR 2D) is presented in **Table 4.8**.

Table 4.8 Time-series for emission of NMVOC from *Other production* (tonnes)

2D2	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NMVOC	582	604	611	590	588	629	599	574	503	502	466	452	533	522	534

The emission of NMVOC from production of beer follows the activity as the same emission factor has been used for the entire period.

4.5.2 Methodological issues

The emission of NMVOC from breweries is estimated from production statistics (Statistics Denmark) and standard emission factors from the IPCC guidelines (IPCC (1996) Vol. 3, Table 2-24).

4.5.3 Uncertainties and time-series consistency

The time-series is based on the same methodology throughout, using public statistics and standard emission factors. Therefore, the time-series is considered to be consistent.

4.5.4 Source-specific recalculations

Detailed discussion of QA/QC can be found in Illerup et al. (2006)

4.5.5 Source-specific QA/QC and verification

No source-specific QA/QC and verification has been performed for the sector *Other production*.

4.5.6 Source-specific planned improvements

The time-series for emission of NMVOC from production of beer is planned to be completed. Furthermore, production of bread and other food products are planned to be included in the next inventory.

4.6 Uncertainty estimates

Uncertainty estimates for industrial processes (SNAP 04) are presented in **Table 4.9**. The uncertainty estimates are based on standard uncertainty factors (EMEP/CORINAIR, 2004).

Table 4.9 Uncertainty estimates for industrial processes (%).

	Activity data uncertainty	Emission factor uncertainty	Overall 2002	Trend
SO2	2	20	20.100	0.092
NOx	2	50	50.040	1.015
NMVOC	2	50	50.040	2.651
CO	50	100	50.040	2.829
NH3	2	1000	1000.002	15.37
TSP	50	100	50.040	0.89
Cadmium	2	1000	1000.002	0.299
Copper	2	1000	1000.002	3.291
Lead	2	1000	1000.002	0.064
Zinc	2	1000	1000.002	0.149

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5 Solvents and other product use (CRF Sector 3)

5.1 Overview of the sector

Use of solvents and other organic compounds in industrial processes and households are important sources of evaporation of non-methane volatile hydrocarbons (NMVOC), and are related to the source categories *Paint application* (CRF sector 3A), *Degreasing and dry cleaning* (CRF sector 3B), *Chemical products, manufacture and processing* (CRF sector 3C) and *Other* (CRF sector 3D). In this section, a new methodology for the Danish NMVOC emission inventory is presented and the results for the period 1995-2004 are summarised. The method is based on a chemical approach, and this implies that the SNAP category system is not directly applicable. Instead, emissions will be related to specific chemicals, products, industrial sectors and households and to the CRF sectors mentioned above.

5.2 Paint application (CRF Sector 3A), Degreasing and dry cleaning (CRF Sector 3B), Chemical products, Manufacture and processing (CRF Sector 3C) and Other (CRF Sector 3D)

5.2.1 Source category description

Table 5.1 and Figure 5.1 show the emissions of chemicals from 1985 to 2004, where the amounts of single chemicals used have been assigned to specific products and CRF sectors. The methodological approach for finding emissions in the period 1995-2004 is described in the following section. A linear extrapolation is made for the period 1985-1995. A general decrease is seen across the sectors. Table 5.2 shows the amounts of chemicals used for the same period. Table 5.1 is derived from Table 5.2 by applying emission factors relevant to individual chemicals and production or use activities. Table 5.3, showing the amount of products used, is derived from Table 5.2 by assessing the amount of chemicals comprised within products belonging to each of the four source categories. However, the conversion factors are very rough estimates and more thorough investigations are needed in order to quantify the amount of products used more accurately.

In Table 5.4, the emission for 2004 is split according to the individual chemicals. Propane and butane are the main contributors and can be attributed to propellants in spraying cans. Turpentine is defined as a mixture of stoddard solvent and solvent naphtha. For each chemical, the emission factors are based on rough estimates from SFT (1994). High emission factors are assumed for use of chemicals (products) and lower factors for industrial production processes.

Table 5.1 Emission of chemicals in Gg pr year

Total emissions Gg pr year	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985
Paint application (3A)	6.6	6.1	5.6	5.8	6.5	6.4	6.7	8.4	7.2	6.3	7.2	7.4	7.5	7.6	7.8	7.9	8.0	8.1	8.3	8.4
Degreasing and dry cleaning (3B)	8.7	9.1	9.8	11.0	11.8	10.7	11.6	11.8	12.9	12.1	13.1	13.5	14.0	14.4	14.8	15.2	15.6	16.0	16.5	16.9
Chemical products. manufacturing and processing (3C)	0.74	0.65	0.78	0.75	0.80	0.78	0.74	0.80	0.79	0.79	0.84	0.85	0.86	0.87	0.88	0.89	0.90	0.91	0.91	0.92
Other (3D)	20.3	18.6	18.0	18.8	19.3	19.3	19.3	19.7	20.0	20.4	20.0	20.1	20.3	20.4	20.5	20.6	20.7	20.9	21.0	21.1
Total NMVOC	36.4	34.4	34.1	36.1	38.4	37.1	38.3	40.8	40.8	39.6	41.4	42.1	42.7	43.4	44.1	44.8	45.4	46.1	46.8	47.5
Total CO_2 [a]	113	107	106	113	120	116	119	127	127	123	129	131	133	135	137	140	142	144	146	148

[a] 0.85*3.67*total NMVOC

Table 5.2 Used amounts of chemicals in Gg pr year

Used amounts of chemical Gg pr year	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985
Paint application (3A)	26.4	17.4	17.4	17.7	19.8	18.5	25.0	57.3	22.9	20.1	131	137	143	149	155	161	167	173	179	185
Degreasing and dry cleaning (3B)	42.3	39.2	42.3	41.7	45.5	42.8	45.3	49.5	49.0	47.6	58.7	59.9	61.2	62.4	63.6	64.9	66.1	67.3	68.6	69.8
Chemical products. manufacturing and processing (3C)	76.5	67.3	80.1	76.8	82.7	79.7	75.8	82.1	80.8	80.8	71.6	72.9	74.2	75.5	76.8	78.1	79.4	80.7	82.1	83.4
Other (3D)	87.1	72.9	69.6	71.8	71.9	70.0	65.3	73.2	64.2	65.6	96.2	97.9	99.5	101	102	104	106	108	109	111
Total NMVOC	249	206	209	208	220	211	211	262	217	214	357	367	378	388	398	408	419	429	439	449

Table 5.3 Used amounts of products in Gg pr year

Used amounts of products Gg pr year	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985
Paint application (3A)	176	116	116	118	132	123	167	382	153	134	207	215	223	231	240	248	256	264	272	280
Degreasing and dry cleaning (3B)	85	78	85	83	91	86	91	99	98	95	100	102	104	106	108	109	111	113	115	117
Chemical products, manufacturing and processing (3C)	382	336	401	384	414	398	379	411	404	404	414	418	422	427	431	435	439	443	447	452
Other (3D)	435	365	348	359	359	350	326	366	321	328	313	305	297	290	282	274	266	258	251	243
Total products	1078	895	949	944	996	957	962	1258	976	961	1034	1040	1047	1053	1060	1066	1073	1079	1086	1092

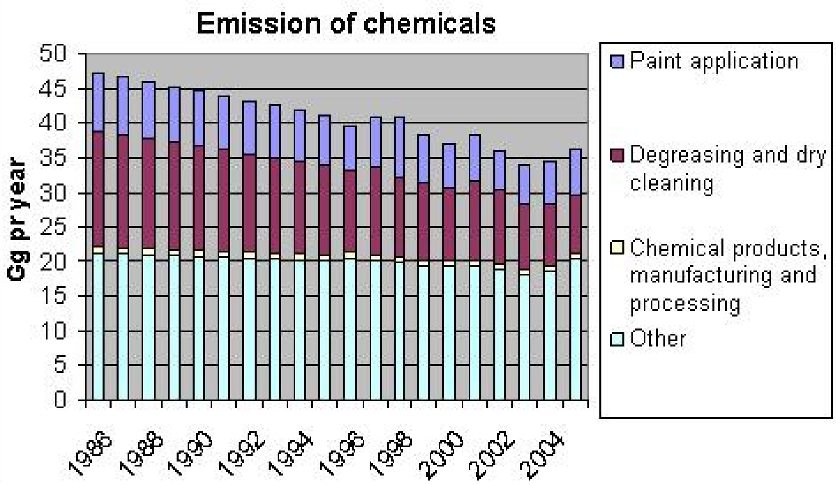

Figure 5.1 Emissions of chemicals in Gg per year. The methodological approach for finding emissions in the period 1995 – 2004 is described in the text, and a linear extrapolation is made for 1985 – 1995. The underlying figures can be seen in Table 5.1.

Table 5.4 Chemicals with highest emissions 2004

Chemical	Emissions 2004 (kg)	Emission factors (mainly estimated from SFT, 1994) (%)	
		Use	Production and processing
turpentine (stoddard solvent & solvent naphtha)	7025459	50	1
propane	5000000	100	1
butane	5000000	100	1
glycerol	3247520	20	1
aminooxygengroups	2828243	50	1
ethanol	1944095	15	1
acetone	1673282	90	1
formaldehyde	1633580	10	1
methanol	1577863	5	1
propylalcohol	1529555	90	1
pentane	1454658	33	1
phenol	655127	25	1
naphthalene	562551	5	1
ethandiol	530415	25	1
etheralcoholes	506051	60	1
monobutylether	287473	95	1
cyanates	275260	50	1
propylenglycol	240819	10	1
tetrachloroethylene	235951	80	1
butanone	232855	80	1
1-butanol	229984	25	1
xylene	209444	5	1
toluendiisocyanate	183936	5	1
acyclic monoamines	86368	50	1
toluene	81633	5	1
dioctylphthalate	66625	5	1
butanoles	37827	25	1
diethylenglycol	15724	25	1
triethylamine	12916	50	1
methylbromide	6375	80	1
diamines	469	80	1

5.2.2 Methodological issues

The emissions of Non-Methane Volatile Organic Compounds (NMVOC) from industrial use and production processes and household use in Denmark have been assessed. Until 2002, the NMVOC inventory in Denmark was based on questionnaires and interviews with different industries, regarding emissions from specific activities, such as lacquering, painting, impregnation, etc. However, this approach implies large uncertainties due to the diverse nature of many solvent-using processes. For example, it is inaccurate to use emission factors derived from one printwork in another analogue printwork, since the type and combination of inks may vary considerably. Furthermore, the employment of abatement techniques will result in loss of validity of estimated emission factors.

A new approach has been introduced, focusing on single chemicals instead of activities. This will lead to a clearer picture of the influence from each specific chemical, which will enable a more detailed differentiation on products and the influence of product use on emissions.

The procedure is to quantify the use of the chemicals and estimate the fraction of the chemicals that is emitted as a consequence of use. Mass balances are simple and functional methods for calculating the use and emissions of chemicals:

$$\textit{use} = \textit{production} + \textit{import} - \textit{export} - \textit{destruction/disposal} - \textit{hold up} \quad \text{(Eq.1)}$$

$$\textit{emission} = \textit{use} * \textit{emission factor} \quad \text{(Eq.2)}$$

where "hold-up" represents the difference in the amount in stock in the beginning and at the end of the year of inventory.

A mass balance can be made for single substances or groups of substances, and the total amount of chemical emitted is obtained by summing up the individual contributions. It is important to perform an in-depth investigation in order to include all relevant emissions from the large amount of chemicals. The method for a single chemical approach is shown in Figure 5.2.

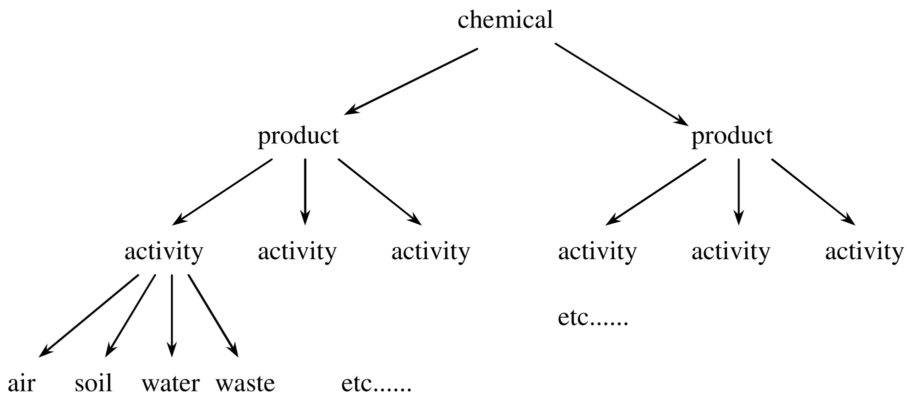

Figure 5.2 Methodological flow in a chemical based emission inventory.

The tasks in a chemical focused approach are:

1. Definition of chemicals to be included

2. Quantification of use amounts from Eq.1

3. Quantification of emission factors for each chemical

In principle, all chemicals that can be classified as NMVOC must be included in the analysis, which implies that it is essential to have an explicit definition of NMVOC. The definition of NMVOC is, however, not consistent. In the EMEP guidelines for calculation and reporting of emissions, NMVOC is defined as ”all hydrocarbons and hydrocarbons where hydrogen atoms are partly or fully replaced by other atoms, e.g. S, N, O, halogens, which are volatile under ambient air conditions, excluding CO, CO_2, CH_4, CFCs and halons”. The number of chemicals that fulfil these criteria is large and a list of 650 single chemicals and a few chemical groups described in ”National Atmospheric Emission Inventory”, cf. Annex 3.F, is used. It is probable that the majority will be insignificant in a mass balance context, but it is not correct to exclude any chemicals before a more detailed investigation has been made. It is important to be aware that some chemicals are comprised in products and will not be found as separate chemicals in databases, e.g. di-ethylhexyl–phthalate (DEHP), which is the predominant softener in PVC. In order to include these chemicals, the product use must be found and the amount of chemicals in the product must be estimated. It is important to distinguish between the amount of a chemical that enters the mass balance as pure chemical and the amount that is associated with a product, in order not to overestimate the use.

Production, import and export figures are extracted from Statistics Denmark, from which a list of 427 single chemicals, a few groups and products are generated. For each of these a *use* amount in tonnes per year (from 1995 to 2004) is calculated. It is found that 44 different NMVOCs comprise over 95% of total use, and it is these 44 chemicals that are investigated further.

In the Nordic SPIN database (Substances in Preparations in Nordic Countries), information for industrial use categories and products specified for individual chemicals, according to the NACE coding system, is available. This information is used to distribute the *use* amounts of individual chemicals to specific products and activities. The product amounts are then distributed to the CRF sectors 3A – 3D.

Emission factors, cf. Eq. 2, are obtained from regulators or the industry and can be provided on a site by site basis or as a single total for whole sectors. Emission factors can be related to production processes and to use. In production processes, the emissions of solvents are typically low and in use, it is often the case that the entire fraction of chemical in the product will be emitted to the atmosphere. Each chemical will, therefore, be associated with two emission factors, one for production processes and one for use.

Outputs from the inventory are:

1. A list where the 44 most predominant NMVOCs are ranked according to emissions to air

2. Specification of emissions from industrial sectors and from households

3. Contribution from each NMVOC to emissions from industrial sectors and households

4. Yearly trend in NMVOC emissions, expressed as total NMVOC and single chemical, and specified in industrial sectors and households.

5.2.3 Uncertainties and time-series consistency

Estimation of uncertainty is based on the Tier 1 methodology in IPCC Good Practice Guidance. Inputs to the uncertainty estimates are shown in Table 5.5.

Important uncertainty issues related to the new approach are:

(i) Identification of chemicals that qualify as NMVOCs. The definition is vague, and no approved list of agreed NMVOCs is available. Although a tentative list of 650 chemicals from the "National Atmospheric Emission Inventory" has been used, it is possible that relevant chemicals are not included.

(ii) Collection of data for quantifying production, import and export of single chemicals and products where the chemicals are comprised. For some chemicals, no data are available in Statistics Denmark. This can be due to confidentiality or that the amount of chemicals must be derived from products they are contained in. For other chemicals, the amount is the sum of the single chemicals *and* product(s) where they are included. The data available in Statistics Denmark is obtained from the Danish Customs & Tax Authorities and the data have not been verified in this assessment.

(iii) Distribution of chemicals by products, activities, sectors and households. The present approach is based on amounts of single chemicals. To differentiate the amounts according to industrial sector, it is necessary to identify and quantify the associated products and activities and assign these to the industrial sectors and households. No direct link is available between the amounts of chemicals and products or activities. From the Nordic SPIN database, it is possible to make a relative quantification of products and activities used in industry and, combined with estimates and expert judgement, these products and activities can then be differentiated into sectors. The contribution from households is also based on estimates. If the household contribution is set too low, the emission from industrial sectors will be too high and vice versa. This is due to the fact that the total amount of chemical is constant. A change in distribution of chemicals between industrial sectors and households will, however, affect total emissions, as different emission factors are applied in industry and households, respectively.

A number of activities are assigned as "other", i.e. activities that cannot be related to the source categories included. This assignment is based on expert judgement, but it is possible that the chemicals assigned may more correctly be included in other sectors. More detailed information from the industrial sectors is still required.

(iv) In this first version of the NMVOC emission inventory, rough estimates and assumed emission factors are used. These are defined for the individual chemicals, where a more appropriate approach, in some cases, could be to define emission factors for sector-specific activities.

A quantitative measure of uncertainty has not been assessed within this first inventory. Single values have been used for emission factors and activity distribution ratios etc and to be able to perform a stochastic evaluation, more information is needed.

Table 5.5 Emission uncertainties for solvents (NMVOCs). Only combined uncertainties are applied as uncertainties are not differentiated into activity data and emission factors in the Emission Inventory Guidebook. Furthermore, uncertainties are only stated for total emissions. The uncertainties are distributed equally on activity data and emission factors.

Source Activity	SNAP code	Activity	Base year emission	2004 emissions	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty
			Input data (Mg)	Input data (Mg)	Input data (%)	Input data (%)	(%)
Paint application	60101	Manufacture of Automobiles	7751	6627	NE	NE	NE
	60102	Car Repairing					
	60103	Construction and Buildings					
	60104	Domestic Use					
	60105	Coil Coating					
	60106	Boat Building					
	60107	Wood					
	60108	Other Industrial Paint Application					
	60109	Other Non-Industrial Paint Application					
Degreasing and dry cleaning	60201	Metal Degreasing	14792	8742	NE	NE	NE
	60202	Dry Cleaning					
	60203	Electronic Components Manufacturing					
	60204	Other Industrial Dry Cleaning					
Chemical products, manufacturing and processing	60301	Polyester Processing	878	740	NE	NE	NE
	60302	Polyvinylchloride Processing					
	60303	Polyurethane Foam Processing					
	60304	Polystyrene Foam Processing					
	60305	Rubber Processing					
	60306	Pharmaceutical Products Manu.					
	60307	Paints Manufacturing					
	60308	Inks Manufacturing					
	60309	Glues Manufacturing					
	60310	Asphalt Blowing					
	60311	Adhesive, Magnetic Tapes, Film and Photogr. Manufac.					
	60312	Textile Finishing					
	60313	Leather Tanning					
	60314	Other					
Other	60401	Glass Wool Enduction	20504	20301	NE	NE	NE
	60402	Mineral Wool Enduction					
	60403	Printing Industry					
	60404	Fat, Edible and Non-Edible Oil Extraction					
	60405	Application of Glues and Adhesives					
	60406	Preservation of Wood					
	60407	Underseal Treatment and Consevation of Vehicles					
	60408	Domestic Solvent Use (Other Than Paint Application)					
	60409	Vehicles Dewaxing					
	60411	Domestic Use of Pharmaceutical Products					
	60412	Other(Preservation of Seeds, ...)					
Total	60000	Solvent and Other Product Use	44086	36409	46	46	65

NE: Not estimated

5.2.4 QA/QC and verification

Please refer to the Danish National Inventory Report reported to the UNFCCC (Illerup et al., 2006)

5.2.5 Recalculations

The previous method was based on results from an agreement between the Danish Industry and the Danish Environmental Protection Agency (EPA). The emissions from various industries were reported to the Danish EPA. The reporting was not prepared annually and linear interpolation was used between the reporting years. It is important to note that not all solvent-use was included in this agreement and no activity data were available. It is not possible to perform direct comparison of methodologies or to make corrections to the previous method, due to the fundamental differences in structure. But an increase in total emissions was expected due to the more comprehensive list of chemicals.

Improvements and additions are continuously being implemented in the new approach, due to the comprehensiveness and complexity of the use and application of solvents in industries and households. The improvements in the 2004 reporting include revisions of the following:

- Propane and butane use.
- Refinement of distribution of use categories in industrial branches
- Emission factors for use and for production and processing

Ad 1) The amount of propane and butane used is approximately 100 000 tonnes per year, according to production, import and export data from Statistics Denmark. Propane and butane are used as propellants in spray cans, and as fuel (LPG). No information is given as to the relative distribution. This amount is, however, unrealistically high according to the "Aerosol Industriens Brancheforening" and "Branchen for Komprimerede Gasser". They estimate production of propane and butane to be approximately 80 000 tonnes per year in Denmark. 70 000 tonnes per year is used as LPG, which is in agreement with information from the Danish Energy Authority. The remainder is exported. A report from the Danish EPA states that 5 000 tonnes of propane is used per year in Denmark, equivalent to approximately 16 million spray cans. The "Aerosol Industriens Brancheforening" and "Branchen for Komprimerede Gasser" estimate an annual consumption of 35 million spray cans and, assuming that butane contributes with an amount equal to that of propane, the total consumption of propane and butane is 10 000 tonnes per year. Spray cans are mainly for cosmetics and the propellant must be odourless, a type which is only produced in small amounts in Denmark. In conclusion, 10 000 tonnes of propane and butane, in total, is imported per year and used as propellant in spray cans. Assuming an emission factor of 100% during use, total propane and butane emissions are 10 000 tonnes per year.

Ad 2) One of the uncertainty aspects in the inventory is the distribution of chemicals on products, activities, sectors and households, cf. iii) in Section 5.2.3 above on uncertainties and time-series consistency. A refinement has been made in this latest inventory where some use categories have been designated to other uses and sectors. The emission factors are different for production and use which will give different emissions for 2004.

Ad 3) The emission factors are also a major source of uncertainty in the inventory, cf iv) above. For some chemicals, new estimates are assessed. In general, higher emission factors have been attributed to use and lower factors to production and processing, cf. Table 5.4.

5.2.6 Planned improvements

ii), iii) and iv) in Section 5.2.3 are to be addressed in the following inventory, where more detailed information is obtained for selected industries with respect to products and chemicals used and on the emission factors related to the activities.

References

Illerup, J.B., Lyck, E., Nielsen, O., Nielsen, M., Winther, M, Mikkelsen, M.H., Hoffman, L., Gyldenkærne, S., Nielsen, M., Sørensen, P., Vesterdal, L., Fauser, P. & Thomsen, M. 2006: Denmark's National Inventory Report – Submitted under the United Nations Framework Convention on Climate Change, 1990-2004.

Emission Inventory Guidebook 3rd edition, prepared by the UNECE/EMEP Task Force on Emissions Inventories and Projections, 2002 update. Available on the Internet at http://reports.eea.eu.int/EMEP-CORINAIR3/en (07-11-2003)

Solvent Balance for Norway, 1994. Statens Forurensningstilsyn, rapport 95:02

SPIN on the Internet. Substances in Preparations in Nordic Countries, http://www.spin2000.net/spin.html

Statistics Denmark, http://www.dst.dk/HomeUK.aspx

6 Emission of ammonia and particulate matter from the agricultural sector

6.1 Overview

6.1.1 Ammonia

The majority of the Danish ammonia emission, corresponding to 97%, originates from the agricultural sector. The remaining 3% originates from traffic and industrial process. Figure 6.1 shows the distribution of sources of NH_3 emission from the agricultural sector 2004. The main part of the emission is related to manure management, corresponding to 78%. Emissions from use of synthetic fertiliser and crops contribute with 6% and 15%, respectively. Emissions from ammonia-treated straw and sewage sludge used as fertiliser amount to less than 1%.

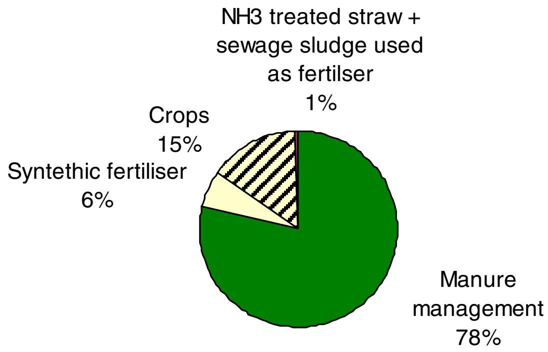

Figure 6.1 Ammonia emissions from the agricultural sector (2004)

From 1985 to 2004, the emission of ammonia from the agricultural sector decreased from 138.41 Gg NH_3 to 94.76 Gg NH_3, which corresponds to a 32% reduction (Figure 6.2). This is due to the active national environmental policy of the last twenty years. A series of measures have been introduced to prevent loss of nitrogen from agriculture to the aquatic environment. The measures include improved utilisation of nitrogen in livestock manure, requirements with regard to storage and application of livestock manure, increased area with winter green fields to catch nitrogen, a maximum number of animals per hectare and maximum nitrogen application rates to agricultural crops.

The main part of the emission from the agricultural sector is related to livestock production and, hence, the management of manure. The result of the active environmental policy is a decrease in the N-excretion and the NH_3 emission per produced animal, which has reduced the overall emission of ammonia.

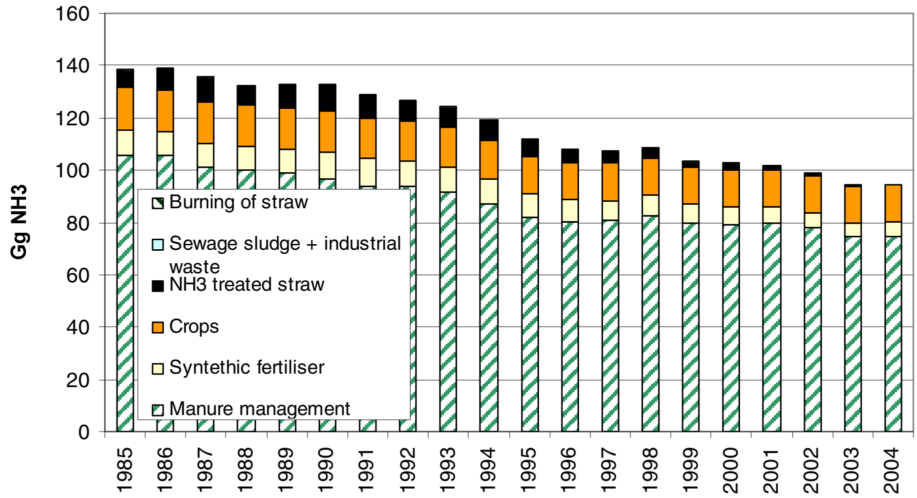

Figure 6.2 Ammonia emissions from the agricultural sector 1985 to 2004

Particulate matter

In NRF, the emission of particulate matter (PM) is registered for the years 2000 to 2004. The emission from the agricultural sector includes the emission of dust from cattle, pigs and poultry stables. Given in TSP, agricultural activity contributes with 38% of the national PM emission in 2004.

Using the same calculation method as for previous years, it is seen that the total emission of particulates given in TSP has increased by 21% from 1985 to 2004 (Figure 6.3). The same emission factor is used for all years, which means that the development is alone dependent on the prevailing livestock production. The increased emission is due to growth in the production of slaughter pigs.

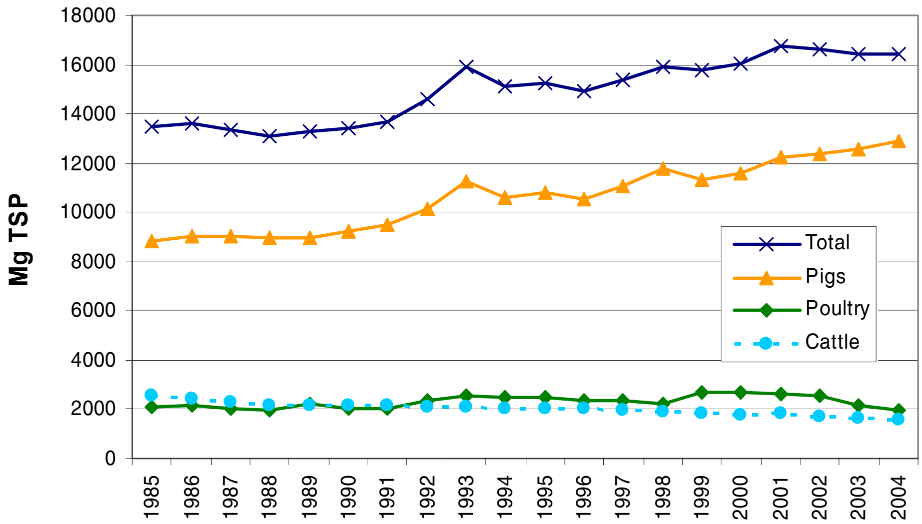

Figure 6.3 Emission of particulate matter (TSP) from the agricultural sector 1985 to 2004

6.1.2 References – sources of information

Data on activity and emissions are collected, evaluated and discussed in cooperation with Statistics Denmark, the Danish Institute of Agricultural Sciences, the Danish Agricultural Advisory Centre, Danish Environmental Protection Agency and the Danish Plant Directorate. It means that both the data and the methods used are evaluated continuously according to latest knowledge and information. Table 6.1 shows the source of data input from the different institutes.

Table 6.1 List of institutes involved in the emission inventory

References	Abbreviation	Data / information
National Environmental Research Institute (http://www.dmu.dk)	NERI	-reporting -data collecting
Statistics Denmark - Agricultural Statistics (http://www.dst.dk)	DS	-livestock production -milk yield -slaughtering data -land use
Danish Institute of Agricultural Sciences (http://www.agrsci.dk)	DIAS	-N-excretion -feeding situation -NH_3 emissions factor -PM emissions factor
The Danish Agricultural Advisory Centre (http://www.lr.dk)	DAAC	-stable type -grazing situation -manure application time and methods
Danish Environmental Protection Agency (http://www.mst.dk)	EPA	-sewage sludge used as fertiliser
The Danish Plant Directorate (http://www.plantedirektoratet.dk)	PD	-organic farming -synthetic fertiliser

6.1.3 Methods

The calculation of the emission is based on the EMEP-CLRTAP Emission Inventory Guidebook. Concerning the PM emission the TNO/CEPMEIP study has been used (http://www.air.sk/tno/cepmeip/). The emissions from agricultural activities include NRF Table 4B Manure Management and Table 4D Agricultural Soils. Table 4F with regard to field burning of agricultural wastes is only registered until 1989. Burning of straw has been prohibited since 1989 and may only take place in connection with cultivation of seed grass. It is assumed that the emission is insignificant and, hence, is not included in the emission inventory from 1990.

The emission is calculated as the sum of activities (a_i) multiplied by the implied emission factor (IEF) for each activity, *i*.

$$E_{total} = \sum a_i \bullet IEF_i$$

The emissions from the agricultural sector are calculated in a comprehensive agricultural model complex called DIEMA (Danish Integrated Emission Model for Agriculture). This model, as shown in Figure 6.4, is implemented in great detail and it is used to cover emissions of ammonia, particulate matter and greenhouse gases (N_2O and CH_4). Thus, there is direct coherence between the ammonia emission and the emission of N_2O. A more detailed description is published, but only in Danish – Mikkelsen et al. (2005). An English edition is in preparation and the report is presently subject to review procedure in Sweden.

The National Environmental Research Institute (NERI), which is responsible for the emission inventory, has established data agreements with the institutes and organisations to assure that the necessary data is available for timely completion of the emission inventory. The main part of the emission is related to livestock production and much of the data is based on Danish standards. The Danish Institute of Agricultural Sciences (DIAS) delivers Danish standards relating to feeding consumption, manure type in different stable types, nitrogen content in manure, etc. Previously, the standards were updated and published every third or fourth year – the last one is Poulsen et al. from 2001. From year 2001, NERI receives updated data annually directly from DIAS in the form of spreadsheets. These standards have been described and published in English in Poulsen & Kristensen (1998).

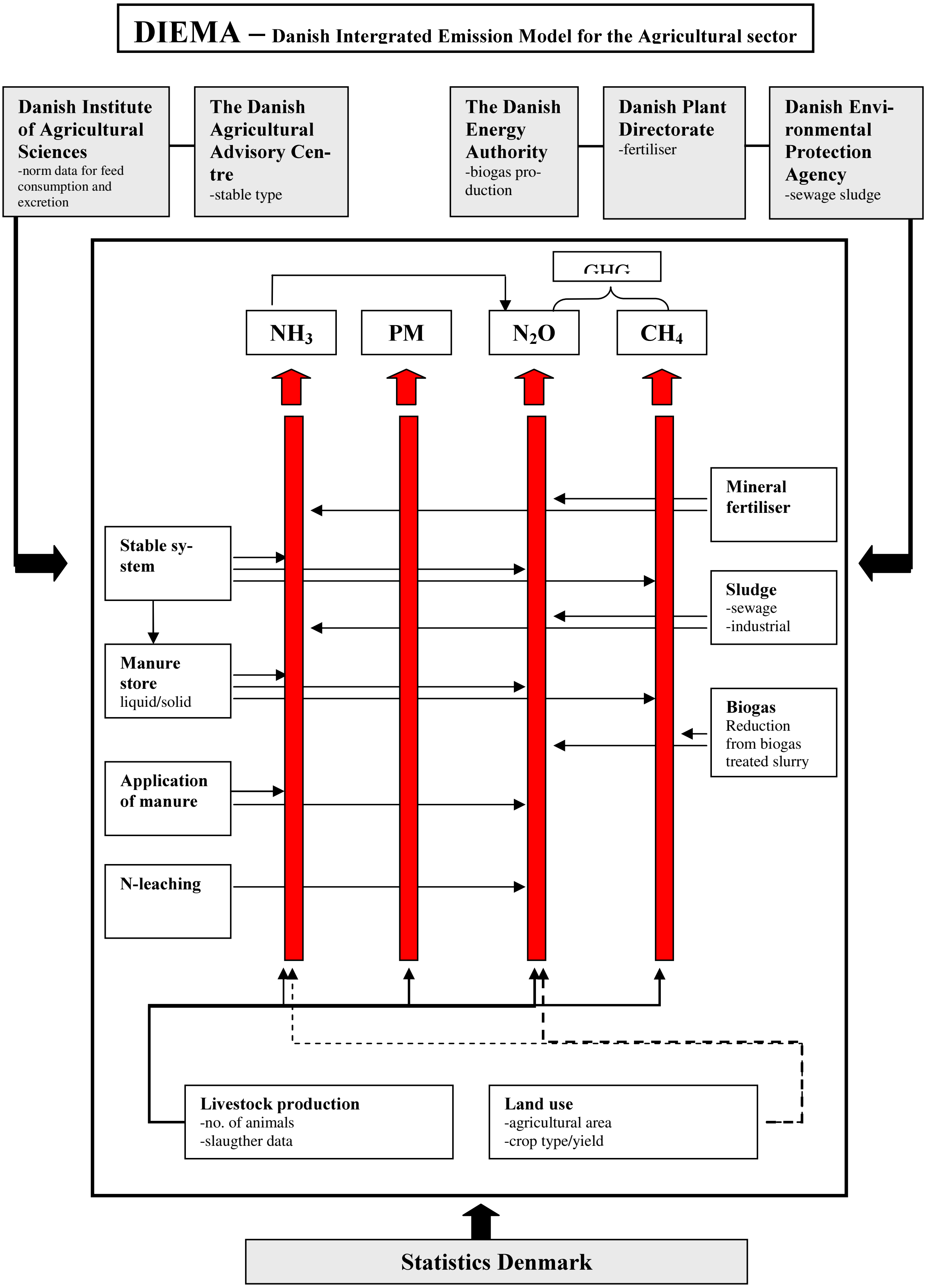

Figure 6.4 DIEMA – Danish Integrated Emission Model for Agriculture

DIEMA includes approximately 30 different livestock categories, dependent on livestock category, weight class and age. Each of these subcategories is subdivided according to stable type and manure type, which results in the region of 100 different combinations of subcategories and stable type (Table 6.2). The emission is calculated from each of these subcategories and then aggregated in accordance with the livestock categories given in the NFR. It is important to point out that changes in the emission and the implied emission factor over the years are not only a result of changes in the number of animals, but also depend on changes in the allocation of subcategories, changes in feed consumption, changes in stable type and changed practices with regard to the handling of livestock manure in relation to storage and application.

Table 6.2 Livestock categories and subcategories.

NFR 4B	Animal categories	Includes	No. of subcategories in DIEMA (animal type/stable system)
4B 1a	Dairy Cattle[1]	Dairy Cattle (heavy breeding and Jersey)	9
4B 1b	Non-dairy Cattle[1]	Calves, heifers, bulls, suckling cattle (heavy breeding and Jersey)	26
4B 3	Sheep	including lambs	1
4B 4	Goats	Including kids	1
4B 6	Horses	400 kg, 600 kg, 800 kg	3
4B 8	Swine	Sows, piglets, slaughter pigs	17
4B 9	Poultry	Hens, pullet, broilers, turkey, geese, ducks	16
4B 13	Other	Fur farming - Sewage sludge	4-

[1]For all subcategories distinguish between large breed and the smaller Jersey cattle

6.2 NH_3 emission from Manure Management – NRF 4.B

6.2.1 Description

The NH_3 emission from manure management (NRF category 4.B) includes emissions from sewage sludge used as fertiliser. The emission from sewage sludge contributes with less than 1% of the total emission from manure management.

Figure 6.5 shows the emission from manure management distributed according to the different livestock categories in 2004. The main part of the emission is related to cattle and pig production, corresponding to 86%.

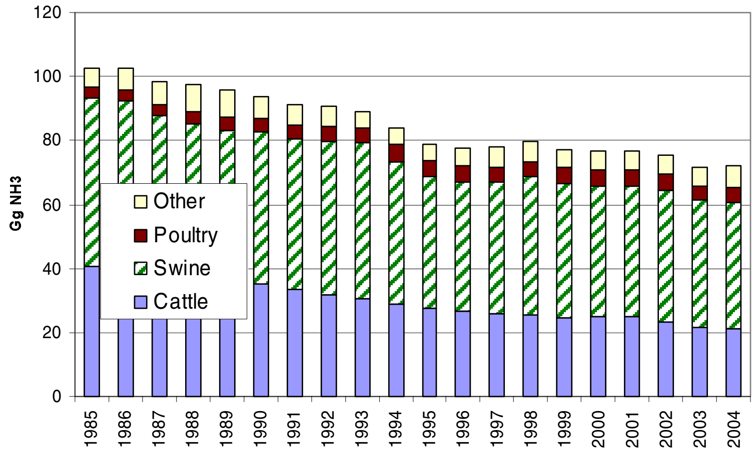

Figure 6.5 Ammonia emission from manure management 1985 - 2004

6.2.2 Methodological issues

Activity data

Table 6.3 shows the development in livestock production 1990-2004 based on the Agricultural Statistics (Statistics Denmark). The emission from pigs and poultry is based on slaughter data from the Agricultural Statistics. Only farms larger than 5 hectares are included in the annual census. An approximation of number of the horses, goats and sheep on small farms is added to the numbers in the Agricultural Statistics, in agreement with DAAC. The largest difference is found for horses. In the agricultural census, the number of horses is estimated at 39 200 in 2004. The total number of horses in 2004, however, including horses placed at small farms and riding schools, is approximately 155 000.

Since 1990, production of pigs and poultry has increased. This is contrary to the production of cattle, which has decreased as a result of rising milk yields. Buffalo, camels and llamas, mules and donkeys do not occur in Denmark.

Table 6.3 Livestock production 1990 - 2004 (NRF category 4B)

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NRF	Animal category							1000 head								
4B 1a	Dairy Cattle	753	742	712	714	700	702	701	670	669	640	636	623	610	596	563
4B 1b	Non-dairy cattle	1486	1480	1478	1481	1405	1388	1393	1334	1308	1247	1232	1284	1187	1128	1082
4B 3	Sheep*	92	107	102	88	80	81	94	78	83	83	81	92	74	83	79
4B 4	Goats*	8	9	9	9	9	9	9	10	10	10	10	11	11	12	12
4B 6	Horses*	135	137	138	140	141	143	144	146	147	149	150	152	153	155	155
4B 8	Swine	9497	9783	10455	11568	10923	11084	10842	11383	12095	11626	11922	12608	12732	12949	13233
4B 9	Poultry	16249	15933	19041	19898	19852	19619	19888	18994	18674	21010	21830	21236	20580	17796	16598
4B 13	Other (fur farming)	2264	2112	2283	1537	1828	1850	1918	2212	2345	2089	2199	2304	2422	2361	2471

* Includes animals on small farms (less than 5 ha), which are not included in Statistics Denmark figures.

Implied emission factor

Table 6.4 shows the implied emission factor for each NFR livestock category from 1990 to 2004. The implied emission factor expresses the average emission of ammonia per animal (from the census) per year. The implied emission factor is changing from year to year depending on a combination of several factors, such as:

- change in the livestock production level or change in the share of different subcategories
- change in fodder condition and N-excretion
- change in stable type
- change in handling of manure in relation to storage and application

In Annex 2C1, more detailed information about N-excretion and stable type for each livestock category, 1990–2004, used in the Danish emission inventory are given. Furthermore, tables show the Danish standards for emission factors used to calculate the ammonia emission in stables and in relation to storage and application of manure.

For all animal categories, the implied emission factor has decreased from 1990 to 2004, which is the result of measures in relation to implementation of the action plans for the aquatic environment and the Ammonia Action Plan. Increasingly strict requirements to improve the utilisation of nitrogen in manure have resulted in reduction of N-excretion, especially for slaughter pigs. Changes in manure management in relation to spreading are another important factor which has reduced the emission. Measures include a requirement for a minimum 9-month manure storage capacity, requirement that manure applied to soil be ploughed down within 6 hours, a ban on the spreading of manure in winter and, from 1 August 2003, broad spreading is no longer allowed.

Table 6.4 Implied emission factor from – manure management 1990 to 2004 (NRF category 4B)

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NFR	Animal category	Kg NH_3/head/yr														
4b 1a	Dairy cattle	31.97	30.98	30.00	29.03	28.07	27.12	26.32	26.42	26.53	26.34	27.07	26.96	26.34	25.46	26.41
4b 1b	Non-dairy cattle	7.48	7.18	6.96	6.73	6.43	6.16	6.07	5.99	5.95	6.13	6.40	6.43	6.11	5.83	5.86
4B 3	Sheep	1.86	1.87	1.87	1.88	1.88	1.89	1.74	1.58	1.43	1.29	1.45	1.43	1.41	1.37	1.37
4B 4	Goats	1.86	1.87	1.87	1.88	1.88	1.89	1.74	1.58	1.43	1.29	1.45	1.43	1.36	1.33	1.32
4B 6	Horses	7.90	7.71	7.51	7.32	7.13	6.94	6.92	6.89	6.85	7.01	6.87	6.77	6.69	6.50	6.49
4B 8	Swine	4.99	4.81	4.60	4.19	4.09	3.70	3.71	3.63	3.57	3.61	3.40	3.23	3.23	3.05	2.97
4B 9	Poultry	0.27	0.27	0.24	0.25	0.27	0.26	0.25	0.26	0.26	0.24	0.23	0.24	0.24	0.26	0.29
4B 13	Other animals (fur farming)	2.35	2.30	2.28	2.25	2.21	2.18	2.17	2.16	2.15	2.14	2.09	2.05	2.00	1.96	2.12

6.2.3 Time-series

The emission of NH_3 from manure management is estimated to 71.92 Gg NH_3 in 2004 (Table 6.5). From 1990 to 2004, the emission reduced by 23%. As mentioned, this development is mainly due to an active environmental policy to reduce nitrogen losses in agricultural production.

The number of cattle has decreased as a result of a growth in milk yield. In 2004, cattle production contributes with 30% of the total emission from manure management. The pig production contributes with a still increases share of the emission – in 2004, 55% of the total emission from manure management. The production of slathering pigs has decreased by more than 35% compared with 1990. However, despite this development the emission from pigs is decreasing. This is due to measures focused on the biological development and improvement in fodder efficiency.

Table 6.5 Emission of NH_3 from manure management 1990 - 2004

NFR	Animal category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
									Gg NH_3							
4b 1a	Dairy cattle	24.08	22.97	21.36	20.73	19.64	19.05	18.44	17.71	17.75	16.86	17.20	16.81	16.06	15.17	14.88
4b 1b	Non-dairy cattle	11.11	10.63	10.28	9.97	9.03	8.55	8.45	7.98	7.79	7.64	7.89	8.25	7.25	6.58	6.35
4B 3	Sheep	0.17	0.20	0.19	0.17	0.15	0.15	0.16	0.12	0.12	0.11	0.12	0.13	0.10	0.11	0.11
4B 4	Goats	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02
4B 6	Horses	1.07	1.05	1.04	1.02	1.01	0.99	1.00	1.00	1.01	1.04	1.03	1.03	1.02	1.00	1.01
4B 8	Pig	47.40	47.05	48.11	48.48	44.69	40.98	40.19	41.27	43.14	42.02	40.59	40.76	41.07	39.53	39.37
4B 9	Poultry	4.31	4.32	4.56	4.90	5.41	5.05	4.93	4.89	4.81	4.95	5.01	5.03	4.97	4.64	4.87
4B 13	Other															
	a. Fur farming	5.32	4.86	5.21	3.46	4.05	4.03	4.17	4.78	5.05	4.47	4.60	4.72	4.85	4.62	5.24
	b. Sewage sludge	0.07	0.07	0.09	0.11	0.10	0.11	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.07
Total emission		93.54	91.18	90.87	88.84	84.09	78.93	77.45	77.87	79.76	77.19	76.54	76.82	75.42	71.77	71.91

Figure 6.6 shows the percentage distribution of the NH_3 emission in stables, storage, spreading of manure in fields and in deposits to grass. The main part of the reduction in ammonia emission has taken place in connection with the spreading of manure in fields, due to changes in manure application practice. There has been a reduction in emissions in relation to storage as a result of improved covering of slurry tanks. From 1990 to 2004, the emission relating to manure management in stables increased from 37% to 49%. In future, the possibilities for ammonia reduction will be likely to be focused on measurements in stables.

It should be mentioned here that the emission from manure deposited by grazing animals is included in the emission from agricultural soils (NRF – 4.D).

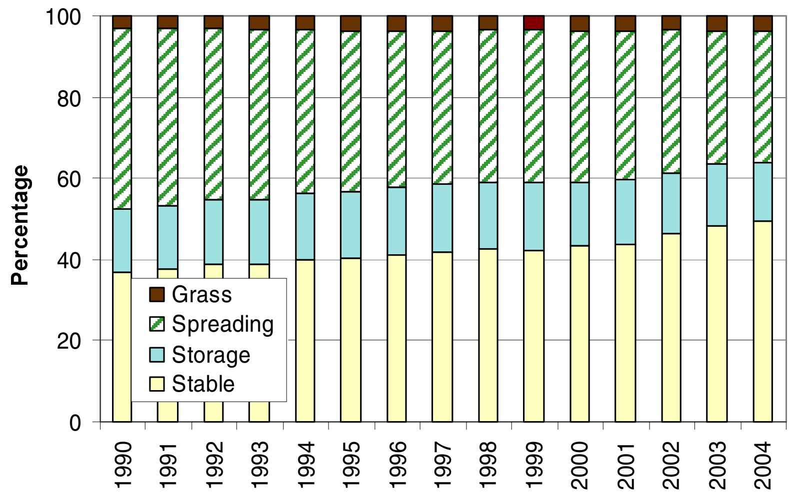

Figure 6.6 The percentage distribution of the NH_3 emission in the agricultural production 1990 - 2004

6.3 NH_3 emission from Agricultural Soils – NRF 4.D

6.3.1 Description

Figure 6.7 shows the different emission sources from agricultural soils (NFR Table 4.D). The majority of the ammonia emission from agricultural soils originates from crops, which in 2004 corresponds to 61%. Another 25% is related to use of synthetic fertiliser and the remaining part comes from nitrogen deposited by grazing animals and from ammonia-treated straw used as feed.

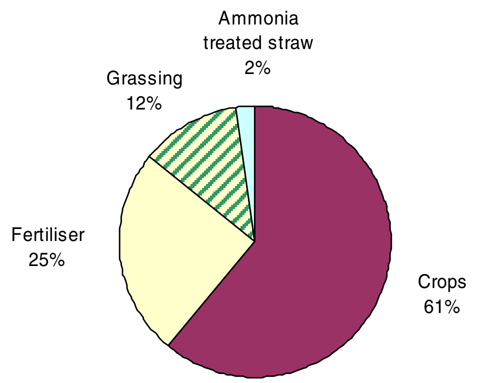

Figure 6.7 Ammonia emissions from agricultural soils 2004

6.3.2 Methodological issues

More detailed description covering the calculation of the different emission sources and information about activity data and emission factors used is given in Annex 2C2.

Activity data

At present, farmed area covers about 60% of the total land area in Denmark. In recent decades, farmed area has decreased, being replaced by forest, semi-natural, road and built-up areas, and this development is expected to continue. Table 6.6 shows the activity data used in calculation of the ammonia emission from agricultural soils. Information on farmed area and cultivation of different crop types is collected by Statistics Denmark. The amount of nitrogen used in synthetic fertiliser is based on information from the Danish Plant Directorate. The use of fertiliser has decreased considerably – consumption in 2004 is nearly half that in 1990.

Table 6.6 Activity data used to estimate the NH_3 emission from agricultural soils 1990 - 2004

NFR 4.D Activity data	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Cultivated area	1000 ha	2 788	2 770	2 756	2 739	2 691	2 726	2 716	2 688	2 672	2 644	2 647	2 676	2 666	2 658	2 645
N in fertiliser	M kg N	400	395	370	333	326	316	291	288	283	263	251	234	211	201	207
N deposit on grass	M kg N	34	35	35	36	35	36	36	35	35	34	34	34	33	32	32
NH_3, straw	M kg N	13	11	10	10	10	8	6	6	5	3	3	2	1	1	0

Implied emission factor

The implied emission factors, 1990-2004, in relation to agricultural soils are given in Table 6.7.

The implied emission factors relating to crops are expressed as total emission divided by total area under cultivation, and are decreasing due to the growth in set-a-side area. The implied emission factors relating to use of synthetic fertiliser depend on consumption and type of fertiliser and remain almost the same for all years. The implied emission factors for grazing animals and ammonia used for straw treatment remain unaltered.

Table 6.7 Implied emission factors used to estimate the NH_3 emission from agricultural soils

NFR 4.D Source	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Crops	Kg NH_3 per hectare	5.7	5.7	5.7	5.7	55	5.2	5.3	5.4	5.4	5.3	5.3	5.2	5.3	5.3	5.3
Fertiliser	% of total N	2.2	2.1	2.1	2.3	2.4	2.4	2.3	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2
N grass	% of total N	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
NH_3, straw	% of total NH_3-N	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65

6.3.3 Time-series

From 1990 to 2004, the ammonia emission from agricultural soils decreased from 39.51 Gg NH_3 to 22.85 Gg NH_3, which corresponds to a 42% reduction (Table 6.8). A considerable increase in the use of fertiliser and ammonia used for straw treatment has, in particular, been important for this development.

As mentioned, there has been an active effort in recent decades to reduce nitrogen leaching by means of action plans. This focus on environmental impact in agricultural production has led to an improvement in the utilisation of nitrogen in manure. A consequence of this development is that the use of fertiliser and, in turn, the NH_3 emission has been reduced.

Table 6.8 Emission of NH_3 from Agricultural Soils from 1990 - 2004

NFR 4.D	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Agricultural Soils						Gg NH_3									
Crops	15.83	15.72	15.64	15.48	14.80	14.18	14.27	14.47	14.41	14.00	13.93	14.04	14.01	13.96	13.99
Use of fertiliser	10.54	10.25	9.57	9.21	9.56	9.25	8.08	7.51	7.58	7.04	6.79	6.26	5.64	5.40	5.62
N deposit on grass	2.94	3.00	3.01	3.06	2.99	3.04	3.06	2.97	2.96	2.88	2.88	2.94	2.82	2.74	2.71
NH_3 treated straw	10.21	8.66	7.69	7.59	8.12	6.65	5.07	4.49	3.71	2.08	2.47	1.62	0.94	0.80	0.53
Emission, total	39.51	37.64	35.90	35.34	35.47	33.12	30.48	29.44	28.65	26.00	26.08	24.85	23.40	22.90	22.85

6.4 PM emission from stables – NRF 4.B

6.4.1 Description

Recently, there has been an increasing interest in the evaluation of the particulate emission from the agricultural sector. Investigations have shown that farmers, as well as livestock, are subject to an increased risk of developing lung and respiratory related diseases due to the particulate emissions (Hartung og Seedorf. 1999). This is since the particles are able to carry bacteria, viruses and other organic compounds.

In 2004, the PM emission from stables, given in TSP, is estimated to 16 406 Mg. Of this, 78% relates to pig production. The emission from poultry and cattle contributes with 12% and 10%, respectively.

Presently, only the emission from 2000 to 2004 is given in NRF. The emissions for the previous year are estimated and will be implemented in the next EMEP report preparation.

6.4.2 Methodological issues

The calculation of this emission inventory is based on the CEPMEIP database established by TNO (http://www.air.sk/tno/cepmeip/) and an investigation of PM emission in North European stables (Takai et al. 1998). Due to considerable uncertainties and lack of data, this inventory only includes emission from stables. The PM emission from the handling of fertiliser and crops in the field are not taken into account.

The particle emission includes primary particles in the form of dust from stables. Three main types of stables, cattle, pig and poultry stables, are included in this inventory. Furthermore, poultry is divided into two categories – "poultry, chickens" and "poultry, other".

Activity data

Livestock production data is based on Statistics Denmark, Agricultural Statistics (www.dst.dk) – Table 6.9.

Table 6.9 Livestock production 1990 – 2004 (NRF)

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NRF	Animal category							1000 head								
4B 1a	Dairy Cattle	753	742	712	714	700	702	701	670	669	640	636	623	610	596	563
4B 1b	Non-dairy cattle[1]	1486	1480	1478	1481	1405	1388	1393	1334	1308	1247	1232	1284	1187	1128	1082
4B 8	Pigs[2]	9497	9783	10455	11568	10923	11084	10842	11383	12095	11626	11922	12608	12732	12949	9497
4B9	Poultry															
	Hens + Broilers[3]	15498	15086	18259	18916	18954	18673	19224	18156	18023	19968	20982	20347	19734	17152	16136
	Other poultry[4]	750	846	782	982	897	946	663	838	651	1042	849	889	846	644	462

[1] Non-dairy includes heifers, bulls, calves and suckling cattle.

[2] Includes sows and fattening pigs (piglets and slaughter pigs)

[3] Includes laying hens, chickens for breeding and cocks.

[4] Includes turkeys, ducks and geese.

Implied emission factor

In Takai et al. (1998), dust emission from stables is estimated as ”inhalable dust”. This is defined as particles that can be transported into the body via the respiratory system. Approximately, “inhalable dust” equates to TSP (Hinz, T. 2002 and ISO/CEN. 1993).

The emission factor for cattle, pigs and “poultry, chickens” is based on Takai, et al. (1998) and for “poultry, other” the value from the CEPMEIP database has been used (Table 6.10). The Danish Institute of Agricultural Science has confirmed that the emission factors used in the inventory are the most reliable estimates. The same emissions factors are used for all years. This means that changes in the emission reflect simply changes in animal numbers.

The emission of $PM_{2.5}$ and PM_{10} – i.e. particles with a diameter smaller than 2.5 µm and 10 µm. is estimated. The distribution of particle size is based on the CEPMEIP database. Here, $PM_{2.5}$ contributes with 10% of TSP and PM_{10} constitutes 45% of TSP. This distribution is in accordance with measurements from an investigation made in Finland in 15 pig stables (Louhekainen et al. 1987).

Table 6.10 Emission factor – PM emission (NRF)

PM Emission from stables	Emission factor		
	TSP	PM_{10}	$PM_{2.5}$
Animal category		g/head/ year	
Cattle	963.6	433.6	96.4
Pigs	972.4	437.6	97.2
Poultry, chickens	105.1	47.3	10.5
Poultry, other poultry	553.1	249.2	55.3

6.4.3 Time-series

Table 6.11 shows the emission of particulate matter (PM) for each animal category in the period 1990 to 2004. It is seen that the main part of the emission originates from pig stables. In the period 1990 to 2004, the emission increased and it is expected to increase further in coming years, due to growth in pig production.

Table 6.11 PM emission 1990 – 2004 (NRF)

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NRF	Animal category							Mg TSP								
4B 1a	Dairy	726	715	686	688	674	677	675	646	645	617	612	601	587	574	543
4B 1b	Non-dairy	1432	1426	1424	1427	1354	1337	1342	1285	1261	1202	1188	1237	1143	1087	1043
4B 8	Pigs	9235	9513	10167	11249	10621	10778	10542	11069	11761	11305	11593	12260	12381	12592	12868
4B9	Poultry	2044	2054	2352	2531	2488	2486	2387	2372	2254	2675	2675	2630	2542	2159	1952
	PM total - TSP	13437	13707	14629	15895	15138	15278	14947	15372	15921	15799	16067	16727	16653	16412	16406

The emission from different types of stable systems can vary considerably (Takai et al. 1998, Klimont et al. 2002). For example, high humidity in pig and cattle stables with deep litter reduces the dust emission, and the emission from theses stable types is smaller than stables with tether systems. To date, the method to estimate the particle emission has been solely dependent on the number of animals. However, it is necessary to take into account the variable emission from different stable systems, when data becomes available.

6.5 Uncertainties

Table 6.12 shows the estimated uncertainties for ammonia sources. The figures are primarily based on the expert judgement of the Danish Institute of Agricultural Sciences. The uncertainties for the number of animals and hectares under cultivation with different crops are very small. The Danish Normative System for animal excretions is based on data from the Danish Agricultural Advisory Centre (DAAC), which is the central office for all Danish agricultural advisory services.

DAAC engages in a great deal of research as well as the collection of efficacy reports from Danish farmers for dairy production, meat production, pig production, etc to optimise productivity in Danish agriculture. In total, feeding plans from 15-18% of Danish dairy production, 25-30% of pig production, 80-90% of poultry production and approximately 100% of fur production are collected annually. These basic feeding plans are used to develop the standard values of the "Danish Normative System".

The system of standard values has been updated annually from 2000. For dairy cows, approximately 800 feeding plans are used to develop the normative figures. The normative figures (Poulsen et al. 2001) are comprised of arithmetic means. Based on feeding plans, the standard deviation in N-excretion rates between farms can be estimated to ±20% for all animal types (Hanne D. Poulsen, DIAS, pers. comm). However, due to the large number of farms included in the norm figures the arithmetic mean, it can be assumed as a very good estimate with a low uncertainty. All cattle, sheep and goats have their own ID-number (ear tags) and, hence, uncertainty with regard to their numbers is almost absent. Statistics Denmark has estimated the uncertainty in the number of pigs to be less than 1%.

The combined effect of low uncertainty in actual animal numbers, feed consumption and excretion rates gives a very low uncertainty in the activity data as a whole. The major uncertainty, therefore, relates to the emission factors.

Table 6.12 Estimated uncertainty associated with activities and emission factors for NH_3 and PM

Source	Emission Gg NH3	Activity data %	Emission factor %	Combined uncertainty %	Total uncertainty %	Uncertainty 95% Gg NH3
4 Agriculture – NH_3 total	94.76				10.6	10.1
4B NH_3 Manure Management	71.91	3.1	12.5	13.0	13.0	9.3
Stable	36.71	5	20	20.6		
Storage	11.00	5	20	20.6		
Spreading	24.12	5	20	20.6		
Sewage sludge	0.07	2	20	20.1		
4.D Agricultural Soils	22.85	1.0	16.5	16.7	16.7	3.8
Grazing animal	2.71	5	20	20.6		
Synthetic fertiliser	5.62	1	25	25.0		
Crops	13.99	1	25	25.0		
Ammonia treated straw	0.53	10	25	26.9		
Source	Emission Mg TSP	Activity data %	Emission factor %	Combined uncertainty %	Total uncertainty %	Uncertainty 95% Mg TSP
4 Agriculture – PM total	16406	2	500	500	500	82028

6.6 Quality assurance and quality control (QA/QC)

A general QA/QC and verification plan for the agricultural sector is still under development, but some measures have been formulated as general lines for the further work. The objectives for the quality planning, as given in the CLRTAP Emission Inventory Guidebook, which is closely related to the IPCC Good Practice Guidance, are to improve the transparency, consistency, comparability, completeness and confidence.

To ensure consistency in the inventory, certain time-series have been prepared for both the activity data and the emission factors, 1985 - 2004. Considerable variation between years can reveal miscalculations or changes in methods. These variations are checked and errors have been rectified.

Activity data and emission factors are collected and discussed in cooporation with specialists and researchers at different institutes and research sections. As a consequence, both data and methods are evaluated continuously according to latest knowledge and information. A more detailed description of quality assurance and quality control is given in the Denmark´s National Inventory Report 2006 - submitted under the United Nations Framework Convention on Climate Change (http://www2.dmu.dk/1_Viden/2_miljoetilstand/3_luft/4_adaei/default_en.asp).

6.7 Recalculations

Compared with the previous emissions inventory (submission 2003), some updates have been made to the weight for slaughter pigs from 2000-2003 and norm data for N-excretion 2003. These changes only reflect small changes for the total NH_3 emission, 2002-2003 (Table 6.13). There have been no corrections of the PM emission in relation to the previous emission inventory.

Table 6.13 Changes in NH_3 emission in the agricultural sector compared to NRF reported last year

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
							Gg NH_3							
NH_3 emission														
Previous	133.06	128.82	126.77	124.18	119.56	112.05	107.93	107.31	108.41	103.19	102.62	101.68	98.83	94.69
Updated	133.06	128.82	126.77	124.18	119.56	112.05	107.93	107.31	108.41	103.19	102.62	101.68	98.82	94.67
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2

6.8 Planned improvements

At present, the NH_3 emission from sewage sludge used as fertiliser is registered under NFR category 4.B 13 Manure Management "Other". It is planned to replace this emission source into NFR category 4.D Agricultural Soils. The sewage sludge is applied to fields and, therefore, relates more to the latter category.

In recent years, there has been focus on reduction of the ammonia emission and especially the possibilities for emission reduction in stables. A number of investigations to estimate the effects from technical measures on the emission have been initiated. However, very few stables have implemented ammonia reduction technologies, although these probably will be an important issue in future. When data is available, it is planned to implement the reduction effect in the emission inventory.

The PM emission from stables in 1985 to 1999 will be implemented in NRF for the next reporting period.

In relation to estimation of the PM emission, it is planned to investigate the possibility of including the dust emission from arable farming – i.e. harvesting and field preparation by machines. The inventory from Finland shows that dust emission from arable farming contributes with approximately 25% of the total emission from the agricultural sector (Karvosenoja et al., 2001 and Louhekainen et al., 1987b). The inventory shows that the particulate emission from this source can be considerable and, therefore, can be important to apply in the emission inventory.

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7 Recalculations and Improvements

In general, considerable work is being carried out to improve the inventories. Investigations and research carried out in Denmark and abroad produce new results and findings which are given consideraton and, to the extent which is possible, are included as the basis for emission estimates and as data in the inventory databases. Furthermore, the updates of the EMEP/CORINAIR guidebook, and the work of the Task Force on Emission Inventories and its expert groups are followed closely in order to be able to incorporate the best scientific information as the basis for the inventories. The further important references in this regard are the IPCC guidelines and IPCC good practice guidance.

The implementation of new results in inventories is made in a way so that improvements, as far as possible, better reflect Danish conditions and circumstances. This is in accordance with good practice. Furthermore, efforts are made to involve as many experts as possible in the reasoning, justification and feasibility of implementation of improvements.

In improving the inventories, care is taken to consider implementation of improvements for the whole time-series of inventories to make it consistent. Such efforts lead to recalculation of previously submitted inventories. This submission includes recalculated inventories for the whole time-series. The reasoning for the recalculations performed is to be found in the sectoral chapters of this report. The text below focuses on improvements and recalculations, in general, and further serves as an overview and summary of the relevant text in the sectoral chapters.

7.1 Energy

Improvements and updates of the Danish energy statistics are made regularly by the producer of the statistics, the Danish Energy Agency. In close cooperation with the DEA, these improvements and updates are reflected in the emission inventory for the energy sector. The Danish energy statistics have, for the mostpart, been aggregated to the SNAP categorisation. This, however, does not include energy statistics for fuel consumption data for specific industries. In the current year, a methodology for disaggregation of fuel consumption and emissions has been implemented for the Climate Convention inventory and the same methodology will be applied for the LRTAP Convention inventory in 2007.

The inventories are still being improved through work to increase the number of large point sources, e.g. power plants, included in the databases as individual point sources. Such an inclusion makes it possible to use plant-specific data for emissions, etc, available e.g. in annual environmental reports from the plants in question.

Of several QC procedures in the energy sector to be mentioned here is the comparison made in the reference approach in the reporting of greenhouse gases to UNFCCC. Fuel consumption rates are validated in a comparison between the sectoral approach and the reference approach.

For the Danish inventories for the years 1990-2004, fuel consumption rates from the two approaches are within 1.5% of each other (refer to Section 3.2.4). A further QC procedure to be mentioned is the procedure used for road transport and air traffic, where the detailed methodology approach and fuel balance approach are used independently to provide a quality control of the emission estimations. The usage of the fuel balance approach ensures that all fuel for road transport and civil aviation is accounted for in the estimations (refer to Section 3.1.4).

7.1.1 Stationary combustion

Recalculation is mainly a result of an update of fuel rates according to the latest energy statistics. The update included the years 1980-2003. The criteria for including a plant as a point source has been defined and included in the current report/2004 inventory. Some emission factors for SO_2 and NO_x have been corrected, see Annex 2, Appendix 4. The emission factor for N_2O for coal-powered plants has been updated based on new research.

Some additional improvements, causing only very limited changes of the estimated total emission from stationary combustion, are discussed in Section 3.2.5.

7.1.2 Transport

The following most important recalculations and improvements of the emission inventories have been made since the emission reporting in 2005.

For road transport, a revision of the 1985-2003 time-series of emissions has been made based on revised fleet and mileage data from the Danish Road Directorate, and corrections of road transport gasoline fuel use according to a new gasoline fuel use estimate for non-road machinery. Additionally, a new model has been developed at NERI, based on the COPERT methodology and emission factors. This decision was made in order to gain flexibility in output formats and to save working time during inventory update and debugging procedures.

For inland waterways/agriculture/forestry/household-gardening, a complete revision of the 1985-2003 time-series of fuel use and emissions has been made using results from a specific Danish non-road research project (Winther et al., 2006). This change also affects the 1985-2003 time-series of diesel fuel use and emissions for fisheries.

For military and domestic aviation, smaller inventory changes have been made, and in these cases further details are presented in Section 3.3.

7.1.3 Industry

Emissions of NMVOC from roofing and road paving with asphalt is now included in the inventory.

7.1.4 Solvents

A new approach for calculating the emissions of Non-Methane Volatile Organic Carbon (NMVOC) from industrial and household use in Denmark has been introduced. It focuses on single chemicals rather than activities. The procedure is to quantify the use of the chemicals and estimate the fraction of the chemicals that is emitted as a consequence of use. Improvements and additions are continuously being implemented in the new approach, due to the comprehensive and complex nature of the use and application of solvents in industries and households. The improvements in the 2004 reporting exercise include revision of the following: 1) Propane and butane use. 2) Refinement of distribution of use categories in industrial branches, and 3) Emission factors for use and for production and processing.

7.1.5 Agriculture

Few changes have been made to the ammonia emission 1985-2003 and they influence the total emission in 2003 and 2004 by less than 1% (refer to Section 6.7). There are no changes in the particulate matter emission calculations.

References

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Annex 1

Complete set of Nomenclature for Reporting Format (NRF) files

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1980 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		NR	NR	NR	274,39	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		NR	NR	NR	3,90	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	**A**	NR	NR	NR	78,24	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		NR	NR	NR	1,17	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		NR	NR	NR	1,64	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		NR	NR	NR	4,17	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		NR	NR	NR	1,06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		NR	NR	NR	4,44	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NR	NR	NR	1,76	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		NR	NR	NR	20,39	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		NR	NR	NR	34,37	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		NR	NR	NR	12,40	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		NR	NR	NR	2,56	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		NR	NR	NR	3,43	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		NR	NR	NR	0,07	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NR	NR	NR	4,74	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		NR	NR	NR	0,88	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NR	NR	NR	0,41	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NR	NR	NR	0,34	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		NR	NR	NR	450,36	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		NR	NR	NR	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		NR	NR	NR	0,09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		NR	NR	NR	21,54	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1981 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		NR	NR	NR	208,86	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		NR	NR	NR	9,40	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	NR	NR	NR	63,58	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		NR	NR	NR	1,10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		NR	NR	NR	1,54	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		NR	NR	NR	3,91	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		NR	NR	NR	1,28	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		NR	NR	NR	3,86	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NR	NR	NR	1,96	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		NR	NR	NR	17,36	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		NR	NR	NR	30,40	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		NR	NR	NR	13,12	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		NR	NR	NR	2,56	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		NR	NR	NR	3,12	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		NR	NR	NR	0,16	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NR	NR	NR	4,69	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		NR	NR	NR	1,16	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NR	NR	NR	0,41	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NR	NR	NR	0,68	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		NR	NR	NR	369,14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		NR	NR	NR	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		NR	NR	NR	0,09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		NR	NR	NR	25,43	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1982 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		NR	NR	NR	229,80	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		NR	NR	NR	9,09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	NR	NR	NR	57,09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		NR	NR	NR	1,19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		NR	NR	NR	1,72	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		NR	NR	NR	4,36	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		NR	NR	NR	1,40	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		NR	NR	NR	5,59	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NR	NR	NR	2,05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		NR	NR	NR	16,48	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		NR	NR	NR	29,33	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		NR	NR	NR	7,38	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		NR	NR	NR	2,56	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		NR	NR	NR	3,18	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		NR	NR	NR	0,40	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NR	NR	NR	3,81	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		NR	NR	NR	1,17	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NR	NR	NR	0,41	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NR	NR	NR	0,85	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		NR	NR	NR	377,86	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		NR	NR	NR	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		NR	NR	NR	0,09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		NR	NR	NR	24,26	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1983 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		NR	NR	NR	182,48	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		NR	NR	NR	10,93	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	NR	NR	NR	54,58	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.
HM should cover the timespan from 1990 to latest year.
PM should cover the timespan from 2000 to latest year.
Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		NR	NR	NR	1,30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		NR	NR	NR	1,90	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		NR	NR	NR	4,84	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		NR	NR	NR	1,25	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		NR	NR	NR	4,51	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NR	NR	NR	2,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		NR	NR	NR	13,99	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		NR	NR	NR	25,52	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		NR	NR	NR	7,96	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		NR	NR	NR	2,55	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		NR	NR	NR	3,27	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		NR	NR	NR	0,22	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NR	NR	NR	2,66	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		NR	NR	NR	1,30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NR	NR	NR	0,41	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NR	NR	NR	0,55	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		NR	NR	NR	322,25	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		NR	NR	NR	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		NR	NR	NR	0,09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		NR	NR	NR	21,11	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1984 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		NR	NR	NR	161,64	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		NR	NR	NR	10,37	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	NR	NR	NR	57,68	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		NR	NR	NR	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		NR	NR	NR	1,55	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		NR	NR	NR	2,35	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		NR	NR	NR	5,99	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		NR	NR	NR	1,21	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		NR	NR	NR	3,51	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NR	NR	NR	1,63	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		NR	NR	NR	15,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		NR	NR	NR	23,95	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		NR	NR	NR	7,89	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		NR	NR	NR	2,55	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		NR	NR	NR	3,90	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		NR	NR	NR	0,42	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NR	NR	NR	3,02	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		NR	NR	NR	1,20	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NR	NR	NR	0,41	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		NR	NR	NR	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**	NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NR	NR	NR	0,84	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NR	NR	NR	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NR	NR	NR	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NR	NR	NR	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		NR	NR	NR	305,13	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		NR	NR	NR	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		NR	NR	NR	0,09	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		NR	NR	NR	21,94	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)		NR	NR	NR		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1985 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		119,03	6,20	0,91	206,19	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,54	0,26	0,05	5,82	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		1,04	0,03	0,01	0,00	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	19,08	13,37	2,96	47,33	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		6,92	1,56	0,05	1,56		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,40	1,04	0,19	0,02	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,80	0,22	0,03	0,06		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		54,22	516,78	45,33	1,39	0,05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		7,29	16,71	1,74	3,29	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		28,06	7,46	3,08	6,94	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,05	9,76	3,22	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	24,57	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		6,02	1,10	0,39	1,15	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		8,15	7,32	1,76	4,18	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		2,53	1,20	0,10	13,62	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		7,55	138,73	9,14	26,33	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,11	64,16	4,67	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		1,78	29,18	2,16	7,31	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		11,31	60,05	6,02	3,77	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		11,76	1,53	0,48	1,27		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		2,22	4,15	0,61	0,41	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA	42,50	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	1,36	IE	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,31	2,16	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	4,20	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,03	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		1,70	0,14	0,05	1,01	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		0,63	NE	NE	NE	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NE	NE	0,39	0,41	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	8,41	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	16,87	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,92	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	21,11	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	27,25	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	13,30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,08	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,17	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	52,85	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	3,18	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,94	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,97	NA	35,30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		0,99	198,36	13,41	0,50	0,31	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		293,18	1121,80	179,51	334,72	138,48	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,57	0,43	0,09	0,04	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		5,10	0,68	0,18	0,41		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		36,14	3,07	0,97	20,68		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1986 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		130,42	6,94	0,98	189,01	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,70	0,28	0,06	6,41	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		1,30	0,03	0,01	0,00	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	19,30	13,50	2,93	31,21	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		7,96	1,79	0,07	1,79		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,38	1,04	0,18	0,02	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,75	0,20	0,03	0,05		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		54,95	494,18	44,60	0,92	0,05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		8,45	18,55	1,94	2,34	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		30,97	8,20	3,41	4,60	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,05	9,25	2,95	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	25,00	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		6,06	1,10	0,40	0,70	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		9,37	7,48	1,81	5,50	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		2,20	1,04	0,19	6,72	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		7,30	140,18	9,32	15,56	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,12	63,23	4,64	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		1,80	29,65	2,17	6,14	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		11,91	58,42	6,03	2,34	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		13,19	1,71	0,54	1,39	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,88	3,09	0,48	0,26	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA	40,78	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	1,67	IE	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,38	2,13	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	4,21	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,05	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		1,99	0,17	0,05	1,03	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		0,57	NE	NE	NE	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NE	NE	0,39	0,21	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	8,28	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	16,46	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,91	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,99	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	26,55	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	12,43	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,15	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	53,51	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	3,30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	5,58	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,93	NA	36,02	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		0,98	195,61	13,22	0,49	0,27	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		313,60	1096,42	179,30	278,84	139,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,61	0,48	0,10	0,04	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		5,52	0,73	0,19	0,44		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		42,06	3,58	1,13	24,63	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1987 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		125,99	7,26	0,97	166,79	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,63	0,26	0,06	5,87	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		1,85	0,05	0,01	0,00	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	18,83	13,23	2,91	24,96	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		7,57	1,70	0,08	1,70		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,38	0,89	0,16	0,02	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,86	0,23	0,03	0,06		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.
HM should cover the timespan from 1990 to latest year.
PM should cover the timespan from 2000 to latest year.
Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		55,40	474,55	44,23	0,93	0,05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		8,89	19,80	2,07	2,45	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		30,08	7,98	3,31	4,47	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,05	9,06	2,83	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	24,97	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		5,39	0,98	0,35	0,62	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		9,97	7,58	1,85	6,12	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		2,02	1,28	0,19	5,95	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		7,16	145,23	9,72	14,45	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,12	62,27	4,61	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		1,66	29,87	2,16	5,54	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		11,87	56,25	5,90	2,30	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		10,86	1,42	0,46	1,25	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,56	1,33	0,19	0,19	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA	40,38	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	2,02	IE	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,45	3,21	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	4,21	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,07	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		1,46	0,12	0,05	1,04	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		0,64	NE	NE	NE	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NE	NE	0,39	0,28	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	8,15	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	16,04	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,91	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,87	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	25,17	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	11,64	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,11	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	51,06	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	3,39	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	5,98	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,89	NA	36,72	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		1,14	227,07	15,35	0,57	0,25	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		305,39	1108,78	180,43	248,79	135,56	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,62	0,51	0,11	0,04	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		5,95	0,78	0,21	0,47		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		61,84	5,26	1,65	39,74		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1988	(as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		116,80	7,29	0,96	168,81	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,59	0,25	0,06	9,00	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		2,20	0,05	0,01	0,00	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	**A**	18,48	13,08	2,87	22,31	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		6,73	1,51	0,08	1,51		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,38	0,93	0,17	0,02	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,87	0,24	0,03	0,06		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		56,46	428,73	42,36	0,91	0,05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		9,23	20,07	2,09	2,54	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		29,68	7,88	3,27	4,40	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,05	9,07	2,78	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	26,61	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		5,59	1,02	0,36	0,64	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		8,71	7,43	1,80	4,35	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,60	1,09	0,17	4,25	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		6,21	137,21	9,23	11,84	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,12	61,28	4,57	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		1,46	30,04	2,17	4,73	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,47	54,55	5,91	2,37	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		12,31	1,61	0,51	0,95	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,98	3,09	0,48	0,07	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA	30,99	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	2,14	IE	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,52	3,49	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	4,28	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,07	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		1,52	0,13	0,05	0,99	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		0,69	NE	NE	NE	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NE	NE	0,39	0,40	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	8,02	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	15,62	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,90	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,75	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	24,29	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	11,11	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,12	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	49,93	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	3,81	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	7,03	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,91	NA	34,67	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		1,01	201,12	13,60	0,50	0,20	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		295,15	1018,65	177,73	244,17	132,39	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,65	0,58	0,12	0,04	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		6,38	0,83	0,22	0,51		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		78,42	6,67	2,10	51,68		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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PM should cover the timespan from 2000 to latest year.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1989 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		95,34	7,27	0,91	135,63	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,70	0,27	0,06	7,07	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		2,28	0,06	0,01	0,00	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	18,42	13,07	2,83	15,72	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		7,95	1,79	0,10	1,79		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,38	0,92	0,16	0,02	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,82	0,22	0,03	0,06		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.
HM should cover the timespan from 1990 to latest year.
PM should cover the timespan from 2000 to latest year.
Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		56,05	401,08	40,76	0,66	0,05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		9,58	20,07	2,09	1,79	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		30,71	8,13	3,38	3,04	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,05	8,87	2,67	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	26,70	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	(a)	1 A 3 c Railways		5,14	0,94	0,34	0,39	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d ii		1 A 3 d ii National Navigation		9,73	7,59	1,86	6,13	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,32	0,78	0,16	2,09	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i		1 A 4 b i Residential plants		5,44	128,15	8,64	7,13	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,12	60,94	4,57	0,00	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i		1 A 4 c i Stationary		1,24	29,18	2,15	3,10	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,57	52,49	5,82	1,57	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii		1A 4 c iii National Fishing		13,32	1,74	0,56	1,27	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,85	1,93	0,31	0,07	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA	35,58	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	(a)	**1 B 2 Oil and natural gas**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a	(a)	**1 B 2 a Oil**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	2,44	IE	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,60	2,79	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	4,21	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,08	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	(a)	1 B 2 c Venting and flaring		1,35	0,11	0,05	0,96	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	(a)	2 B 2 Nitric Acid Production		0,72	NE	NE	NE	0,01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		NE	NE	0,39	0,47	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

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PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	7,88	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	15,21	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,89	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,63	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	24,07	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	10,85	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,15	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	48,19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,28	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	7,30	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,90	NA	36,71	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		1,45	289,57	19,57	0,72	0,29	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		National Total		276,54	1070,77	180,95	192,50	133,03	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,72	0,67	0,14	0,05	0,00	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		6,59	0,89	0,23	0,53		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 d i	(a)	International Navigation		80,27	6,83	2,15	52,28		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	(a)	5 E Other							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
X		X (11 08 Volcanoes)							NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1990 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		90,75	7,95	1,00	126,19	NA	NR	NR	NR	11,96	0,57	2,50	0,95	4,63	2,90	7,54	2,94	14,80
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,62	0,25	0,06	3,41	NA	NR	NR	NR	0,03	0,02	0,01	0,02	0,04	0,02	0,84	0,02	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		2,38	0,06	0,01	0,00	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,30	13,00	2,79	15,33	0,00	NR	NR	NR	0,75	0,27	0,13	0,27	0,59	0,70	10,68	0,21	1,21
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	0,74	0,01	NE	0,03	0,11	NE	0,13	0,52	0,52
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	0,01	0,00	NE	NE	NE	0,00	NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		6,74	12,26	0,10	2,13	0,49	NR	NR	NR	1,18	0,04	0,11	0,05	0,41	0,11	0,34	0,34	0,24
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,37	0,90	0,16	0,02	0,00	NR	NR	NR	1,53	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,75	0,20	0,03	0,05		NR	NR	NR		0,00			0,00	0,09	0,00	0,00	0,05
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		59,65	409,52	42,53	0,67	0,05	NR	NR	NR	91,72	0,02	NE	NE	0,08	2,61	0,11	0,02	1,54
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,23	21,36	2,22	1,91	0,01	NR	NR	NR	4,13	0,01	NE	NE	0,03	0,95	0,04	0,01	0,56
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		32,15	8,59	3,56	3,18	0,01	NR	NR	NR	0,07	0,01	NE	NE	0,04	1,35	0,06	0,01	0,80
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,06	9,36	2,77	0,00	0,00	NR	NR	NR	0,91	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	28,44	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		4,91	0,90	0,32	0,38	0,00	NR	NR	NR	0,00	0,00			0,00	0,16	0,01	0,00	0,09
1 A 3 d ii		1 A 3 d ii National Navigation		9,33	7,56	1,85	5,53	0,00	NR	NR	NR	0,66	0,00	0,00	0,05	0,02	0,09	2,62	0,05	0,13
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,40	0,89	0,19	1,88	NA	NR	NR	NR	0,71	0,05	0,14	0,04	0,22	0,14	0,87	0,07	0,91
1 A 4 b	(a)	**1 A 4 b Residential**	A						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		4,94	128,54	8,66	6,41	NA	NR	NR	NR	0,17	0,08	0,15	0,06	0,06	0,13	0,18	0,22	1,82
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,12	60,60	4,56	0,00	0,00	NR	NR	NR	2,77	0,00	NE	NE	0,00	0,07	0,00	0,00	0,04

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HM should cover the timespan from 1990 to latest year.

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,18	29,86	2,14	3,19	NO	NR	NR	NR	0,06	0,02	0,04	0,03	0,05	0,03	0,80	0,02	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,68	50,43	5,74	1,56	0,00	NR	NR	NR	1,55	0,00	NE		0,02	0,70	0,03	0,00	0,41
1A 4 c iii		1A 4 c iii National Fishing		13,87	1,81	0,58	1,36	0,00	NR	NR	NR	0,02	0,00	0,01	0,02	0,01	0,02	0,23	0,05	0,12
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,48	0,43	0,06	0,05	0,00	NR	NR	NR	0,06	0,00			0,00	0,06	0,00	0,00	0,04
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	2,65	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,67	3,34	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	4,43	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,08	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		1,31	0,11	0,05	0,94	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,24	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	0,02	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,81	NE	NE	NE	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,39	0,33	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	3,03	0,04	0,25	NE		0,04	0,76	NE	12,04
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,58	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	7,75	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	14,79	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,88	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,50	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	A						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	24,08	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	11,11	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,17	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,07	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	47,40	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,31	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	5,39	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,90	NA	39,51	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		273,04	764,80	166,01	177,88	133,67	NR	NR	NR	122,07	1,14	3,34	1,50	6,33	10,25	25,24	4,47	35,46

Memo Items				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,72	0,59	0,12	0,05	0,00	NR	NR	NR	0,49	0,00			0,00	0,08	0,00	0,00	0,05
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		6,29	0,85	0,22	0,50		NR	NR	NR		0,01			0,03	0,85	0,04	0,01	0,50
1 A 3 d i	(a)	International Navigation		84,42	7,18	2,26	54,30		NR	NR	NR	0,17	0,02	0,03	0,36	0,15	0,36	20,96	0,33	0,76
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1991 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		132,06	8,91	1,23	184,11	NA	NR	NR	NR	12,10	0,58	2,69	1,24	5,18	3,22	8,48	4,03	15,74
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,80	0,28	0,06	2,64	NA	NR	NR	NR	0,05	0,03	0,01	0,03	0,07	0,03	1,31	0,03	0,01
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		2,43	0,06	0,01	0,00	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,80	12,81	2,77	15,97	0,00	NR	NR	NR	0,71	0,28	0,14	0,28	0,63	0,72	11,48	0,23	1,21
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR			NE			NE			
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR			NE	NE	NE		NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		8,25	12,60	0,12	2,47	0,49	NR	NR	NR	1,10	0,06	0,14	0,08	0,78	0,21	0,64	0,32	0,24
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,31	0,83	0,15	0,02	0,00	NR	NR	NR	1,42	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,61	0,16	0,02	0,04		NR	NR	NR		0,00			0,00	0,07	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		60,01	426,13	43,76	0,69	0,22	NR	NR	NR	71,41	0,02	NE	NE	0,08	2,78	0,11	0,02	1,64
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,65	22,76	2,37	1,98	0,01	NR	NR	NR	3,17	0,01	NE	NE	0,03	0,98	0,04	0,01	0,58
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		32,57	8,70	3,61	3,23	0,01	NR	NR	NR	0,05	0,01	NE	NE	0,04	1,37	0,06	0,01	0,81
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,06	9,93	2,88	0,00	0,00	NR	NR	NR	0,70	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	27,81	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		4,99	0,91	0,33	0,38	0,00	NR	NR	NR	0,00	0,00			0,00	0,16	0,01	0,00	0,10
1 A 3 d ii		1 A 3 d ii National Navigation		11,12	7,82	1,93	6,70	0,00	NR	NR	NR	0,50	0,00	0,01	0,06	0,03	0,10	3,17	0,06	0,16
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,33	0,90	0,19	1,67	NA	NR	NR	NR	0,69	0,04	0,14	0,03	0,21	0,14	0,74	0,06	0,91
1 A 4 b	(a)	**1 A 4 b Residential**	A						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		5,34	142,85	9,56	7,09	NA	NR	NR	NR	0,19	0,09	0,17	0,07	0,06	0,14	0,18	0,24	2,07
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,13	60,68	4,60	0,00	0,00	NR	NR	NR	2,07	0,00	NE	NE	0,00	0,07	0,00	0,00	0,04

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,30	29,67	2,15	3,35	NO	NR	NR	NR	0,07	0,02	0,04	0,03	0,05	0,03	0,85	0,02	0,09
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,93	47,42	5,36	1,55	0,00	NR	NR	NR	1,05	0,00	NE		0,02	0,70	0,03	0,00	0,41
1A 4 c iii		1A 4 c iii National Fishing		14,05	1,83	0,59	1,14	0,00	NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,10	0,05	0,12
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,70	1,06	0,20	0,21	0,00	NR	NR	NR	0,08	0,00			0,00	0,15	0,01	0,00	0,09
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	3,27	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,94	2,71	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	3,63	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,10	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,65	0,22	0,06	0,93	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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HM should cover the timespan from 1990 to latest year.

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,24	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	0,03	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,74	NE	NE	NE	0,02	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,15	0,15	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,06	0,00		NE		0,04		NE	0,56
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,60	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	7,62	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	14,38	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,87	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,38	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	22,97	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	10,63	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,20	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,05	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	47,05	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,32	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,94	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,89	NA	37,64	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		322,88	796,77	167,12	237,03	129,62	NR	NR	NR	95,43	1,16	3,33	1,83	7,21	11,01	27,22	5,07	24,86

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,69	0,56	0,11	0,05	0,00	NR	NR	NR	0,47	0,00			0,00	0,08	0,00	0,00	0,05
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		5,90	0,80	0,20	0,47		NR	NR	NR		0,00			0,02	0,80	0,03	0,00	0,47
1 A 3 d i	(a)	International Navigation		75,58	6,43	2,02	46,07		NR	NR	NR	0,14	0,02	0,03	0,30	0,13	0,30	17,24	0,29	0,66
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1992 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		91,06	8,22	1,23	136,59	NA	NR	NR	NR	11,01	0,55	2,52	1,06	4,57	2,88	7,89	3,37	14,91
1 A 1 b	(a)	1 A 1 b Petroleum refining		2,09	0,33	0,07	3,31	NA	NR	NR	NR	0,08	0,05	0,02	0,05	0,12	0,05	2,29	0,04	0,01
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		2,79	0,07	0,02	0,00	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,43	12,54	2,69	14,39	0,00	NR	NR	NR	0,66	0,28	0,13	0,27	0,62	0,71	11,22	0,23	1,20
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR			NE			NE			
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR			NE	NE	NE		NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		9,12	12,79	0,12	2,65	0,49	NR	NR	NR	0,95	0,06	0,15	0,08	0,72	0,20	0,60	0,28	0,23
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,32	0,80	0,14	0,02	0,00	NR	NR	NR	1,38	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,58	0,15	0,02	0,04		NR	NR	NR		0,00			0,00	0,07	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		59,98	420,56	43,12	0,51	0,41	NR	NR	NR	64,77	0,02	NE	NE	0,09	2,93	0,12	0,02	1,72
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,55	22,97	2,38	1,25	0,01	NR	NR	NR	2,86	0,01	NE	NE	0,03	0,95	0,04	0,01	0,56
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		31,81	8,52	3,53	2,05	0,01	NR	NR	NR	0,05	0,01	NE	NE	0,04	1,34	0,06	0,01	0,79
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,06	10,32	2,92	0,00	0,00	NR	NR	NR	0,63	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	27,85	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		5,28	0,96	0,34	0,26	0,00	NR	NR	NR	0,00	0,00			0,01	0,17	0,01	0,00	0,10
1 A 3 d ii		1 A 3 d ii National Navigation		10,14	7,71	1,90	3,39	0,00	NR	NR	NR	0,43	0,00	0,01	0,05	0,02	0,09	2,51	0,05	0,14
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,35	0,89	0,21	1,43	NA	NR	NR	NR	0,63	0,04	0,13	0,03	0,18	0,12	0,56	0,05	0,86
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		5,06	145,10	9,76	6,39	NA	NR	NR	NR	0,17	0,09	0,16	0,06	0,05	0,14	0,15	0,20	2,02
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,14	60,46	4,61	0,00	0,00	NR	NR	NR	1,81	0,00	NE	NE	0,00	0,08	0,00	0,00	0,04

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	**A**						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,21	29,54	2,15	3,03	NO	NR	NR	NR	0,07	0,03	0,04	0,03	0,06	0,04	1,06	0,03	0,09
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,63	44,18	4,91	1,49	0,00	NR	NR	NR	0,84	0,00	NE		0,02	0,67	0,03	0,00	0,39
1A 4 c iii		1A 4 c iii National Fishing		14,20	1,85	0,59	1,17	0,00	NR	NR	NR	0,03	0,00	0,01	0,01	0,01	0,01	0,19	0,05	0,13
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,91	0,54	0,11	0,08	0,00	NR	NR	NR	0,06	0,00			0,00	0,08	0,00	0,00	0,04
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	**A**						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	**A**						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	**A**						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	3,51	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,20	3,15	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	2,82	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,04	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,73	0,23	0,06	0,94	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,25	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	0,03	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,66	NE	NE	NE	0,04	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,06	0,14	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,06	0,00		NE		0,04		NE	0,57
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,61	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	7,49	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	13,96	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,86	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,26	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	21,36	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	10,28	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,19	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,04	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	48,11	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,56	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	5,30	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,88	NA	35,90	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		280,15	789,01	164,99	182,31	127,77	NR	NR	NR	86,49	1,14	3,16	1,64	6,54	10,62	26,72	4,34	23,89

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,75	0,57	0,11	0,05	0,00	NR	NR	NR	0,45	0,00			0,00	0,09	0,00	0,00	0,05
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		6,09	0,83	0,21	0,49		NR	NR	NR		0,00			0,02	0,82	0,03	0,00	0,49
1 A 3 d i	(a)	International Navigation		79,06	6,73	2,12	37,48	0,00	NR	NR	NR	0,14	0,02	0,03	0,28	0,12	0,28	15,43	0,28	0,66
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1993 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		94,04	8,28	1,54	104,84	NA	NR	NR	NR	10,42	0,52	2,53	1,10	4,48	2,85	7,01	3,57	14,96
1 A 1 b	(a)	1 A 1 b Petroleum refining		2,17	0,32	0,07	3,87	NA	NR	NR	NR	0,08	0,05	0,02	0,05	0,12	0,05	2,24	0,04	0,01
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		2,81	0,07	0,02	0,00	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,36	12,24	2,66	13,38	0,00	NR	NR	NR	0,49	0,24	0,12	0,23	0,51	0,67	9,18	0,19	1,20
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR			NE			NE			
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR			NE	NE	NE		NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		9,24	12,82	0,12	2,68	0,49	NR	NR	NR	0,88	0,06	0,15	0,08	0,70	0,19	0,58	0,25	0,21
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,34	0,78	0,14	0,02	0,00	NR	NR	NR	1,33	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,56	0,15	0,02	0,04		NR	NR	NR		0,00			0,00	0,07	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		56,87	412,18	41,67	0,30	0,57	NR	NR	NR	27,25	0,02	NE	NE	0,09	2,94	0,12	0,02	1,73
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,52	23,45	2,43	0,48	0,01	NR	NR	NR	1,21	0,01	NE	NE	0,03	0,93	0,04	0,01	0,55
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		31,55	8,45	3,51	0,78	0,01	NR	NR	NR	0,02	0,01	NE	NE	0,04	1,33	0,05	0,01	0,78
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,07	10,39	2,86	0,00	0,00	NR	NR	NR	0,27	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	24,90	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		5,48	1,00	0,36	0,10	0,00	NR	NR	NR	0,00	0,00			0,01	0,18	0,01	0,00	0,10
1 A 3 d ii		1 A 3 d ii National Navigation		11,08	7,86	1,95	3,66	0,00	NR	NR	NR	0,19	0,00	0,01	0,04	0,02	0,08	1,95	0,05	0,14
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,40	0,94	0,23	1,37	NA	NR	NR	NR	0,55	0,03	0,13	0,02	0,16	0,11	0,49	0,05	0,81
1 A 4 b	(a)	**1 A 4 b Residential**	A						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		5,68	152,84	10,33	7,01	NA	NR	NR	NR	0,19	0,10	0,18	0,07	0,06	0,15	0,13	0,24	2,26
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,15	60,38	4,59	0,00	0,00	NR	NR	NR	0,78	0,00	NE	NE	0,00	0,08	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Yearly minimum reporting											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,15	27,65	2,01	2,94	NO	NR	NR	NR	0,07	0,03	0,03	0,03	0,06	0,03	1,10	0,03	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,89	41,43	4,58	1,49	0,00	NR	NR	NR	0,33	0,00	NE		0,02	0,66	0,03	0,00	0,39
1A 4 c iii		1A 4 c iii National Fishing		11,27	1,47	0,46	0,95	0,00	NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,12	0,04	0,10
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,21	0,87	0,14	0,08	0,00	NR	NR	NR	0,12	0,00			0,00	0,13	0,01	0,00	0,08
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	3,85	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,22	2,53	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	2,89	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,07	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,39	0,20	0,06	1,19	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,26	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	0,04	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,58	NE	NE	NE	0,05	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,04	0,16	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,06	0,00		NE		0,04		NE	0,58
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,59	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	7,35	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	13,54	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,85	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,14	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	A						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	20,73	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	9,97	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,17	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	48,48	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,90	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	3,57	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,91	NA	35,34	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		NE	NE	NE	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		278,86	784,02	160,68	147,88	125,36	NR	NR	NR	44,26	1,06	3,16	1,63	6,31	10,56	23,06	4,50	24,11

Memo Items				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,77	0,58	0,11	0,05	0,00	NR	NR	NR	0,46	0,00			0,00	0,09	0,00	0,00	0,05
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		5,93	0,81	0,20	0,48		NR	NR	NR		0,00			0,02	0,80	0,03	0,00	0,47
1 A 3 d i	(a)	International Navigation		117,62	10,01	3,15	65,38	0,00	NR	NR	NR	0,23	0,03	0,04	0,47	0,20	0,47	27,16	0,45	1,04
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1994 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		97,56	9,03	2,21	105,15	NA	NR	NR	NR	6,40	0,41	1,67	1,00	2,97	2,09	8,16	2,97	14,75
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,89	0,33	0,04	2,68	NA	NR	NR	NR	0,08	0,05	0,01	0,05	0,11	0,04	2,14	0,04	0,01
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		3,07	0,08	0,02	0,00	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,32	11,82	2,57	12,60	0,00	NR	NR	NR	0,42	0,23	0,11	0,22	0,50	0,66	9,04	0,18	1,06
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR			NE			NE			
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR			NE	NE	NE		NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		9,23	12,82	0,13	2,68	0,49	NR	NR	NR	0,88	0,06	0,15	0,08	0,74	0,20	0,62	0,27	0,22
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,35	0,94	0,17	0,02	0,00	NR	NR	NR	1,64	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,59	0,16	0,02	0,04		NR	NR	NR		0,00			0,00	0,07	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		52,69	376,18	37,79	0,30	0,84	NR	NR	NR	4,84	0,02	NE	NE	0,09	2,98	0,12	0,02	1,76
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		11,00	23,40	2,44	0,52	0,01	NR	NR	NR	0,21	0,01	NE	NE	0,03	0,99	0,04	0,01	0,58
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		32,57	8,67	3,65	0,84	0,01	NR	NR	NR	0,00	0,01	NE	NE	0,04	1,42	0,06	0,01	0,84
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,07	10,12	2,70	0,00	0,00	NR	NR	NR	0,05	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	22,93	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		4,97	0,91	0,32	0,10	0,00	NR	NR	NR		0,00			0,00	0,16	0,01	0,00	0,10
1 A 3 d ii		1 A 3 d ii National Navigation		10,48	7,80	1,93	3,27	0,00	NR	NR	NR	0,05	0,00	0,01	0,03	0,02	0,08	1,59	0,04	0,13
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,31	0,85	0,25	1,37	NA	NR	NR	NR	0,50	0,04	0,12	0,03	0,15	0,11	0,66	0,04	0,79
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		5,25	146,48	9,97	6,05	NA	NR	NR	NR	0,17	0,09	0,16	0,06	0,05	0,14	0,10	0,21	2,14
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,16	60,24	4,61	0,00	0,00	NR	NR	NR	0,14	0,00	NE	NE	0,00	0,08	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,19	25,27	1,89	2,74	NO	NR	NR	NR	0,07	0,03	0,03	0,04	0,07	0,04	1,26	0,03	0,07
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,46	38,54	4,27	1,41	0,00	NR	NR	NR	0,05	0,00	NE		0,02	0,63	0,03	0,00	0,37
1A 4 c iii		1A 4 c iii National Fishing		10,94	1,43	0,45	0,78	0,00	NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,02	0,04	0,10
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,20	0,89	0,14	0,08	0,00	NR	NR	NR	0,09	0,00	0,00	0,00	0,00	0,14	0,01	0,00	0,08
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	4,23	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	5,86	4,27	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	2,99	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,06	0,00	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,55	0,20	0,06	0,52	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,24	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE		NE	0,03	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,60	NE	NE	NE	0,09	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,05	0,22	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,06	0,00		NE		0,04		NE	0,60
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,59	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	7,22	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	13,13	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,84	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,02	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	19,64	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	9,03	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,15	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,01	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	44,69	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	5,41	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,15	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	A						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	2,18	NA	35,47	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		277,50	736,39	156,29	145,63	121,05	NR	NR	NR	15,66	0,95	2,28	1,51	4,82	9,94	23,86	3,87	23,69

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,77	0,45	0,08	0,06	0,00	NR	NR	NR	0,15	0,00			0,00	0,09	0,00	0,00	0,05
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		6,54	0,89	0,22	0,53		NR	NR	NR		0,01			0,03	0,89	0,04	0,01	0,52
1 A 3 d i	(a)	International Navigation		132,16	11,24	3,54	69,31		NR	NR	NR	0,25	0,03	0,05	0,51	0,21	0,51	28,66	0,49	1,14
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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PM should cover the timespan from 2000 to latest year.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1995 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		82,96	10,12	3,32	103,49	NA	NR	NR	NR	5,40	0,28	1,66	0,41	2,09	1,59	5,75	2,63	16,00
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,95	0,36	0,04	2,05	NA	NR	NR	NR	0,05	0,03	0,01	0,03	0,08	0,03	1,50	0,03	0,01
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		3,26	0,10	0,02	0,00	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,22	11,66	2,54	10,70	0,00	NR	NR	NR	0,37	0,20	0,10	0,20	0,44	0,63	8,03	0,16	1,02
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR			NE			NE			
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR			NE	NE	NE		NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		9,57	12,85	0,14	2,71	0,49	NR	NR	NR	1,54	0,06	0,15	0,08	0,70	0,19	0,58	0,46	0,29
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,37	1,02	0,18	0,02	0,00	NR	NR	NR	1,79	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,59	0,16	0,02	0,04		NR	NR	NR		0,00			0,00	0,07	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		51,71	377,71	37,18	0,32	1,10	NR	NR	NR	5,11	0,02	NE	NE	0,09	3,15	0,13	0,02	1,85
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,82	23,43	2,45	0,51	0,02	NR	NR	NR	0,22	0,01	NE	NE	0,03	0,97	0,04	0,01	0,57
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		32,09	8,52	3,66	0,85	0,01	NR	NR	NR	0,00	0,01	NE	NE	0,04	1,45	0,06	0,01	0,85
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,07	10,85	2,96	0,00	0,00	NR	NR	NR	0,05	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	21,42	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		5,01	0,91	0,33	0,10	0,00	NR	NR	NR	0,00	0,00			0,00	0,16	0,01	0,00	0,10
1 A 3 d ii		1 A 3 d ii National Navigation		11,05	7,90	1,97	2,78	0,00	NR	NR	NR	0,05	0,00	0,01	0,03	0,01	0,07	1,17	0,04	0,13
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,39	0,88	0,31	0,78	NA	NR	NR	NR	0,43	0,03	0,12	0,02	0,13	0,09	0,61	0,04	0,75
1 A 4 b	(a)	**1 A 4 b Residential**	A						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		5,24	140,79	9,90	2,72	NA	NR	NR	NR	0,16	0,09	0,16	0,06	0,05	0,14	0,08	0,20	2,15
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,17	60,31	4,70	0,00	0,00	NR	NR	NR	0,14	0,00	NE	NE	0,00	0,08	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,34	21,06	1,85	2,91	NO	NR	NR	NR	0,09	0,04	0,04	0,04	0,09	0,04	1,69	0,04	0,07
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,18	36,47	4,15	1,45	0,00	NR	NR	NR	0,05	0,00	NE		0,02	0,64	0,03	0,00	0,38
1A 4 c iii		1A 4 c iii National Fishing		10,18	1,33	0,42	0,74	0,00	NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,03	0,04	0,09
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,59	0,92	0,19	0,08	0,00	NR	NR	NR	0,10	0,00			0,00	0,14	0,01	0,00	0,08
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	4,27	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,55	3,02	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	3,02	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,18	0,00	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		1,83	0,16	0,06	0,20	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

<u>Note 1</u>: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

<u>Note 2</u>: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,24	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,10	NE	0,03	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,61	NE	NE	NE	0,06	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,06	0,22	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,07	0,00		NE		0,04		NE	0,61
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,63	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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HM should cover the timespan from 1990 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	6,31	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	12,05	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,79	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,40	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	A						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	19,05	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	8,55	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,15	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	0,99	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	40,98	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	5,05	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,14	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,76	NA	33,12	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		262,23	727,75	152,46	135,68	113,79	NR	NR	NR	15,65	0,79	2,25	0,88	3,81	9,58	19,70	3,69	25,08

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,83	0,51	0,12	0,06	0,00	NR	NR	NR	0,18	0,00			0,00	0,10	0,00	0,00	0,06
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		6,69	0,92	0,23	0,54		NR	NR	NR		0,01			0,03	0,91	0,04	0,01	0,53
1 A 3 d i	(a)	International Navigation		138,53	11,78	3,71	76,28		NR	NR	NR	0,26	0,04	0,05	0,51	0,22	0,51	29,02	0,51	1,18
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1996 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		120,46	12,67	4,29	142,21	NA	NR	NR	NR	5,33	0,27	1,75	0,61	2,25	1,73	6,83	2,76	15,96
1 A 1 b	(a)	1 A 1 b Petroleum refining		2,64	0,34	0,03	1,13	NA	NR	NR	NR	0,05	0,03	0,01	0,03	0,07	0,03	1,44	0,03	0,01
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		3,81	0,12	0,02	0,01	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,81	11,75	2,65	10,10	0,00	NR	NR	NR	0,37	0,20	0,10	0,20	0,44	0,64	7,99	0,16	1,04
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR			NE			NE			
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR			NE	NE	NE		NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		10,14	12,46	0,13	2,80	0,48	NR	NR	NR	0,73	0,04	0,15	0,07	0,36	0,11	0,32	0,23	0,20
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,37	0,96	0,17	0,02	0,00	NR	NR	NR	1,64	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,60	0,16	0,02	0,04		NR	NR	NR		0,00			0,00	0,07	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		48,92	375,65	35,96	0,33	1,33	NR	NR	NR	5,22	0,02	NE	NE	0,09	3,22	0,13	0,02	1,89
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,96	23,63	2,50	0,52	0,02	NR	NR	NR	0,23	0,01	NE	NE	0,03	1,00	0,04	0,01	0,59
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		31,63	8,38	3,63	0,87	0,01	NR	NR	NR	0,00	0,01	NE	NE	0,04	1,48	0,06	0,01	0,87
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,07	11,51	3,15	0,00	0,00	NR	NR	NR	0,05	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	18,54	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		4,98	0,91	0,32	0,10	0,00	NR	NR	NR	0,00	0,00			0,00	0,16	0,01	0,00	0,10
1 A 3 d ii		1 A 3 d ii National Navigation		11,46	7,97	1,99	2,14	0,00	NR	NR	NR	0,05	0,00	0,01	0,02	0,01	0,07	0,86	0,04	0,13
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,46	1,00	0,42	0,75	NA	NR	NR	NR	0,31	0,03	0,10	0,02	0,10	0,08	0,56	0,04	0,66
1 A 4 b	(a)	**1 A 4 b Residential**	A						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		5,53	141,79	10,24	2,70	NA	NR	NR	NR	0,17	0,10	0,17	0,06	0,05	0,15	0,08	0,21	2,30
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,17	60,89	4,80	0,00	0,00	NR	NR	NR	0,15	0,00	NE	NE	0,00	0,08	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,53	16,68	1,79	2,95	NO	NR	NR	NR	0,10	0,04	0,04	0,05	0,11	0,05	1,98	0,05	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,14	33,70	3,85	0,35	0,00	NR	NR	NR	0,05	0,00	NE		0,02	0,61	0,03	0,00	0,36
1A 4 c iii		1A 4 c iii National Fishing		11,03	1,44	0,46	1,02		NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,17	0,04	0,10
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,89	0,63	0,11	0,06	0,00	NR	NR	NR	0,10	0,00			0,00	0,09	0,00	0,00	0,06
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	4,68	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	5,88	2,61	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	2,65	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,08	0,00	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,02	0,18	0,06	0,22	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,24	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,10	NE	0,03	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,50	NE	NE	NE	0,06	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,11	0,08	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,79	0,05	0,15	NE	0,01	0,04	0,29	NE	6,40
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,60	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	7,17	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	12,91	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,79	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	19,97	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	18,44	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	8,45	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,16	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,00	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	40,19	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,93	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,27	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,77	NA	30,48	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		300,17	723,08	152,40	171,01	109,89	NR	NR	NR	15,36	0,81	2,48	1,07	3,61	9,70	20,81	3,60	30,87

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,88	0,53	0,12	0,06	0,00	NR	NR	NR	0,13	0,00			0,00	0,11	0,00	0,00	0,06
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		7,02	0,97	0,24	0,57		NR	NR	NR		0,01			0,03	0,96	0,04	0,01	0,56
1 A 3 d i	(a)	International Navigation		131,50	11,19	3,52	71,54		NR	NR	NR	0,13	0,02	0,01	0,33	0,13	0,33	19,86	0,27	0,61
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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HM should cover the timespan from 1990 to latest year.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1997 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		78,86	11,19	4,04	73,75	NA	NR	NR	NR	3,60	0,27	1,40	0,44	1,62	1,53	7,28	1,96	11,19
1 A 1 b	(a)	1 A 1 b Petroleum refining		2,12	0,27	0,01	1,21	NA	NR	NR	NR	0,04	0,02	0,01	0,02	0,05	0,02	1,04	0,02	0,01
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		4,98	0,15	0,03	0,01	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,83	11,64	2,63	7,60	0,00	NR	NR	NR	0,30	0,17	0,09	0,17	0,37	0,61	6,66	0,14	1,01
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	0,61	0,01	NE	0,03	0,09	NE	0,11	0,43	0,43
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	0,01	0,00	NE	NE	NE	0,00	NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		10,31	13,51	0,14	3,63	0,56	NR	NR	NR	0,20	0,02	0,16	0,06	0,03	0,03	0,06	0,29	0,17
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,38	0,92	0,16	0,02	0,00	NR	NR	NR	1,56	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,62	0,16	0,02	0,04		NR	NR	NR		0,00			0,00	0,08	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		45,60	326,83	31,22	0,33	1,64	NR	NR	NR	0,05	0,02	NE	NE	0,10	3,30	0,14	0,02	1,94
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,84	21,87	2,33	0,53	0,03	NR	NR	NR	0,00	0,01	NE	NE	0,03	1,02	0,04	0,01	0,60
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		30,45	7,87	3,45	0,88	0,01	NR	NR	NR	0,00	0,01	NE	NE	0,04	1,50	0,06	0,01	0,88
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,08	12,43	3,37	0,00	0,00	NR	NR	NR	0,00	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	16,94	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		4,85	0,88	0,32	0,09	0,00	NR	NR	NR	0,00	0,00			0,00	0,16	0,01	0,00	0,09
1 A 3 d ii		1 A 3 d ii National Navigation		10,04	7,81	1,93	1,90	0,00	NR	NR	NR	0,02	0,00	0,01	0,02	0,01	0,07	0,71	0,04	0,12
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,38	0,96	0,44	0,63	NA	NR	NR	NR	0,20	0,03	0,08	0,02	0,07	0,06	0,54	0,04	0,57
1 A 4 b	(a)	**1 A 4 b Residential**	A						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		5,14	138,24	10,29	2,51	NA	NR	NR	NR	0,16	0,10	0,16	0,05	0,04	0,14	0,06	0,19	2,22
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,18	61,39	4,89	0,00	0,00	NR	NR	NR	0,00	0,00	NE	NE	0,00	0,08	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	**A**						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,51	15,30	1,97	2,21	NO	NR	NR	NR	0,08	0,04	0,03	0,04	0,09	0,04	1,61	0,04	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,75	31,54	3,69	0,35	0,00	NR	NR	NR	0,00	0,00	NE		0,02	0,62	0,03	0,00	0,37
1A 4 c iii		1A 4 c iii National Fishing		10,96	1,42	0,45	1,09	0,00	NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,20	0,04	0,10
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,06	0,62	0,13	0,05	0,00	NR	NR	NR	0,12	0,00			0,00	0,09	0,00	0,00	0,05
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	**A**						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	**A**						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	**A**						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	5,34	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,55	1,98	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	2,30	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,09	0,00	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,92	0,25	0,05	0,14	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,24	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,09	NE	0,03	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,57	NE	NE	NE	0,04	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,04	NE	0,04	0,00	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,70	0,03	0,08	NE	0,00	0,05	0,23	NE	5,66
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,57	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	8,44	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	11,85	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,80	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	19,70	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	17,71	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	7,98	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,12	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,00	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	41,27	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,89	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,87	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,69	NA	29,44	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		254,46	665,49	144,54	98,99	109,64	NR	NR	NR	7,69	0,74	2,04	0,86	2,60	9,47	18,79	3,22	25,61
Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,94	0,58	0,12	0,07	0,00	NR	NR	NR	0,14	0,00			0,00	0,11	0,00	0,00	0,07
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		7,12	0,99	0,24	0,57		NR	NR	NR		0,01			0,03	0,97	0,04	0,01	0,57
1 A 3 d i	(a)	International Navigation		120,57	10,26	3,23	65,59		NR	NR	NR	0,22	0,03	0,05	0,43	0,18	0,43	23,83	0,44	1,01
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1998	(as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		64,23	11,37	4,24	53,71	NA	NR	NR	NR	3,20	0,28	1,32	0,44	1,26	1,30	5,93	1,65	11,60
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,68	0,23	0,00	0,92	NA	NR	NR	NR	0,03	0,01	0,00	0,02	0,04	0,01	0,71	0,01	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		5,48	0,16	0,03	0,01	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	18,08	11,62	2,64	7,15	0,00	NR	NR	NR	0,28	0,16	0,09	0,16	0,34	0,61	6,08	0,13	1,01
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	0,62	0,01	NE	0,03	0,09	NE	0,11	0,43	0,43
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	0,01	0,00	NE	NE	NE	0,00	NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		10,48	16,99	0,13	3,37	0,55	NR	NR	NR	0,45	0,02	0,17	0,06	0,03	0,03	0,06	0,09	0,19
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,33	0,82	0,15	0,02	0,00	NR	NR	NR	1,40	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,58	0,15	0,02	0,04		NR	NR	NR		0,00			0,00	0,07	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		41,90	311,58	28,50	0,35	1,88	NR	NR	NR	0,05	0,02	NE	NE	0,10	3,38	0,14	0,02	1,99
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,39	20,64	2,22	0,51	0,04	NR	NR	NR	0,00	0,01	NE	NE	0,03	0,99	0,04	0,01	0,58
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		29,97	7,74	3,41	0,91	0,01	NR	NR	NR	0,00	0,01	NE	NE	0,05	1,54	0,06	0,01	0,91
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,09	13,24	3,59	0,00	0,00	NR	NR	NR	0,00	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	14,15	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		4,09	0,74	0,27	0,08	0,00	NR	NR	NR	0,00	0,00			0,00	0,13	0,01	0,00	0,08
1 A 3 d ii		1 A 3 d ii National Navigation		8,23	7,60	1,84	1,74	0,00	NR	NR	NR	0,02	0,00	0,01	0,02	0,01	0,07	0,99	0,03	0,11
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,23	0,92	0,46	0,41	NA	NR	NR	NR	0,12	0,02	0,05	0,01	0,04	0,04	0,29	0,03	0,39
1 A 4 b	(a)	**1 A 4 b Residential**	**A**						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		4,90	120,80	9,37	2,35	NA	NR	NR	NR	0,15	0,09	0,15	0,05	0,04	0,13	0,06	0,18	2,00
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,19	61,82	4,99	0,01	0,00	NR	NR	NR	0,00	0,00	NE	NE	0,00	0,09	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	**A**						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,57	12,38	2,08	1,94	NO	NR	NR	NR	0,08	0,04	0,03	0,04	0,09	0,04	1,66	0,04	0,09
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,27	28,86	3,40	0,33	0,00	NR	NR	NR	0,00	0,00	NE		0,02	0,59	0,02	0,00	0,35
1A 4 c iii		1A 4 c iii National Fishing		11,13	1,45	0,46	0,80	0,00	NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,03	0,04	0,10
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,22	0,70	0,15	0,06	0,00	NR	NR	NR	0,12	0,00			0,00	0,11	0,00	0,00	0,06
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	**A**						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	**A**						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	**A**						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	5,52	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,56	1,44	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	1,92	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,06	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,15	0,19	0,05	0,07	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,21	0,54	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,10	NE	0,03	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,42	NE	NE	NE	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,05	NE	0,04	0,00	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,44	0,04	0,06	NE	0,00	0,05	0,11	NE	3,05
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,50	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	6,72	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	11,58	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,74	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	19,25	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	17,75	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	7,79	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,12	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,01	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,01	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	43,14	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,81	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	5,13	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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PM should cover the timespan from 2000 to latest year.

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Yearly minimum reporting											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,69	NA	28,65	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		231,67	630,22	135,37	76,22	110,96	NR	NR	NR	6,99	0,71	1,89	0,83	2,17	9,26	16,33	2,68	23,07

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,97	0,60	0,12	0,07	0,00	NR	NR	NR	0,14	0,00			0,00	0,12	0,00	0,00	0,07
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		7,69	1,06	0,26	0,62		NR	NR	NR		0,01			0,03	1,05	0,04	0,01	0,62
1 A 3 d i	(a)	International Navigation		120,99	10,29	3,24	59,86		NR	NR	NR	0,20	0,03	0,05	0,37	0,16	0,37	19,82	0,41	0,96
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.
(b) Including Product handling.
(c) Including NH3 from Enteric Fermentation.
(d) Including PM sources.
(e) Excludes waste incineration for energy (this is included in 1 A 1).
(f) Includes accidental fires.
Note 1: Main Pollutants should cover the timespan from 1980 to latest year.
HM should cover the timespan from 1990 to latest year.
PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1999	(as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		51,54	11,14	4,17	36,01	NA	NR	NR	NR	2,85	0,29	1,40	0,48	1,33	1,31	4,37	1,51	11,75
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,66	0,23	0,00	0,53	NA	NR	NR	NR	0,03	0,01	0,00	0,02	0,04	0,01	0,70	0,01	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		5,95	0,17	0,04	0,01	NA	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	17,73	11,41	2,55	6,45	0,00	NR	NR	NR	0,27	0,15	0,08	0,14	0,32	0,60	5,70	0,13	1,01
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	NR	NR	NR	0,62	0,01	NE	0,03	0,09	NE	0,11	0,43	0,43
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	NR	NR	NR	0,01	0,00	NE	NE	NE	0,00	NE	NE	
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		9,58	15,35	0,11	2,19	0,56	NR	NR	NR	0,59	0,02	0,16	0,05	0,03	0,03	0,06	0,24	0,18
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,30	0,80	0,14	0,02	0,00	NR	NR	NR	1,39	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,52	0,13	0,02	0,04	0,00	NR	NR	NR	0,00	0,00	0,00	0,00	0,00	0,06	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A						NR	NR	NR									

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		38,24	280,38	24,92	0,29	2,05	NR	NR	NR	0,05	0,02	NE	NE	0,10	3,41	0,14	0,02	2,01
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,29	19,26	2,11	0,29	0,04	NR	NR	NR	0,00	0,01	NE	NE	0,03	1,00	0,04	0,01	0,59
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		29,37	7,49	3,34	0,51	0,01	NR	NR	NR	0,00	0,01	NE	NE	0,05	1,58	0,06	0,01	0,93
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,09	13,23	3,35	0,00	0,00	NR	NR	NR	0,00	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	12,40	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		3,73	0,72	0,28	0,04	0,00	NR	NR	NR	0,00	0,00			0,00	0,12	0,01	0,00	0,07
1 A 3 d ii		1 A 3 d ii National Navigation		7,44	7,53	1,78	1,78	0,00	NR	NR	NR	0,02	0,00	0,00	0,02	0,01	0,07	1,06	0,03	0,10
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A						NR	NR	NR									
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,33	0,93	0,56	0,47	NA	NR	NR	NR	0,23	0,03	0,10	0,02	0,07	0,06	0,37	0,03	0,69
1 A 4 b	(a)	**1 A 4 b Residential**	A						NR	NR	NR									
1 A 4 b i		1 A 4 b i Residential plants		4,79	121,67	9,45	2,21	NA	NR	NR	NR	0,14	0,09	0,15	0,05	0,04	0,13	0,06	0,17	2,03
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,19	62,86	5,10	0,01	0,00	NR	NR	NR	0,00	0,00	NE	NE	0,00	0,09	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A						NR	NR	NR									
1 A 4 c i		1 A 4 c i Stationary		1,51	10,14	1,95	1,67	NO	NR	NR	NR	0,07	0,04	0,03	0,04	0,09	0,04	1,55	0,04	0,09
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,47	26,70	3,22	0,33	0,00	NR	NR	NR	0,00	0,00	NE		0,02	0,59	0,02	0,00	0,35
1A 4 c iii		1A 4 c iii National Fishing		11,16	1,45	0,46	0,78	0,00	NR	NR	NR	0,02	0,00	0,01	0,01	0,01	0,01	0,01	0,04	0,10
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,96	0,71	0,13	0,05	0,00	NR	NR	NR	0,08	0,00	0,00	0,00	0,00	0,10	0,00	0,00	0,06
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A						NR	NR	NR									
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A						NR	NR	NR									
1 B 2 a	(a)	**1 B 2 a Oil**	A						NR	NR	NR									
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	8,06	IE	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,56	1,36	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	1,49	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,07	0,00	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		4,66	0,40	0,08	0,05	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**						NR	NR	NR									
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,23	0,55	NE	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,06	NE	0,04	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**						NR	NR	NR									
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,45	NE	NE	NE	0,02	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,06	NE	0,04	0,00	0,01	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NR	NR	NR	0,73	0,01	0,05	NE	0,00	0,05	0,09	NE	2,76
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**						NR	NR	NR									
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,50	NE	NE	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	6,41	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	10,66	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,78	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	19,27	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**						NR	NR	NR									
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	NR	NR	NR	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	16,86	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	7,64	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,11	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,01	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,04	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	42,02	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,95	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,55	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**						NR	NR	NR									
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,65	NA	26,00	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NR	NR	NR	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	NR	NR	NR	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NR	NR	NR	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		215,02	592,95	130,26	55,09	105,93	NR	NR	NR	7,10	0,70	1,98	0,86	2,23	9,32	14,37	2,67	23,28

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		1,03	0,62	0,12	0,07	0,00	NR	NR	NR	0,12	0,00	0,00	0,00	0,00	0,12	0,01	0,00	0,07
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		8,17	1,12	0,28	0,66	0,00	NR	NR	NR	0,00	0,01	0,00	0,00	0,03	1,11	0,05	0,01	0,65
1 A 3 d i	(a)	International Navigation		113,83	9,68	3,04	60,34		NR	NR	NR	0,20	0,03	0,04	0,38	0,16	0,38	20,97	0,40	0,93
5 E	(a)	5 E Other							NR	NR	NR									
X		X (11 08 Volcanoes)							NR	NR	NR									

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	2000	(as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		42,99	10,51	3,91	12,09	NA	1011,61	808,88	678,71	2,96	0,20	0,57	0,53	0,44	0,58	2,08	0,90	12,47
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,53	0,24	0,00	0,61	NA	143,93	130,70	124,09	0,03	0,02	0,01	0,02	0,04	0,02	0,85	0,02	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		6,31	0,18	0,04	0,01	NA	2,63	1,58	1,32	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	16,58	11,17	2,52	5,97	0,00	1521,30	1422,17	1342,55	0,25	0,15	0,08	0,14	0,30	0,59	5,32	0,12	1,03
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	192,80	57,84	8,68	0,69	0,01	NE	0,03	0,11	NE	0,13	0,48	0,48
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	34,28	30,86	14,15	0,01	0,00	NE	NE	NE	0,00	NE	NE	0,00
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		10,45	15,30	0,12	1,69	0,50	532,05	466,62	269,60	0,36	0,02	0,16	0,06	0,03	0,03	0,06	0,36	0,20
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,26	0,78	0,14	0,02	0,00	1,68	1,68	1,68	1,37	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,46	0,11	0,02	0,03	0,00	1,70	1,70	1,70	0,00	0,00	0,00	0,00	0,00	0,06	0,00	0,00	0,03
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A																	

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		35,11	260,87	22,34	0,20	2,14	683,55	683,55	683,55	0,05	0,02	NE	NE	0,10	3,40	0,14	0,02	2,00
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,18	18,37	2,03	0,06	0,05	1773,15	1773,15	1773,15	0,00	0,01	NE	NE	0,03	1,01	0,04	0,01	0,59
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		27,13	6,98	3,12	0,09	0,01	1422,41	1422,41	1422,41	0,00	0,01	NE	NE	0,04	1,52	0,06	0,01	0,90
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,09	13,50	3,18	0,00	0,00	54,35	54,35	54,35	0,00	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	8,37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	1321,36	992,02	539,24	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	936,78	468,39	252,93	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		3,73	0,69	0,25	0,01	0,00	140,57	140,57	140,57	0,00	0,00			0,00	0,12	0,01	0,00	0,07
1 A 3 d ii		1 A 3 d ii National Navigation		7,52	7,57	1,75	1,71	0,00	510,63	493,01	476,28	0,02	0,00	0,00	0,02	0,01	0,07	1,11	0,03	0,10
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**																	
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,10	0,90	0,63	0,35	NA	163,45	157,36	146,71	0,20	0,02	0,05	0,02	0,02	0,03	0,23	0,03	0,21
1 A 4 b	(a)	**1 A 4 b Residential**	**A**																	
1 A 4 b i		1 A 4 b i Residential plants		4,66	139,80	10,55	1,90	NA	12111,48	11498,54	10880,78	0,13	0,10	0,15	0,04	0,03	0,14	0,05	0,14	2,27
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,19	63,85	5,21	0,01	0,00	47,33	47,33	47,33	0,00	0,00	NE	NE	0,00	0,09	0,00	0,00	0,05

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A																	
1 A 4 c i		1 A 4 c i Stationary		1,33	9,11	1,75	1,57	NO	567,82	529,03	492,86	0,06	0,03	0,03	0,03	0,07	0,03	1,15	0,03	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,32	24,56	3,01	0,33	0,00	1334,38	1334,38	1334,38	0,00	0,00	NE		0,02	0,57	0,02	0,00	0,34
1A 4 c iii		1A 4 c iii National Fishing		11,16	1,45	0,46	0,78	0,00	354,32	336,62	319,79	0,02	0,00	0,01	0,01	0,01	0,01	0,01	0,04	0,10
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,50	0,40	0,06	0,03	0,00	20,63	20,63	20,63	0,11	0,00	0,00	0,00	0,00	0,06	0,00	0,00	0,04
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A																	
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	962,25	384,90	38,49	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A																	
1 B 2 a	(a)	**1 B 2 a Oil**	A																	
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	10,74	IE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,98	0,98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	1,05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,07	0,00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		3,05	0,26	0,06	0,05	NA	2,69	2,69	2,69	NA	NA	NA	NA	NA	NA	NA	NA	NA

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**																	
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,22	0,54	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,04	NE	0,03	191,00	47,75	7,64	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**																	
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,41	NE	NE	NE	0,01	362,00	290,00	217,00	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,03	NE	0,03	0,00	0,01	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	41,00	39,00	25,00	0,51	0,02	0,09	NE	0,00	0,05	0,06	NE	2,02
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**																	
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,47	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	6,52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	11,78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	19,26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**																	
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	17,20	612,39	275,56	61,26	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	7,89	1187,55	534,37	118,80	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,12	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,01	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,03	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	40,59	11592,54	5216,88	1158,78	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	5,01	2674,54	1203,91	267,24	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,68	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**																	
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,68	NA	26,08	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	0,06	0,06	0,06	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		198,08	586,85	127,49	28,48	105,39	42510,21	30868,50	22924,42	6,78	0,61	1,14	0,89	1,26	8,45	11,33	2,18	23,03

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		1,07	0,64	0,12	0,08	0,00	3,93	3,93	3,93	0,12	0,00	0,00	0,00	0,00	0,13	0,01	0,00	0,08
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		8,38	1,15	0,29	0,67	0,00	34,00	34,00	34,00	0,00	0,01	0,00	0,00	0,03	1,14	0,05	0,01	0,67
1 A 3 d i	(a)	International Navigation		117,15	9,96	3,13	65,17		7613,72	7233,03	6871,38	0,22	0,03	0,04	0,43	0,18	0,43	24,36	0,43	1,00
5 E	(a)	5 E Other																		
X		X (11 08 Volcanoes)																		

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 2001 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*						
				Main Pollutants					Particulate matter			Priority metals			Other metals						
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		43,05	11,46	4,24	10,40	NA	1129,26	886,60	736,46	2,20	0,22	0,61	0,45	0,45	0,65	1,89	0,62	13,40
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,84	0,24	0,00	0,60	NA	150,92	136,49	129,28	0,03	0,02	0,01	0,02	0,05	0,02	0,93	0,02	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		6,16	0,17	0,04	0,01	NA	2,56	1,54	1,29	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	16,39	11,13	2,48	5,86	0,00	1479,58	1388,17	1315,89	0,24	0,15	0,08	0,13	0,30	0,60	5,29	0,12	1,05
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	171,40	51,42	7,71	0,62	0,01	NE	0,03	0,09	NE	0,11	0,43	0,43
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	34,68	31,23	14,31	0,01	0,00	NE	NE	NE	0,00	NE	NE	0,00
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		10,30	13,54	0,10	2,16	0,44	566,65	496,72	286,56	0,20	0,02	0,16	0,06	0,03	0,03	0,06	0,29	0,17
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,26	0,78	0,14	0,02	0,00	1,66	1,66	1,66	1,34	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,48	0,11	0,02	0,04	0,00	1,82	1,82	1,82	0,00	0,00	0,00	0,00	0,00	0,06	0,00	0,00	0,04
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A																	

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		32,11	252,27	20,67	0,20	2,17	674,60	674,60	674,60	0,05	0,02	NE	NE	0,10	3,36	0,14	0,02	1,98
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,21	18,21	2,04	0,06	0,06	1710,42	1710,42	1710,42	0,00	0,01	NE	NE	0,03	1,03	0,04	0,01	0,60
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		26,36	6,71	2,98	0,09	0,01	1320,43	1320,43	1320,43	0,00	0,01	NE	NE	0,05	1,54	0,06	0,01	0,91
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,10	13,43	2,78	0,00	0,00	50,25	50,25	50,25	0,00	0,00	NE	NE	0,00	0,03	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	7,15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	1320,62	990,24	539,04	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	929,85	464,93	251,06	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		3,40	0,64	0,25	0,01	0,00	125,36	125,36	125,36	0,00	0,00			0,00	0,11	0,00	0,00	0,07
1 A 3 d ii		1 A 3 d ii National Navigation		7,38	7,58	1,69	1,45	0,00	505,93	488,55	472,04	0,02	0,00	0,00	0,02	0,01	0,07	1,12	0,03	0,10
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A																	
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,06	0,87	0,56	0,25	NA	136,89	132,46	124,37	0,18	0,02	0,04	0,01	0,02	0,02	0,13	0,02	0,21
1 A 4 b	(a)	**1 A 4 b Residential**	A																	
1 A 4 b i		1 A 4 b i Residential plants		5,00	157,49	11,66	1,86	NA	12703,84	12059,21	11423,40	0,14	0,12	0,17	0,04	0,03	0,15	0,04	0,15	2,56
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,22	76,21	6,08	0,01	0,00	57,25	57,25	57,25	0,00	0,00	NE	NE	0,00	0,11	0,00	0,00	0,06

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	**A**																	
1 A 4 c i		1 A 4 c i Stationary		1,33	8,54	1,63	1,60	NO	534,66	497,40	462,75	0,06	0,03	0,03	0,03	0,06	0,03	1,07	0,03	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,46	22,67	2,84	0,33	0,00	1262,52	1262,52	1262,52	0,00	0,00	NE		0,02	0,57	0,02	0,00	0,34
1A 4 c iii		1A 4 c iii National Fishing		10,58	1,38	0,44	0,74	0,00	333,65	316,98	301,15	0,02	0,00	0,01	0,01	0,01	0,01	0,01	0,04	0,09
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,58	0,32	0,07	0,01	0,00	43,87	43,87	43,87	0,09	0,00	0,00	0,00	0,00	0,05	0,00	0,00	0,03
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	**A**																	
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	1038,60	415,44	41,54	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	**A**																	
1 B 2 a	(a)	**1 B 2 a Oil**	**A**																	
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	9,92	IE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,34	0,67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	1,03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,09	0,00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		3,27	0,28	0,05	0,05	NA	2,19	2,19	2,19	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**																	
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,20	0,54	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,02	NE	0,03	189,00	47,25	7,56	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**																	
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,41	NE	NE	NE	0,03	346,00	277,00	208,00	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,01	NE	0,03	0,00	0,07	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	93,00	88,00	56,00	0,94	0,04	0,18	NE	0,00	0,05	0,12	NE	3,42
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**																	
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,45	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	5,77	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	10,75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	18,84	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**																	
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	16,81	600,67	270,29	60,09	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	8,25	1236,83	556,55	123,73	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,13	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,01	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,03	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	40,76	12259,58	5517,06	1225,45	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	5,03	2630,22	1183,97	262,81	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,80	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**																	
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,69	NA	24,85	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	0,04	0,04	0,04	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		193,99	604,23	122,15	26,40	104,50	43644,80	31547,91	23300,92	6,14	0,66	1,28	0,79	1,26	8,52	11,05	1,79	25,59

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		1,06	0,63	0,11	0,08	0,00	3,88	3,88	3,88	0,11	0,00	0,00	0,00	0,00	0,13	0,01	0,00	0,07
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		8,55	1,17	0,29	0,69	0,00	34,62	34,62	34,62	0,00	0,01	0,00	0,00	0,03	1,16	0,05	0,01	0,68
1 A 3 d i	(a)	International Navigation		98,72	8,40	2,64	54,37		6099,24	5794,28	5504,57	0,18	0,02	0,04	0,34	0,15	0,34	19,05	0,35	0,82
5 E	(a)	5 E Other																		
X		X (11 08 Volcanoes)																		

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 2002 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		44,83	11,74	4,24	9,99	NA	1212,86	949,11	781,67	2,31	0,22	0,66	0,40	0,47	0,63	2,54	0,72	14,32
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,69	0,23	0,00	0,93	NA	144,12	130,49	123,68	0,03	0,02	0,01	0,02	0,05	0,02	0,87	0,02	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		6,60	0,18	0,04	0,01	NA	2,75	1,65	1,38	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	15,76	10,48	2,33	5,05	0,00	1368,87	1298,30	1239,75	0,23	0,14	0,07	0,13	0,29	0,59	5,18	0,11	0,86
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	174,60	52,38	7,86	0,63	0,01	NE	0,03	0,10	NE	0,11	0,44	0,44
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	32,65	29,40	13,48	0,01	0,00	NE	NE	NE	0,00	NE	NE	0,00
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		9,42	10,34	0,11	1,43	0,36	445,51	385,69	234,98	0,20	0,02	0,16	0,06	0,03	0,03	0,06	0,29	0,17
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,22	0,75	0,13	0,01	0,00	1,52	1,52	1,52	1,33	0,00	NE	NE	0,00	0,02	0,00	0,00	0,01
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,41	0,11	0,02	0,03	0,00	1,60	1,60	1,60	0,00	0,00	0,00	0,00	0,00	0,05	0,00	0,00	0,03
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A																	

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		29,80	231,25	18,28	0,20	2,26	666,06	666,06	666,06	0,05	0,02	NE	NE	0,10	3,41	0,14	0,02	2,01
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,08	16,89	1,91	0,06	0,06	1570,09	1570,09	1570,09	0,00	0,01	NE	NE	0,03	1,07	0,04	0,01	0,63
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		24,22	6,21	2,76	0,09	0,01	1174,60	1174,60	1174,60	0,00	0,01	NE	NE	0,04	1,52	0,06	0,01	0,89
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,11	14,12	2,82	0,00	0,00	52,75	52,75	52,75	0,00	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	6,38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	1343,02	1006,83	548,20	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	940,81	470,41	254,02	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		3,40	0,63	0,24	0,01	0,00	123,81	123,81	123,81	0,00	0,00			0,00	0,11	0,00	0,00	0,07
1 A 3 d ii		1 A 3 d ii National Navigation		8,90	7,81	1,68	2,12	0,00	604,78	582,43	561,18	0,02	0,00	0,01	0,03	0,02	0,08	1,52	0,04	0,12
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	**A**																	
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,08	0,88	0,57	0,60	NA	162,56	153,67	141,06	0,05	0,01	0,04	0,02	0,02	0,02	0,32	0,02	0,15
1 A 4 b	(a)	**1 A 4 b Residential**	**A**																	
1 A 4 b i		1 A 4 b i Residential plants		4,83	156,53	11,59	1,83	NA	12263,30	11637,56	11020,57	0,14	0,12	0,16	0,04	0,04	0,15	0,12	0,14	2,52
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,26	88,42	6,95	0,01	0,00	67,17	67,17	67,17	0,00	0,00	NE	NE	0,00	0,12	0,01	0,00	0,07

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	**A**																	
1 A 4 c i		1 A 4 c i Stationary		1,33	8,58	1,65	1,28	NO	522,72	488,07	456,35	0,05	0,02	0,02	0,02	0,05	0,03	0,89	0,03	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		13,08	20,55	2,62	0,32	0,00	1175,59	1175,59	1175,59	0,00	0,00	NE		0,02	0,57	0,02	0,00	0,33
1A 4 c iii		1A 4 c iii National Fishing		10,65	1,39	0,44	0,75	0,00	336,02	319,24	303,29	0,02	0,00	0,01	0,01	0,01	0,01	0,02	0,04	0,09
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,42	0,32	0,06	0,02	0,00	20,20	20,20	20,20	0,11	0,00	0,00	0,00	0,00	0,05	0,00	0,00	0,03
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	**A**																	
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	939,30	375,72	37,57	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	**A**																	
1 B 2 a	(a)	**1 B 2 a Oil**	A																	
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	10,51	IE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	4,30	0,33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	1,04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		0,00	NA	0,06	0,00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,71	0,24	0,06	0,07	NA	2,92	2,92	2,92	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**																	
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,20	0,54	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,02	NE	0,05	172,00	43,00	6,88	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**																	
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,40	NE	NE	NE	0,05	310,00	248,00	186,00	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,02	NE	0,03	NE	0,04	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NE	NE	NE	0,07	0,00	0,00	NE	0,00	0,05	0,00	NE	0,63
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**																	
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,53	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	5,60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	9,76	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	17,99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**																	
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	16,06	587,41	264,32	58,77	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	7,25	1143,33	514,47	114,38	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,10	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,02	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	41,07	12380,63	5571,54	1237,55	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,97	2541,93	1144,22	253,99	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,94	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is notavailable. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**																	
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,65	NA	23,40	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	0,05	0,05	0,05	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		190,21	587,85	117,68	25,14	101,66	42485,53	30522,85	22438,95	5,24	0,61	1,14	0,75	1,27	8,56	11,91	1,88	23,47

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		1,00	0,64	0,12	0,07	0,00	3,59	3,59	3,59	0,11	0,00	0,00	0,00	0,00	0,12	0,00	0,00	0,07
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		7,74	0,97	0,27	0,59	0,00	29,67	29,67	29,67	0,00	0,01	0,00	0,00	0,03	0,99	0,04	0,01	0,58
1 A 3 d i	(a)	International Navigation		81,29	6,91	2,17	39,61		4427,68	4206,30	3995,98	0,14	0,02	0,03	0,24	0,11	0,24	12,91	0,27	0,64
5 E	(a)	5 E Other																		
X		X (11 08 Volcanoes)																		

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 2003 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		55,65	12,20	4,22	16,97	NA	1301,37	1020,33	837,02	1,89	0,20	0,71	0,45	0,47	0,60	2,74	1,02	13,34
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,65	0,24	0,00	0,49	NA	128,14	119,07	114,54	0,02	0,01	0,00	0,01	0,03	0,01	0,58	0,01	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		6,61	0,18	0,04	0,01	NA	2,75	1,65	1,38	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	A	15,41	10,32	2,29	5,45	0,00	1437,44	1286,68	1210,84	0,21	0,12	0,07	0,12	0,26	0,59	4,55	0,11	0,89
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	174,60	52,38	7,86	0,63	0,01	NE	0,03	0,10	NE	0,11	0,44	0,44
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	25,82	23,25	10,71	0,01	0,00	NE	NE	NE	0,00	NE	NE	0,00
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		8,89	9,25	0,09	1,35	0,33	435,46	379,00	236,75	0,30	0,02	0,15	0,05	0,03	0,03	0,05	0,25	0,16
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,20	0,71	0,12	0,01	0,00	1,41	1,41	1,41	1,25	0,00	NE	NE	0,00	0,02	0,00	0,00	0,01
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,39	0,12	0,02	0,03	0,00	1,61	1,61	1,61	0,00	0,00	0,00	0,00	0,00	0,05	0,00	0,00	0,03
1 A 3 b	(a)	**1 A 3 b Road Transportation**	A																	

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		27,59	222,39	16,85	0,20	2,32	675,74	675,74	675,74	0,05	0,02	NE	NE	0,10	3,45	0,14	0,02	2,03
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,23	16,13	1,87	0,07	0,07	1546,53	1546,53	1546,53	0,00	0,01	NE	NE	0,03	1,14	0,05	0,01	0,67
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		24,64	6,34	2,82	0,10	0,01	1161,81	1161,81	1161,81	0,00	0,01	NE	NE	0,05	1,64	0,07	0,01	0,97
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,11	14,70	2,79	0,00	0,00	53,96	53,96	53,96	0,00	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	5,53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	1398,08	1048,28	570,66	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	977,27	488,64	263,86	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		3,54	0,61	0,22	0,01	0,00	118,60	118,60	118,60		0,00			0,00	0,12	0,00	0,00	0,07
1 A 3 d ii		1 A 3 d ii National Navigation		8,66	7,82	1,59	1,93	0,00	571,68	550,91	531,17	0,02	0,00	0,01	0,03	0,01	0,08	1,35	0,04	0,12
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A																	
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,30	0,92	0,58	0,40	NA	154,71	147,43	136,43	0,20	0,02	0,11	0,02	0,06	0,07	0,19	0,02	0,64
1 A 4 b	(a)	**1 A 4 b Residential**	A																	
1 A 4 b i		1 A 4 b i Residential plants		4,99	171,94	12,63	1,79	NA	13402,12	12714,80	12036,29	0,14	0,13	0,17	0,03	0,03	0,16	0,05	0,13	2,73
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,29	101,23	7,84	0,01	0,00	77,08	77,08	77,08	0,00	0,00	NE	NE	0,00	0,14	0,01	0,00	0,08

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A																	
1 A 4 c i		1 A 4 c i Stationary		1,38	8,58	1,61	1,34	NO	521,08	485,90	454,10	0,04	0,02	0,02	0,02	0,04	0,02	0,60	0,02	0,08
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		12,51	18,43	2,39	0,32	0,00	1091,12	1091,12	1091,12	0,00	0,00	NE		0,02	0,56	0,02	0,00	0,33
1A 4 c iii		1A 4 c iii National Fishing		10,10	1,32	0,42	0,77	0,00	326,44	310,13	294,63	0,02	0,00	0,01	0,01	0,01	0,01	0,07	0,04	0,09
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		0,45	0,31	0,06	0,02	0,00	24,70	24,70	24,70	0,08	0,00	0,00	0,00	0,00	0,05	0,00	0,00	0,03
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A																	
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA		NA	NA	NA	1404,12	561,65	56,16	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A																	
1 B 2 a	(a)	**1 B 2 a Oil**	A																	
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	10,06	IE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,71	0,25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	1,04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		2,83	0,24	0,05	0,10	NA	2,18	2,18	2,18	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**																	
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,20	0,54	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,02	NE	0,16	0,00	0,00	0,00	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**																	
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,46	NE	NE	NE	0,06	323,00	258,00	194,00	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,02	NE	0,03	NE	0,06	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NE	NE	NE	0,07	0,00	0,00	NE	0,00	0,05	0,00	NE	0,63
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**																	
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,52	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	***Yearly minimum reporting***											***Additional reporting***					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	6,07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	9,05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,65	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	18,64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**																	
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	15,17	574,34	258,44	57,46	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	6,58	1087,30	489,26	108,78	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,11	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,00	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	39,53	12591,55	5666,46	1258,64	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,64	2159,02	971,84	215,72	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	4,70	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**																	
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,64	NA	22,90	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	0,05	0,05	0,05	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		197,89	604,20	116,07	31,60	97,68	43751,07	31588,88	23351,79	4,93	0,58	1,26	0,76	1,24	8,82	10,61	2,11	23,35

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		0,93	0,64	0,11	0,07	0,00	3,36	3,36	3,36	0,11	0,00	0,00	0,00	0,00	0,11	0,00	0,00	0,06
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		8,16	1,03	0,29	0,62	0,00	31,22	31,22	31,22	0,00	0,01	0,00	0,00	0,03	1,04	0,04	0,01	0,61
1 A 3 d i	(a)	International Navigation		85,76	7,29	2,29	44,11		4976,36	4727,55	4491,17	0,15	0,02	0,03	0,27	0,12	0,27	15,04	0,30	0,69
5 E	(a)	5 E Other																		
X		X (11 08 Volcanoes)																		

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

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TABLE IV 1A: National sector emissions: Main pollutants, particulate matter and heavy metals

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 2004 (as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
Footnotes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 1 a	(a)	1 A 1 a Public Electricity and Heat Production		44,21	11,71	4,09	9,77	NA	1328,10	1050,94	861,91	2,15	0,21	0,56	0,35	0,43	0,61	2,09	0,75	13,71
1 A 1 b	(a)	1 A 1 b Petroleum refining		1,61	0,24	0,00	0,42	NA	133,08	122,37	117,01	0,03	0,01	0,00	0,02	0,04	0,01	0,69	0,01	0,00
1 A 1 c	(a)	1 A 1 c Manufacture of Solid Fuels and Other Energy Industries		6,84	0,20	0,04	0,01	NA	2,91	1,72	1,43	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 2	(a)	**1 A 2 Manufacturing Industries and Construction**	**A**	15,00	10,07	2,23	5,68	0,00	1423,62	1260,52	1177,51	0,21	0,12	0,07	0,12	0,26	0,59	4,41	0,10	0,91
1 A 2 a	(a)	1 A 2 a Iron and Steel		IE	IE	IE	IE	NO	181,20	54,36	8,15	0,65	0,01	NE	0,03	0,10	NE	0,12	0,45	0,45
1 A 2 b	(a)	1 A 2 b Non-ferrous Metals		IE	IE	IE	IE	NO	22,92	20,58	9,66	0,01	0,00	NE	NE	NE	0,00	NE	NE	0,00
1 A 2 c	(a)	1 A 2 c Chemicals		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d	(a)	1 A 2 d Pulp, Paper and Print		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e	(a)	1 A 2 e Food Processing, Beverages and Tobacco		IE	IE	IE	IE	NO	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f	(a)	1 A 2 f Other (Please specify in a covering note)		10,01	10,47	0,10	1,51	0,36	456,41	399,71	246,22	0,47	0,02	0,17	0,06	0,03	0,03	0,06	0,25	0,18
1 A 3 a ii (i)		1 A 3 a ii Civil Aviation (Domestic, LTO)		0,16	0,73	0,13	0,01	0,00	1,31	1,31	1,31	1,30	0,00	NE	NE	0,00	0,02	0,00	0,00	0,01
1 A 3 a ii (ii)		1 A 3 a ii Civil Aviation (Domestic, Cruise)		0,39	0,13	0,03	0,03	0,00	1,60	1,60	1,60	0,00	0,00	0,00	0,00	0,00	0,05	0,00	0,00	0,03
1 A 3 b	(a)	**1 A 3 b Road Transportation**	**A**																	

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 3 b i		1 A 3 b i R.T., Passenger cars		25,31	195,78	14,36	0,20	2,35	670,92	670,92	670,92	0,05	0,02	NE	NE	0,10	3,46	0,14	0,02	2,04
1 A 3 b ii		1 A 3 b ii R.T., Light duty vehicles		10,96	15,51	1,85	0,08	0,08	1458,21	1458,21	1458,21	0,00	0,01	NE	NE	0,04	1,29	0,05	0,01	0,76
1 A 3 b iii		1 A 3 b iii R.T., Heavy duty vehicles		22,69	5,90	2,64	0,10	0,01	1028,65	1028,65	1028,65	0,00	0,01	NE	NE	0,05	1,64	0,07	0,01	0,97
1 A 3 b iv		1 A 3 b iv R.T., Mopeds & Motorcycles		0,12	15,46	2,80	0,00	0,00	56,54	56,54	56,54	0,00	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 b v		1 A 3 b v R.T., Gasoline evaporation		NA	NA	4,81	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi		1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	1454,16	1090,52	593,54	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii		1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	1004,36	502,18	271,18	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c	(a)	1 A 3 c Railways		3,48	0,60	0,22	0,01	0,00	114,77	114,77	114,77		0,00			0,00	0,12	0,00	0,00	0,07
1 A 3 d ii		1 A 3 d ii National Navigation		7,99	7,77	1,47	2,26	0,00	532,66	513,72	495,72	0,02	0,00	0,00	0,02	0,01	0,08	1,23	0,03	0,11
1 A 3 e	**(a)**	**1 A 3 e Other (Please specify in a covering note)**	A																	
1 A 3 e i		1 A 3 e i Pipeline compressors		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii		1 A 3 e ii Other mobile sources and machinery		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a	(a)	1 A 4 a Commercial / Institutional		1,09	0,91	0,57	0,26	NA	133,21	129,90	122,72	0,02	0,01	0,05	0,01	0,01	0,01	0,08	0,02	0,18
1 A 4 b	(a)	**1 A 4 b Residential**	A																	
1 A 4 b i		1 A 4 b i Residential plants		4,88	170,81	12,56	1,74	NA	13309,12	12626,34	11952,29	0,13	0,13	0,17	0,03	0,03	0,15	0,05	0,12	2,69
1 A 4 b ii		1 A 4 b ii Household and gardening (mobile)		0,32	114,07	8,73	0,01	0,00	87,16	87,16	87,16	0,00	0,00	NE	NE	0,00	0,16	0,01	0,00	0,09

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
1 A 4 c	(a)	**1 A 4 c Agriculture / Forestry / Fishing**	A																	
1 A 4 c i		1 A 4 c i Stationary		1,30	8,56	1,61	1,17	NO	514,65	481,13	450,90	0,04	0,01	0,02	0,02	0,03	0,02	0,47	0,02	0,07
1 A 4 c ii		1 A 4 c ii Off-road Vehicles and Other Machinery		11,97	16,33	2,17	0,32	0,00	1010,72	1010,72	1010,72	0,00	0,00	NE		0,02	0,56	0,02	0,00	0,33
1A 4 c iii		1A 4 c iii National Fishing		8,53	1,11	0,35	0,63	0,00	272,21	258,61	245,69	0,01	0,00	0,01	0,01	0,01	0,01	0,04	0,03	0,07
1 A 5 a	(a)	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b	(a)	1 A 5 b Other, Mobile (Including military)		1,08	0,72	0,13	0,05	0,00	52,72	52,72	52,72	0,08	0,00	0,00	0,00	0,00	0,13	0,01	0,00	0,08
1B1	(a)	**1B1 Fugitive Emissions from Solid Fuels**	A																	
1 B 1 a	(a)	1 B 1 a Coal Mining and Handling		NA	31,78	NA	NA	NA	1404,12	561,65	56,16	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b	(a)	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c	(a)	1 B 1 c Other (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2	(a)	**1 B 2 Oil and natural gas**	A																	
1 B 2 a	(a)	**1 B 2 a Oil**	A																	
1 B 2 a i	(a)	1 B 2 a i Exploration Production, Transport		NA	NA	11,53	IE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv	(a)	1 B 2 a iv Refining / Storage		NA	NA	3,73	0,12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v	(a)	1 B 2 a v Distribution of oil products		NA	NA	1,03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi	(a)	1 B 2 a vi Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b	(a)	1 B 2 b Natural gas		NA	NA	0,10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c	(a)	1 B 2 c Venting and flaring		3,13	0,27	0,06	0,06	NA	2,62	2,62	2,62	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	*Yearly minimum reporting*											*Additional reporting*					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
2 A	(a)	**2 A MINERAL PRODUCTS (b)**	**A**																	
2 A 1	(a)	2 A 1 Cement Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2	(a)	2 A 2 Lime Production		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3	(a)	2 A 3 Limestone and Dolomite Use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4	(a)	2 A 4 Soda Ash Production and use		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5	(a)	2 A 5 Asphalt Roofing		NE	0,00	0,01	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6	(a)	2 A 6 Road Paving with Asphalt		NE	0,24	0,55	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7	(a)	2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)		NE	NE	0,02	NE	0,17	0,00	0,00	0,00	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B	(a)	**2 B CHEMICAL INDUSTRY**	**A**																	
2 B 1	(a)	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2	(a)	2 B 2 Nitric Acid Production		0,27	NE	NE	NE	0,03	192,00	153,00	115,00	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3	(a)	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4	(a)	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5	(a)	2 B 5 Other (Please specify in a covering note)		0,03	NE	0,03	NE	0,07	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C	(a)	2 C METAL PRODUCTION		NA	NE	NE	NA	NA	NE	NE	NE	0,07	0,00	0,00	NE	0,00	0,05	0,00	NE	0,63
2 D	(a)	2 D OTHER PRODUCTION (b)	**A**																	
2 D 1	(a)	2 D 1 Pulp and Paper		NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2	(a)	2 D 2 Food and Drink		NE	NE	0,53	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G	(a)	2 G OTHER (Please specify in a covering note)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
3 A	(a)	3 A PAINT APPLICATION		NA	NA	6,63	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B	(a)	3 B DEGREASING AND DRY CLEANING		NA	NA	8,74	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C	(a)	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	0,74	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D	(a)	3 D OTHER including products containing HMs and POPs (Please specify in a covering note)		NA	NA	20,30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B	(a)	**4 B MANURE MANAGEMENT (c)**	**A**																	
4 B 1	(a)	4 B 1 Cattle		IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a	(a)	4 B 1 a Dairy		NA	NA	NA	NA	14,88	542,94	244,31	54,32	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b	(a)	4 B 1 b Non-Dairy		NA	NA	NA	NA	6,35	1042,91	469,29	104,33	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2	(a)	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3	(a)	4 B 3 Sheep		NA	NA	NA	NA	0,11	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 4	(a)	4 B 4 Goats		NA	NA	NA	NA	0,02	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5	(a)	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6	(a)	4 B 6 Horses		NA	NA	NA	NA	1,01	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7	(a)	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8	(a)	4 B 8 Swine		NA	NA	NA	NA	39,37	12868,00	5790,86	1286,27	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9	(a)	4 B 9 Poultry		NA	NA	NA	NA	4,87	1951,64	878,46	195,00	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13	(a)	4 B 13 Other		NA	NA	NA	NA	5,32	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C	(a)	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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NFR sectors to be reported to CLRTAP			A = Allowable Aggregation	Yearly minimum reporting											Additional reporting					
				Main Pollutants					Particulate matter			Priority metals			Other metals					
				NOx	CO	NMVOC	SOx	NH3	TSP	PM10	PM2.5	Pb	Cd	Hg	As	Cr	Cu	Ni	Se	Zn
				Gg NO_2	Gg	Gg	Gg SO_2	Gg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
4 D	(a)	**4 D AGRICULTURAL SOILS**	**A**																	
4 D 1	(a)	4 D 1 Direct Soil Emission		NA	NA	1,60	NA	22,85	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F	(a)	4 F FIELD BURNING OF AGRICULTURAL WASTES		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G	(a)	4 G OTHER (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B	(a)	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A	(a)	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B	(a)	6 B WASTE-WATER HANDLING		NA	NA	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C	(a)	6 C WASTE INCINERATION (e)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D	(a)	6 D OTHER WASTE (f)		0,00	0,00	0,00	0,00	NE	0,04	0,04	0,04	NE	NE	NE	NE	NE	NE	NE	NE	NE
7	(a)	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
		National Total		181,37	619,36	116,50	24,43	97,84	43255,48	31095,43	22850,28	5,25	0,58	1,06	0,66	1,16	9,03	9,55	1,84	23,41

Memo Items																				
1 A 3 a i (i)	(a)	International Aviation (LTO)		1,02	0,70	0,12	0,07	0,00	3,60	3,60	3,60	0,11	0,00	0,00	0,00	0,00	0,12	0,00	0,00	0,07
1 A 3 a i (ii)	(a)	International Aviation (Cruise)		9,42	1,15	0,33	0,71	0,00	35,90	35,90	35,90	0,00	0,01	0,00	0,00	0,04	1,20	0,05	0,01	0,71
1 A 3 d i	(a)	International Navigation		69,70	5,93	1,86	34,82		4149,07	3941,62	3744,54	0,12	0,02	0,03	0,23	0,10	0,23	12,71	0,24	0,57
5 E	(a)	5 E Other																		
X		X (11 08 Volcanoes)																		

(a) Sectors already reported to UNFCCC for NOx, CO, NMVOC, SO_2.

(b) Including Product handling.

(c) Including NH3 from Enteric Fermentation.

(d) Including PM sources.

(e) Excludes waste incineration for energy (this is included in 1 A 1).

(f) Includes accidental fires.

Note 1: Main Pollutants should cover the timespan from 1980 to latest year.

HM should cover the timespan from 1990 to latest year.

PM should cover the timespan from 2000 to latest year.

Note 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is not available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1980	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1981	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																						
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1982	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	Yearly minimum reporting																			Additional reporting	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1983	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	^										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	^	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	^	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	^										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	^										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	^										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	^										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo	NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses	NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1984 (as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1985	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1986	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
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(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
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TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1987 (as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	pyrene benzo(a)	fluoranthene benzo(b)	fluoranthene benzo(k)	pyrene (1,2,3-cd) Indeno	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1988	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin kg	Chlordane kg	Chlordecone kg	Dieldrin kg	Endrin kg	Heptachlor kg	Hexabromo-biphenyl kg	Mirex kg	Toxaphene kg	HCH kg	DDT kg	PCB kg	DIOX g I-Teq	benzo(a) pyrene Mg	benzo(b) fluoranthene Mg	benzo(k) fluoranthene Mg	Indeno (1,2,3-cd) pyrene Mg	Total 1-4 Mg	HCB kg	PCP kg	SCCP kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1989	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																				*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a	**1 B 2 a Oil**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A										NR			NR	NR	NR	NR	NR	NR	NR	NR	
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR

Memo Items																						
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NR	NO	NO	NR	NR	NR	NR	NR	NR	NR	NR	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1990	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30,91	0,01	0,03	0,01	0,01	0,05	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,01	0,03	0,02	0,01	0,07	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,92	0,01	0,03	0,00	0,00	0,05	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,79	0,03	0,04	0,03	0,03	0,13	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,01	0,01	0,01	0,01	0,04	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,05	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,08	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,19	0,04	0,05	0,02	0,04	0,15	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,62	1,63	2,11	0,70	1,19	5,62	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,42	0,21	0,23	0,03	0,32	0,80	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,01	0,01	0,01	0,03	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,12	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	68,06	1,96	2,56	0,87	1,64	7,03	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,52	0,00	0,01	0,01	0,02	0,04	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1991	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27,97	0,01	0,03	0,01	0,01	0,06	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,07	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,17	0,01	0,03	0,01	0,00	0,05	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,78	0,03	0,04	0,03	0,03	0,13	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,05	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,01	0,04	0,05	0,02	0,03	0,13	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,04	1,91	2,47	0,81	1,43	6,61	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,49	0,24	0,26	0,04	0,38	0,90	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,01	0,01	0,00	0,03	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,13	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11,10	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65,79	2,26	2,95	0,98	1,93	8,12	NA	NR	NR

Memo Items																						
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,47	0,00	0,01	0,01	0,02	0,04	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
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(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1992 (as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			Yearly minimum reporting																			Additional reporting	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23,79	0,01	0,03	0,01	0,01	0,06	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRrgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,06	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,28	0,01	0,04	0,01	0,00	0,06	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,76	0,03	0,04	0,03	0,03	0,13	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,05	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,09	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,75	0,04	0,05	0,02	0,04	0,15	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,17	1,94	2,52	0,83	1,43	6,72	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,24	0,19	0,21	0,03	0,29	0,73	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,01	0,01	0,00	0,03	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,13	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,20	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60,41	2,26	2,96	1,00	1,86	8,08	NA	NR	NR

Memo Items																						
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,48	0,00	0,02	0,01	0,02	0,05	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1993	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19,64	0,01	0,04	0,01	0,01	0,07	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,06	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,28	0,01	0,04	0,01	0,00	0,06	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,70	0,03	0,04	0,03	0,03	0,13	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	0,00	0,02	0,03	0,00	0,05	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,00	0,00	0,01	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,40	0,04	0,05	0,02	0,04	0,15	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,86	2,13	2,76	0,91	1,56	7,36	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,11	0,18	0,20	0,03	0,28	0,68	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,01	0,01	0,00	0,03	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,30	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	55,48	2,43	3,20	1,08	1,96	8,67	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,73	0,01	0,02	0,01	0,03	0,06	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1994 (as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18,61	0,01	0,03	0,01	0,01	0,06	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,06	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,27	0,01	0,04	0,01	0,01	0,06	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,62	0,03	0,03	0,03	0,03	0,12	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,05	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,09	0,00	0,00	0,00	0,01	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,39	0,04	0,06	0,02	0,04	0,15	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,07	2,06	2,68	0,88	1,50	7,12	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,93	0,19	0,20	0,03	0,30	0,71	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,03	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,40	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52,47	2,37	3,11	1,05	1,93	8,46	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,81	0,01	0,02	0,01	0,04	0,08	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1995	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18,84	0,01	0,04	0,01	0,01	0,07	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,30	0,01	0,04	0,01	0,01	0,07	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,57	0,03	0,03	0,03	0,03	0,12	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,00	0,00	0,01	0,02	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,35	0,05	0,07	0,02	0,04	0,18	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11,81	2,07	2,70	0,90	1,49	7,16	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,77	0,16	0,17	0,03	0,24	0,59	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,01	0,01	0,00	0,03	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,09	0,00	0,00	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,50	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51,33	2,36	3,12	1,07	1,86	8,41	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,85	0,01	0,03	0,01	0,04	0,08	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1996	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18,49	0,01	0,05	0,02	0,01	0,10	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,05	0,02	0,05	0,01	0,01	0,08	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,51	0,03	0,03	0,03	0,03	0,12	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,01	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,24	0,08	0,10	0,03	0,06	0,28	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,16	2,20	2,88	0,96	1,56	7,60	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,59	0,13	0,15	0,03	0,19	0,50	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,03	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49,33	2,50	3,34	1,15	1,91	8,90	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,81	0,01	0,02	0,01	0,04	0,08	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 1997 (as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno pyrene (1,2,3-cd)	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17,23	0,01	0,05	0,02	0,01	0,09	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRrgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,83	0,02	0,06	0,01	0,01	0,09	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,44	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,09	0,00	0,00	0,00	0,01	0,02	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,09	0,08	0,11	0,04	0,06	0,29	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,08	2,19	2,86	0,95	1,55	7,54	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,60	0,13	0,14	0,03	0,17	0,46	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,70	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46,14	2,48	3,31	1,14	1,88	8,81	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,74	0,01	0,02	0,01	0,04	0,08	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1998	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13,18	0,01	0,05	0,02	0,01	0,09	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,51	0,02	0,05	0,01	0,01	0,08	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,37	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,01	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,07	0,00	0,00	0,00	0,01	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,70	0,08	0,11	0,04	0,06	0,29	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,93	1,94	2,54	0,85	1,38	6,71	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,49	0,13	0,14	0,04	0,15	0,45	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,31	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38,64	2,24	2,99	1,04	1,68	7,95	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,74	0,01	0,03	0,01	0,04	0,09	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

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(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
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(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	1999	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,19	0,01	0,04	0,02	0,01	0,08	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,12	0,02	0,07	0,01	0,00	0,10	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,31	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,01	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,06	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,02	0,11	0,14	0,05	0,08	0,38	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11,01	2,02	2,64	0,88	1,43	6,96	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,32	0,11	0,13	0,04	0,12	0,40	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	^																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,92	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	^	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	^													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33,03	2,33	3,12	1,08	1,72	8,25	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,70	0,01	0,02	0,01	0,04	0,08	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

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Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	2000	(as YYYY, year of Emmissions)

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FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
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NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,60	0,01	0,04	0,01	0,01	0,07	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,74	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,19	0,02	0,07	0,01	0,00	0,10	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,26	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,06	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,43	0,13	0,17	0,06	0,09	0,46	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,84	2,38	3,12	1,04	1,68	8,23	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,28	0,12	0,13	0,03	0,16	0,44	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,52	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32,27	2,72	3,63	1,25	2,02	9,62	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,72	0,01	0,02	0,01	0,03	0,07	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 2001 (as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,08	0,01	0,04	0,02	0,01	0,08	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,21	0,02	0,08	0,01	0,00	0,11	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,22	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,06	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,36	0,11	0,15	0,05	0,08	0,39	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11,52	2,73	3,57	1,19	1,93	9,41	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,26	0,12	0,14	0,03	0,17	0,46	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,09	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**																		0,00			
2 B 1	2 B 1 Ammonia Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,52	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**													NA					0,00			
4 B 1	4 B 1 Cattle	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30,60	3,05	4,07	1,38	2,27	10,77	NA	NR	NR
Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,60	0,01	0,02	0,01	0,03	0,06	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	2002	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP			***Yearly minimum reporting***																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
		A = Allowable Aggregation	Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,35	0,01	0,04	0,02	0,01	0,08	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,01	0,01	0,04	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,03	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,38	0,02	0,08	0,00	0,00	0,11	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,19	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,01	0,01	0,01	0,01	0,05	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,00	0,05	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,08	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,34	0,11	0,15	0,05	0,08	0,39	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,93	2,71	3,55	1,18	1,91	9,36	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,14	0,10	0,11	0,03	0,13	0,37	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,10	0,00	0,01	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**																		0,00			
2 B 1	2 B 1 Ammonia Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,52	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**													NA					0,00			
4 B 1	4 B 1 Cattle	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27,31	3,02	4,02	1,37	2,21	10,63	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,49	0,00	0,02	0,01	0,03	0,06	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	09.02.2006	(as DD.MM.YYYY)
YEAR:	2003	(as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,60	0,01	0,03	0,01	0,01	0,06	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,31	0,02	0,08	0,00	0,00	0,11	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,17	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,02	0,01	0,01	0,01	0,06	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,01	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,07	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,44	0,11	0,15	0,05	0,08	0,40	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11,32	3,00	3,93	1,31	2,12	10,36	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,23	0,12	0,13	0,03	0,17	0,44	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,09	0,00	0,00	0,00	0,01	0,02	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A												NA						0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28,50	3,32	4,42	1,50	2,46	11,70	NA	NR	NR

Memo Items																							
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,52	0,00	0,02	0,01	0,03	0,06	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 1B: National sector emissions: Persistent organic pollutants
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 09.02.2006 (as DD.MM.YYYY)
YEAR: 2004 (as YYYY, year of Emmissions)

These five yellow liNRs will NAt be read by UNRCE! These liNRs can be modified freely for your own reference purposes.
FootNAtes to the emission figures reported should be submitted together with the emission data, but in a separate document.
Please fill out the blue marked fields. You may use the aggregation levels instead of the gray marked fields in aggregation.
You must use for each field either a number or oNR of the following codes (capitals, NA dots in between, see EB.AIR/GE.1/2002/2): NA , NA , NR , IE , C
FootNAtes or any other information entered into this table will NAt be taken into account.

NFR sectors to be reported to CLRTAP		A = Allowable Aggregation	*Yearly minimum reporting*																			*Additional reporting*	
			ANNRX I (1)									ANNRX II (2)			ANNRX III (3)							OTHER (4)	
																PAH							
			Aldrin	Chlordane	Chlordecone	Dieldrin	Endrin	Heptachlor	Hexabromo-biphenyl	Mirex	Toxaphene	HCH	DDT	PCB	DIOX	benzo(a) pyrene	benzo(b) fluoranthene	benzo(k) fluoranthene	Indeno (1,2,3-cd) pyrene	Total 1-4	HCB	PCP	SCCP
			kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	g I-Teq	Mg	Mg	Mg	Mg	Mg	kg	kg	kg
1 A 1 a	1 A 1 a Public Electricity and Heat Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,63	0,01	0,03	0,01	0,01	0,06	NA	NR	NR
1 A 1 b	1 A 1 b Petroleum refining		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 1 c	1 A 1 c Manufacture of Solid fuels and Other ENRgy Industries		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 2	**1 A 2 Manufacturing Industries and Construction**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0,00	0,02	0,02	0,01	0,05	NA	NR	NR
1 A 2 a	1 A 2 a Iron and Steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 b	1 A 2 b NAn-ferrous Metals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 c	1 A 2 c Chemicals		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 d	1 A 2 d Pulp, Paper and Print		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 e	1 A 2 e Food Processing, Beverages & Tobacco		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 2 f	1 A 2 f Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,15	0,03	0,08	0,00	0,00	0,12	NA	NR	NR
1 A 3 a ii (i)	1 A 3 a ii Civil Aviation (Domestic, LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 a ii (ii)	1 A 3 a ii Civil Aviation (Domestic, Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b	**1 A 3 b Road Transportation**	A																		0,00			
1 A 3 b i	1 A 3 b i R.T., Passenger cars		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,14	0,03	0,03	0,03	0,03	0,11	NA	NR	NR
1 A 3 b ii	1 A 3 b ii R.T., Light duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,02	0,02	0,01	0,02	0,06	NA	NR	NR
1 A 3 b iii	1 A 3 b iii R.T., Heavy duty vehicles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,04	0,00	0,02	0,03	0,01	0,06	NA	NR	NR
1 A 3 b iv	1 A 3 b iv R.T., Mopeds & Motorcycles		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 3 b v	1 A 3 b v R.T., GasoliNR evaporation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vi	1 A 3 b vi R.T., Automobile tyre and brake wear		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 b vii	1 A 3 b vii R.T., Automobile road abrasion		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 c	1 A 3 c Railways		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR

1 A 3 d ii	1 A 3 d ii National Navigation		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,07	0,00	0,00	0,00	0,00	0,01	NA	NR	NR
1 A 3 e	**1 A 3 e Other (Please specify in a covering NAte)**	A																		0,00			
1 A 3 e i	1 A 3 e i PipeliNR compressors		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 A 3 e ii	1 A 3 e ii Other mobile sources and machiNRry		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 4 a	1 A 4 a Commercial / Institutional		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,34	0,12	0,15	0,05	0,08	0,40	NA	NR	NR
1 A 4 b	**1 A 4 b Residential**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 b i	1 A 4 b i Residential plants		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,69	2,98	3,91	1,30	2,10	10,29	NA	NR	NR
1 A 4 b ii	1 A 4 b ii Household and gardening (mobile)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,02	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 A 4 c	**1 A 4 c Agriculture / Forestry / Fishing**	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0,00	NA	NR	NR
1 A 4 c i	1 A 4 c i Stationary		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,18	0,11	0,12	0,03	0,15	0,40	NA	NR	NR
1 A 4 c ii	1 A 4 c ii Off-road Vehicles and Other MachiNRry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	0,00	0,01	0,01	0,00	0,02	NA	NR	NR
1A 4 c iii	1A 4 c iii National Fishing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,08	0,00	0,00	0,00	0,01	0,01	NA	NR	NR
1 A 5 a	1 A 5 a Other, Stationary (including Military)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 A 5 b	1 A 5 b Other, Mobile (Including military)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1B1	**1B1 Fugitive Emissions from Solid Fuels**	A																		0,00			
1 B 1 a	1 B 1 a Coal Mining and Handling		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 1 b	1 B 1 b Solid fuel transformation		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 1 c	1 B 1 c Other (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
1 B 2	**1 B 2 Oil and natural gas**	A													0,00					0,00			
1 B 2 a	**1 B 2 a Oil**	A																		0,00			
1 B 2 a i	1 B 2 a i Exploration Production, Transport		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a iv	1 B 2 a iv Refining / Storage		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a v	1 B 2 a v Distribution of oil products		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 a vi	1 B 2 a vi Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 b	1 B 2 b Natural gas		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
1 B 2 c	1 B 2 c Venting and flaring		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
2 A	**2 A MINRRAL PRODUCTS (a)**	A																		0,00			
2 A 1	2 A 1 Cement Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	IE	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 2	2 A 2 Lime Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,01	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 3	2 A 3 LimestoNR and Dolomite Use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 4	2 A 4 Soda Ash Production and use		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

2 A 5	2 A 5 Asphalt Roofing		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 6	2 A 6 Road Paving with Asphalt		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 A 7	2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B	**2 B CHEMICAL INDUSTRY**	A																		0,00			
2 B 1	2 B 1 Ammonia Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 2	2 B 2 Nitric Acid Production		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 B 3	2 B 3 Adipic Acid Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 4	2 B 4 Carbide Production		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
2 B 5	2 B 5 Other (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 C	2 C METAL PRODUCTION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D	2 D OTHER PRODUCTION (a)	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 1	2 D 1 Pulp and Paper		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 D 2	2 D 2 Food and Drink		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
2 G	2 G OTHER (Please specify in a covering NAte)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
3 A	3 A PAINT APPLICATION		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 B	3 B DEGREASING AND DRY CLEANING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 C	3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
3 D	3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NA	NA	NA	0,00	NA	NR	NR
4 B	**4 B MANURE MANAGEMENT (b)**	A													NA					0,00			
4 B 1	4 B 1 Cattle		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 a	4 B 1 a Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 1 b	4 B 1 b NAn-Dairy		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 2	4 B 2 Buffalo		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 3	4 B 3 Sheep		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 4	4 B 4 Goats		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 5	4 B 5 Camels and Llamas		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 6	4 B 6 Horses		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 7	4 B 7 Mules and Asses		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 B 8	4 B 8 SwiNR		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 9	4 B 9 Poultry		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 B 13	4 B 13 Other		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR

4 C	4 C RICE CULTIVATION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 D	**4 D AGRICULTURAL SOILS**	A																		0,00			
4 D 1	4 D 1 Direct Soil Emission		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
4 F	4 F FIELD BURNING OF AGRICULTURAL WASTES		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
4 G	4 G OTHER (c)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
5 B	5 B FOREST AND GRASSLAND CONVERSION		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
6 A	6 A SOLID WASTE DISPOSAL ON LAND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 B	6 B WASTEWATER HANDLING		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,00	NA	NR	NR
6 C	6 C WASTE INCINRRATION (d)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,04	NO	NO	NO	NO	0,00	NO	NR	NR
6 D	6 D OTHER WASTE (e)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,10	NA	NA	NA	NA	0,00	NA	NR	NR
7	7 OTHER		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NR	NR
	National Total		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21,56	3,30	4,39	1,50	2,42	11,60	NA	NR	NR

Memo Items																						
1 a 3 a i (i)	International Aviation (LTO)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 a i (ii)	International Aviation (Cruise)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	0,00	0,00	0,00	0,00	0,00	NA	NR	NR
1 a 3 d i	International MariNR (b)		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0,43	0,00	0,01	0,01	0,02	0,05	NA	NR	NR
5 E	5 E Other		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0,00	NO	NO	NO
X	X (11 08 VolcaNAes)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NO	NO	NO

(a) Including Handling;
(b) Including NH3 from Enteric Fermentation;
(c) Including PM sources;
(d) Excludes waste inciNRration for eNRrgy (this is included in 1 A 1);
(e) Includes accidental fires.

NAtes 1: POPs should cover the timespan from 1990 to the latest year.
(1): The POPs listed in anNRx I to the Protocol on POPs are substances scheduled for elimination; DDT and PCBs are also listed in anNRx I;
(2): The POPs listed in anNRx II to the Protocol on POPs are substances scheduled for restrictions on use;
(3): The POPs listed in anNRx III to the Protocol on POPs are substances referred to in article 3, para. 5 (a), of the Protocol. Polycyclic aromatic hydrocarbons (PAHs): For the purpose of the emission inventories, the following four indicator compounds should be used: benzo(b)pyreNR, benzo(b)fluorantheNR, benzo(k)fluorantheNR and indeNA(1,2,3-cd)pyreNR. HCB is also included in anNRx I to the Protocol as a substance for elimination.
(4): See article 8 of the Protocol (Research, development and monitoring; reporting voluntary).
NAte 2: The A=Allowable Aggregation illustrates the level of aggregation that can be used if more detailed information is NAt available. Grey cells show which sectors can be aggregated into the sector marked A. Black cells occur when two possible levels of aggregation are possible.

TABLE IV 2A: Five-yearly, Minimum reporting of projected national total emissions of main pollutants
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	15022005	(as DD.MM.YYYY)
YEAR:	2010-2020	(as YYYY, year of Emmissions)

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You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

	UNIT	Current legislation projections [a]			Current reduction plans		
Pollutant:		2010	2015	2020	2010	2015	2020
Sulphur oxides (SO_x as SO_2)	Gg	22	22	22			
Nitrogen oxides (NO_x as NO_2)	Gg	147	133	116			
Non-methane volatile organic compounds (NMVOC)	Gg	83	80	75			
Ammonia (NH_3)	Gg	68	63	60			

[a] Current legislation projections should be based on the activity projections as reported in tables IV 2B, IV 2C, IV 2D, and IV 2E in annex IV.

Note:
For the definition of ‘current legislation projections’ and ‘current reduction plans’ please refer to paragraph 24 of the guidelines (chap. V).

TABLE IV 2B: Five-yearly, Minimum reporting of energy consumption data

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 15.02.2006 (as DD.MM.YYYY)
YEAR: 1990 (as YYYY, year of Emmissions)

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Please fill out the blue marked fields.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Hard coal	Brown coal	Other solid fuels	Natural Gas	Derived gases	Heavy fuel oil	Other liquid fuels	Hydrogen	Biomass	Renewable	Crude oil	Nuclear	Hydro
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A1a	Power Plants	230423	IE	0	6542	NO	7998	300	NO	715	2197,08		NO	101
NFR 1A1b,c	Conversion	0	IE	0	21847	NO	2598	17647	NO	9317	54			
NFR 1A2a-f	Industry	19438	IE	1174	23141	NO	18258	21602	NO	5836	1317,6			
NFR 1A4a,bi,ci	Residential/ Commercial	3134	IE	157	24568	NO	2797	89536	NO	31855	1239			
NFR 1A3aii,b,c,dii,eii + +1A4bii,cii,ciii + 1A5b	Transport	NO	NO	NO	IE	IE	3560	164519	NO	IE	NE			
	Non-energy use [a)]	NE			NE	NE	NE	12735	NE	NE				
	TOTAL	252995	IE	1331	76098	IE	35211	306338	NO	47723	4808		NO	101
Refinery input												336100		

[a)] Should include use of all fuels, including feedstocks for petrochemical industry.

Notes: Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, to these guidelines.
Nuclear, Hydro Primary energy equivalent for non-fossil fuels should be reported according to the total primary energy supply (TPES) convention of converting electricity into primary energy, i.e. electricity generated in nuclear power plants with 33% efficiency, hydro, solar and wind with 100% efficiency and geothermal with 10% efficiency.
Energy consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data for this sectoral resolution are not available, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2B: Five-yearly, Minimum reporting of energy consumption data

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 15.02.2006 (as DD.MM.YYYY)
YEAR: 1995 (as YYYY, year of Emmissions)

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Please fill out the blue marked fields.
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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Hard coal	Brown coal	Other solid fuels	Natural Gas	Derived gases	Heavy fuel oil	Other liquid fuels	Hydrogen	Biomass	Renewable	Crude oil	Nuclear	Hydro
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A1a	Power Plants	253181	IE	0	37030	IE	11377	21106	NO	8926	4238		NO	109
NFR 1A1b,c	Conversion	0	IE	0	22271	IE	2851	23090	NO	9428	53			
NFR 1A2a-f	Industry	14924	IE	1226	34588	IE	15615	22218	NO	5379	1110			
NFR 1A4a,bi,ci	Residential/ Commercial	2241	IE	111	38848	IE	3211	75078	NO	36080	2029			
NFR 1A3aii,b,c,dii,eii + +1A4bii,cii,ciii + 1A5b	Transport	NO	NO	NO	IE	IE	1573	187914	NO	IE	NE			
	Non-energy use [a]	NE			NE	NE	0	12655	NE	NE				
	TOTAL	270346	IE	1337	132738	IE	34627	342061	NO	59814	7430		NO	109
Refinery input												418823		

[a] Should include use of all fuels, including feedstocks for petrochemical industry.

Notes: Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, to these guidelines.
Nuclear, Hydro Primary energy equivalent for non-fossil fuels should be reported according to the total primary energy supply (TPES) convention of converting electricity into primary energy, i.e. electricity generated in nuclear power plants with 33% efficiency, hydro, solar and wind with 100% efficiency and geothermal with 10% efficiency.
Energy consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data for this sectoral resolution are not available, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2B: Five-yearly, Minimum reporting of energy consumption data

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 15.02.2006 (as DD.MM.YYYY)
YEAR: 2000 (as YYYY, year of Emmissions)

SOURCE/FUEL:		Hard coal	Brown coal	Other solid fuels	Natural Gas	Derived gases	Heavy fuel oil	Other liquid fuels	Hydrogen	Biomass	Renewable	Crude oil	Nuclear	Hydro
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A1a	Power Plants	153135	IE		75645	IE	4333	34463	NO	14238	15268		NO	109
NFR 1A1b,c	Conversion	NO	IE	NO	28503	IE	1689	19454	NO	9416	82			
NFR 1A2a-f	Industry	10479	IE	1182	41413	IE	9262	23359	NO	6637	1141			
NFR 1A4a,bi,ci	Residential/ Commercial	1094	IE	31	40708	IE	2157	61927	NO	42026	2755			
NFR 1A3aii,b,c,dii,eii + +1A4bii,cii,ciii + 1A5b	Transport	NO	NO	NO	IE	IE	1509	197083	NO	IE	NE			
	Non-energy use [a)]	NE			NE	NE	NE	12106	NE	NE				
	TOTAL	164708	IE	1213	186269	IE	18949	348392	NO	72318	19247		NO	109
Refinery input												356335		

[a)] Should include use of all fuels, including feedstocks for petrochemical industry.

Notes: Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, to these guidelines.
Nuclear, Hydro Primary energy equivalent for non-fossil fuels should be reported according to the total primary energy supply (TPES) convention of converting electricity into primary energy, i.e. electricity generated in nuclear power plants with 33% efficiency, hydro, solar and wind with 100% efficiency and geothermal with 10% efficiency.
Energy consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data for this sectoral resolution are not available, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2B: Five-yearly, Minimum reporting of energy consumption data

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 13.02.2006 (as DD.MM.YYYY)
YEAR: 2010 (as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Hard coal	Brown coal	Other solid fuels	Natural Gas	Derived gases	Heavy fuel oil	Other liquid fuels	Hydrogen	Biomass	Renewable	Crude oil	Nuclear	Hydro
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A1a	Power Plants	146245,049	0	38452,7871	71816,7101	0	20940,07252	485,5023279	0	31388,19645	33445,29747		0	111,5763019
NFR 1A1b,c	Conversion	0	0	0	46077,34815	0	817,02435	16569,46818	0	0	0			
NFR 1A2a-f	Industry	7434,835902	0	652	43613,19615	0	15236,075	18768,57375	0	8408,574821	1388,111542			
NFR 1A4a,bi,ci	Residential/ Commercial	1745	0	2726	44515	0	1522	50221	0	25463	5340			
NFR 1A3aii,b,c,dii,eii + +1A4bii,cii,ciii + 1A5b	Transport	0	0	0	0	0	1822,8273	187472,9733	0	0	0			
	Non-energy use a)	0			0	0	10417,2401	399,591	0	0				
	TOTAL	155424,8849	0	41830,47816	206021,7622	0	50754,90385	273916,9063	0	65259,36766	40173,39939		0	111,5763019
Refinery input												354801		

[a] Should include use of all fuels, including feedstocks for petrochemical industry.

Notes: Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, to these guidelines.
Nuclear, Hydro Primary energy equivalent for non-fossil fuels should be reported according to the total primary energy supply (TPES) convention of converting electricity into primary energy, i.e. electricity generated in nuclear power plants with 33% efficiency, hydro, solar and wind with 100% efficiency and geothermal with 10% efficiency.
Energy consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data for this sectoral resolution are not available, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2B: Five-yearly, Minimum reporting of energy consumption data
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 13.02.2006 (as DD.MM.YYYY)
YEAR: 2015 (as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Hard coal	Brown coal	Other solid fuels	Natural Gas	Derived gases	Heavy fuel oil	Other liquid fuels	Hydrogen	Biomass	Renewable	Crude oil	Nuclear	Hydro
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A1a	Power Plants	164705,4514	0	37887,38124	74608,33214	0	19927,93772	289,1882527	0	30979,99297	38402,57787		0	111,5763019
NFR 1A1b,c	Conversion	0	0	0	74881,75517	0	817,02435	16568,22509	0	0	0			
NFR 1A2a-f	Industry	7882,835902	0	682	43433,19615	0	15308,075	18976,57375	0	8678,574821	1454,335872			
NFR 1A4a,bi,ci	Residential/ Commercial	1836	0	2727	40908	0	1462	46006	0	27656	5642			
NFR 1A3aii,b,c,dii,eii + +1A4bii,cii,ciii + 1A5b	Transport	0	0	0	0	0	1822,8273	192545,7118	0	0	0			
	Non-energy use [a]	0			0	0	10417,2401	399,591	0	0				
	TOTAL	174424,2873	0	41296,07229	233830,7913	0	49754,76905	274785,0875	0	67314,16418	45498,90413		0	111,5763019
Refinery input												354801		

[a] Should include use of all fuels, including feedstocks for petrochemical industry.

Notes: Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, to these guidelines.
Nuclear, Hydrc Primary energy equivalent for non-fossil fuels should be reported according to the total primary energy supply (TPES) convention of converting electricity into primary energy, i.e. electricity generated in nuclear power plants with 33% efficiency, hydro, solar and wind with 100% efficiency and geothermal with 10% efficiency.
Energy consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data for this sectoral resolution are not available, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2B: Five-yearly, Minimum reporting of energy consumption data
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 13.02.2006 (as DD.MM.YYYY)
YEAR: 2020 (as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Hard coal	Brown coal	Other solid fuels	Natural Gas	Derived gases	Heavy fuel oil	Other liquid fuels	Hydrogen	Biomass	Renewable	Crude oil	Nuclear	Hydro
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A1a	Power Plants	129338,9809	0	44047,30141	75395,32701	0	20949,77139	1496,123136	0	30172,34776	39791,62784		0	111,5763019
NFR 1A1b,c	Conversion	0	0	0	84351,06443	0	817,02435	16567,58282	0	0	0			
NFR 1A2a-f	Industry	8607,835902	0	697	42589,19615	0	15636,075	19428,57375	0	8818,574821	1483,335872			
NFR 1A4a,bi,ci	Residential/ Commercial	1899	0	2727	39047	0	1411	43286	0	29257	5862			
NFR 1A3aii,b,c,dii,eii + +1A4bii,cii,ciii + 1A5b	Transport	0	0	0	0	0	1822,8273	197819,9219	0	0	0			
	Non-energy use [a]	0			0	0	10417,2401	399,591	0	0				
	TOTAL	139845,8168	0	47470,99247	241382,0954	0	51053,60272	278997,5903	0	68247,51897	47136,9541		0	111,5763019
Refinery input												354801		

[a] Should include use of all fuels, including feedstocks for petrochemical industry.

Notes: Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, to these guidelines.
Nuclear, Hydro Primary energy equivalent for non-fossil fuels should be reported according to the total primary energy supply (TPES) convention of converting electricity into primary energy, i.e. electricity generated in nuclear power plants with 33% efficiency, hydro, solar and wind with 100% efficiency and geothermal with 10% efficiency.
Energy consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data for this sectoral resolution are not available, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2C: Five-yearly, Minimum reporting of electricity and heat production and consumption
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	15.02.2006	(as DD.MM.YYYY)
YEAR:	1990	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Electricity	Heat
UNIT:		TJ	TJ
Gross production		93518	92411
Own use and losses [a]		16788	18812
Import – Export [b]		25373	
Final consumption			
NFR 1A2a-f	Industry	30408	3087
NFR 1A4a,bi,ci	Residential/C	70959	70512
NFR 1A3ai,b,c,dii,eii + 1A4bii,cii,ciii + 1A5b	Transport	736	0
	TOTAL	102103	73599

[a] Includes own use in power plants and conversion sector (NFR 1A1a,b,c) and transmission and distribution losses.
[b] Please indicate the sign, i.e. if Exports are larger than Imports the number given should be negative.

Notes:

1. If data in the statistics are reported in GWh they can be converted to TJ, i.e. 1 GWh = 3.6 TJ.

2. Electricity and heat production and consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data on final consumption are not available for this sectoral resolution, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2C: Five-yearly, Minimum reporting of electricity and heat production and consumption
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	15.02.2006	(as DD.MM.YYYY)
YEAR:	1995	(as YYYY, year of Emmissions)

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Please fill out the blue marked fields.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Electricity	Heat
UNIT:		TJ	TJ
Gross production		131988	119090
Own use and losses [a)]		17956	25236
Import – Export [b)]		-2858	
Final consumption			
NFR 1A2a-f	Industry	33953	4570
NFR 1A4a,bi,ci	Residential/C	76367	89284
NFR 1A3ai,b,c,dii,eii + 1A4bii,cii,ciii + 1A5b	Transport	854	0
	TOTAL	111174	93854

[a)] Includes own use in power plants and conversion sector (NFR 1A1a,b,c) and transmission and distribution losses.
[b)] Please indicate the sign, i.e. if Exports are larger than Imports the number given should be negative.

Notes:

[1.] If data in the statistics are reported in GWh they can be converted to TJ, i.e. 1 GWh = 3.6 TJ.

[2.] Electricity and heat production and consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data on final consumption are not available for this sectoral resolution, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2C: Five-yearly, Minimum reporting of electricity and heat production and consumption
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	15.02.2006	(as DD.MM.YYYY)
YEAR:	2000	(as YYYY, year of Emmissions)

These five yellow lines will not be read by UNECE! These lines can be modified freely for your own reference purposes.
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Please fill out the blue marked fields.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Electricity	Heat
UNIT:		TJ	TJ
Gross production		129775	119725
Own use and losses [a)]		15342	25332
Import – Export [b)]		2394	
Final consumption			
NFR 1A2a-f	Industry	36175	6878
NFR 1A4a,bi,ci	Residential/C	79399	87515
NFR 1A3ai,b,c,dii,eii + 1A4bii,cii,ciii + 1A5b	Transport	1253	0
	TOTAL	116827	94393

[a)] Includes own use in power plants and conversion sector (NFR 1A1a,b,c) and transmission and distribution losses.
[b)] Please indicate the sign, i.e. if Exports are larger than Imports the number given should be negative.

Notes:

[1.] If data in the statistics are reported in GWh they can be converted to TJ, i.e. 1 GWh = 3.6 TJ.

[2.] Electricity and heat production and consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data on final consumption are not available for this sectoral resolution, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2C: Five-yearly, Minimum reporting of electricity and heat production and consumption
Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 13.02.2006 (as DD.MM.YYYY)
YEAR: 2010 (as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Electricity	Heat
UNIT:		TJ	TJ
Gross production		141478,417	136556,633
Own use and losses [a]		10552,5532	28704,6328
Import – Export [b]		-10814,9445	
Final consumption			
NFR 1A2a-f	Industry	34399	7331
NFR 1A4a,bi,ci	Residential/C	84843	100521
NFR 1A3ai,b,c,dii,eii + 1A4bii,cii,ciii + 1A5b	Transport	868,91971	0
	TOTAL	120110,92	107852

[a] Includes own use in power plants and conversion sector (NFR 1A1a,b,c) and transmission and distribution losses.
[b] Please indicate the sign, i.e. if Exports are larger than Imports the number given should be negative.

Notes:

1. If data in the statistics are reported in GWh they can be converted to TJ, i.e. 1 GWh = 3.6 TJ.

2. Electricity and heat production and consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data on final consumption are not available for this sectoral resolution, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2C: Five-yearly, Minimum reporting of electricity and heat production and consumption
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	13.02.2006	(as DD.MM.YYYY)
YEAR:	2015	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Electricity	Heat
UNIT:		TJ	TJ
Gross production		156481,008	132323,996
Own use and losses [a]		10922,9386	28465,996
Import – Export [b]		-19621,1497	
Final consumption			
NFR 1A2a-f	Industry	35610	7454
NFR 1A4a,bi,ci	Residential/C	89458	96404
NFR 1A3ai,b,c,dii,eii + 1A4bii,cii,ciii + 1A5b	Transport	868,91971	0
	TOTAL	125936,92	103858

[a] Includes own use in power plants and conversion sector (NFR 1A1a,b,c) and transmission and distribution losses.
[b] Please indicate the sign, i.e. if Exports are larger than Imports the number given should be negative.

Notes:

[1.] If data in the statistics are reported in GWh they can be converted to TJ, i.e. 1 GWh = 3.6 TJ.

[2.] Electricity and heat production and consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data on final consumption are not available for this sectoral resolution, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2C: Five-yearly, Minimum reporting of electricity and heat production and consumption
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	13.02.2006	(as DD.MM.YYYY)
YEAR:	2020	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Electricity	Heat
UNIT:		TJ	TJ
Gross production		147666,19	129533,51
Own use and losses [a]		11336,9709	28617,5103
Import – Export [b]		-4348,29918	
Final consumption			
NFR 1A2a-f	Industry	38696	7545
NFR 1A4a,bi,ci	Residential/C	92416	93371
NFR 1A3ai,b,c,dii,eii + 1A4bii,cii,ciii + 1A5b	Transport	868,91971	0
	TOTAL	131980,92	100916

[a] Includes own use in power plants and conversion sector (NFR 1A1a,b,c) and transmission and distribution losses.
[b] Please indicate the sign, i.e. if Exports are larger than Imports the number given should be negative.

Notes:

[1.] If data in the statistics are reported in GWh they can be converted to TJ, i.e. 1 GWh = 3.6 TJ.

[2.] Electricity and heat production and consumption should be reported both for historical (1990, 1995 and 2000) and projection years (2010, 2015 and 2020) as in the table above. If data on final consumption are not available for this sectoral resolution, they may be submitted in a different aggregation (consistent with NFR) with documentation on the aggregation used.

TABLE IV 2D: Five-yearly, Minimum reporting of energy consumption data for transport sector

Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	14.02.2005	(as DD.MM.YYYY)
YEAR:	1990	(as YYYY, year of Emmissions)

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You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Petrol	LPG	Diesel	CNG	Hydrogen	Heavy fuel oil	Kerosene
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A3bi	Passenger Cars	62342,1034	12,3184511	5623,95799	NA	NA	NA	NA
NFR 1A3bii	Light Duty Vehicles	2808,18595	NA	20356,1687	NA	NA	NA	NA
NFR 1A3biii	Heavy Duty Vehicles	47,5987394	NA	33966,7876	NA	NA	NA	NA
NFR 1A3biv	Mopeds and Motorcycles	618,050547	NA	NA	NA	NA	NA	NA
NFR 1A3c	Railways	0	NA	4010,00653	NA	NA	NA	0,0696
NFR 1A3eii + 1A4bii,cii + 1A5b	Other Off-road	2939,99575	NA	16787,7803	NA	NA	NA	1496,7828
NFR 1A3aii	Civil Aviation	113,589389	NA	NA	NA	NA	NA	3255,55545
NFR 1A3dii + 1A4ciii	National Shipping	433,014389	1,79	13371,8602	NA	NA	3845,23	26,2392
Aggregated categories								
NFR 1A3bi-iv	Road Transportation	65815,9386	12,3184511	59946,9143	NA	NA		
NFR 1A3c,eii + 1A4bii,cii + 1A5b	Off-road	2939,99575	NA	20797,7868	NA	NA		1496,8524
NFR 1A3aii	Civil Aviation	113,589389				NA		3255,55545
NFR 1A3dii + 1A4ciii	National Shipping	433,014389	1,79	13371,8602		NA	3845,23	26,24
	TOTAL							

Note:

Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, of the present guidelines.

Data on energy consumption in transport for 1990, 1995 and 2000 (historical years) should be provided on a sectoral resolution as in the table above. If possible, projected energy consumption for years 2010, 2015 and 2020 should also be reported following the same format. However, recognizing the fact that the projections might often be prepared at a higher sectoral resolution, aggregated categories can also be used to report historical data if detailed information cannot be obtained.

LPG - liquefied petroleum gas; CNG - compressed natural gas.

TABLE IV 2D: Five-yearly, Minimum reporting of energy consumption data for transport sector

Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	14.02.2005	(as DD.MM.YYYY)
YEAR:	1995	(as YYYY, year of Emmissions)

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Please fill out the blue marked fields.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Petrol	LPG	Diesel	CNG	Hydrogen	Heavy fuel oil	Kerosene
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A3bi	Passenger Cars	74647,2722	11,2783068	6293,55222	NA	NA	NA	NA
NFR 1A3bii	Light Duty Vehicles	3284,81008	NA	21278,2417	NA	NA	NA	NA
NFR 1A3biii	Heavy Duty Vehicles	54,4513787	NA	36441,1852	NA	NA	NA	NA
NFR 1A3biv	Mopeds and Motorcycles	710,37176	NA	NA	NA	NA	NA	NA
NFR 1A3c	Railways	0	NA	4093,25616	NA	NA	NA	0,4176
NFR 1A3eii + 1A4bii,cii + 1A5b	Other Off-road	2830,63679	NA	17268,1104	NA	NA	NA	1646,214
NFR 1A3aii	Civil Aviation	132,42083	NA	NA	NA	NA	NA	2624,62795
NFR 1A3dii + 1A4ciii	National Shipping	438,023652	1,79	14343,5699	NA	NA	1592,41	4,3848
Aggregated categories								
NFR 1A3bi-iv	Road Transportation	78696,9054	11,2783068	64012,9791	NA	NA		
NFR 1A3c,eii + 1A4bii,cii + 1A5b	Off-road	2830,63679	NA	21361,3665	NA	NA		1646,6316
NFR 1A3aii	Civil Aviation	132,42083				NA		2624,62795
NFR 1A3dii + 1A4ciii	National Shipping	438,023652	1,79	14343,5699		NA	1592,41	4,38
	TOTAL							

Note:

Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, of the present guidelines.

Data on energy consumption in transport for 1990, 1995 and 2000 (historical years) should be provided on a sectoral resolution as in the table above. If possible, projected energy consumption for years 2010, 2015 and 2020 should also be reported following the same format. However, recognizing the fact that the projections might often be prepared at a higher sectoral resolution, aggregated categories can also be used to report historical data if detailed information cannot be obtained.

LPG - liquefied petroleum gas; CNG - compressed natural gas.

TABLE IV 2D: Five-yearly, Minimum reporting of energy consumption data for transport sector

Version 2002-1

COUNTRY: DK (as ISO2 code)
DATE: 14.02.2005 (as DD.MM.YYYY)
YEAR: 2000 (as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Petrol	LPG	Diesel	CNG	Hydrogen	Heavy fuel oil	Kerosene
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A3bi	Passenger Cars	78337,3691	0,9685354	9010,37936	NA	NA	NA	NA
NFR 1A3bii	Light Duty Vehicles	3456,54927	NA	21936,7099	NA	NA	NA	NA
NFR 1A3biii	Heavy Duty Vehicles	44,1023594	NA	38249,2428	NA	NA	NA	NA
NFR 1A3biv	Mopeds and Motorcycles	886,557506	NA	NA	NA	NA	NA	NA
NFR 1A3c	Railways	0	NA	3078,73	NA	NA	NA	0
NFR 1A3eii + 1A4bii,cii + 1A5b	Other Off-road	2852,14549	NA	14225,0227	NA	NA	NA	1146,451
NFR 1A3aii	Civil Aviation	101,400378	NA	NA	NA	NA	NA	2036,88672
NFR 1A3dii + 1A4ciii	National Shipping	431,307114	1,79	12582,0305	NA	NA	1508,81	25,3344
Aggregated categories								
NFR 1A3bi-iv	Road Transportation	82724,5782	0,9685354	69196,3321	NA	NA		
NFR 1A3c,eii + 1A4bii,cii + 1A5b	Off-road	2852,14549	NA	17303,7527	NA	NA		1146,451
NFR 1A3aii	Civil Aviation	101,400378				NA		2036,88672
NFR 1A3dii + 1A4ciii	National Shipping	431,307114	1,79	12582,0305		NA	1508,81	25,33
	TOTAL							

Note:

Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, of the present guidelines.

Data on energy consumption in transport for 1990, 1995 and 2000 (historical years) should be provided on a sectoral resolution as in the table above. If possible, projected energy consumption for years 2010, 2015 and 2020 should also be reported following the same format. However, recognizing the fact that the projections might often be prepared at a higher sectoral resolution, aggregated categories can also be used to report historical data if detailed information cannot be obtained.

LPG - liquefied petroleum gas; CNG - compressed natural gas.

TABLE IV 2D: Five-yearly, Minimum reporting of energy consumption data for transport sector
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	07.02.2003	(as DD.MM.YYYY)
YEAR:	2010	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Petrol	LPG	Diesel	CNG	Hydrogen	Heavy fuel oil	Kerosene
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A3bi	Passenger Cars	85828,314	0	24028,8222	NA	NA	NA	NA
NFR 1A3bii	Light Duty Vehicles	5089,02427	NA	24019,0719	NA	NA	NA	NA
NFR 1A3biii	Heavy Duty Vehicles	55,0280868	NA	36086,1328	NA	NA	NA	NA
NFR 1A3biv	Mopeds and Motorcycles	1317,95667	NA	NA	NA	NA	NA	NA
NFR 1A3c	Railways	0	NA	2727,70643	NA	NA	NA	0
NFR 1A3eii + 1A4bii,cii + 1A5b	Other Off-road	4301,96773	NA	14119,3729	NA	NA	NA	665,2368
NFR 1A3aii	Civil Aviation	0	NA	NA	NA	NA	NA	1924,67509
NFR 1A3dii + 1A4ciii	National Shipping	372,557741	17,8572	11987,3786	NA	NA	1840,40	5,6028
Aggregated categories								
NFR 1A3bi-iv	Road Transportation	92290,323	0	84134,0268	0	0		
NFR 1A3c,eii + 1A4bii,cii + 1A5b	Off-road	4301,96773	0	16847,0793	0	0		665,2368
NFR 1A3aii	Civil Aviation	0				0		1924,67509
NFR 1A3dii + 1A4ciii	National Shipping	372,557741	17,8572	11987,3786		0	1840,39623	5,6028
	TOTAL	96964,8485	17,8572	112968,485	0	0	1840,39623	2595,51469

Note:

Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, of the present guidelines.

Data on energy consumption in transport for 1990, 1995 and 2000 (historical years) should be provided on a sectoral resolution as in the table above. If possible, projected energy consumption for years 2010, 2015 and 2020 should also be reported following the same format. However, recognizing the fact that the projections might often be prepared at a higher sectoral resolution, aggregated categories can also be used to report historical data if detailed information cannot be obtained.

LPG - liquefied petroleum gas; CNG - compressed natural gas.

TABLE IV 2D: Five-yearly, Minimum reporting of energy consumption data for transport sector
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	07.02.2003	(as DD.MM.YYYY)
YEAR:	2015	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Petrol	LPG	Diesel	CNG	Hydrogen	Heavy fuel oil	Kerosene
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A3bi	Passenger Cars	85859,2614	0	29083,8507	NA	NA	NA	NA
NFR 1A3bii	Light Duty Vehicles	5871,51236	NA	23130,4303	NA	NA	NA	NA
NFR 1A3biii	Heavy Duty Vehicles	63,0493096	NA	35751,3252	NA	NA	NA	NA
NFR 1A3biv	Mopeds and Motorcycles	1521,63893	NA	NA	NA	NA	NA	NA
NFR 1A3c	Railways	0	NA	2727,70643	NA	NA	NA	0
NFR 1A3eii + 1A4bii,cii + 1A5b	Other Off-road	4260,61394	NA	13507,9924	NA	NA	NA	665,2368
NFR 1A3aii	Civil Aviation	0	NA	NA	NA	NA	NA	2091,29958
NFR 1A3dii + 1A4ciii	National Shipping	354,692269	17,8572	11987,3786	NA	NA	1840,40	5,6028
Aggregated categories								
NFR 1A3bi-iv	Road Transportation	93315,462	0	87965,6062	0	0		
NFR 1A3c,eii + 1A4bii,cii + 1A5b	Off-road	4260,61394	0	16235,6988	0	0		665,2368
NFR 1A3aii	Civil Aviation	0				0		2091,29958
NFR 1A3dii + 1A4ciii	National Shipping	354,692269	17,8572	11987,3786		0	1840,39623	5,6028
TOTAL		97930,7682	17,8572	116188,684	0	0	1840,39623	2762,13918

Note:

Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, of the present guidelines.

Data on energy consumption in transport for 1990, 1995 and 2000 (historical years) should be provided on a sectoral resolution as in the table above. If possible, projected energy consumption for years 2010, 2015 and 2020 should also be reported following the same format. However, recognizing the fact that the projections might often be prepared at a higher sectoral resolution, aggregated categories can also be used to report historical data if detailed information cannot be obtained.

LPG - liquefied petroleum gas; CNG - compressed natural gas.

TABLE IV 2D: Five-yearly, Minimum reporting of energy consumption data for transport sector
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	07.02.2003	(as DD.MM.YYYY)
YEAR:	2020	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/FUEL:		Petrol	LPG	Diesel	CNG	Hydrogen	Heavy fuel oil	Kerosene
UNIT:		TJ	TJ	TJ	TJ	TJ	TJ	TJ
NFR 1A3bi	Passenger Cars	86391,5419	0	32690,3378	NA	NA	NA	NA
NFR 1A3bii	Light Duty Vehicles	6326,21946	NA	22969,704	NA	NA	NA	NA
NFR 1A3biii	Heavy Duty Vehicles	68,0575217	NA	36231,1609	NA	NA	NA	NA
NFR 1A3biv	Mopeds and Motorcycles	1656,96751	NA	NA	NA	NA	NA	NA
NFR 1A3c	Railways	0	NA	2727,70643	NA	NA	NA	0
NFR 1A3eii + 1A4bii,cii + 1A5b	Other Off-road	4254,29759	NA	13338,5828	NA	NA	NA	665,2368
NFR 1A3aii	Civil Aviation	0	NA	NA	NA	NA	NA	2268,40707
NFR 1A3dii + 1A4ciii	National Shipping	354,692269	17,8572	11987,3786	NA	NA	1840,40	5,6028
Aggregated categories								
NFR 1A3bi-iv	Road Transportation	94442,7864	0	91891,2028	0	0		
NFR 1A3c,eii + 1A4bii,cii + 1A5b	Off-road	4254,29759	0	16066,2893	0	0		665,2368
NFR 1A3aii	Civil Aviation	0				0		2268,40707
NFR 1A3dii + 1A4ciii	National Shipping	354,692269	17,8572	11987,3786		0	1840,39623	5,6028
	TOTAL	99051,7763	17,8572	119944,871	0	0	1840,39623	2939,24667

Note:

Fuels used in this table are defined in terms of relation to the IPCC/IEA and CORINAIR NAPFUE categories in annex III, table IIIC, of the present guidelines.

Data on energy consumption in transport for 1990, 1995 and 2000 (historical years) should be provided on a sectoral resolution as in the table above. If possible, projected energy consumption for years 2010, 2015 and 2020 should also be reported following the same format. However, recognizing the fact that the projections might often be prepared at a higher sectoral resolution, aggregated categories can also be used to report historical data if detailed information cannot be obtained.

LPG - liquefied petroleum gas; CNG - compressed natural gas.

TABLE IV 2E: Five-yearly, Minimum reporting of agricultural activity data
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	15.02.2006	(as DD.MM.YYYY)
YEAR:	1990	(as YYYY, year of Emmissions)

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Please fill out the blue marked fields.
You must use for each field either a number or one of the following codes (capitals, no dots in between, see EB.AIR/GE.1/2002/2): NO , NA , NE , IE , C
Footnotes or any other information entered into this table will not be taken into account.

SOURCE/UNIT :		head	N
		1000	Gg
NFR 4B1a	Dairy Cattle; Slurry-based system	461	
NFR 4B1a	Dairy Cattle; Straw-based system	292	
NFR 4B1b	Non-Dairy Cattle; Slurry-based system	363	
NFR 4B1b	Non-Dairy Cattle; Straw-based system	1123	
NFR 4B3	Sheep	92	
NFR 4B4	Goats	8	
NFR 4B6	Horses	135	
NFR 4B7	Mules and Asses	NO	
NFR 4B8	Swine; Slurry-based system	7018	
NFR 4B8	Swine; Straw-based system	2480	
NFR 4B9	Laying Hens	5696	
NFR 4B9	Broilers	9802	
NFR 4B9	Turkeys	213	
NFR 4B9	Other Poultry	538	
NFR 4B13	Other Animals	2264	
NFR 4Di	N-fertilizer use – Urea		9
NFR 4Di	N-fertilizer use - other N-fertilizers		391
Aggregated categories			
NFR 4B1a	Dairy Cattle	753	
NFR 4B1b	Non-Dairy Cattle	1486	
NFR 4B3,4	Sheep and Goats	100	
NFR 4B6,7,13	Horses, Mules and Asses, Other	4879	
NFR 4B8	Swine	9497	
NFR 4B9	Poultry	16249	
NFR 4Di	N-fertilizer use		400

Note:

If possible, both historical (1990, 1995 and 2000) and projection data (2010, 2015 and 2020) should be reported in this format. Whenever disaggregated data are not available, the aggregated format can be used for both historical and projection data. For example, if it is not possible to provide split into slurry and straw systems, report total number of animals only. Similarly for poultry or nitrogen (N) fertilizer use, aggregates should be reported if data on lower resolution could not be found.

TABLE IV 2E: Five-yearly, Minimum reporting of agricultural activity data
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	15.02.2006	(as DD.MM.YYYY)
YEAR:	1995	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/UNIT :		head	N
		1000	Gg
NFR 4B1a	Dairy Cattle; Slurry-based system	446	
NFR 4B1a	Dairy Cattle; Straw-based system	256	
NFR 4B1b	Non-Dairy Cattle; Slurry-based system	339	
NFR 4B1b	Non-Dairy Cattle; Straw-based system	1049	
NFR 4B3	Sheep	81	
NFR 4B4	Goats	9	
NFR 4B6	Horses	143	
NFR 4B7	Mules and Asses	NO	
NFR 4B8	Swine; Slurry-based system	9166	
NFR 4B8	Swine; Straw-based system	1918	
NFR 4B9	Laying Hens	6088	
NFR 4B9	Broilers	12585	
NFR 4B9	Turkeys	449	
NFR 4B9	Other Poultry	497	
NFR 4B13	Other Animals	1850	
NFR 4Di	N-fertilizer use – Urea		10
NFR 4Di	N-fertilizer use - other N-fertilizers		306
Aggregated categories			
NFR 4B1a	Dairy Cattle	702	
NFR 4B1b	Non-Dairy Cattle	1388	
NFR 4B3,4	Sheep and Goats	90	
NFR 4B6,7,13	Horses, Mules and Asses, Other	11158	
NFR 4B8	Swine	11084	
NFR 4B9	Poultry	19619	
NFR 4Di	N-fertilizer use		316

Note:

If possible, both historical (1990, 1995 and 2000) and projection data (2010, 2015 and 2020) should be reported in this format. Whenever disaggregated data are not available, the aggregated format can be used for both historical and projection data. For example, if it is not possible to provide split into slurry and straw systems, report total number of animals only. Similarly for poultry or nitrogen (N) fertilizer use, aggregates should be reported if data on lower resolution could not be found.

TABLE IV 2E: Five-yearly, Minimum reporting of agricultural activity data
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	15.02.2006	(as DD.MM.YYYY)
YEAR:	2000	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/UNIT :		head	N
		1000	Gg
NFR 4B1a	Dairy Cattle; Slurry-based system	451	
NFR 4B1a	Dairy Cattle; Straw-based system	184	
NFR 4B1b	Non-Dairy Cattle; Slurry-based system	875	
NFR 4B1b	Non-Dairy Cattle; Straw-based system	357	
NFR 4B3	Sheep	81	
NFR 4B4	Goats	10	
NFR 4B6	Horses	150	
NFR 4B7	Mules and Asses	NO	
NFR 4B8	Swine; Slurry-based system	10327	
NFR 4B8	Swine; Straw-based system	1595	
NFR 4B9	Laying Hens	4935	
NFR 4B9	Broilers	16047	
NFR 4B9	Turkeys	546	
NFR 4B9	Other Poultry	303	
NFR 4B13	Other Animals	2199	
NFR 4Di	N-fertilizer use – Urea		1
NFR 4Di	N-fertilizer use - other N-fertilizers		250
Aggregated categories			
NFR 4B1a	Dairy Cattle	636	
NFR 4B1b	Non-Dairy Cattle	1232	
NFR 4B3,4	Sheep and Goats	91	
NFR 4B6,7,13	Horses, Mules and Asses, Other	12676	
NFR 4B8	Swine	11922	
NFR 4B9	Poultry	21830	
NFR 4Di	N-fertilizer use		251

Note:

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TABLE IV 2E: Five-yearly, Minimum reporting of agricultural activity data
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	14.02.2006	(as DD.MM.YYYY)
YEAR:	2010	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/UNIT :		head	N
		1000	Gg
NFR 4B1a	Dairy Cattle; Slurry-based system	507515	
NFR 4B1a	Dairy Cattle; Straw-based system		
NFR 4B1b	Non-Dairy Cattle; Slurry-based system	1233655	
NFR 4B1b	Non-Dairy Cattle; Straw-based system		
NFR 4B3	Sheep	80360	
NFR 4B4	Goats	11801	
NFR 4B6	Horses	161500	
NFR 4B7	Mules and Asses	0	
NFR 4B8	Swine; Slurry-based system	11843092	
NFR 4B8	Swine; Straw-based system		
NFR 4B9	Laying Hens	3902500	
NFR 4B9	Broilers	13240000	
NFR 4B9	Turkeys	ie	
NFR 4B9	Other Poultry	1431000	
NFR 4B13	Other Animals	2612187	
NFR 4Di	N-fertilizer use – Urea		1
NFR 4Di	N-fertilizer use - other N-fertilizers		188
Aggregated categories			
NFR 4B1a	Dairy Cattle	507515	
NFR 4B1b	Non-Dairy Cattle	1233655	
NFR 4B3,4	Sheep and Goats	92161	
NFR 4B6,7,13	Horses, Mules and Asses, Other	2773687	
NFR 4B8	Swine	11843092	
NFR 4B9	Poultry	18573500	
NFR 4Di	N-fertilizer use		189

Note:

If possible, both historical (1990, 1995 and 2000) and projection data (2010, 2015 and 2020) should be reported in this format. Whenever disaggregated data are not available, the aggregated format can be used for both historical and projection data. For example, if it is not possible to provide split into slurry and straw systems, report total number of animals only. Similarly for poultry or nitrogen (N) fertilizer use, aggregates should be reported if data on lower resolution could not be found.

TABLE IV 2E: Five-yearly, Minimum reporting of agricultural activity data
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	14.02.2006	(as DD.MM.YYYY)
YEAR:	2015	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/UNIT :		head	N
		1000	Gg
NFR 4B1a	Dairy Cattle; Slurry-based system	459672	
NFR 4B1a	Dairy Cattle; Straw-based system		
NFR 4B1b	Non-Dairy Cattle; Slurry-based system	1115939	
NFR 4B1b	Non-Dairy Cattle; Straw-based system		
NFR 4B3	Sheep	81360	
NFR 4B4	Goats	12051	
NFR 4B6	Horses	166500	
NFR 4B7	Mules and Asses	0	
NFR 4B8	Swine; Slurry-based system	12332238	
NFR 4B8	Swine; Straw-based system		
NFR 4B9	Laying Hens	3641000	
NFR 4B9	Broilers	15380900	
NFR 4B9	Turkeys	ie	
NFR 4B9	Other Poultry	1431000	
NFR 4B13	Other Animals	2870000	
NFR 4Di	N-fertilizer use – Urea		1
NFR 4Di	N-fertilizer use - other N-fertilizers		181
Aggregated categories			
NFR 4B1a	Dairy Cattle	459672	
NFR 4B1b	Non-Dairy Cattle	1115939	
NFR 4B3,4	Sheep and Goats	93411	
NFR 4B6,7,13	Horses, Mules and Asses, Other	3036500	
NFR 4B8	Swine	12332238	
NFR 4B9	Poultry	20452900	
NFR 4Di	N-fertilizer use		182

Note:

If possible, both historical (1990, 1995 and 2000) and projection data (2010, 2015 and 2020) should be reported in this format. Whenever disaggregated data are not available, the aggregated format can be used for both historical and projection data. For example, if it is not possible to provide split into slurry and straw systems, report total number of animals only. Similarly for poultry or nitrogen (N) fertilizer use, aggregates should be reported if data on lower resolution could not be found.

TABLE IV 2E: Five-yearly, Minimum reporting of agricultural activity data
Version 2002-1

COUNTRY:	DK	(as ISO2 code)
DATE:	14.02.2006	(as DD.MM.YYYY)
YEAR:	2020	(as YYYY, year of Emmissions)

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Footnotes or any other information entered into this table will not be taken into account.

SOURCE/UNIT :		head	N
		1000	Gg
NFR 4B1a	Dairy Cattle; Slurry-based system	416339	
NFR 4B1a	Dairy Cattle; Straw-based system		
NFR 4B1b	Non-Dairy Cattle; Slurry-based system	1023001	
NFR 4B1b	Non-Dairy Cattle; Straw-based system		
NFR 4B3	Sheep	82360	
NFR 4B4	Goats	12301	
NFR 4B6	Horses	167500	
NFR 4B7	Mules and Asses	0	
NFR 4B8	Swine; Slurry-based system	12332238	
NFR 4B8	Swine; Straw-based system		
NFR 4B9	Laying Hens	3482000	
NFR 4B9	Broilers	15380900	
NFR 4B9	Turkeys	ie	
NFR 4B9	Other Poultry	1431000	
NFR 4B13	Other Animals	3152000	
NFR 4Di	N-fertilizer use – Urea		1
NFR 4Di	N-fertilizer use - other N-fertilizers		178
Aggregated categories			
NFR 4B1a	Dairy Cattle	416339	
NFR 4B1b	Non-Dairy Cattle	1023001	
NFR 4B3,4	Sheep and Goats	94661	
NFR 4B6,7,13	Horses, Mules and Asses, Other	3319500	
NFR 4B8	Swine	12332238	
NFR 4B9	Poultry	20293900	
NFR 4Di	N-fertilizer use		179

Note:

If possible, both historical (1990, 1995 and 2000) and projection data (2010, 2015 and 2020) should be reported in this format. Whenever disaggregated data are not available, the aggregated format can be used for both historical and projection data. For example, if it is not possible to provide split into slurry and straw systems, report total number of animals only. Similarly for poultry or nitrogen (N) fertilizer use, aggregates should be reported if data on lower resolution could not be found.

Annex 2A, 2B and 2C

Contents

Annex 2A

Stationary combustion plants

This annex is a sector report for stationary combustion plants that includes more detailed documentation than included in the main report. Further it includes both greenhouse gases and pollutants reported to the LRTAP Convention.

Preface

The Danish National Environmental Research Institute (NERI) prepares the Danish atmospheric emission inventories and reports the results on an annual basis to the Climate Convention and to the UNECE Convention on Long-Range Transboundary Air Pollution. This report forms part of the documentation for the inventories and covers emissions from stationary combustion plants. The results of inventories up to 2004 are included. The report updates a similar report published in 2005.

Sammendrag

Opgørelser over de samlede danske luftemissioner rapporteres årligt til Klimakonventionen (*UN Framework Convention on Climate Change, UNFCCC*) og til UNECE Konventionen om langtransporteret grænseoverskridende luftforurening (*UNECE Convention on Long-Range Transboundary Air Pollution* der forkortes LRTAP Convention). Endvidere rapporteres drivhusgasemissionen til EU fordi EU – såvel som de enkelte medlemslande – har ratificeret klimakonventionen. De danske emissioner opgøres og rapporteres af Danmarks Miljøundersøgelser (DMU). Emissionsopgørelserne omfatter følgende stoffer af relevans for stationær forbrænding: CO_2, CH_4, N_2O, SO_2, NO_X, NMVOC, CO, partikler, tungmetaller, dioxin og PAH. Foruden de årlige opgørelser over total emission rapporteres også sektoropdelt emission og usikkerhed på opgørelserne. Hvert femte år rapporteres endvidere geografisk fordeling af emissionerne, fremskrivning af emissionerne samt de aktivitetsdata – fx brændselsforbrug – der ligger til grund for opgørelserne.

Emissionsopgørelserne for stationære forbrændingsanlæg (ikke mobile kilder) er baseret på den danske energistatistik og på et sæt af emissionsfaktorer for forskellige sektorer, teknologier og brændsler. Anlægsspecifikke emissionsdata for store anlæg, som fx kraftværker, indarbejdes i opgørelserne. Denne rapport giver detaljeret baggrundsinformation om den anvendte metode samt referencer for de data der ligger til grund for opgørelsen – energistatistikken og emissionsfaktorerne.

Emissionsfaktorerne stammer enten fra danske referencer eller fra internationale guidebøger (EMEP/Corinair 2004 og IPCC 1996) udarbejdet til brug for denne type emissionsopgørelser. De danske referencer omfatter miljølovgivning, danske rapporter samt middelværdier baseret på anlægsspecifikke emissionsdata fra et betydeligt antal større værker. Anlægsspecifikke emissionsfaktorer oplyses af anlægsejere, bl.a. i grønne regnskaber.

I emissionsopgørelsen for 2004 er 72 stationære forbrændingsanlæg defineret som punktkilder. Punktkilderne omfatter: kraftværker, decentrale kraftvarmeværker, affaldsforbrændingsanlæg, industrielle forbrændingsanlæg samt raffinaderier. Brændselsforbruget for disse anlæg svarer til 64% af det samlede brændselsforbrug for alle stationære forbrændingsanlæg.

Variationen i årlig import/eksport af el medfører at det totale danske brændselsforbrug varierer. Siden 1990 er brændselsforbruget steget med 13%, mens forbruget af fossile brændsler er steget med 4,2%. Forbruget af kul er faldet, mens forbruget af naturgas og af biobrændsler er steget.

For følgende stoffer udgør emissionen fra stationær forbrænding over 50% af den samlede danske emission: SO_2, CO_2, tungmetaller (dog ikke Cu), $PM_{2.5}$ og PAH. Endvidere udgør emissionen over 10% for NO_X, CO, NMVOC, TSP, PM_{10} og Cu. Stationær forbrænding bidrager med mindre end 10% af den samlede danske emission af CH_4 og N_2O.

Indenfor de stationære forbrændingsanlæg er kraftværker og decentrale kraftvarmeværker den betydeligste emissionskilde for SO_2, CO_2, NO_X, og tungmetaller. Gasmotorer installeret på decentrale kraftvarmeværker er den største

CH_4 emissionskilde. Endvidere har gasmotorer en betydelig emission af NMVOC.

Emissioner fra kedler, brændeovne mv. i forbindelse med beboelse er den betydeligste emissionskilde for CO, NMVOC, partikler og PAH. Det er især forbrænding af træ, som bidrager til disse emissioner.

I rapporten vises tidsserier for emissioner fra stationær forbrænding.

Udviklingen i emissionen af drivhusgasser følger udviklingen i CO_2-emissionen ganske tæt. Både CO_2-emissionen og den samlede drivhusgasemission fra stationær forbrænding er laver i 2004 end i basisåret 1990 – CO_2 er 5% lavere og drivhusgasemissionen er 4% lavere. Emissionerne fluktuerer dog betydeligt pga. variationerne i import/eksport af el samt varierende udetemperatur.

CH_4-emissionen fra stationær forbrænding er steget med en faktor 4,3 siden 1990. Denne stigning skyldes, at der i perioden er installeret et betydeligt antal gasmotorer på decentrale kraftvarmeværker.

SO_2-emissionen fra stationær forbrænding er faldet med 95% siden 1980 og 84% siden 1995. Den store reduktion skyldes primært, at emissionen fra el- og fjernvarmeproducerende anlæg er faldet, som følge af installering af afsvovlningsanlæg samt brug af brændsler med lavere svovlindhold.

NO_X-emissionen fra stationær forbrænding er faldet med 50% siden 1985 og 33% siden 1995. Reduktionen skyldes primært at emissionen fra el og fjernvarmeproducerende anlæg er faldet som følge af at der benyttes lav-NO_X-brændere på flere anlæg og at der er idriftsat NO_X-røggasrensning på flere store kraftværker. Variationen i NO_X-emissionen følger variationen i import/eksport af el.

Forbrænding af træ i villakedler og brændeovne er forøget med 94% siden 1990 og dette har medført en stigning i CO-emissionen. Stigningen i CO-emissionen er dog ikke helt så stor, idet CO-emissionen fra halmfyrede gårdanlæg samtidig er faldet betydeligt.

Emissionen af NMVOC fra stationær forbrænding er øget med 51% siden 1985 og 22% siden 1995. Stigningen skyldes primært idriftsættelsen af gasmotorer på decentrale kraftvarmeværker.

Tungmetalemissionerne er faldet betydeligt siden 1990. Emissionen af de enkelte tungmetaller er reduceret mellem 7% og 85%. Faldet skyldes den forbedrede røggasrensing på affaldsforbrændingsanlæg og på kraftværker.

Emissionen af de forskellige PAH'er er steget 50-80% siden 1990, hvilket hænger sammen med den øgede mængde træ, der forbrændes i brændeovne eller små villakedler.

Summary

Danish emission inventories are prepared on an annual basis and are reported to the *UNECE Framework Convention on Climate Change* (UNFCCC or Climate Convention) and to the UNECE *Convention on Long-Range Transboundary Air Pollution* (LRTAP Convention). Furthermore, a greenhouse gas emission inventory is reported to the EU, due to the EU – as well as the individual member states – being party to the Climate Convention. The annual Danish emission inventories are prepared by the Danish National Environmental Research Institute (NERI). The inventories include the pollutants: CO_2, CH_4, N_2O, SO_2, NO_X, NMVOC, CO, particulate matter, heavy metals, dioxins and PAH. In addition to annual total emissions, the report includes sector specific emissions and uncertainty estimates. Every five years the reporting includes data on the geographical distribution of the emissions, a projection of emissions data and details of the activity data – e.g. fuel consumption – on which the inventories are based.

The inventories are based on the Danish energy statistics and on a set of emission factors for various sectors, technologies and fuels. Plant specific emissions for large combustion sources are incorporated into the inventories. This report provides detailed background information on the methodology and references for the input data in the inventory - energy statistics and emission factors.

The emission factors are based either on national references or on international guidebooks (EMEP/Corinair 2004 and IPCC 1996). The majority of the country-specific emission factors refer to: Danish legislation, Danish research reports or calculations based on plant-specific emissions from a considerable number of large point sources. The plant-specific emission factors are provided by plant operators, e.g. in annual environmental reports.

In the inventory for the year 2004, 72 stationary combustion plants are specified as large point sources. The point sources include large power plants, municipal waste incineration plants, industrial combustion plants and petroleum refining plants. The fuel consumption of these large point sources corresponds to 64% of the overall fuel consumption of stationary combustion.

The Danish fuel consumption rate fluctuates due to the import/export of electricity. Since 1990 fuel consumption has increased by 13%, fossil fuel consumption, however, only increasing by 4,2%. The use of coal has decreased whereas the use of natural gas and renewable fuels has increased.

Stationary combustion plants account for more than 50% of the total Danish emission for the following pollutants: SO_2, CO_2, heavy metals (except Cu) $PM_{2.5}$ and PAH. Furthermore, emissions from stationary combustion plants account for more than 10% of the total Danish emission for the following pollutants: NO_X, CO, NMVOC, TSP, PM_{10} and Cu. Stationary combustion plants account for less than 10% of the total Danish CH_4 and N_2O emission.

Public power plants represent the most important stationary combustion emission source for SO_2, CO_2, NO_X and heavy metals.

Lean-burn gas engines installed in decentralised CHP plants are the largest emission source for CH_4. Furthermore, these plants also represent a considerable emission source for NMVOC.

Residential plants are the most important stationary combustion source for CO, NMVOC, particulate matter and PAH. Wood combustion in residential plants is the predominant emission source.

The report in hand includes time-series for stationary combustion plants for the range of pollutants.

The development in greenhouse gas (GHG) emission follows that of CO_2 emission very closely. Both CO_2 and the total GHG emission were lower in 2004 than in 1990: CO_2 by 5% and GHG by 4%. However, fluctuations in the GHG emission level are significant, the fluctuations in the time-series arising from electricity import/export and outdoor temperature variations from year to year.

The CH_4 emission from stationary combustion has increased by a factor of 4,3 since 1990. This is a result of the considerable number of lean-burn gas engines installed in CHP plants in Denmark during this period.

SO_2 emission from stationary combustion plants has decreased by 95% from 1980 and 84% from 1995. The large emission decrease is mainly a result of the reduced emission from electricity and district heat production made possible by installation of desulphurisation plants and due to the use of fuels with lower sulphur content.

The NO_X emission from stationary combustion plants has decreased by 50% since 1985 and 33% since 1995. The reduced emission is mainly a result of the reduced emission from electricity and district heat production plants in which the use of low NO_X burners has increased. Also, de-NO_X flue gas cleaning units have been put into operation in a greater number of the larger power plants. The fluctuations in the time-series follow fluctuations in fuel consumption in power plants, these occurring due to electricity import/export.

Wood consumption in residential plants has increased by 94% since 1990 causing an increase in the CO emission. The increase in CO from residential plants is less steep than the increase in wood consumption as the CO emission from straw-fired farmhouse boilers has decreased considerably.

The NMVOC emission from stationary combustion plants has increased by 51% from 1985 and 22% from 1995. The increased NMVOC emission results mainly from the increased use of lean-burn gas engines.

All heavy metal emissions have decreased considerably since 1990 – between 7% and 85%. The decreases result from improvements in flue gas cleaning systems installed in municipal waste incineration plants and in power plants.

The PAH emission has increased since 1990 due to increased combustion of wood in residential plants.

1 Introduction

The Danish atmospheric emission inventories are prepared on an annual basis and the results are reported to the *UN Framework Convention on Climate Change* (UNFCCC or Climate Convention) and to the UNECE *Convention on Long-Range Transboundary Air Pollution* (LRTAP Convention). Furthermore, a greenhouse gas emission inventory is reported to the EU, due to the EU – as well as the individual member states – being party to the Climate Convention. The Danish atmospheric emission inventories are calculated by the Danish National Environmental Research Institute (NERI).

This report provides a summary of the emission inventories for stationary combustion and background documentation for the estimates. Stationary combustion plants include power plants, district heating plants, non-industrial and industrial combustion plants, industrial process burners, petroleum-refining plants, as well as combustion in oil/gas extraction and in pipeline compressors. Emissions from flaring in oil/gas production and from flaring carried out in refineries are not covered by this report.

This report presents detailed emission inventories and time-series for emissions from stationary combustion plants. Furthermore, emissions from stationary combustion plants are compared with total Danish emissions. The methodology and references for the emission inventories for stationary combustion plants are described. Furthermore, uncertainty estimates are provided.

2 Total Danish emissions, international conventions and reduction targets

2.1 Total Danish emissions

An overview of the Danish emission inventories for 2004 including all sectors is shown in Table 1-Table 4. The emission inventories reported to the LRTAP Convention and to the Climate Convention are organised in 6 main source categories and a number of sub categories. The emission source *1 Energy* covers combustion in stationary and mobile sources as well as fugitive emissions from the energy sector. Emissions from incineration of municipal waste in power plants or district heating plants are included in the source category *1 Energy*, rather than in the source category *6 Waste*.

Links to the latest emission inventories can be found on the NERI home page: *http://www2.dmu.dk/1_Viden/2_Miljoe-tilstand/3_luft/4_adaei/default_en.asp* or via www.dmu.dk. Surveys of the latest inventories and the updated emission factors are also available on the NERI homepage.

Note that according to convention decisions emissions from certain specific sources are not included in the inventory totals. These emissions are reported as memo items and are thus estimated, but not included in the totals. The data for the total Danish emission included in this report does not include memo items.

- CO_2 emission from renewable fuels is not included in national totals, but reported as a memo item.
- Emissions from international bunkers and from international aviation are not included in national totals.

Further emission data for stationary combustion plants are provided in Chapters 5-9.

Table 1 Greenhouse gas emission for the year 2004 (Illerup et al. 2006a).

Pollutant	CO_2	CH_4	N_2O	HFCs, PFCs and SF6
Unit	Gg CO_2 equivalent			
1. Energy	52.094	687	745	-
2. Industrial Processes	1.731	-	531	798
3. Solvent and Other Product Use	113	-	-	-
4. Agriculture	-	3.740	6.260	-
5. Land-Use Change and Forestry	-2.280	-	0,07	-
6. Waste	2	1.338	53	-
Total Danish emission (gross)[1]	**68.092**			
Total Danish emission (net) [2]	**65.813**			

1) Not including Land-Use Change and Forestry
2) Including Land-Use Change and Forestry

Table 2 Emissions 2004 reported to the LRTAP Convention (Illerup et al. 2006b).

Pollutant	NO_x Gg	CO Gg	NMVOC Gg	SO_2 Gg	TSP Mg	PM_{10} Mg	$PM_{2.5}$ Mg
1. Energy	181	619	77	24	26658	23559	21095
2. Industrial Processes	0	0	1	-	192	153	115
3. Solvent and Other Product Use	-	-	36	-	-	-	-
4. Agriculture	-	-	2	-	16405	7383	1640
5. Land-Use Change and Forestry	-	-	-	-	-	-	-
6. Waste	0	0	0	0	0	0	0
Total Danish emission	**181**	**619**	**116**	**24**	**43255**	**31095**	**22850**

Table 3 Emissions 2004 reported to the LRTAP Convention (Illerup et al. 2006b).

Pollutant	Pb Mg	Cd Mg	Hg Mg	As Mg	Cr Mg	Cu Mg	Ni Mg	Se Mg	Zn Mg
1. Energy	5,19	0,57	1,06	0,66	1,16	8,98	9,55	1,84	22,78
2. Industrial Processes	0,07	0,00	-	-	-	0,05	-	-	0,63
3. Solvent and Other Product Use	-	-	-	-	-	-	-	-	-
4. Agriculture	-	-	-	-	-	-	-	-	-
5. Land-Use Change and Forestry	-	-	-	-	-	-	-	-	-
6. Waste	-	-	-	-	-	-	-	-	-
Total Danish emission	**5,25**	**0,58**	**1,06**	**0,66**	**1,16**	**9,03**	**9,55**	**1,84**	**23,41**

Table 4 Emissions 2004 reported to the LRTAP Convention (Illerup et al. 2006b).

Pollutant	Benzo(a)-pyrene Mg	Benzo(b)fluo-ranthene Mg	Benzo(k)-fluoranthene Mg	Indeno(1,2,3-c,d)pyrene Mg
1. Energy	3,30	4,39	1,50	2,42
2. Industrial Processes	-	-	-	-
3. Solvent and Other Product Use	-	-	-	-
4. Agriculture	-	-	-	-
5. Land-Use Change and Forestry	-	-	-	-
6. Waste	-	-	-	-
7. Other	-	-	-	-
Total Danish emission	**3,30**	**4,39**	**1,50**	**2,42**

2.2 International conventions and reduction targets

Denmark is a party to two international conventions relevant with regard to emissions from stationary combustion plants:

- The UNECE Convention on Long Range Transboundary Air Pollution (LRTAP Convention or the Geneva Convention)
- The UN Framework Convention on Climate Change under the Intergovernmental Panel on Climate Change (IPCC). The convention is also called UNFCCC or the Climate Convention.

The LRTAP Convention is a framework convention and has expanded to cover 8 protocols:

- *EMEP Protocol*, 1984 (Geneva).
- *Protocol on Reduction of Sulphur Emissions*, 1985 (Helsinki).
- *Protocol concerning the Control of Emissions of Nitrogen Oxides,* 1988 (Sofia).
- *Protocol concerning the Control of Emissions of Volatile Organic Compounds,* 1991 (Geneva).
- *Protocol on Further Reduction of Sulphur Emissions,* 1994 (Oslo).
- *Protocol on Heavy Metals,* 1988 (Aarhus).
- *Protocol on Persistent Organic Pollutants (POPs)*, 1998 (Aarhus).
- *Protocol to Abate Acidification, Eutrophication and Ground-level Ozone*, 1999 (Gothenburg).

The reduction targets/emission ceilings included in the protocols of the LRTAP Convention are stated in Table 5.

Table 5 Danish reduction targets / emission ceiling, LRTAP Convention.

Pollutant	Reduction / emission ceiling	Reference	Comment
SO_2	55 Gg in 2010	Gothenburg protocol	The ceiling equals 229% of the 2004 emission
NO_X	127 Gg in 2010	Gothenburg protocol	The ceiling equals 70% of the 2003 emission
NMVOC	85 Gg in 2010	Gothenburg protocol	The ceiling equals 73% of the 2004 emission

The Climate Convention is a framework convention from 1992. The Kyoto protocol is a protocol to the Climate Convention.

The Kyoto protocol sets legally-binding emission targets and timetables for 6 greenhouse gases: CO_2, CH_4, N_2O, HFC, PFC and SF_6. The greenhouse gas emission of each of the 6 pollutants is translated to CO_2 equivalents, which can be totalled to produce total greenhouse gas (GHG) emission in CO_2 equivalent. Denmark is obliged to reduce the average 2008-2010 GHG emission by 21% compared to the 1990 emission level.

EU is a party to the Climate Convention and, thereby, EU countries are obliged to submit emission data to the EU Monitoring Mechanism for CO_2 and other Greenhouse Gases.

3 Methodology and references

The Danish emission inventory is based on the CORINAIR (CORe INventory on AIR emissions) system, which is a European program for air emission inventories. CORINAIR includes methodology structure and software for inventories. The methodology is described in the EMEP/Corinair Emission Inventory Guidebook 3rd edition, prepared by the UNECE/EMEP Task Force on Emissions Inventories and Projections (EMEP/Corinair 2004). Emission data are stored in an Access database, from which data are transferred to the reporting formats.

The emission inventory for stationary combustion is based on activity rates from the Danish energy statistics. General emission factors for various fuels, plants and sectors have been determined. Some large plants, such as power plants, are registered individually as large point sources and plant-specific emission data are used.

A new emission inventory for dioxin is currently in external review. As soon as the process is concluded the results will be made available to the UNECE.

3.1 Emission source categories

In the Danish emission database all activity rates and emissions are defined in SNAP sector categories (Selected Nomenclature for Air Pollution) according the CORINAIR system. The emission inventories are prepared from a complete emission database based on the SNAP sectors. Aggregation to the sector codes used for both the Climate Convention and the LRTAP Convention is based on a correspondence list between SNAP and IPCC enclosed in Appendix 3.

The sector codes applied in the reporting activity will be referred to as IPCC sectors. The IPCC sectors define 6 main source categories, listed in Table 6, and a number of subcategories. Stationary combustion is part of the IPCC sector 1, *Energy*. Table 7 presents subsectors in the IPCC energy sector. The table also presents the sector in which the NERI documentation is included. Though industrial combustion is part of the stationary combustion detailed documentation for some of the specific industries is discussed in the industry chapters/reports. Stationary combustion is defined as combustion activities in the SNAP sectors 01-03.

Table 6 IPCC main sectors.

1. Energy
2. Industrial Processes
3. Solvent and Other Product Use
4. Agriculture
5. Land-Use Change and Forestry
6. Waste

Table 7 IPCC source categories for the energy sector.

IPCC id	IPCC sector name	NERI documentation
1	**Energy**	**Stationary combustion, Transport, Fugitive, Industry**
1A	**Fuel Combustion Activities**	**Stationary combustion, Transport, Industry**
1A1	Energy Industries	Stationary combustion
1A1a	Electricity and Heat Production	Stationary combustion
1A1b	Petroleum Refining	Stationary combustion
1A1c	Solid Fuel Transf./Other Energy Industries	Stationary combustion
1A2	Fuel Combustion Activities/Industry (ISIC)	Stationary combustion, Transport, Industry
1A2a	Iron and Steel	Stationary combustion, Industry
1A2b	Non-Ferrous Metals	Stationary combustion, Industry
1A2c	Chemicals	Stationary combustion, Industry
1A2d	Pulp, Paper and Print	Stationary combustion, Industry
1A2e	Food Processing, Beverages and Tobacco	Stationary combustion, Industry
1A2f	Other (please specify)	Stationary combustion, Transport, Industry
1A3	Transport	Transport
1A3a	Civil Aviation	Transport
1A3b	Road Transportation	Transport
1A3c	Railways	Transport
1A3d	Navigation	Transport
1A3e	Other (please specify)	Transport
1A4	Other Sectors	Stationary combustion, Transport
1A4a	Commercial/Institutional	Stationary combustion
1A4b	Residential	Stationary combustion, Transport
1A4c	Agriculture/Forestry/Fishing	Stationary combustion, Transport
1A5	Other (please specify)	Stationary combustion, Transport
1A5a	Stationary	Stationary combustion
1A5b	Mobile	Transport
1B	**Fugitive Emissions from Fuels**	**Fugitive**
1B1	Solid Fuels	Fugitive
1B1a	Coal Mining	Fugitive
1B1a1	Underground Mines	Fugitive
1B1a2	Surface Mines	Fugitive
1B1b	Solid Fuel Transformation	Fugitive
1B1c	Other (please specify)	Fugitive
1B2	Oil and Natural Gas	Fugitive
1B2a	Oil	Fugitive
1B2a2	Production	Fugitive
1B2a3	Transport	Fugitive
1B2a4	Refining/Storage	Fugitive
1B2a5	Distribution of oil products	Fugitive
1B2a6	Other	Fugitive
1B2b	Natural Gas	Fugitive
1B2b1	Production/processing	Fugitive
1B2b2	Transmission/distribution	Fugitive
1B2c	Venting and Flaring	Fugitive
1B2c1	Venting and Flaring Oil	Fugitive
1B2c2	Venting and Flaring Gas	Fugitive
1B2d	Other	Fugitive

Stationary combustion plants are included in the emission source subcategories:

- *1A1 Energy, Fuel consumption, Energy Industries*
- *1A2 Energy, Fuel consumption, Manufacturing Industries and Construction*
- *1A4 Energy, Fuel consumption, Other Sectors*

The emission sources *1A2* and *1A4*, however also include emission from transport subsectors. The emission source *1A2* includes emissions from some off-road machinery in the industry. The emission source *1A4* includes off-road machinery in agriculture, forestry and household/gardening. Further emissions from national fishing are included in subsector *1A4*.

The emission and fuel consumption data included in tables and figures in this report only include emissions originating from stationary combustion plants of a given IPCC sector. The IPCC sector codes have been applied unchanged, but some sector names have been changed to reflect the stationary combustion element of the source.

The CO_2 from calcination is not part of the energy sector. This emission is included in the IPCC sector 2 Industrial processes.

3.2 Large point sources

Large emission sources such as power plants, industrial plants and refineries are included as large point sources in the Danish emission database. Each point source may consist of more than one part, e.g. a power plant with several units. By registering the plants as point sources in the database it is possible to use plant-specific emission factors.

In the inventory for the year 2004, 72 stationary combustion plants are specified as large point sources. These point sources include:

- Power plants and decentralised CHP plants (combined heat and power plants)
- Municipal waste incineration plants
- Large industrial combustion plants
- Petroleum refining plants

The criteria for selection of point sources consist of the following:

- All centralized power plants, including smaller units.
- All units with a capacity of above 25 MW_e.
- All district heating plants with an installed effect of 50 MW or above and a significant fuel consumption
- All waste incineration plants included in the Danish law "Bekendtgørelse om visse listevirksomheders pligt til at udarbejde grønt regnskab.
- Industrial plants
  - With an installed effect of 50 MW or above and significant fuel consumption.
  - With a significant process related emission.

The fuel consumption of stationary combustion plants registered as large point sources is 361 PJ (2004). This corresponds to 64% of the overall fuel consumption for stationary combustion.

A list of the large point sources for 2004 and the fuel consumption rates is provided in Appendix 8. The number of large point sources registered in the databases increased from 1990 to 2004.

The emissions from a point source are based either on plant specific emission data or, if plant specific data are not available, on fuel consumption data and the general Danish emission factors. Appendix 8 shows which of the emission data for large point sources are plant-specific and which are based on emission factors.

SO_2 and NO_X emissions from large point sources are often plant-specific based on emission measurements. Emissions of CO and NMVOC are also plant-specific for some plants. Plant-specific emission data are obtained from:

- Annual environmental reports
- Annual plant-specific reporting of SO_2 and NO_X from power plants >25MW_e prepared for the Danish Energy Authority due to Danish legislatory requirement
- Emission data reported by Elsam and E2, the two major electricity suppliers
- Emission data reported from industrial plants

Annual environmental reports for the plants include a considerable number of emission data sets. Emission data from annual environmental reports are, in general, based on emission measurements, but some emissions have potentially been calculated from general emission factors.

If plant-specific emission factors are not available, general area source emission factors are used. Emissions of the greenhouse gases (CO_2, CH_4 and N_2O) from the large point sources are all based on the area source emission factors.

3.3 Area sources

Fuels not combusted in large point sources are included as sector specific area sources in the emission database. Plants such as residential boilers, small district heating plants, small CHP plants and some industrial boilers are defined as area sources. Emissions from area sources are based on fuel consumption data and emission factors. Further information on emission factors is provided below.

3.4 Activity rates, fuel consumption

The fuel consumption rates are based on the official Danish energy statistics prepared by the Danish Energy Authority. The Danish Energy Authority aggregates fuel consumption rates to SNAP sector categories (DEA 2004a). Some fuel types in the official Danish energy statistics are added to obtain a less detailed fuel aggregation level, see Appendix 10. The calorific values on which the energy statistics are based are also enclosed in Appendix 10.

The fuel consumption of the IPCC sector *1A2 Manufacturing industries and construction* (corresponding to SNAP sector *03 Combustion in manufacturing industries)* is not disaggregated into specific industries in the NERI emission database. So far disaggregation into specific industries is only estimated for the reportings to the Climate Convention. The disaggregation of fuel consumption and emissions from the industrial sector is discussed in chapter 3.6.

Both traded and non-traded fuels are included in the Danish energy statistics. Thus, for example, estimation of the annual consumption of non-traded wood is included.

Petroleum coke purchased abroad and combusted in Danish residential plants (border trade of 251 TJ) is added to the apparent consumption of petroleum coke and the emissions are included in the inventory.

The Danish Energy Authority (DEA) compiles a database for the fuel consumption of each district heating and power-producing plant, based on data reported by plant operators. The fuel consumption of large point sources specified in the Danish emission database refers to the DEA database (DEA 2005c).

The fuel consumption of area sources is calculated as total fuel consumption minus fuel consumption of large point sources.

Emissions from non-energy use of fuels have not been included in the Danish inventory, to date, but the non-energy use of fuels is, however, included in the reference approach for Climate Convention reporting. The Danish energy statistics include three fuels used for non-energy purposes: Bitumen, white spirit and lube oil. The fuels used for non-energy purposes add up to less than 2% of the total fuel consumption in Denmark.

In Denmark all municipal waste incineration is utilised for heat and power production. Thus, incineration of waste is included as stationary combustion in the IPCC Energy sector (source categories *1A1*, *1A2* and *1A4)*.

Fuel consumption data are presented in Chapter 4.

3.5 Emission factors

For each fuel and SNAP category (sector and e.g. type of plant) a set of general area source emission factors has been determined. The emission factors are either nationally referenced or based on the international guidebooks: EMEP/Corinair Guidebook (EMEP/Corinair 2004) and IPCC Reference Manual (IPCC 1996).

A complete list of emission factors including time-series and references, is provided in Appendix 6.

A considerable part of the emission data for municipal waste incineration plants and large power plants are plant-specific. The area source emission factors do not, therefore, necessarily represent average values for these plant categories. To attain a set of emission factors that expresses the average emission for power plants combusting coal and for municipal waste incineration plants, implied emission factors have been calculated for these two plant categories. The implied emission factors are presented in Appendix 7. The implied emission factors are calculated as total emission divided by total fuel consumption.

3.5.1 CO_2

The CO_2 emission factors applied for 2004 are presented in Table 8. For municipal waste and natural gas, time-series have been estimated. For all other fuels the same emission factor is applied for 1990-2004.

In reporting for the Climate Convention, the CO_2 emission is aggregated to five fuel types: Solid fuel, Liquid fuel, Gas, Biomass and Other fuels. The correspondence list between the NERI fuel categories and the IPCC fuel categories is also provided in Table 8.

Only emissions from fossil fuels are included in the national total CO_2 emission. The biomass emission factors are also included in the table, because emissions from biomass are reported to the Climate Convention as a memo item.

The CO_2 emission from incineration of municipal waste (94,5 + 17,6 kg/GJ) is divided into two parts: The emission from combustion of the plastic content of the waste, which is included in the national total, and the emission from combustion of the rest of the waste – the biomass part, which is reported as a memo item. In the IPCC reporting, the CO_2 emission from combustion of the plastic content of the waste is reported in the fuel category, *Other fuels*. However, this split is not applied in either fuel consumption or other emissions, because it is only relevant for CO_2. Thus, the full consumption of municipal waste is included in the fuel category, *Biomass*, and the full amount of non-CO_2 emissions from municipal waste combustion is also included in the *Biomass*-category.

The CO_2 emission factors have been confirmed by the two major power plant operators, both directly (Christiansen, 1996 and Andersen, 1996) and indirectly, by applying the NERI emission factors in the annual environmental reports for the large power plants and by accepting use of the NERI factors in Danish legislation.

The current Danish legislation concerning CO_2 emission from power plants in 2003 and 2004 (Lov nr. 376 1999) is based on standard CO_2 emission factors for each fuel. Thus, so far power plant operators have not been encouraged to estimate CO_2 emission factors based on their own fuel analysis. In future legislation (Lov nr. 493 2004) operators of large power plants are obliged to verify the applied emission factors, which will lead to the availability of improved emission factors for national emission inventories in future. The plants will report CO_2 emissions for 2005 according to this legislation.

Table 8 CO_2 emission factors 2004.

Fuel	Emission factor		Unit	Reference type	IPCC fuel
	Biomass	Fossil fuel			Category
Coal		95	kg/GJ	Country specific	Solid
Brown coal briquettes		94,6	kg/GJ	IPCC reference manual	Solid
Coke oven coke		108	kg/GJ	IPCC reference manual	Solid
Petroleum coke		92	kg/GJ	Country specific	Liquid
Wood	102		kg/GJ	Corinair	Biomass
Municipal waste	94,5	17,6	kg/GJ	Country specific	Biomass / Other fuels
Straw	102		kg/GJ	Country specific	Biomass
Residual oil		78	kg/GJ	Corinair	Liquid
Gas oil		74	kg/GJ	Corinair	Liquid
Kerosene		72	kg/GJ	Corinair	Liquid
Fish & rape oil	74		kg/GJ	Country specific	Biomass
Orimulsion		80	kg/GJ	Country specific	Liquid
Natural gas		57,12	kg/GJ	Country specific	Gas
LPG		65	kg/GJ	Corinair	Liquid
Refinery gas		56,9	kg/GJ	Country specific	Liquid
Biogas	83,6		kg/GJ	Country specific	Biomass

Coal

The emission factor 95 kg/GJ is based on Fenhann & Kilde 1994. The CO_2 emission factors have been confirmed by the two major power plant operators in 1996 (Christiansen 1996 and Andersen 1996). Elsam reconfirmed the factor in 2001 (Christiansen 2001). The same emission factor is applied for 1990-2004.

Brown coal briquettes

The emission factor 94,6 kg/GJ is based on a default value from the IPCC guidelines assuming full oxidation. The default value in the IPCC guidelines is 25,8 t C/TJ, corresponding to 25,8·(12+2·16)/12 = 94,6 kg CO_2/GJ assuming full oxidation. The same emission factor is applied for 1990-2004.

Coke oven coke

The emission factor 108 kg/GJ is based on a default value from the IPCC guidelines assuming full oxidation. The default value in the IPCC guidelines is 29,5 t C/TJ, corresponding to 29,5·(12+2·16)/12 = 108 kg CO_2/GJ assuming full oxidation. The same emission factor is applied for 1990-2004.

Petroleum coke

The emission factor 92 kg/GJ has been estimated by SK Energy (a former major power plant operator in eastern Denmark) in 1999 based on a fuel analysis carried out by dk-Teknik in 1993 (Bech 1999). The emission factor level was confirmed by a new fuel analysis, which, however, is considered confidential. The same emission factor is applied for 1990-2004.

Wood

The emission factor for wood, 102 kg/GJ, refers to Fenhann & Kilde 1994. The factor is based on the interval stated in a former edition of the EMEP/Corinair Guidebook and the actual value is the default value from the Collector database. The same emission factor is applied for 1990-2004.

Municipal waste

The CO_2 emission from incineration of municipal waste is divided into two parts: The emission from combustion of the plastic content of the waste, which is included in the national total, and the emission from combustion of the rest of the waste – the biomass part, which is reported as a memo item.

The plastic content of waste was estimated to be 6,6 w/w% in 2003 (Hulgaard 2003). The weight share, lower heating values and CO_2 emission factors for different plastic types are estimated by Hulgaard in 2003 (Table 9). The total weight share for plastic and for the various plastic types is assumed to be the same for all years (NERI assumption).

Table 9 Data for plastic waste in Danish municipal waste (Hulgaard 2003)[1)2)].

Plastic type	Mass share of plastic in municipal waste in Denmark		Lower heating value of plastic	Energy content of plastic	CO_2 emission factor for plastic	CO_2 emission factor
	kg plastic/ kg municipal waste	% of plastic	MJ/kg plastic	MJ/kg municipal waste	g/MJ plastic	g/kg municipal waste
PE	0,032	48	41	1,312	72,5	95
PS/EPS	0,02	30	37	0,74	86	64
PVC	0,007	11	18	0,126	79	10
Other (PET, PUR, PC, POM, ABS, PA etc.)	0,007	11	24	0,168	95	16
Total	0,066	100	35,5	2,346	78,7	185

Hulgaard 2003 refers to:
1) TNO report 2000/119, Eco-efficiency of recovery scenarios of plastic packaging, Appendices, July 2001 by P.G. Eggels, A.M.M. Ansems, B.L. van der Ven, for Association of Plastic Manufacturers in Europe
2) Kost, Thomas, Brennstofftechnische Charakterisierung von Haushaltabfällen, Technische Universität Dresden, Eigenverlag des Forums für Abfallwirtschaft und Altlasten e.V., 2001

Based on emission measurements on 5 municipal waste incineration plants (Jørgensen & Johansen, 2003) the total CO_2 emission factor for municipal waste incineration has been determined to be 112,1 kg/GJ. The CO_2 emission from the biomass part is the total CO_2 emission minus the CO_2 emission from the plastic part.

Thus, in 2003 the CO_2 emission factor for the plastic content of waste was estimated to be 185g/kg municipal waste (Table 9). The CO_2 emission per GJ of waste is calculated based on the lower heating values for waste listed in Table 10 (DEA 2005b). It has been assumed that the plastic content in weight per cent is constant, resulting in a decreasing energy per cent since the lower heating value (LHV) is increasing. However, the increasing LHV may be a result of increasing plastic content in the municipal waste. Time-series for the CO_2 emission factor for plastic content in waste are included in Table 10.

Emission data from four waste incineration plants (Jørgensen & Johansen 2003) demonstrate the fraction of the carbon content of the waste not oxidised to be approximately 0,3%. The unoxidised fraction of the carbon content is assumed to originate from the biomass content, and all carbon originating from plastic are assumed to be oxidised.

Table 10 CO_2 emission factor for municipal waste, plastic content and biomass content.

Year	Lower heating value of municipal waste [1]	Plastic content	CO_2 emission factor for plastic [3]	CO_2 emission factor for plastic	CO_2 emission factor for municipal waste, total [2]	CO_2 emission factor for biomass content of waste
	[GJ/Mg]	[% of energy]	[g/kg waste]	[kg/GJ waste]	[kg/GJ waste]	[kg/GJ waste]
1990	8,20	28,6	185	22,5	112,1	89,6
1991	8,20	28,6	185	22,5	112,1	89,6
1992	9,00	26,1	185	20,5	112,1	91,6
1993	9,40	25,0	185	19,6	112,1	92,5
1994	9,40	25,0	185	19,6	112,1	92,5
1995	10,00	23,5	185	18,5	112,1	93,6
1996	10,50	22,3	185	17,6	112,1	94,5
1997	10,50	22,3	185	17,6	112,1	94,5
1998	10,50	22,3	185	17,6	112,1	94,5
1999	10,50	22,3	185	17,6	112,1	94,5
2000	10,50	22,3	185	17,6	112,1	94,5
2001	10,50	22,3	185	17,6	112,1	94,5
2002	10,50	22,3	185	17,6	112,1	94,5
2003	10,50	22,3	185	17,6	112,1	94,5
2004	10,50	22,3	185	17,6	112,1	94,5

1) DEA 2005b
2) Based on data from Jørgensen & Johansen 2003
3) From Table 3A-4

Straw

The emission factor for straw, 102 kg/GJ refers to Fenhann & Kilde 1994. The factor is based on the interval stated in the EMEP/Corinair Guidebook (EMEP/Corinair, 2004) and the actual value is the default value from the Collecter database. The same emission factor is applied for 1990-2004.

Residual oil

The emission factor 78 kg/GJ refers to Fenhann & Kilde 1994. The factor is based on the interval stated in the EMEP/Corinair Guidebook (EMEP/Corinair; 2004). The factor is slightly higher than the IPCC default emission factor for residual fuel oil (77,4 kg/GJ assuming full oxidation). The CO_2 emission factors have been confirmed by the two major power plant operators in 1996 (Christiansen 1996 and Andersen 1996). The same emission factor is applied for 1990-2004.

Gas oil

The emission factor 74 kg/GJ refers to Fenhann & Kilde 1994. The factor is based on the interval stated in the EMEP/Corinair Guidebook (EMEP/Corinair, 2004). The factor agrees with the IPCC default emission factor for gas oil (74,1 kg/GJ assuming full oxidation). The CO_2 emission factors have been confirmed by the two major power plant operators in 1996 (Christiansen 1996 and Andersen 1996). The same emission factor is applied for 1990-2004.

Kerosene

The emission factor 72 kg/GJ refers to Fenhann & Kilde 1994. The factor agrees with the IPCC default emission factor for other kerosene (71,9 kg/GJ assuming full oxidation). The same emission factor is applied for 1990-2004.

Fish & rape oil

The emission factor is assumed to be the same as for gas oil – 74 kg/GJ. The consumption of fish and rape oil is relatively low.

Orimulsion

The emission factor 80 kg/GJ refers to the Danish Energy Authority (DEA 2004). The IPCC default emission factor is almost the same: 80,7 kg/GJ assuming full oxidation. The CO_2 emission factors have been confirmed by the only major power plant operator using orimulsion (Andersen 1996). The same emission factor is applied for 1990-2004.

Natural gas

The emission factor for natural gas is estimated by the Danish gas transmission company, Energinet.dk. Only natural gas from the Danish gas fields is utilised in Denmark. The calculation is based on gas analysis carried out daily by Energinet.dk. Energinet.dk and the Danish Gas Technology Centre have calculated emission factors for 2000-2004. The emission factor applied for 1990-1999 refers to Fenhann & Kilde 1994. This emission factor was confirmed by the two major power plant operators in 1996 (Christiansen 1996 and Andersen 1996). Time-series for the CO_2 emission factors is provided in Table 11.

Table 11 CO_2 emission factor for natural gas.

Year	CO_2 emission factor
1990-1999	56,9 kg/GJ
2000	57,1 kg/GJ
2001	57,25 kg/GJ
2002	57,28 kg/GJ
2003	57,19 kg/GJ
2004	57,12 kg/GJ

LPG

The emission factor 65 kg/GJ refers to Fenhann & Kilde 1994. The emission factor is based on the EMEP/Corinair Guidebook (EMEP/Corinair, 2004). The emission factor is somewhat higher than the IPCC default emission factor (63 kg/GJ assuming full oxidation). The same emission factor is applied for 1990-2004.

Refinery gas

The emission factor applied for refinery gas is the same as the emission factor for natural gas 1990-1999. The emission factor is within the interval of the emission factor for refinery gas stated in the EMEP/Corinair Guidebook (EMEP/Corinair, 2004). The same emission factor is applied for 1990-2004.

Biogas

The emission factor 83,6 kg/GJ is based on a biogas with 65% (vol.) CH_4 and 35% (vol.) CO_2. Danish Gas Technology Centre has stated that this is a typical manure-based biogas as utilised in stationary combustion plants (Kristensen 2001). The same emission factor is applied for 1990-2004.

3.5.2 CH_4

The CH_4 emission factors applied for 2004 are presented in Table 12. In general, the same emission factors have been applied for 1990-2004. However, time-series have been estimated for both natural gas fuelled engines and biogas fuelled engines.

Emission factors for gas engines, gas turbines and CHP plants combusting wood, straw or municipal waste all refer to emission measurements carried out on Danish plants (Nielsen & Illerup 2003). Other emission factors refer to the EMEP/Corinair Guidebook (EMEP/Corinair, 2004).

Gas engines combusting natural gas or biogas contribute much more to the total CH_4 emission than other stationary combustion plants. The relatively high emission factor for gas engines is well-documented and further discussed below.

Table 12 CH_4 emission factors 1990-2004.

Fuel	ipcc_id	SNAP_id	Emission factor [g/GJ]	Reference
COAL	1A1a	010101, 010102, 010103	1,5	EMEP/Corinair 2004
COAL	1A1a, 1A2f, 1A4b, 1A4c	010202, 010203, 0301, 0202, 0203	15	EMEP/Corinair 2004
BROWN COAL BRI.	all	all	15	EMEP/Corinair 2004, assuming same emission factor as for coal
COKE OVEN COKE	all	all	15	EMEP/Corinair 2004, assuming same emission factor as for coal
PETROLEUM COKE	all	all	15	EMEP/Corinair 2004
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	2	Nielsen & Illerup 2003
WOOD AND SIMIL.	1A4a, 1A4b, 1A4c	0201, 0202, 0203	200	EMEP/Corinair 2004
WOOD AND SIMIL.	1A1a, 1A2f	010105, 010202, 010203, 0301, 030102, 030103	32	EMEP/Corinair 2004
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	0,59	Nielsen & Illerup 2003
MUNICIP. WASTES	1A1a, 1A2f, 1A4a	all other	6	EMEP/Corinair 2004
STRAW	1A1a	010102, 010103	0,5	Nielsen & Illerup 2003
STRAW	1A1a, 1A2f, 1A4c	010202, 010203, 020302, 030105	32	EMEP/Corinair 2004
STRAW	1A4b, 1A4c	0202, 0203	200	EMEP/Corinair 2004
RESIDUAL OIL	all	all	3	EMEP/Corinair 2004
GAS OIL	all	all	1,5	EMEP/Corinair 2004
KEROSENE	all	all	7	EMEP/Corinair 2004
FISH & RAPE OIL	all	all	1,5	EMEP/Corinair 2004, assuming same emission factor as gas oil
ORIMULSION	1A1a	010101	3	EMEP/Corinair 2004, assuming same emission factor as residual oil

NATURAL GAS	1A1a	0101, 010101, 010102, 010202	6	DGC 2001
NATURAL GAS	1A1a	010103, 010203	15	Gruijthuijsen & Jensen 2000
NATURAL GAS	1A1a, 1Ac, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 010504, 030104, 020104, 020303	1,5	Nielsen & Illerup 2003
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	1) 520	Nielsen & Illerup 2003
NATURAL GAS	1A1c, 1A2f, 1A4a, 1A4b, 1A4c	010502, 0301, 0201, 0202, 0203	6	DGC 2001
NATURAL GAS	1A2f, 1A4a, 1A4b	030103, 030106, 020103, 020202	15	Gruijthuijsen & Jensen 2000
LPG	all	all	1	EMEP/Corinair 2004
REFINERY GAS	1A1b	010304	1,5	EMEP/Corinair 2004
BIOGAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas engines: 010105, 010505, 030105, 020105, 020304	1) 323	Nielsen & Illerup 2003
BIOGAS	1A1a, 1A2f, 1A4a, 1A4c	all other	4	EMEP/Corinair 2004

1) 2003 emission factor. Time-series is shown below

3.5.2.1 CHP plants

A considerable portion of the electricity production in Denmark is based on decentralised CHP plants, and well-documented emission factors for these plants are, therefore, of importance. In a project carried out for the electricity transmission company in Western Denmark, Eltra, emission factors for CHP plants <25MW$_e$ have been estimated. The work was reported in 2003 (Nielsen & Illerup 2003) and the results have been fully implemented in the inventory reported in 2004.

The work included municipal waste incineration plants, CHP plants combusting wood and straw, natural gas and biogas-fuelled (reciprocating) engines, and natural gas fuelled gas turbines. CH_4 emission factors for these plants all refer to Nielsen & Illerup 2003. The estimated emission factors were based on existing emission measurements as well as on emission measurements carried out within the project. The number of emission data sets was comprehensive. Emission factors for subgroups of each plant type were estimated, e.g. the CH_4 emission factor for different gas engine types has been determined.

Gas engines, natural gas

SNAP 010105, 010205, 010505, 030105, 020105, 020204 and 020304

The emission factor for natural gas engines was determined as 520 g/GJ in 2000 and the same emission factor has been applied for 2001 - 2004. The emission factor for natural gas engines was based on 291 emission measurements on 114 different plants. The plants from which emission measurements were available represented 44% of the total gas consumption in gas engines (year 2000). The emission factor was estimated based on fuel consumption of each gas engine type and the emission factor for each engine type. The majority of emission measurements that were not performed within the project related solely to emission of total unburned hydrocarbon (CH_4 + NMVOC). A constant disaggregation factor was estimated based on a number of emission measurements including both CH_4 and NMVOC.

The emission factor for lean-burn gas engines is relatively high, especially for prechamber engines, which account for more than half the gas consumption in Danish gas engines. However, the emission factors for different prechamber engine types differ considerably.

The installation of natural gas engines in decentralised CHP plants in Denmark has taken place since 1990. The first engines installed were relatively small open-chamber engines and in later years mainly prechamber engines were installed. As mentioned above, prechamber engines have a higher emission factor than open-chamber engines; therefore, the emission factor has changed during the period 1990-2004. A time-series for the emission factor has been estimated and is presented below (Nielsen & Illerup 2003). The time-series was based on:

- Emission factors for different engine types
- Data for year of installation for each engine and fuel consumption of each engine 1994-2002 from the Danish Energy Authority (DEA 2003)
- Research concerning the CH_4 emission from gas engines carried out in 1997 (Nielsen & Wit 1997)

Table 13 Time-series for the CH_4 emission factor for natural gas fuelled engines.

Year	Emission factor [g/GJ]
1990	257
1991	299
1992	347
1993	545
1994	604
1995	612
1996	596
1997	534
1998	525
1999	524
2000	520
2001	520
2002	520
2003	520
2004	520

Gas engines, biogas

SNAP 010105, 010505, 020105, 020304 and 030105

The emission factor for biogas engines was estimated to 323 g/GJ in 2000 and the same emission factor has been applied for 2001 - 2004. The emission factor for biogas engines was based on 18 emission measurements on 13 different plants. The plants from which emission measurements were available represented 18% of the total gas consumption in gas engines (year 2000).

The emission factor is lower than the factor for natural gas, mainly because most engines are lean-burn open-chamber engines - not prechamber engines. A time-series for the emission factor has been estimated (Nielsen & Illerup 2003).

Table 14 Time-series for the CH_4 emission factor for biogas fuelled engines.

Year	Emission factor [g/GJ]
1990	239
1991	251
1992	264
1993	276
1994	289
1995	301
1996	305
1997	310
1998	314
1999	318
2000	323
2001	323
2002	323
2003	323
2004	323

Gas turbines, natural gas

SNAP 010104, 010504, 020104, 020303 and 030104

The emission factor for gas turbines was estimated to be below 1,5g/GJ and the emission factor 1,5 g/GJ has been applied for all years. The emission factor was based on emission measurements on 9 plants.

CHP, wood

SNAP 010102 and, 010103 and 010104

The emission factor for CHP plants combusting wood was estimated to be below 2,1 g/GJ and the emission factor 2 g/GJ has been applied for all years. The emission factor was based on emission measurements on 3 plants.

CHP, straw

SNAP 010102 and 010103

The emission factor for CHP plants combusting straw was estimated to be below 0,5g/GJ and the emission factor 0,5g/GJ has been applied for all years. The emission factor was based on emission measurements on 4 plants.

CHP, municipal waste

SNAP 010102, 010103, 010104 and 010105

The emission factor for CHP plants combusting municipal waste was estimated to be below 0,59g/GJ and the emission factor 0,59g/GJ has been applied for all years. The emission factor was based on emission measurements on 16 plants.

3.5.2.2 Other stationary combustion plants

Emission factors for other plants refer to the EMEP/Corinair Guidebook (EMEP/Corinair 2004), the Danish Gas Technology Centre (DGC 2001) or Gruijthuijsen & Jensen 2000. The same emission factors are applied for 1990-2004.

3.5.3 N_2O

The N_2O emission factors applied for the 2004 inventory are listed in Table 15. The same emission factors have been applied for 1990-2004.

Emission factors for gas engines, gas turbines and CHP plants combusting wood, straw or municipal waste all refer to emission measurements carried out on Danish plants (Nielsen & Illerup 2003). For Coal powered plants in the Public power sector research conducted by Elsam has led to a new emission factor being implemented for the entire time series. Other emission factors refer to the EMEP/Corinair Guidebook (EMEP/Corinair 2004).

Table 15 N_2O emission factors 1990-2004.

Fuel	ipcc_id	SNAP_id	Emission factor [g/GJ]	Reference
COAL	1A1a	0101**	0,8	Elsam 2005
COAL	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	All except 0101**	3	EMEP/Corinair 2004
BROWN COAL BRI.	all	all	3	EMEP/Corinair 2004
COKE OVEN COKE	all	all	3	EMEP/Corinair 2004
PETROLEUM COKE	all	all	3	EMEP/Corinair 2004
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	0,8	Nielsen & Illerup 2003
WOOD AND SIMIL.	1A1a	010105, 010202, 010203	4	EMEP/Corinair 2004
WOOD AND SIMIL.	1A2f, 1A4a, 1A4b, 1A4c	all	4	EMEP/Corinair 2004
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	1,2	Nielsen & Illerup 2003
MUNICIP. WASTES	1A1a	010203	4	EMEP/Corinair 2004
MUNICIP. WASTES	1A2f, 1A4a	030102, 0201, 020103	4	EMEP/Corinair 2004
STRAW	1A1a	010102, 010103	1,4	Nielsen & Illerup 2003
STRAW	1A1a	010202, 010203	4	EMEP/Corinair 2004
STRAW	1A2f, 1A4b, 1A4c	all	4	EMEP/Corinair 2004
RESIDUAL OIL	all	all	2	EMEP/Corinair 2004
GAS OIL	all	all	2	EMEP/Corinair 2004
KEROSENE	all	all	2	EMEP/Corinair 2004
FISH & RAPE OIL	all	all	2	EMEP/Corinair 2004, assuming same emission factor as gas oil
ORIMULSION	1A1a	010101	2	EMEP/Corinair 2004, assuming same emission factor as residual oil
NATURAL GAS	1A1a	0101, 010101, 010102, 010103, 010202, 010203	1	EMEP/Corinair 2004
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 010504, 030104, 020104, 020303	2,2	Nielsen & Illerup 2003
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	1,3	Nielsen & Illerup 2003
NATURAL GAS	1A1c, 1A2f, 1A4a, 1A4b, 1A4c	010502, 0301, 030103, 030106, 0201, 020103, 0202, 020202, 0203	1	EMEP/Corinair 2004
LPG	all	all	2	EMEP/Corinair 2004
REFINERY GAS	all	all	2,2	EMEP/Corinair 2004
BIOGAS	1A1a	010102, 010103, 010203	2	EMEP/Corinair 2004
BIOGAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas engines: 010105, 010505, 030105, 020105, 020304	0,5	Nielsen & Illerup 2003
BIOGAS	1A2f, 1A4a, 1A4c	0301, 030102, 0201, 020103, 0203	2	EMEP/Corinair 2004

3.5.4 SO_2, NO_x, NMVOC and CO

Emission factors for SO_2, NO_x, NMVOC and CO are listed in Appendix 6. The appendix includes references and time-series.

The emission factors refer to:

- The EMEP/Corinair Guidebook (EMEP/Corinair 2004)
- The IPCC Guidelines, Reference Manual (IPCC 1996)
- Danish legislation:
  - Miljøstyrelsen 2001 (Danish Environmental Protection Agency)
  - Miljøstyrelsen 1990 (Danish Environmental Protection Agency)
  - Miljøstyrelsen 1998 (Danish Environmental Protection Agency)
- Danish research reports including:
  - An emission measurement program for decentralised CHP plants (Nielsen & Illerup 2003)
  - Research and emission measurements programs for biomass fuels:
    - Nikolaisen et al., 1998
    - Jensen & Nielsen, 1990
    - Dyrnum et al., 1990

    - Hansen et al., 1994
    - Serup et al., 1999
  - Research and environmental data from the gas sector:
    - Gruijthuijsen & Jensen 2000
    - Danish Gas Technology Centre 2001
- Calculations based on plant-specific emissions from a considerable number of power plants (Nielsen 2003).
- Calculations based on plant-specific emission data from a considerable number of municipal waste incineration plants. These data refer to annual environmental reports published by plant operators.
- Sulphur content data from oil companies and the Danish gas transmission company.
- Additional personal communication.

Emission factor time-series have been estimated for a considerable number of the emission factors. These are provided in Appendix 6.

A detailed documentation for the SO_2 and NO_X emission factors is given in Appendix 4.

3.5.5 Particulate matter (PM)

Emission factors for PM are listed in Appendix 6. The appendix includes references. The emission factors are based on:

- The TNO/CEPMEIP emission factor database (TNO CEPMEIP 2001),
- A Nordic project where improved emission factors for residential wood combustion have been estimated (Sternhufvud et al. 2004))

and a considerable number of country-specific factors (Nielsen et al. 2003) referring to:

- Danish legislation:
  - Miljøstyrelsen 2001 (Danish Environmental Protection Agency).
  - Miljøstyrelsen 1990 (Danish Environmental Protection Agency).
- Calculations based on plant-specific emission data from a considerable number of municipal waste incineration plants.
- Danish research reports including:
  - An emission measurement program for decentralised CHP plants (Nielsen & Illerup 2003).
  - An emission measurement program for large power plants (Livbjerg et al. 2001).
- Additional personal communication concerning wood and straw combustion in residential plants.

Emission factor time series have been estimated for residential wood combustion. All other emission factors are considered constant in 2000-2004.

3.5.6 Heavy metals

Emission factors for 2004 for heavy metals (HM) are presented in Appendix 6. The appendix includes references and time-series. The emission factors refer to:

- Research concerning heavy metal emission factors representative for Denmark (Illerup et al. 1999).
- Emission measurement program carried out on Danish decentralised CHP plants (Nielsen & Illerup 2003).

Time-series have been estimated for municipal waste incineration. For all other sources the same emission factors have been applied for 1990-2004.

3.5.7 PAH

Emission factors 2004 for PAHs are shown in Appendix 6. The appendix includes references. The PAH emission factors refer to:

- Research carried out by TNO (Berdowski et al. 1995).
- Research carried out by Statistics Norway (Finstad et al. 2001).
- An emission measurement program performed on biomass fuelled plants. The project was carried out for the Danish Environmental Protection Agency (Jensen & Nielsen 1996).
- An emission measurement program carried out on Danish decentralised CHP plants (Nielsen & Illerup 2003).
- Additional information from the gas sector and the electricity production sector (Sander 2003 and Jensen 2001).

The same emission factors are applied for all years. In general, emission factors for PAH are uncertain.

3.6 Disaggregation to specific industrial subsectors

The national statistics on which the emission inventories is based does not include a direct disaggregation to specific industrial subsectors. However, separate national statistics from Statistics Denmark includes a disaggregation to industrial subsectors. This part of the energy statistics is also included in the official energy statistics from the Danish Energy Authority.

Every other year Statistics Denmark collects fuel consumption data for all industrial companies of a considerable size. The deviation between the total fuel consumption from the Danish Energy Authority and the data collected by Statistics Denmark is rather small. Thus the disaggregation to industrial subsectors available from Statistics Denmark can be applied for estimating disaggregation keys for fuel consumption and emissions.

The industrial fuel consumption is considered in three aspects:

– Fuel consumption for transport. This part of the fuel consumption is not disaggregated to subsectors.
– Fuel consumption applied in power or district heating plants. Disaggregation of fuel and emissions is plant specific.
– Fuel consumption for other purposes. The total fuel comsumption and the total emissions are disaggregated to subsectors.

4 Fuel consumption data

In 2004 total fuel consumption for stationary combustion plants was 564 PJ of which 466 PJ was fossil fuels. The fuel consumption rates are shown in Appendix 5.

Fuel consumption distributed on the stationary combustion subsectors is shown in Figure 1 and Figure 2. The majority - 60% - of all fuels is combusted in the sector, *Public electricity and heat production.* Other sectors with high fuel consumption are *Residential* and *Industry*. The energy consumption in category 1A1c is mainly natural gas used in gas turbines in the off-shore industry.

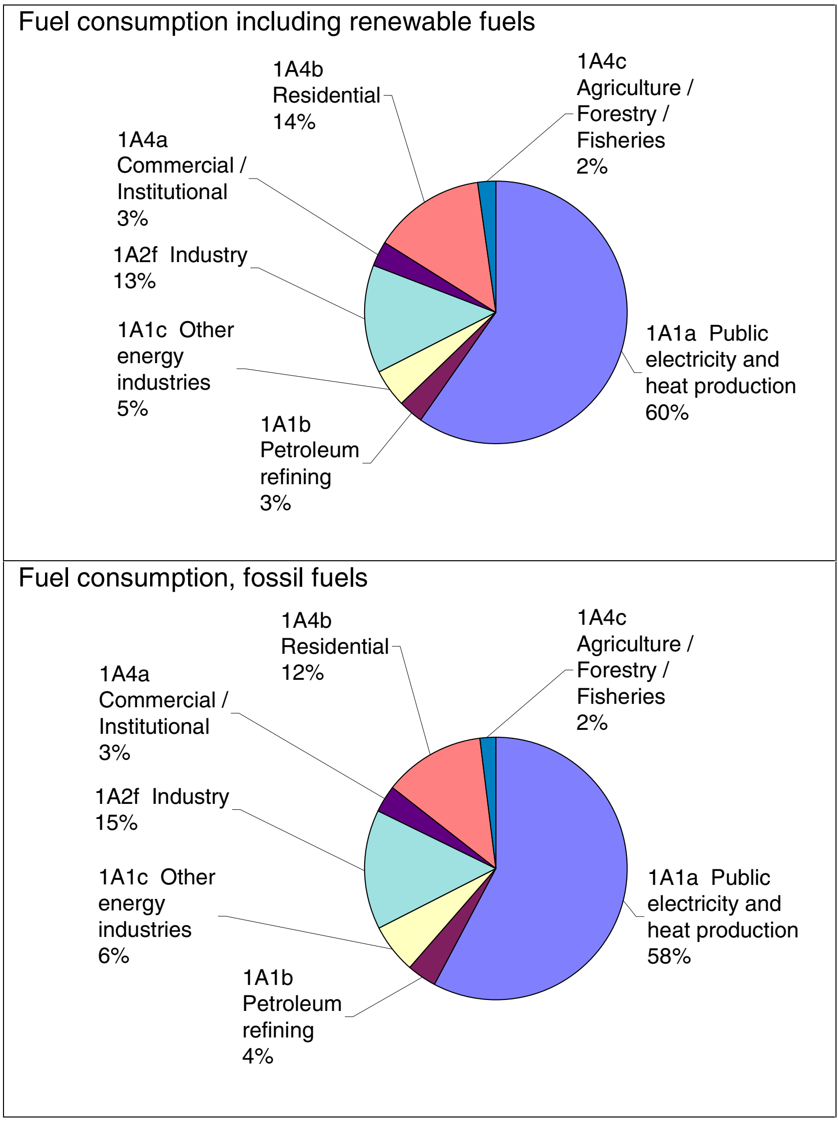


Figure 1 Fuel consumption rate of stationary combustion, 2004 (based on DEA 2005a).

Coal and natural gas are the most utilised fuels for stationary combustion plants. Coal is mainly used in power plants and natural gas is used in power plants and decentralised CHP plants, as well as in industry, district heating and households.

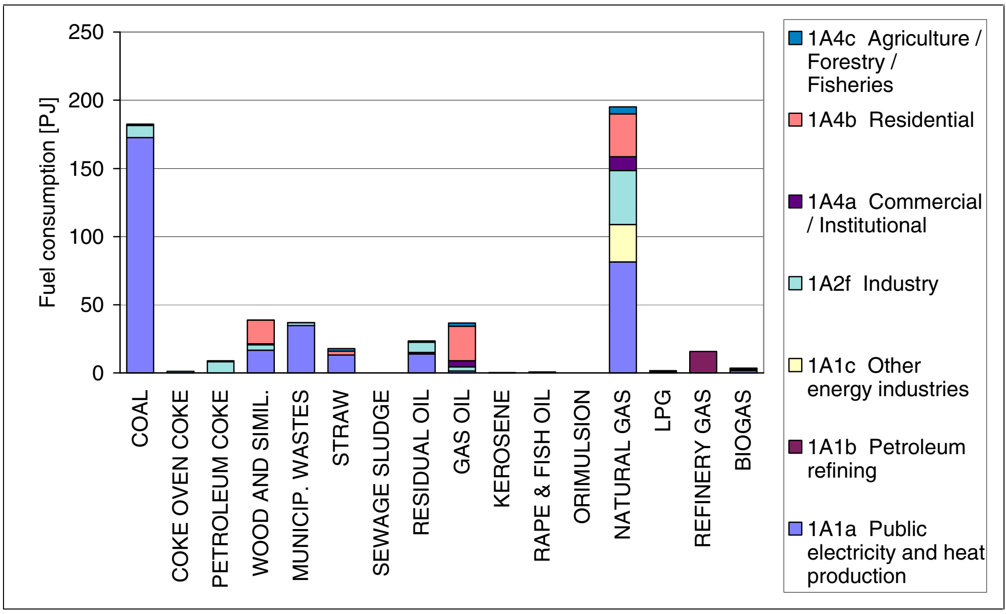


Figure 2 Fuel consumption of stationary combustion plants 2004 (based on DEA 2005a).

Fuel consumption time-series for stationary combustion plants are presented in Figure 3. The total fuel consumption has increased by 13% from 1990 to 2004, while the fossil fuel consumption has only increased by 4,2%. The consumption of natural gas and renewable fuels has increased since 1990 whereas coal consumption has decreased.

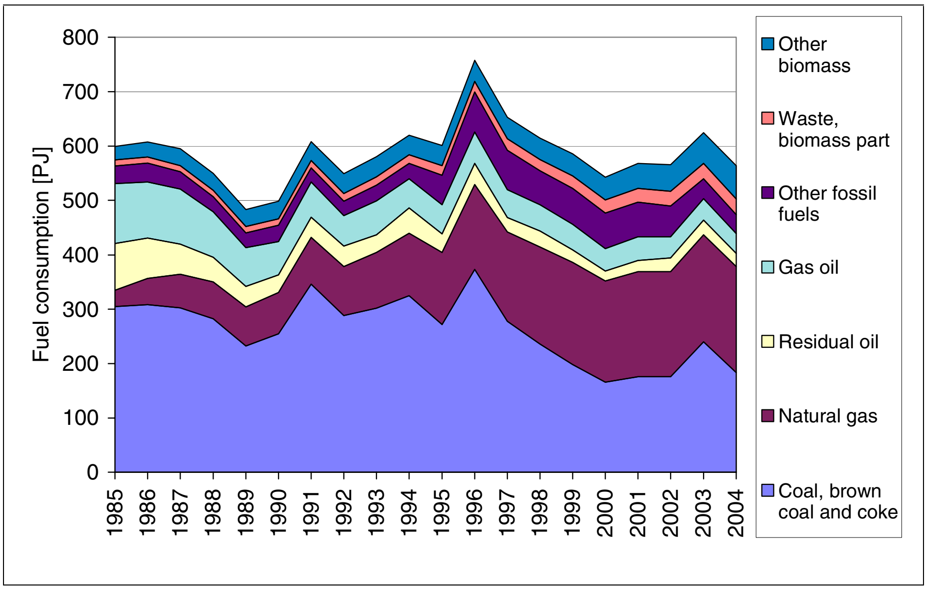


Figure 3 Fuel consumption time-series, stationary combustion (based on DEA 2005a).

The fluctuations in the time-series for fuel consumption are mainly a result of electricity import/export, but also of outdoor temperature variations from year to year. This, in turn, leads to fluctuations in emission levels. The fluctuations in electricity trade, fuel consumption and NO_x emission are illustrated and compared in Figure 4. In 1990 the Danish electricity import was large causing relatively low fuel consumption, whereas the fuel consumption was high in 1996 due to a large electricity export. In 2004 the net electricity export was 10340 TJ which is lower than in 2003. The electricity export in 2004 is a result of low rainfall in Norway and Sweden causing insufficient hydropower production in both countries.

To be able to follow the national energy consumption as well as for statistical and reporting purposes, the Danish Energy Authority produces a correction of the actual fuel consumption without random variations in electricity imports/exports and ambient temperature. This fuel consumption trend is also illustrated in Figure 4. The corrections are included here to explain the fluctuations in the emission time-series.

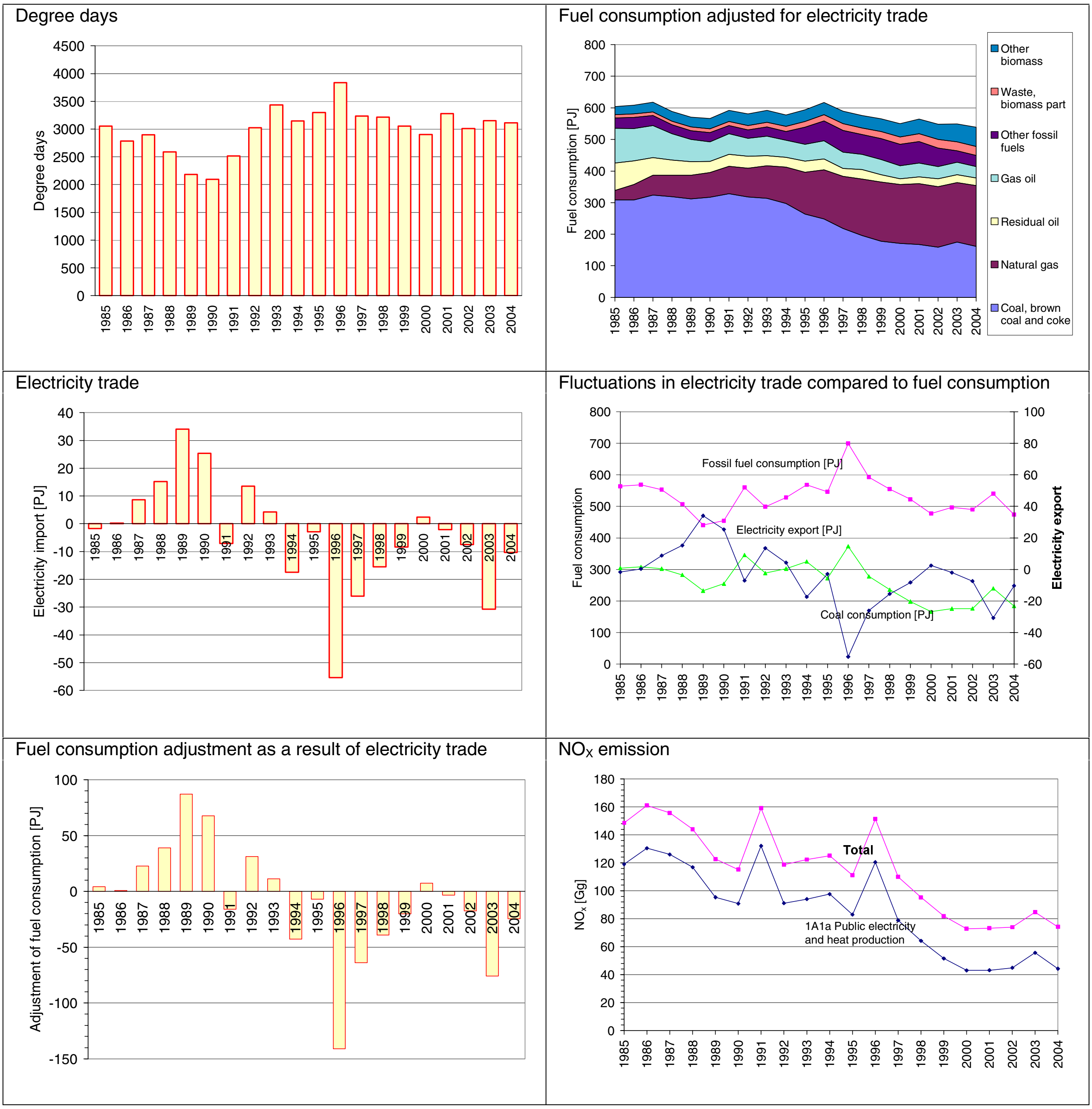


Figure 4 Comparison of time-series fluctuations for electricity trade, fuel consumption and NO_x emission (DEA 2005b).

5 Greenhouse gas emission

The total Danish greenhouse gas (GHG) emission in the year 2004 was 68.062 Gg CO_2 equivalent not including land-use change and forestry or 65.783 Gg CO_2 equivalent including land-use change and forestry. The greenhouse gas pollutants HFCs, PFCs and SF_6 are not emitted from combustion plants and, as such, only the pollutants CO_2, CH_4 and N_2O are considered below.

The global warming potentials of CH_4 and N_2O applied in greenhouse gas inventories refer to the second IPCC assessment report (IPCC 1995):

- 1 g CH_4 equals 21 g CO_2
- 1 g N_2O equals 310 g CO_2

The GHG emissions from stationary combustion are listed in Table 16. The emission from stationary combustion accounts for 54% of the total Danish GHG emission.

The CO_2 emission from stationary combustion plants accounts for 66% of the total Danish CO_2 emission (not including land-use change and forestry). CH_4 accounts for 9% of the total Danish CH_4 emission and N_2O for only 4% of the total Danish N_2O emission.

Table 16 Greenhouse gas emission for the year 2004 [1].

	CO_2	CH_4	N_2O
	Gg CO_2 equivalent		
1A1 Fuel consumption, Energy industries	25388	323	154
1A2 Fuel consumption, Manufacturing Industries and Construction [1]	4929	31	47
1A4 Fuel consumption, Other sectors [1]	5354	169	67
Total emission from stationary combustion plants	**35670**	**522**	**268**
Total Danish emission (gross)	53938	5779	7587
	%		
Emission share for stationary combustion	66	9	4

1) Only stationary combustion sources of the sector is included

CO_2 is the most important GHG pollutant and accounts for 97,7% of the GHG emission (CO_2 eq.). This is a much higher share than for the total Danish GHG emissions where CO_2 only accounts for 81% of the GHG emission (CO_2 eq.).

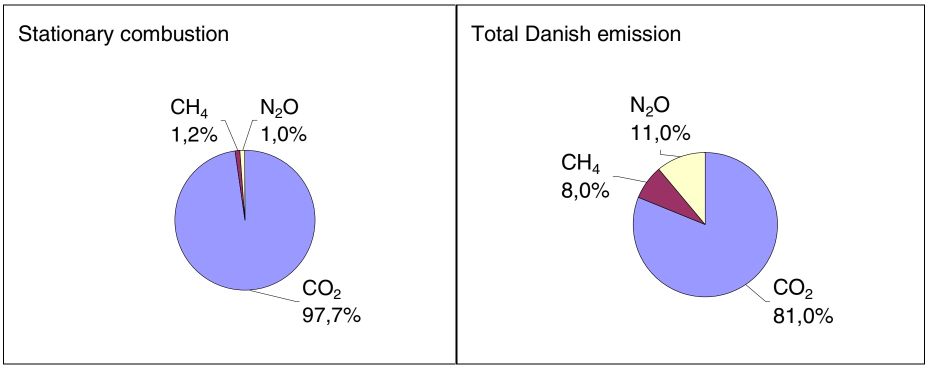


Figure 5 GHG emission (CO_2 equivalent), contribution from each pollutant.

Figure 6 depicts the time-series of GHG emission (CO_2 eq.) from stationary combustion and it can be seen that the GHG emission development follows the CO_2 emission development very closely. Both the CO_2 and the total GHG emission is lower in 2004 than in 1990, CO_2 by 5% and GHG by 4%. However, fluctuations in the GHG emission level are large.

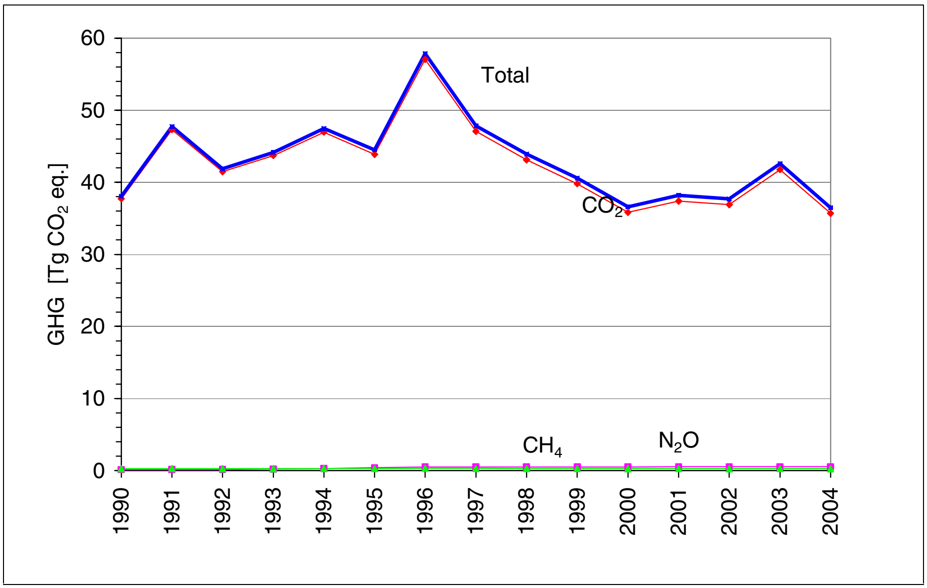


Figure 6 GHG emission time-series for stationary combustion.

The fluctuations in the time-series are mainly a result of electricity import/export activity, but also of outdoor temperature variations from year to year. The fluctuations follow the fluctuations in fuel consumption discussed in Chapter 4.

Figure 7 shows the corresponding time-series for degree days, electricity trade and CO_2 emission. As mentioned in Chapter 4, the Danish Energy Authority estimates a correction of the actual emissions without random variations in electricity imports/exports and in ambient temperature. This emission trend, which is smoothly decreasing, is also illustrated in Figure 7. The corrections are included here to explain the fluctuations in the emission time-series. The GHG emission corrected for electricity import/export and ambient temperature has decreased by 23% since 1990, and the CO_2 emission by 24%.

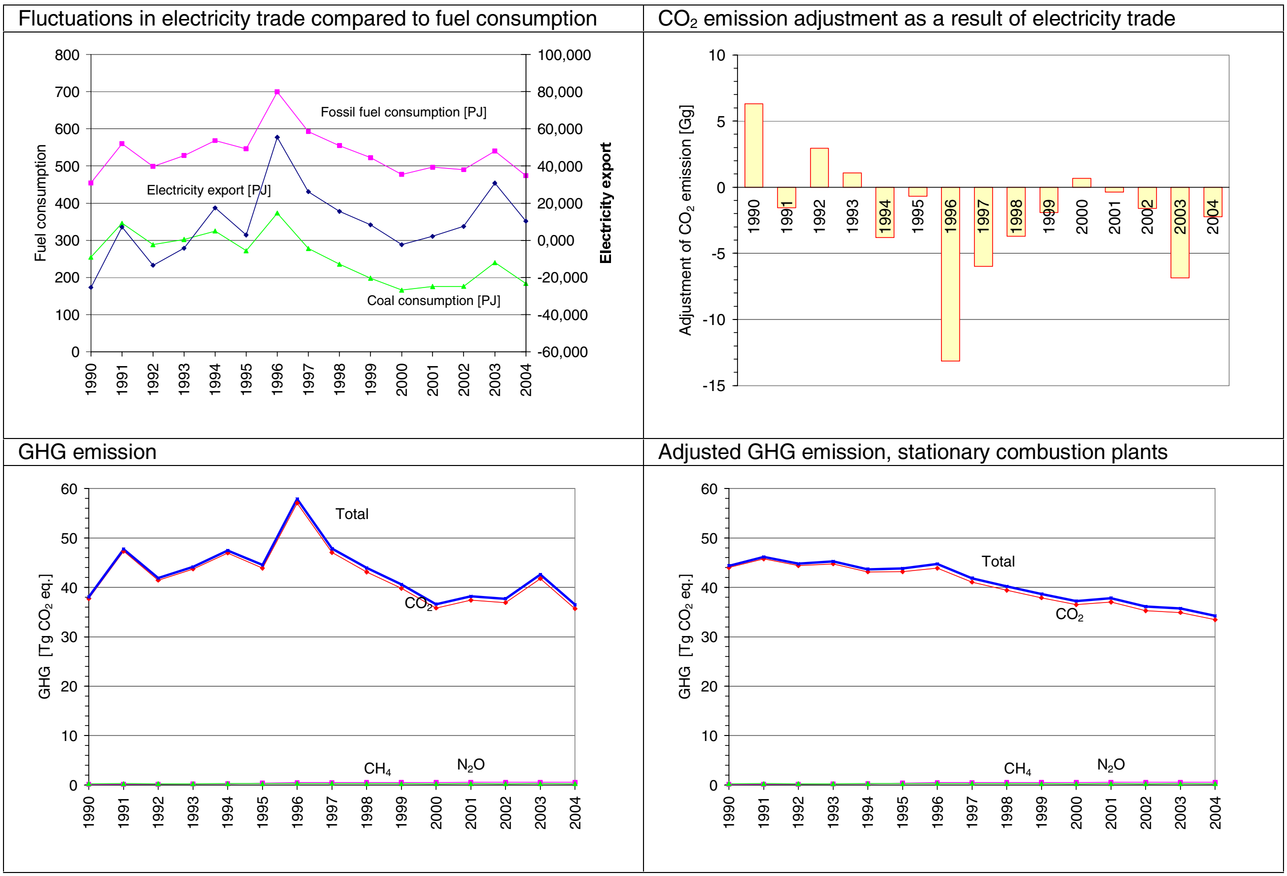


Figure 7 GHG emission time-series for stationary combustion, adjusted for electricity import/export (DEA 2005b).

5.1 CO_2

The CO_2 emission from stationary combustion plants is one of the most important GHG emission sources. Thus the CO_2 emission from stationary combustion plants accounts for 66% of the total Danish CO_2 emission. Table 17 lists the CO_2 emission inventory for stationary combustion plants for 2004. Figure 8 reveals that *Electricity and heat production* accounts for 63% of the CO_2 emission from stationary combustion. This share is somewhat higher than the fossil fuel consumption share for this sector, which is 60% (Figure 1). Other large CO_2 emission sources are industrial plants and residential plants. These are the sectors, which also account for a considerable share of fuel consumption.

Table 17 CO_2 emission from stationary combustion plants 2004 [1)]

CO_2	**2004**	
1A1a Public electricity and heat production	22832	Gg
1A1b Petroleum refining	988	Gg
1A1c Other energy industries	1567	Gg
1A2 Industry	4929	Gg
1A4a Commercial / Institutional	956	Gg
1A4b Residential	3768	Gg
1A4c Agriculture / Forestry / Fisheries	631	Gg
Total	**35670**	**Gg**

1) Only emission from stationary combustion plants in the sectors is included

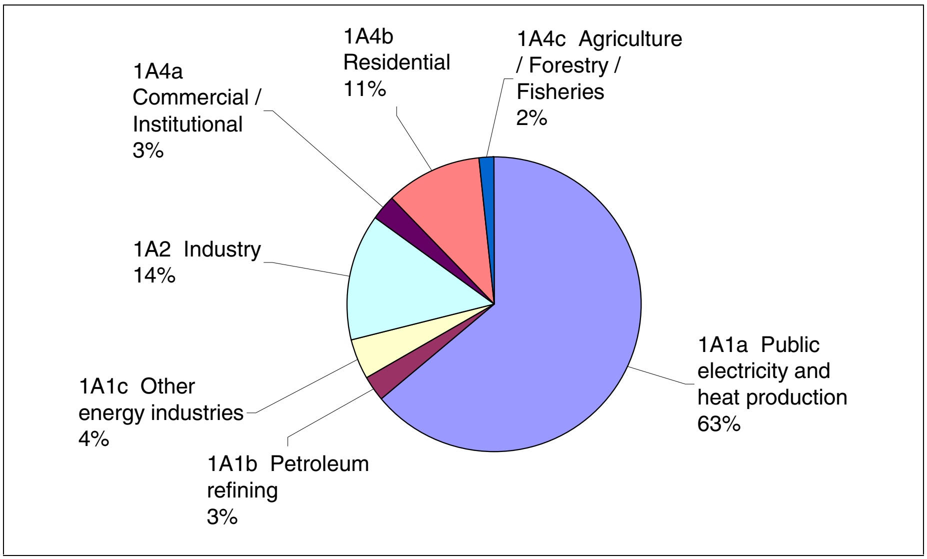


Figure 8 CO_2 emission sources, stationary combustion plants, 2004.

The sector *Electricity and heat production* consists of the SNAP source sectors: *Public power* and *District heating*. The CO_2 emissions from each of these subsectors are listed in Table 18. The most important subsector is power plant boilers >300MW.

Table 18 CO_2 emission from subsectors to *1A1a Electricity and heat production*.

SNAP source	SNAP name	2004	
0101	Public power	0	Gg
010101	Combustion plants ≥ 300MW (boilers)	17508	Gg
010102	Combustion plants ≥ 50MW and < 300 MW (boilers)	910	Gg
010103	Combustion plants <50 MW (boilers)	203	Gg
010104	Gas turbines	2402	Gg
010105	Stationary engines	1528	Gg
0102	District heating plants	-	Gg
010201	Combustion plants ≥ 300MW (boilers)	7	Gg
010202	Combustion plants ≥ 50MW and < 300 MW (boilers)	58	Gg
010203	Combustion plants <50 MW (boilers)	188	Gg
010204	Gas turbines	-	Gg
010205	Stationary engines	27	Gg

CO_2 emission from combustion of biomass fuels is not included in the total CO_2 emission data, because biomass fuels are considered CO_2 neutral. The CO_2 emission from biomass combustion is reported as a memo item in Climate Convention reporting. In 2004 the CO_2 emission from biomass combustion was 9647 Gg.

In Figure 9 the fuel consumption share (fossil fuels) is compared to the CO_2 emission share disaggregated to fuel origin. Due to the higher CO_2 emission factor for coal than oil and gas, the CO_2 emission share from coal combustion is higher than the fuel consumption share. Coal accounts for 39% of the fossil fuel consumption and for 49% of the CO_2 emission. Natural gas accounts for 41% of the fossil fuel consumption but only 31% of the CO_2 emission.

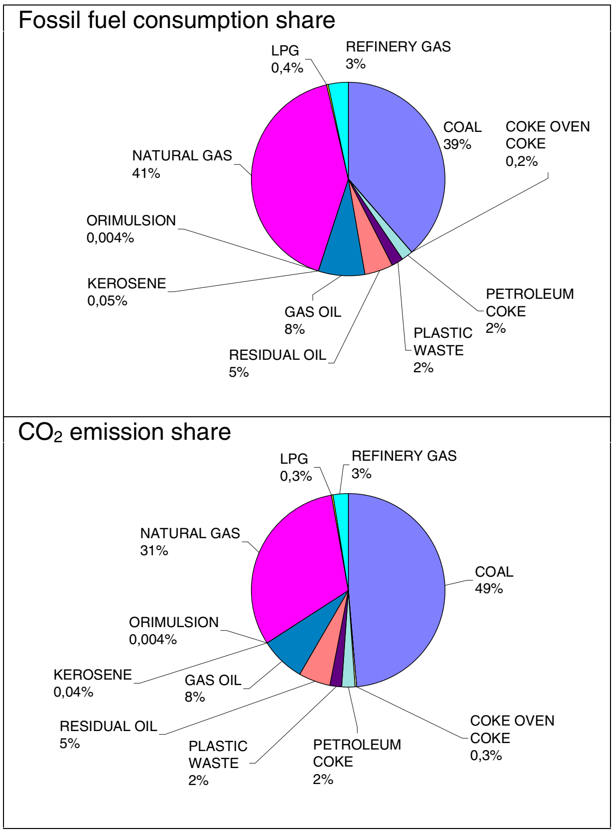


Figure 9 CO_2 emission, fuel origin.

Time-series for CO_2 emission are provided in Figure 10. Despite an increase in fuel consumption of 13% since 1990 CO_2 emission from stationary combustion has decreased by 5,4% because of the change of fuel type used.

The fluctuations in total CO_2 emission follow the fluctuations in CO_2 emission from *Electricity and heat production* (Figure 10) and in coal consumption (Figure 11). The fluctuations are a result of electricity import/export activity as discussed in Chapter 5.

Figure 11 compares time-series for fossil fuel consumption and the CO_2 emission. As mentioned above, the consumption of coal has decreased whereas the consumption of natural gas, with a lower CO_2 emission factor, has increased. Total fossil fuel use increased by 4% between 1990 and 2004.

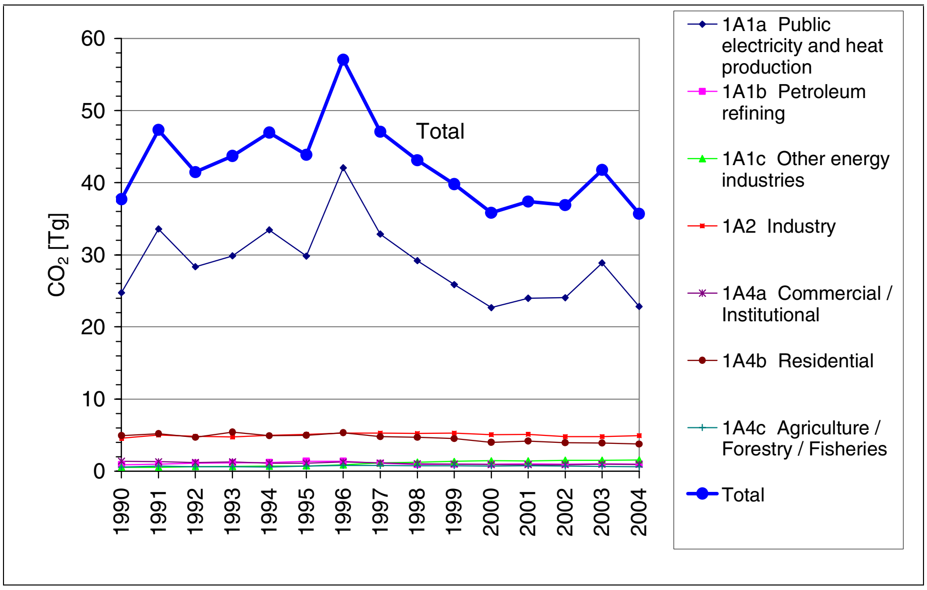


Figure 10 CO_2 emission time-series for stationary combustion plants.

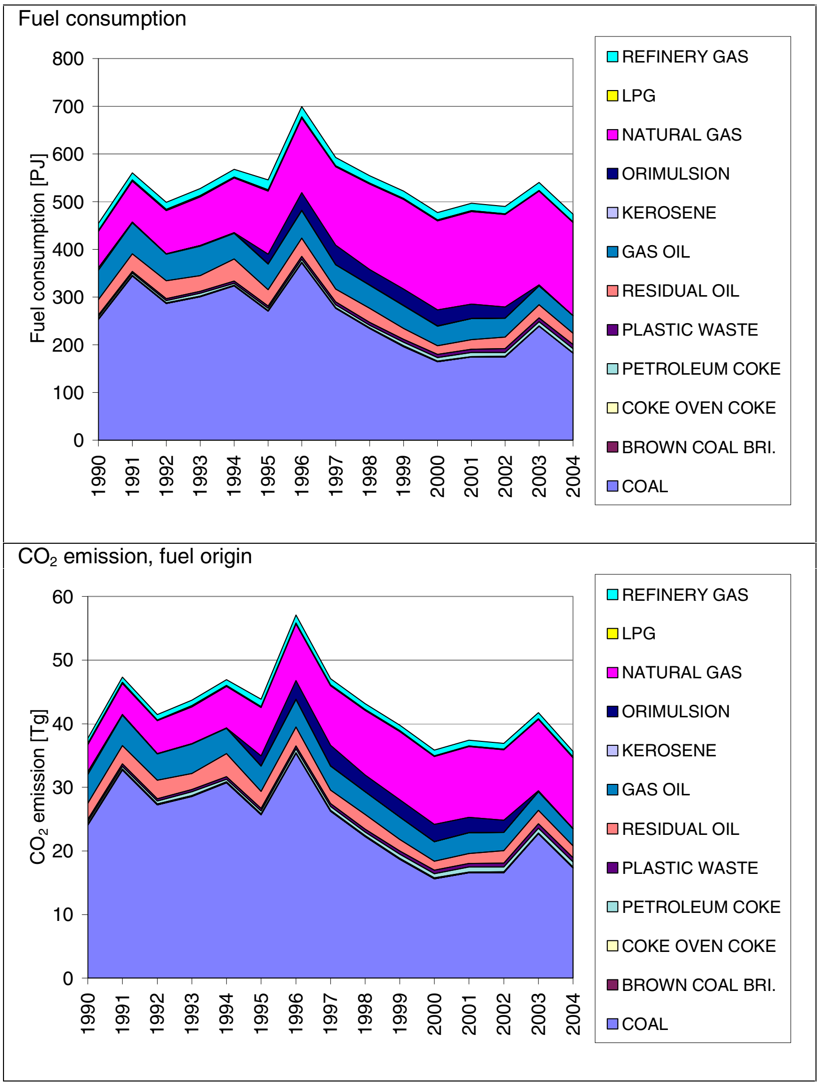


Figure 11 Fossil fuel consumption and CO_2 emission time-series for stationary combustion.

5.2 CH_4

CH_4 emission from stationary combustion plants accounts for 9% of the total Danish CH_4 emission. Table 19 lists the CH_4 emission inventory for stationary combustion plants in 2004. Figure 12 reveals that *Electricity and heat production* accounts for 62% of the CH_4 emission from stationary combustion, this being closely aligned with fuel consumption share.

Table 19 CH_4 emission from stationary combustion plants 2004 [1)].

CH_4	2004	
1A1a Public electricity and heat production	15294	Mg
1A1b Petroleum refining	2	Mg
1A1c Other energy industries	69	Mg
1A2 Industry	1464	Mg
1A4a Commercial / Institutional	906	Mg
1A4b Residential	5057	Mg
1A4c Agriculture / Forestry / Fisheries	2071	Mg
Total	24863	Mg

1) Only emission from stationary combustion plants in the sectors is included

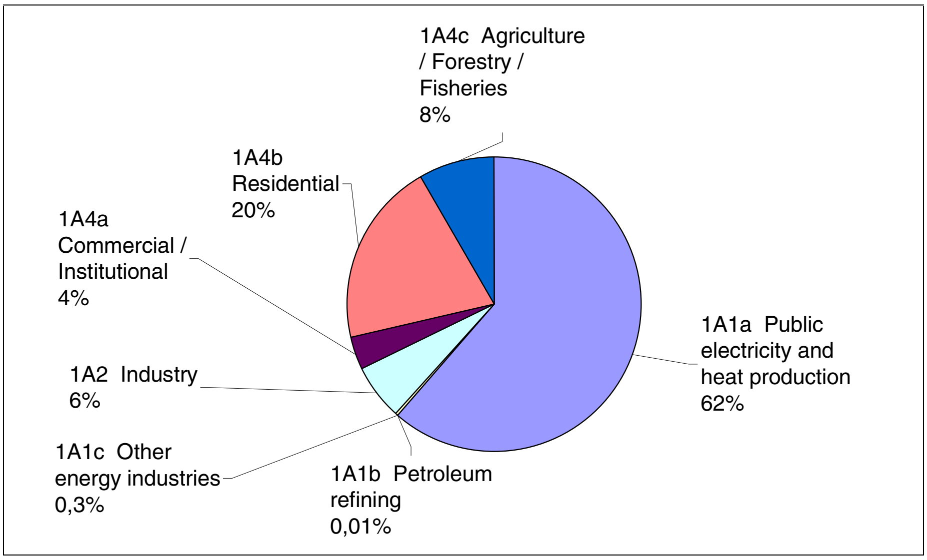


Figure 12 CH_4 emission sources, stationary combustion plants, 2004.

The CH_4 emission factor for reciprocating gas engines is much higher than for other combustion plants due to the continuous ignition/burn-out of the gas. Lean-burn gas engines have an especially high emission factor as discussed in Chapter 3.5.2. A considerable number of lean-burn gas engines are in operation in Denmark and these plants account for 74% of the CH_4 emission from stationary combustion plants (Figure 13). The engines are installed in CHP plants and the fuel used is either natural gas or biogas.

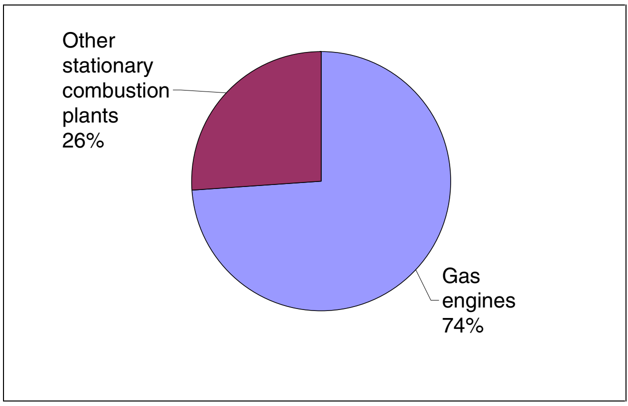


Figure 13 Gas engine CH_4 emission share, 2004.

The CH_4 emission from stationary combustion increased by a factor of 4,3 since 1990 (Figure 14). This results from the considerable number of lean-burn gas engines installed in CHP plants in Denmark in this period. Figure 15 provides time-series for the fuel consumption rate in gas engines and the corresponding increase of CH_4 emission.

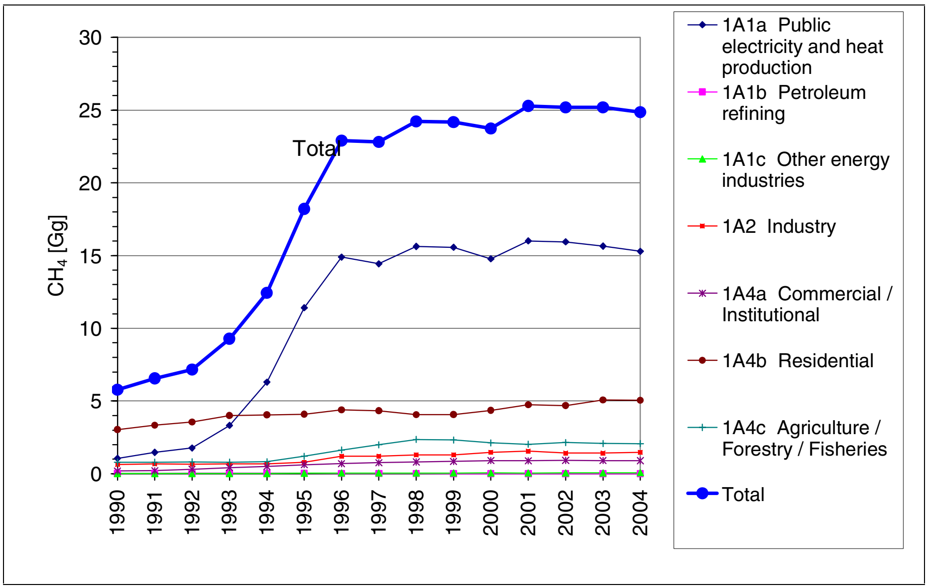


Figure 14 CH_4 emission time-series for stationary combustion plants.

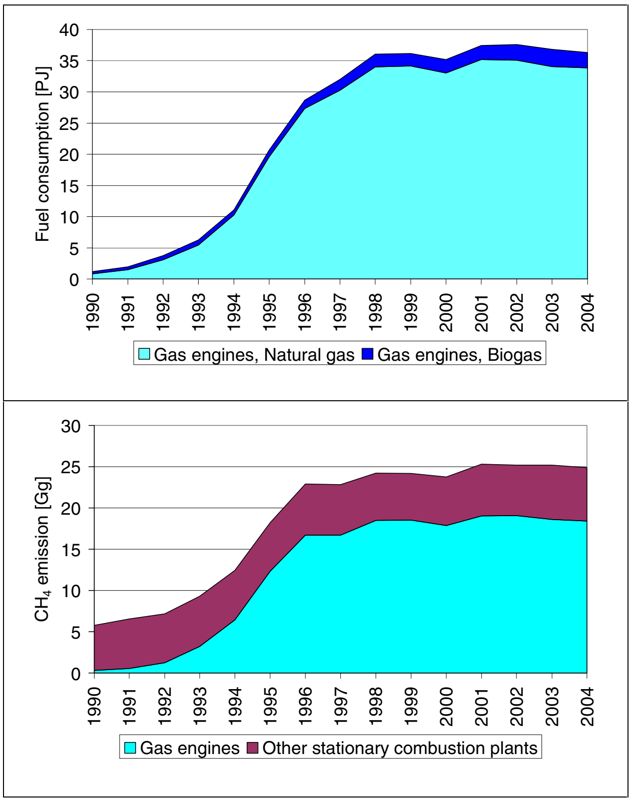


Figure 15 Fuel consumption and CH_4 emission from gas engines, time-series.

5.3 N_2O

The N_2O emission from stationary combustion plants accounts for 4% of the total Danish N_2O emission. Table 20 lists the N_2O emission inventory for stationary combustion plants in the year 2004. Since the last reporting the emission factor for coal powered plants has been changed due to research by one of the major power plant operators in Denmark, therefore the emission for Public power has been significantly reduced. The emission factor is updated for the entire time series. Figure 16 reveals that *Electricity and heat production* accounts for 47% of the N_2O emission from stationary combustion.

Table 20 N_2O emission from stationary combustion plants 2004 [1].

N_2O	2004	
1A1a Public electricity and heat production	403	Mg
1A1b Petroleum refining	35	Mg
1A1c Other energy industries	60	Mg
1A2 Industry	150	Mg
1A4a Commercial / Institutional	25	Mg
1A4b Residential	167	Mg
1A4c Agriculture / Forestry / Fisheries	25	Mg
Total	**864**	Mg

1) Only emission from stationary combustion plants in the sectors is included

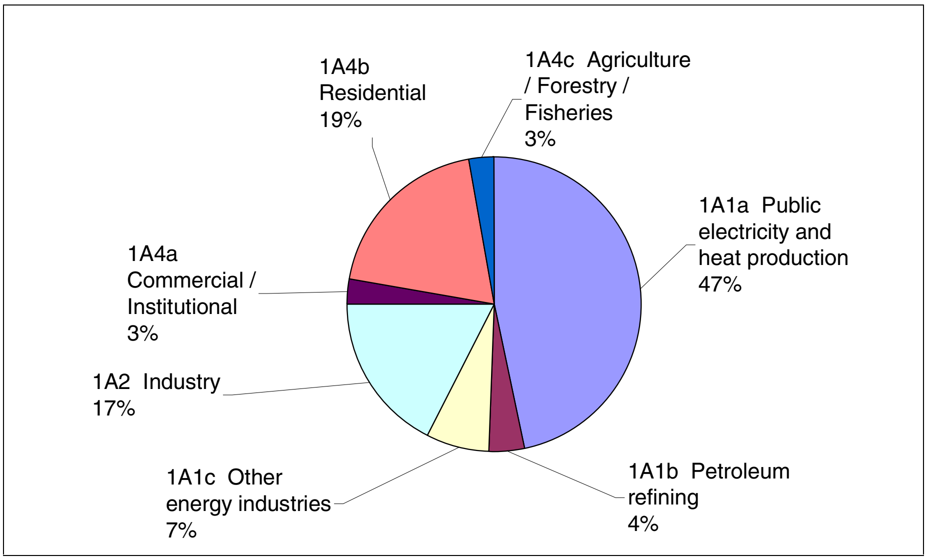


Figure 16 N_2O emission sources, stationary combustion plants, 2004.

Figure 17 shows time-series for N_2O emission. The N_2O emission from stationary combustion increased by 10% from 1990 to 2004, but again fluctuations in emission level due to electricity import/export are considerable.

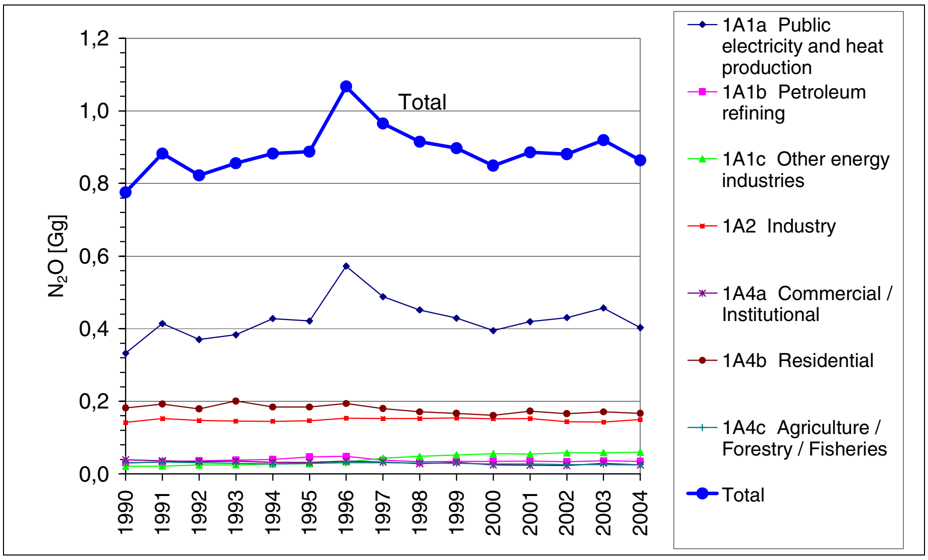


Figure 17 N_2O emission time-series for stationary combustion plants.

6 SO_2, NO_X, NMVOC and CO

The emissions of SO_2, NO_X, NMVOC and CO from Danish stationary combustion plants 2004 are presented in Table 21. The emission of these pollutants are also included in the report to the Climate Convention.

SO_2 from stationary combustion plants accounts for 83% of the total Danish emission. NO_X, CO and NMVOC account for 41%, 35% and 17% of total Danish emissions, respectively.

Table 21 SO_2, NO_X, NMVOC and CO emission from stationary combustion 2004 [1)].

Pollutant	NO_X Gg	CO Gg	NMVOC Gg	SO_2 Gg
1A1 Fuel consumption, Energy industries	52,7	12,1	4,1	10,2
1A2 Fuel consumption, Manufacturing Industries and Construction (Stationary combustion)	14,3	12,9	0,7	6,9
1A4 Fuel consumption, Other sectors (Stationary combustion)	7,3	180,3	14,7	3,2
Total emission from stationary combustion plants	**74,2**	**205,4**	**19,5**	**20,3**
Total Danish emission	181,3	587,3	116,5	24,4
		%		
Emission share for stationary combustion	41	35	17	83

1) Only emissions from stationary combustion plants in the sectors are included

6.1 SO_2

Stationary combustion is the most important emission source for SO_2 accounting for 83% of the total Danish emission. Table 22 and Figure 18 present the SO_2 emission inventory for the stationary combustion subsectors.

Electricity and heat production is the largest emission source accounting for 48% of the emission, however, the SO_2 emission share is lower than the fuel consumption share for this sector, which is 60%. This is possibly due to effective flue gas desulphurisation equipment installed in power plants combusting coal. Figure 19 shows the SO_2 emission from *Electricity and heat production* on a disaggregated level. Power plants >300MW_{th} represent the main emission source, accounting for 72% of the emission.

The fuel origin of the SO_2 emission is shown in Figure 3A-20. Disaggregation of total emissions from point sources using several fuels is based on emission factors. As expected the emission from natural gas is negligible and the emission from coal combustion is considerable (51%). Most remarkably is the emission share from residual oil combustion, which is 25%. This emission is very high compared to the fuel consumption share of 4%. The emission factor for residual oil combusted in the industrial sector is uncertain because knowledge of the applied flue gas cleaning technology in this sector is insufficient.

The SO_2 emission from *Industry* is 34%, a remarkably high emission share compared with fuel consumption. The main emission sources in the industrial sector are combustion of coal and residual oil, but emissions from the cement industry is also a considerable emission source. Some years ago, SO_2 emission from the industrial sector only accounted for a small portion of the total emission, but as a result of reduced emissions from power plants the share has now increased.

Time-series for SO_2 emission from stationary combustion are shown in Figure 21. The SO_2 emission from stationary combustion plants has decreased by 95% from 1980 and 84% from 1995. The large emission decrease is mainly a result of the reduced emission from *Electricity and heat production*, made possible due to installation of desulphurisation plants and due to the use of fuels with lower sulphur content. Despite the considerable reduction in emission from electricity and heat production plants, these still account for 48% of the total emission from stationary combustion, as mentioned above. The emission from other sectors also decreased considerably since 1980.

Table 22 SO_2 emission from stationary combustion plants 2004 [1)].

SO_2	2004	
1A1a Public electricity and heat production	9765	Mg
1A1b Petroleum refining	422	Mg
1A1c Other energy industries	9	Mg
1A2 Industry	6927	Mg
1A4a Commercial / Institutional	264	Mg
1A4b Residential	1739	Mg
1A4c Agriculture / Forestry / Fisheries	1172	Mg
Total	20299	Mg

1) Only emission from stationary combustion plants in the sectors is included

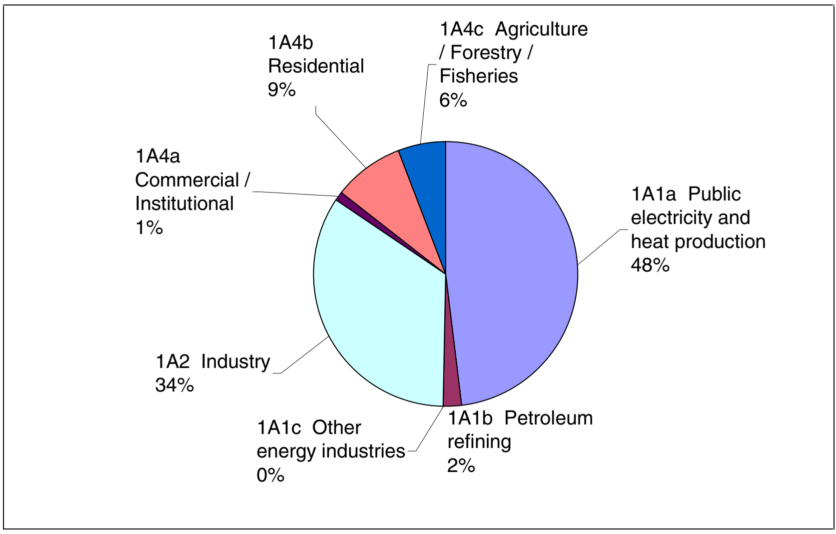


Figure 18 SO_2 emission sources, stationary combustion plants, 2004.

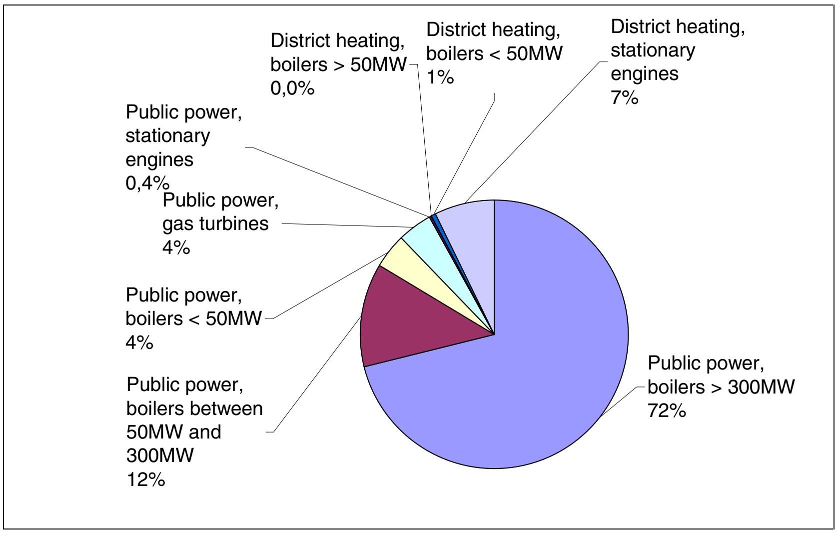


Figure 19 Disaggregated SO_2 emissions from *Energy and heat production.*

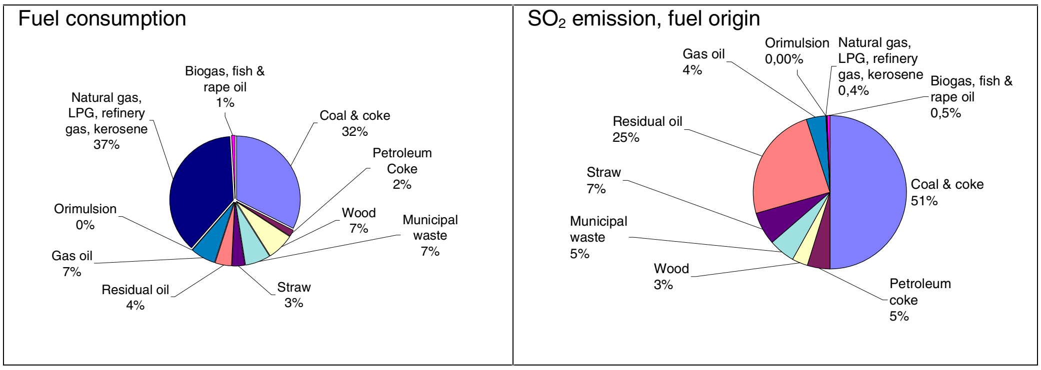


Figure 20 Fuel origin of the SO_2 emission from stationary combustion plants.

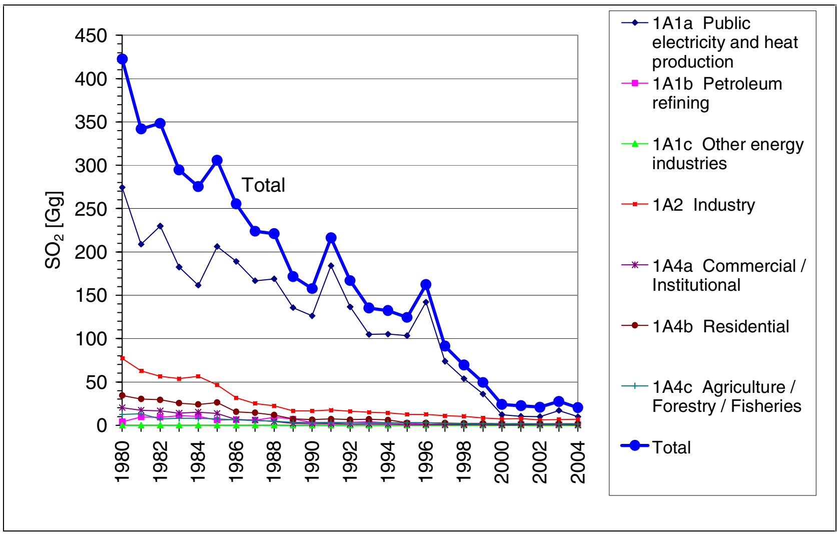


Figure 21 SO_2 emission time-series for stationary combustion.

6.2 NO_x

Stationary combustion accounts for 41% of the total Danish NO_x emission. Table 23 and Figure 22 show the NO_x emission inventory for stationary combustion subsectors.

Electricity and heat production is the largest emission source accounting for 60% of the emission from stationary combustion plants.

Figure 23 shows fuel origin of the NO_x emission from sector 1A1a Electricity and heat production. The fuel origin of the NO_x emission is almost the same as the fuel consumption in this plant category. The emission from coal combustion is, however, somewhat higher than the fuel consumption share.

Industrial combustion plants are also an important emission source accounting for 19% of the emission. The main industrial emission source is cement production, accounting for 66% of the emission.

Residential plants accounts for 7% of the NO_x emission. The fuel origin of this emission is mainly wood, gas oil and natural gas accounting for 43%, 27% and 23% of the residential plant emission, respectively.

Time-series for NO_x emission from stationary combustion are shown in Figure 24. NO_x emission from stationary combustion plants has decreased by 50% from 1985 and 33% from 1995. The reduced emission is mainly a result of the reduced emission from *Electricity and heat production* due to installation of low NO_x burners and selective catalytic reduction (SCR) units. The fluctuations in the time-series follow the fluctuations in *Electricity and heat production*, which, in turn, result from electricity trade fluctuations.

Table 23 NO_x emission from stationary combustion plants 2004 [1)].

	2004	
1A1a Public electricity and heat production	44209	Mg
1A1b Petroleum refining	1608	Mg
1A1c Other energy industries	6843	Mg
1A2 Industry	14265	Mg
1A4a Commercial / Institutional	1087	Mg
1A4b Residential	4881	Mg
1A4c Agriculture / Forestry / Fisheries	1301	Mg
Total	**74194**	Mg

1) Only emission from stationary combustion plants in the sectors is included

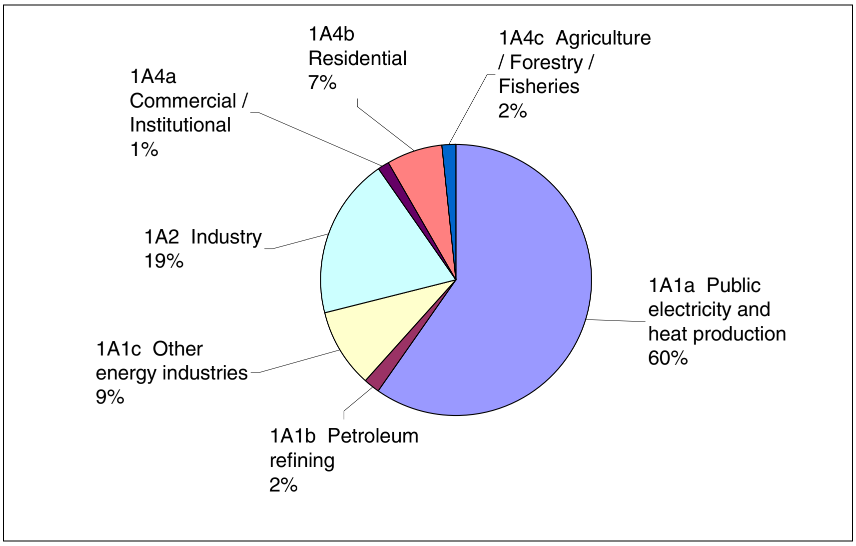


Figure 22 NO_x emission sources, stationary combustion plants, 2004.

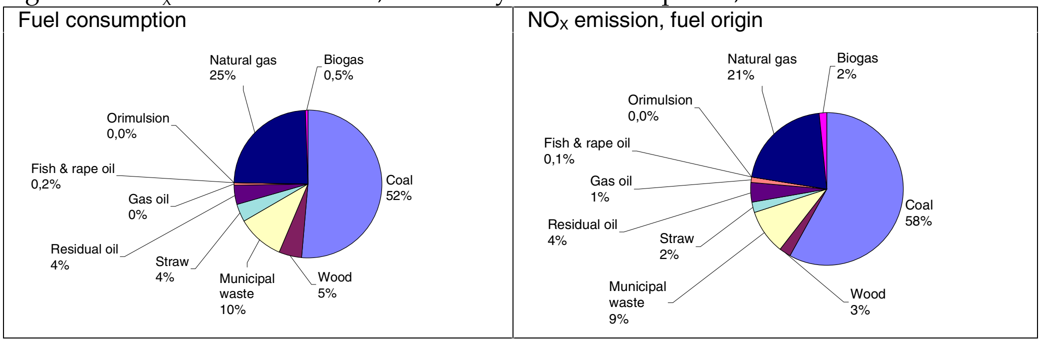


Figure 23 NO_x emissions from 1A1a Electricity and heat production, fuel origin.

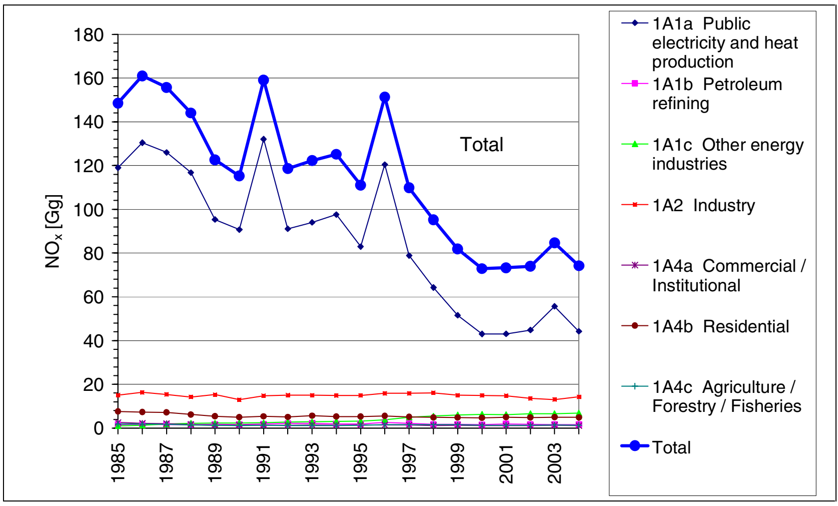


Figure 24 NO_x emission time-series for stationary combustion.

6.3 NMVOC

Stationary combustion plants account for 17% of the total Danish NMVOC emission. Table 24 and Figure 25 present the NMVOC emission inventory for the stationary combustion subsectors.

Residential plants are the largest emission source accounting for 65% of the total emission from stationary combustion plants. For residential plants NMVOC is mainly emitted from wood and straw combustion, see Figure 3A-26.

Electricity and heat production is also a considerable emission source, accounting for 21% of the total emission. Lean-burn gas engines have a relatively high NMVOC emission factor and are the most important emission source in this subsector (see Figure 26). The gas engines are either natural gas or biogas fuelled.

Time-series for NMVOC emission from stationary combustion are shown in Figure 27. The emission has increased by 51% from 1985 and 22% from 1995. The increased emission is mainly a result of the increased use of lean-burn gas engines in CHP plants as discussed in Chapter 7.2.

The emission from residential plants is 45% higher in 2004 than in 1990, but the NMVOC emission from wood combustion almost doubled since 1990 due to increased wood consumption. However the emission from straw combustion in farmhouse boilers has decreased over this period.

The use of wood in residential boilers and stoves is relatively low in 1998-99 resulting in a lower emission level these years.

Table 24 NMVOC emission from stationary combustion plants 2004 [1).].

	2004	
1A1a Public electricity and heat production	4085	Mg
1A1b Petroleum refining	2	Mg
1A1c Other energy industries	41	Mg
1A2 Industry	652	Mg
1A4a Commercial / Institutional	573	Mg
1A4b Residential	12558	Mg
1A4c Agriculture / Forestry / Fisheries	1609	Mg
Total	19519	Mg

1) Only emission from stationary combustion plants in the sectors is included

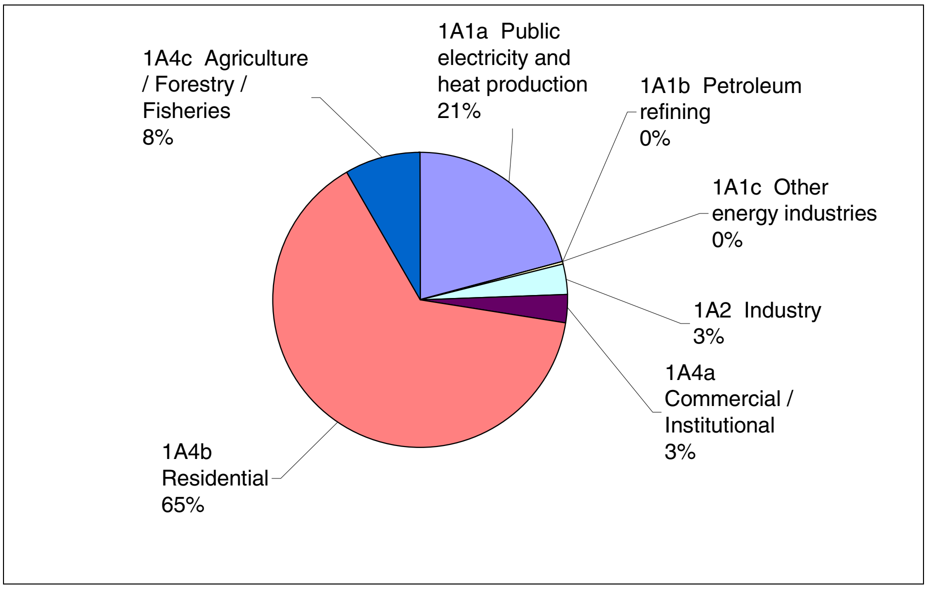


Figure 25 NMVOC emission sources, stationary combustion plants, 2004.

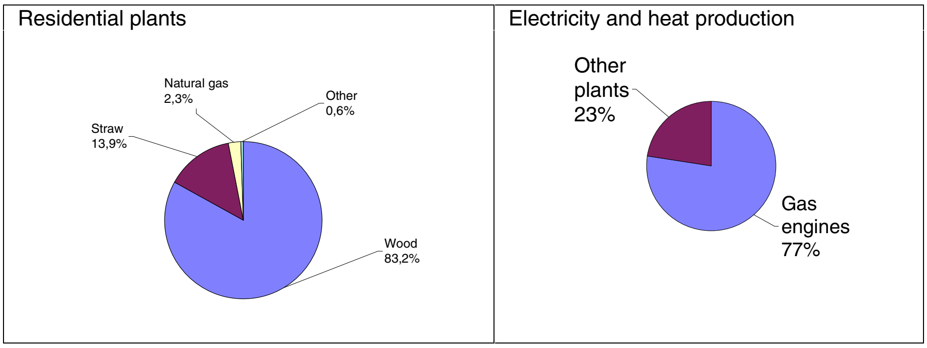


Figure 26 NMVOC emission from residential plants and from electricity and heat production, 2004.

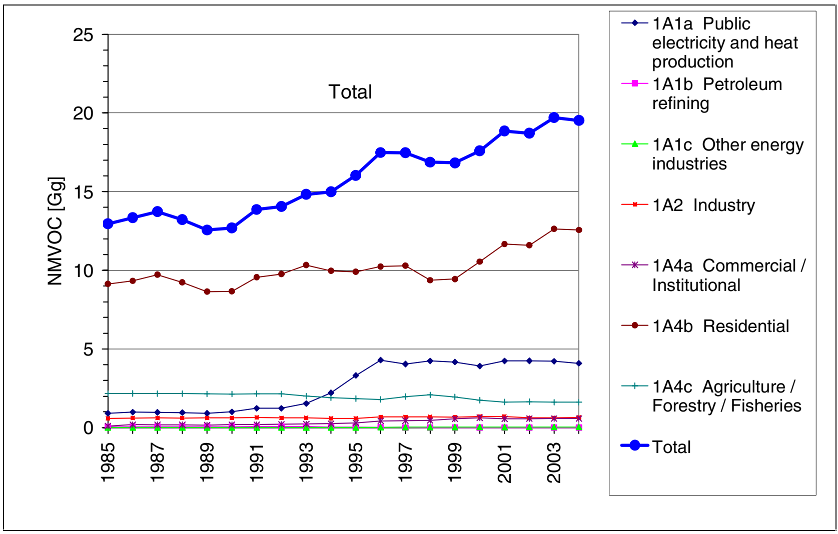


Figure 27 NMVOC emission time-series for stationary combustion.

6.4 CO

Stationary combustion accounts for 35% of the total Danish CO emission. Table 25 and Figure 28 presents the CO emission inventory for stationary combustion subsectors.

Residential plants are the largest emission source, accounting for 84% of the emission. Wood combustion accounts for 92% of the emission from residential plants, see Figure 29. This is in spite of the fact that the fuel consumption share is only 22%. Combustion of straw is also a considerable emission source whereas the emission from other fuels used in residential plants is almost negligible.

Time-series for CO emission from stationary combustion are shown in Figure 30. The emission has increased by 14% from 1985 and increased 9% from 1995. The time-series for CO from stationary combustion plants follows the time-series for CO emission from residential plants.

The consumption of wood in residential plants has increased by 94% since 1990 leading to an increase in the CO emission. The increase in CO emission from residential plants is lower than the increase in wood consumption, because CO emission from straw-fired farmhouse boilers has decreased considerably. Both the annual straw consumption in residential plants and the CO emission factor for farmhouse boilers have decreased.

Table 25 CO emission from stationary combustion plants 2004 [1)].

	2004	
1A1a Public electricity and heat production	11708	Mg
1A1b Petroleum refining	237	Mg
1A1c Other energy industries	197	Mg
1A2 Industry	12941	Mg
1A4a Commercial / Institutional	906	Mg
1A4b Residential	170809	Mg
1A4c Agriculture / Forestry / Fisheries	8561	Mg
Total	**205360**	Mg

1) Only emission from stationary combustion plants in the sectors is included

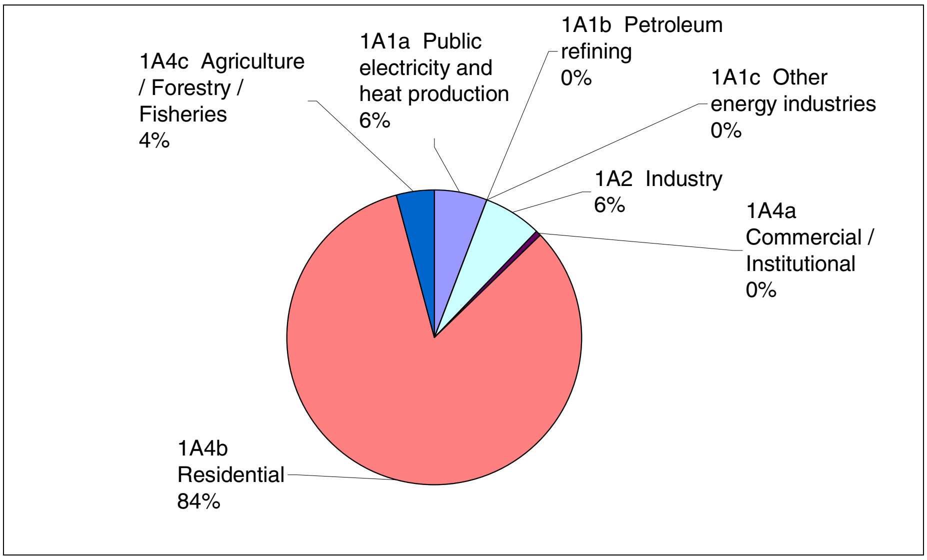


Figure 28 CO emission sources, stationary combustion plants, 2004.

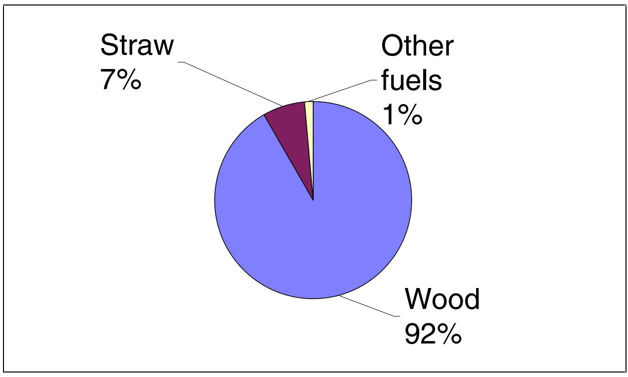


Figure 29 CO emission sources, residential plants, 2004.

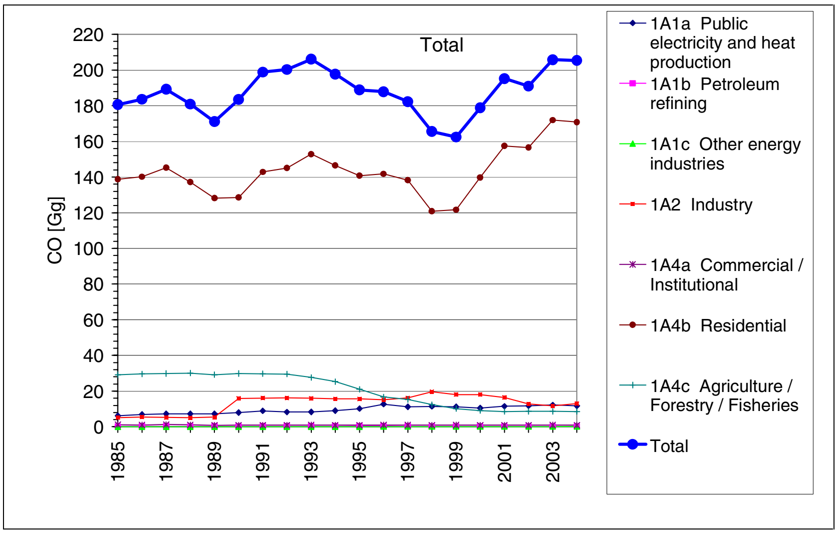


Figure 30 CO emission time-series for stationary combustion.

7 Particulate matter (PM)

The emission of total suspended particulates (TSP), PM_{10} and $PM_{2.5}$ from Danish stationary combustion plants 2004 is presented in Table 26. The PM emission is reported to the LRTAP Convention.

To date, only PM emissions from stationary combustion, transport, agriculture and part of the industrial sector have been included in the Danish inventory. TSP from stationary combustion accounts for 35% of the total Danish emission. The emission shares for PM_{10} and $PM_{2.5}$ are 49% and 61%, respectively.

Table 26 Danish PM emissions 2004.

Pollutant	TSP Mg	PM_{10} Mg	$PM_{2.5}$ Mg
1A1 Fuel combustion, Energy industries	1464	1175	980
1A2 Fuel combustion, Manufacturing Industries and Construction (Stationary combustion) 1)	1047	699	405
1A4 Fuel combustion, Other sectors (Stationary combustion) 1)	13957	13237	12526
Total emission from stationary combustion plants	**16469**	**15111**	**13911**
Total Danish emission (gross)	43255	31095	22850
		%	
Emission share for stationary combustion	38	49	61

1) Only emission from stationary combustion plants in the sectors is included

Table 27 and Figure 31 show the PM emission inventory for the stationary combustion subsectors. Residential plants are the largest emission source accounting for 86% of the $PM_{2.5}$ emission from stationary combustion plants.

The primary sources of PM emissions are:

- Residential boilers, stoves and fireplaces combusting wood
- Farmhouse boilers combusting straw
- Power plants primarily combusting coal
- Coal and residual oil combusted in industrial boilers and processes

Furthermore, there are considerable emissions from:

- Residential boilers using gas oil
- Refineries

The PM emission from wood combusted in residential plants is the predominant source. Thus 80% of the $PM_{2.5}$ emission from stationary combustion is emitted from residential wood combustion. This corresponds to 49% of the overall Danish emission. A literature review (Nielsen et al. 2003) and a Nordic Project (Sternhufvud et al. 2004) has demonstrated that the emission factor uncertainty for residential combustion of wood in stoves and boilers is extremely high.

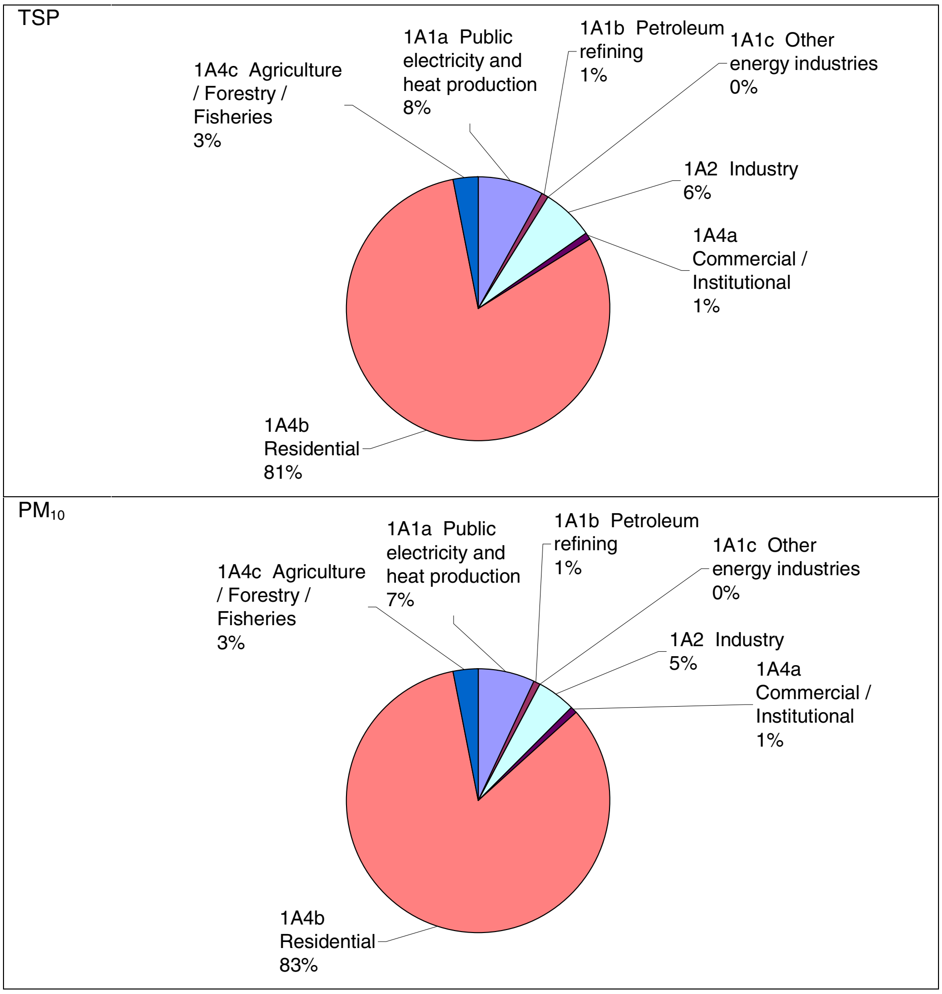
In Figure 32 the fuel consumption and the $PM_{2.5}$ emission of residential plants is shown. Wood combustion accounts for 92% of the $PM_{2.5}$ emission from residential plants in spite of the limited wood consumption share.

Emission inventories for PM have only been reported for the years 2000-2004 and the short time-series for TSP, PM_{10} and $PM_{2.5}$ emission is shown in Figure 33.

Table 27 PM emission from stationary combustion plants, 2004 [1)].

	TSP	PM_{10}	$PM_{2.5}$	
1A1a Public electricity and heat production	1328	1051	862	Mg
1A1b Petroleum refining	133	122	117	Mg
1A1c Other energy industries	3	2	1	Mg
1A2 Industry	1047	699	405	Mg
1A4a Commercial / Institutional	133	130	123	Mg
1A4b Residential	13309	12626	11952	Mg
1A4c Agriculture / Forestry / Fisheries	515	481	451	Mg
Total	**16469**	**15111**	**13911**	Mg

1) Only emission from stationary combustion plants in the sectors is included



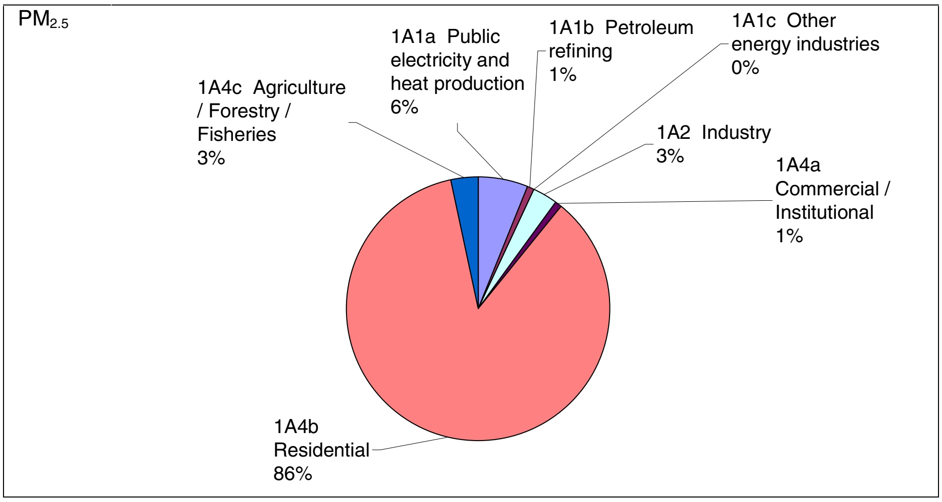


Figure 31 PM emission sources, stationary combustion plants, 2004.

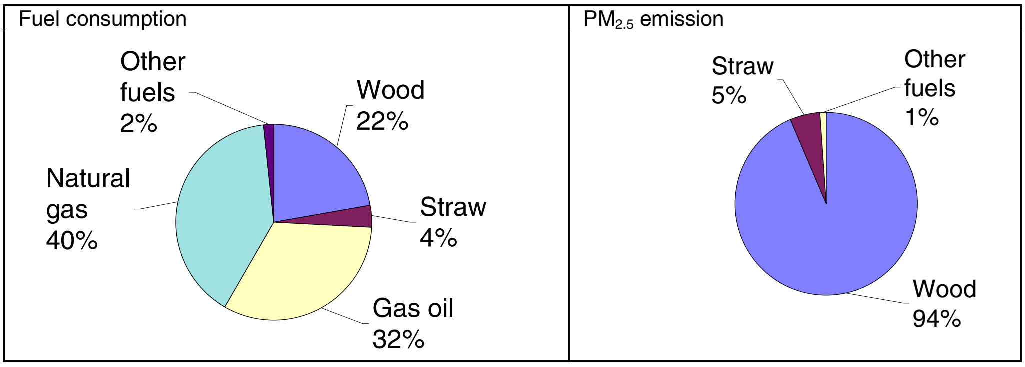


Figure 32 Fuel consumption and $PM_{2.5}$ emission from residential plants.

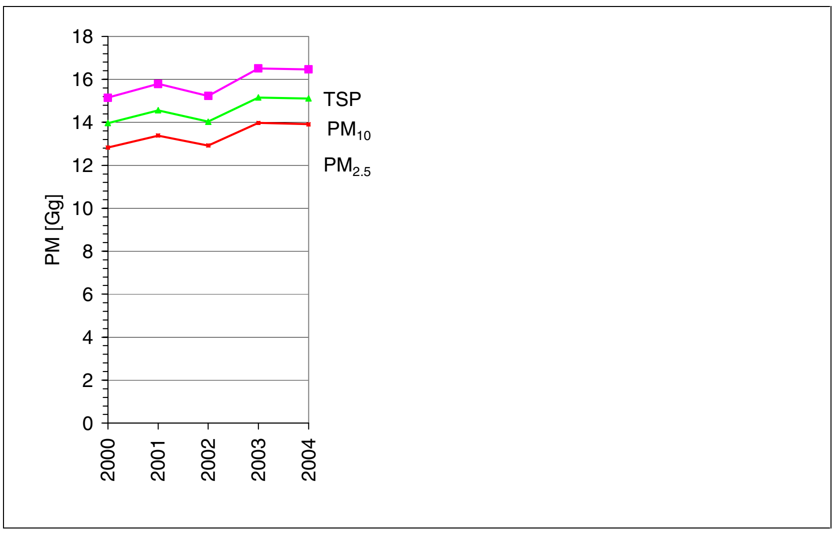


Figure 33 PM emission time-series for stationary combustion.

8 Heavy metals

Emission inventories for 9 heavy metals are reported to the LRTAP Convention. Three of the metals are considered priority metals: Pb, Cd and Hg. The 2004 emissions are presented in Table 28.

Stationary combustion plants are the most important emission sources for heavy metals. For Cu the emission share from stationary combustion plants is 11%, but for all other heavy metals the emission share is more than 70%, see Table 28.

Table 28 The emission of heavy metals in 2004, reported to the LRTAP Convention in 2006.

Pollutant	Pb Mg	Cd Mg	Hg Mg	As Mg	Cr Mg	Cu Mg	Ni Mg	Se Mg	Zn Mg
1A1 Fuel combustion, Energy industries	2,18	0,22	0,57	0,36	0,47	0,63	2,78	0,77	13,72
1A2 Fuel combustion, Manufacturing Industries and Construction (Stationary combustion)	1,34	0,15	0,24	0,20	0,37	0,17	4,57	0,80	1,27
1A4 Fuel combustion, Other sectors (Stationary combustion)	0,19	0,15	0,24	0,06	0,07	0,19	0,60	0,16	2,95
Total emission from stationary combustion plants	3,71	0,52	1,05	0,63	0,91	0,98	7,95	1,73	17,94
Total Danish emission	5,25	0,58	1,06	0,66	1,16	9,03	9,55	1,84	23,41
Emission share for stationary combustion	71%	90%	99%	95%	78%	11%	83%	94%	77%

Table 29 and Figure 34 present the heavy metal emission inventory for the stationary combustion subsectors. The sectors *Electricity and heat production* and *Industry* have the highest emission shares. *Electricity and heat production* accounts for 58%, 40% and 53% of the emission of the priority metals Pb, Cd and Hg, respectively.

Table 30 presents the emission share for the two most important emission source categories: Power plants >25MW$_e$ and municipal waste incineration plants.

Table 29 Heavy metal emission from stationary combustion plants, 2004 [1].

	As	Cd	Cr	Cu	Hg	Ni	Pb	Se	Zn	
1A1a Public electricity and heat production	346	208	432	611	562	2094	2152	753	13713	kg
1A1b Petroleum refining	15	14	36	14	5	688	25	13	3	kg
1A1c Other energy industries	0	0	0	0	0	0	0	0	0	kg
1A2 Industry	205	152	373	168	242	4573	1345	799	1270	kg
1A4a Commercial / Institutional	11	8	11	14	52	76	21	22	183	kg
1A4b Residential	32	127	28	153	169	49	132	119	2694	kg
1A4c Agriculture / Forestry / Fisheries	16	13	30	18	22	473	35	21	74	kg
Total	**625**	**522**	**909**	**979**	**1051**	**7952**	**3711**	**1727**	**17937**	**kg**

1) Only emission from stationary combustion plants in the sectors is included

Table 30 Heavy metal emission share for large power plants and municipal waste incineration plants, 2004.

Pollutant	**Emission share of plant category**	
	Municipal waste incineration, CHP and district heating	**Power plants >25MW$_e$**
As	29%	21%
Cd	33%	4%
Cr	18%	26%
Cu	42%	16%
Hg	37%	15%
Ni	6%	19%
Pb	45%	6%
Se	1%	41%
Zn	64%	6%

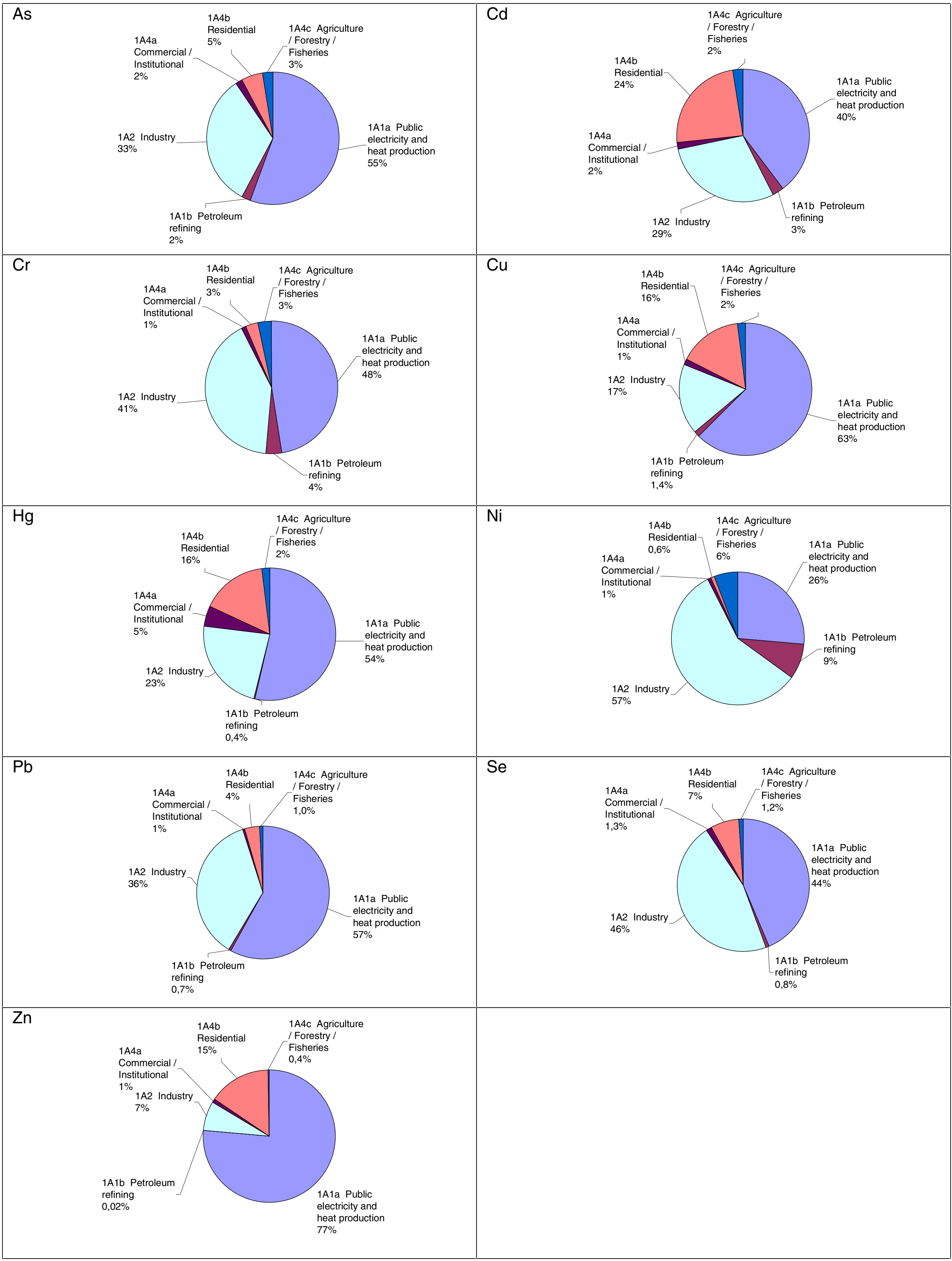


Figure 34 Heavy metal emission sources, stationary combustion plants, 2004.

Time-series for heavy metal emissions are provided in Figure 35. Heavy metal emissions have decreased considerably since 1990, see Table 31. Emissions have decreased despite increased incineration of municipal waste. This has been made possible due to installation and improved performance of gas cleaning devices in waste incineration plants and also in large power plants, the latter a further important emission source.

The estimated As emission level decreased remarkably from 1994 to 1995. Plant-specific emission data for power plants are available for all power plants from 1995 onwards and the general point source emission factor for power plants has potentially been overestimated.

Table 31 Decrease in heavy metal emission 1990-2004.

Pollutant	Decrease since 1990
As	57%
Cd	50%
Cr	85%
Cu	73%
Hg	66%
Ni	63%
Pb	76%
Se	60%
Zn	7%

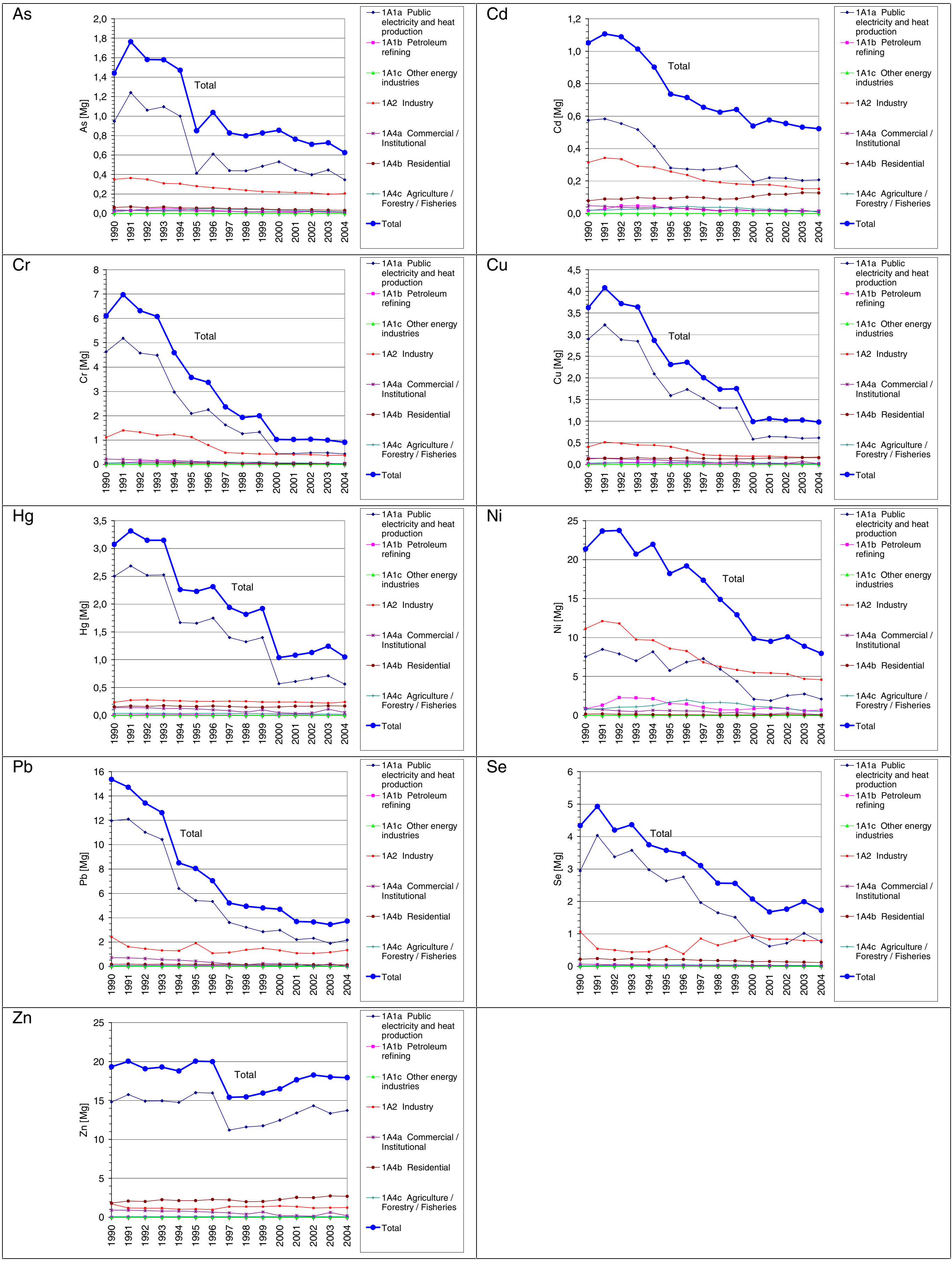


Figure 35 Heavy metal emission time-series, stationary combustion plants.

9 PAH and dioxin

Emission inventories for 4 PAHs and for dioxin are reported to the LRTAP Convention. A new dioxin emission inventory is currently in external review, when the process is finalized the results will be made available to UNECE. The emission inventories for PAH are presented in Table 32. Stationary combustion plants account for more than 90% of the PAH emissions.

Table 32 The emission for the year 2004

Pollutant	Benzo(a)-pyrene Mg	Benzo(b)fluo-ranthene Mg	Benzo(k)fluo-ranthene Mg	Indeno(1,2,3-c,d)pyrene Mg
1A1 Fuel combustion, Energy industries	0,01	0,03	0,01	0,01
1A2 Fuel combustion, Manufacturing Industries and Construction (Stationary combustion)	0,03	0,10	0,02	0,01
1A4 Fuel combustion, Other sectors (Stationary combustion)	3,20	4,18	1,38	2,33
Total emission from stationary combustion plants	**3,24**	**4,30**	**1,41**	**2,35**
Total Danish emission (gross)	3,30	4,39	1,50	2,42
Emission share for stationary combustion	98%	98%	94%	97%

Table 33 and Figure 37 present the PAH emission inventory for the stationary combustion subsectors. Residential combustion is the largest emission source. Combustion of wood is the predominant source, accounting for more than 98% of the emission in residential plants. See Figure 36.

Time-series for PAH emission are presented in Figure 38. The increasing emission trend is a result of the increased combustion of wood in residential plants. The time-series for wood combustion in residential plants is also provided in Figure 38.

Table 33 PAH emission from stationary combustion plants, 2004.

	Benzo(a)-pyrene Mg	Benzo(b)-fluoranthene Mg	Benzo(k)-fluoranthene Mg	Indeno(1,2,3-c,d)pyrene Mg
1A1a Public electricity and heat production	7	29	14	7
1A1b Petroleum refining	0	1	0	0
1A1c Other energy industries	0	0	0	0
1A2 Industry	28	96	15	9
1A4a Commercial / Institutional	115	151	50	82
1A4b Residential	2980	3906	1301	2104
1A4c Agriculture / Forestry / Fisheries	109	119	25	148
Total	**3239**	**4302**	**1406**	**2350**

1) Only emission from stationary combustion plants in the sectors is included

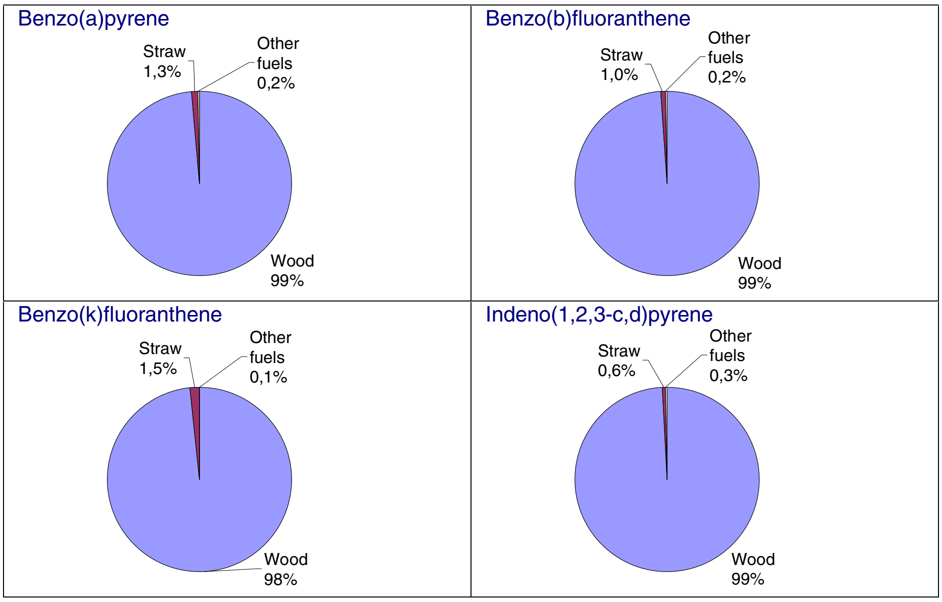


Figure 36 PAH emission from residential combustion plants (stationary), fuel origin.

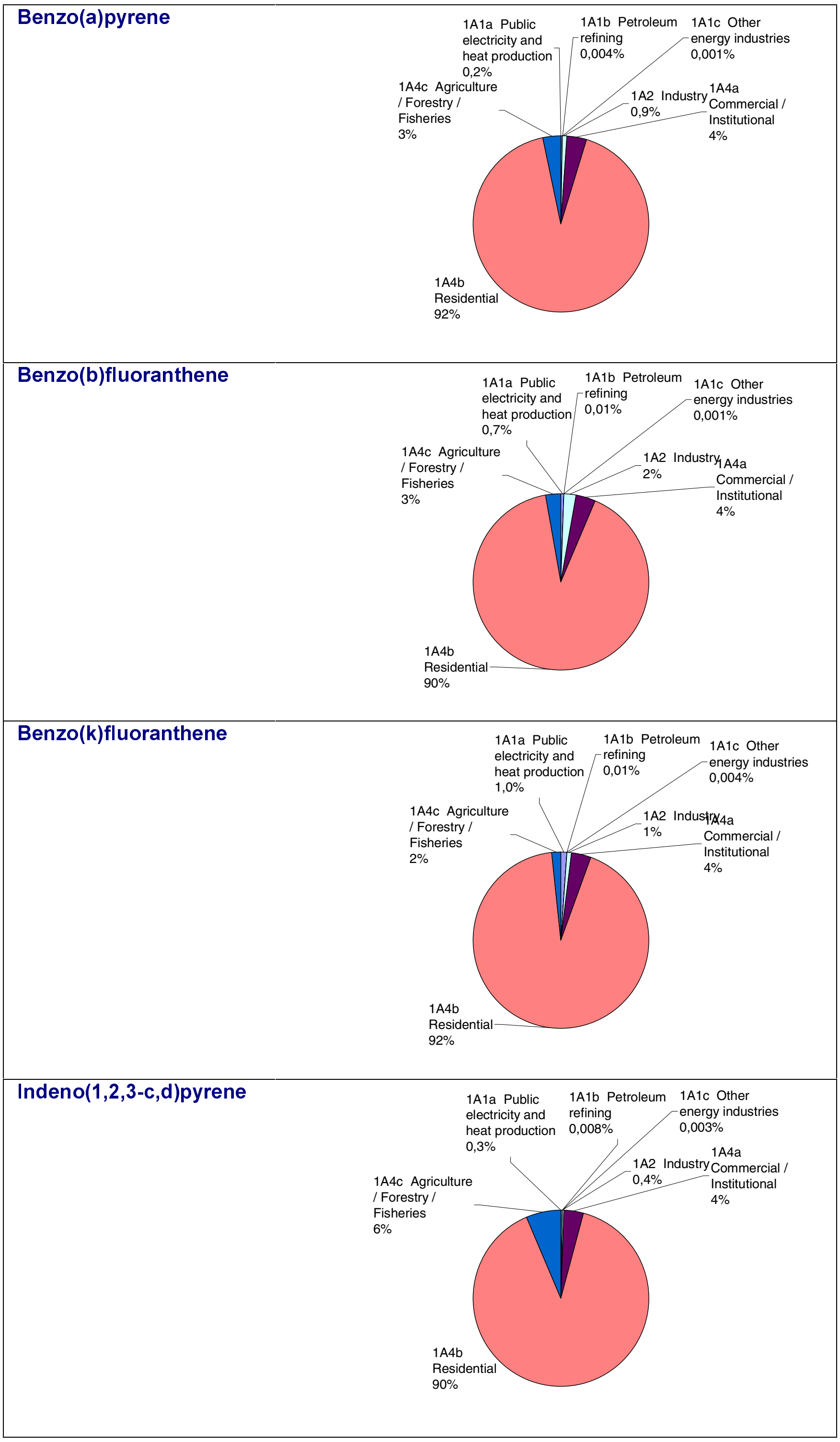
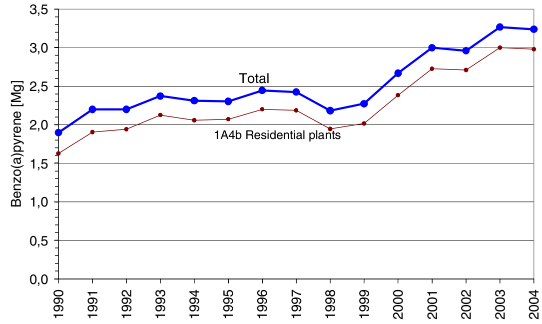
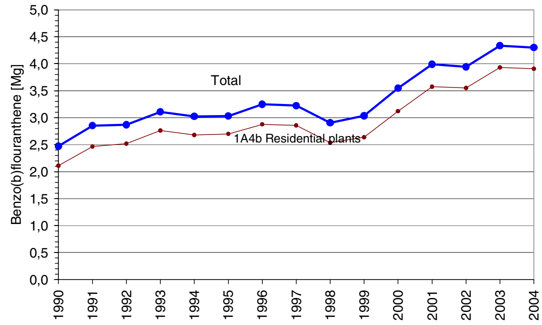


Figure 37 PAH emission sources, stationary combustion plants, 2004.

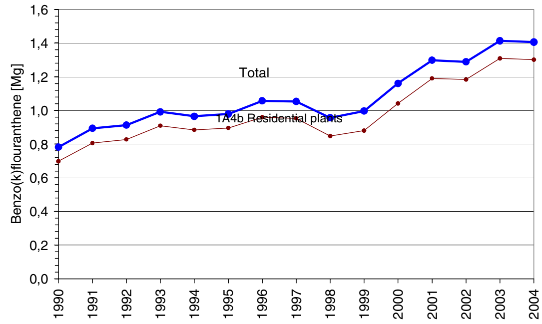
Benzo(a)pyrene



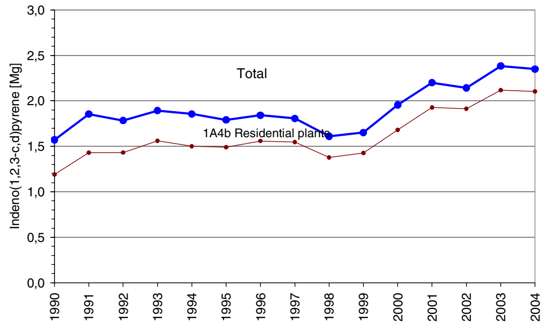
Benzo(b)fluoranthene



Benzo(k)fluoranthene



Indeno(1,2,3-c,d)pyrene



Combustion of wood in residential plants

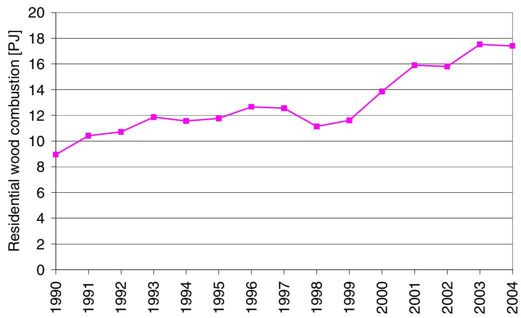


Figure 38 PAH emission time-series, stationary combustion plants. Comparison with wood consumption in residential plants.

10 QA/QC and validation

A QA/QC plan is under implementation. A thorough description can be found in Denmark's National Inventory Report (Illerup et al. 2006a)
The QC is not fully implemented yet. The QC includes:

- Checking of time-series in the IPCC and SNAP source categories. Considerable changes are controlled and explained.
- Comparison with the inventory of the previous year. Any major changes are verified.
- Total emission, when aggregated to IPCC and LRTAP reporting tables, is compared with totals based on SNAP source categories (control of data transfer).
- A manual log table in the emission databases is applied to collect information about recalculations.
- The IPCC reference approach validates the fuel consumption rates and CO_2 emissions of fuel combustion. Fuel consumption rates and CO_2 emissions differ by less than 1,55% (1990-2004). The reference approach is further discussed below.
- The emission from each large point source is compared with the emission reported the previous year.
- Some automated checks have been prepared for the emission databases:
  - Check of units for fuel rate, emission factor and plant specific emissions
  - Check of emission factors for large point sources. Emission factors for pollutants that are not plant-specific should be the same as those defined for area sources.
  - Additional checks on database consistency
- Most emission factor references are now incorporated in the emission database, itself.
- Annual environmental reports are kept for subsequent control of plant specific emission data.
- QC checks of the country-specific emission factors have not been performed, but most factors are based on work from companies that have implemented some QA/QC work. The two major power plant owners / operators in Denmark: E2 and Elsam both obtained the ISO 14001 certification for an environmental management system. Danish Gas Technology Centre and dk-Teknik[1] both run accredited laboratories for emission measurements.

10.1 Reference approach

In addition to the sector-specific CO_2 emission inventories (the national approach), the CO_2 emission is also estimated using the reference approach described in the IPCC Reference Manual (IPCC 1996). The reference approach is based on data for fuel production, import, export and stock change. The CO_2 emission inventory based on the reference approach is reported to the Climate Convention and used for verification of the official data in the national approach.

[1] Now FORCE

Data for import, export and stock change used in the reference approach originate from the annual "basic data" table prepared by the Danish Energy Authority and published on their home page (DEA 2004b). The fraction of carbon oxidised has been assumed to be 1,00. The carbon emission factors are default factors originating from the IPCC Reference Manual (IPCC 1996). The country-specific emission factors are not used in the reference approach, the approach being for the purposes of verification.

The Climate Convention reporting tables include a comparison of the national approach and the reference approach estimates. To make results comparable, the CO_2 emission from incineration of the plastic content of municipal waste is added in the reference approach. Further consumption for non-energy purposes is subtracted in the reference approach, because non-energy use of fuels is not, as yet, included in the Danish national approach.

Three fuels are used for non-energy purposes: lube oil, bitumen and white spirit. The total consumption for non-energy purposes is relatively low – 12,2 PJ in 2004.

In 2004 the fuel consumption rates in the two approaches differ by 0,04% and the CO_2 emission differs by 0,04%. In the period 1990-2004 fuel consumption and the CO_2 emission differs by less than 1,55. The differences are below 1% for all years except 1998. According to IPCC Good Practice Guidance (IPCC 2000) the difference should be within 2%. The reference approach for 2004 and the comparison with the Danish national approach are provided in Appendix 14. The appendix also includes a correspondence list for the fuel categories (Danish Energy Authority/IPCC reference approach).

A comparison of the national approach and the reference approach is illustrated in Figure 39.

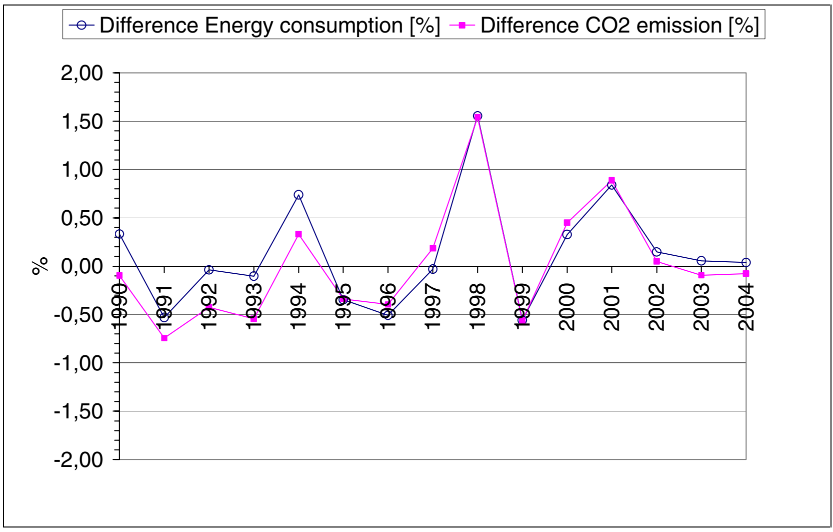


Figure 39 Comparison of the reference approach and the national approach.

10.2 External review

The second national external review of the annually updated sector report for stationary combustion was performed in 2005 by Bo Sander, Elsam Engineering. The review was performed after the reporting in 2005 and thus the improvements suggested by Bo Sander have partly been included in the inventory presented in this report. In next years reporting the recommendations by Bo Sander are expected to be fully implemented.

10.3 Key source analysis

As part of the reporting for the Climate Convention a key source analysis for the Danish emission inventory has been performed. A key source has a significant influence on a country's total inventory of greenhouse gases in terms of the absolute level of emission, the trend in emissions, or both.

Stationary combustion key sources for greenhouse gases are shown in Table 33b. The CO_2 emission from eight different fuels is the key source in the Danish inventory. Further CH_4 emission is a trend key source due to the increased electricity production based on gas engines.

The key source analysis will be considered in the future QC for stationary combustion.

Table 33b Key sources, stationary combustion

Source		Pollutant	Key source	Level or trend
CO_2 Emission from stationary Combustion	Coal	CO_2	Yes	Level, Trend
CO_2 Emission from stationary Combustion	Petroleum coke	CO_2	Yes	Level, Trend
CO_2 Emission from stationary Combustion	Plastic waste	CO_2	Yes	Level, Trend
CO_2 Emission from stationary Combustion	Residual oil	CO_2	Yes	Level, Trend
CO_2 Emission from stationary Combustion	Gas oil	CO_2	Yes	Level, Trend
CO_2 Emission from stationary Combustion	Kerosene	CO_2	Yes	Trend
CO_2 Emission from stationary Combustion	Natural gas	CO_2	Yes	Level, Trend
CO_2 Emission from stationary Combustion	Refinery gas	CO_2	Yes	Level
Non-CO_2 Emission from stationary Combustion		CH_4	Yes	Level, Trend

11 Uncertainty

According to the IPCC Good Practice Guidance (IPCC 2000) uncertainty estimates should be included in the annual National Inventory Report.

Uncertainty estimates include uncertainty with regard to the total emission inventory as well as uncertainty with regard to trends. The GHG emission from stationary combustion plants has been estimated with an uncertainty interval of ±7,8% and the decrease in the GHG emission since 1990 has been estimated to be 4,3% ± 2 %-age-points.

11.1 Methodology

The Danish uncertainty estimates for GHGs are based on a methodology included in IPCC Good Practice Guidance (IPCC 2000). The estimates are based on uncertainties for emission factors and fuel consumption rates, respectively. The input data required for the uncertainty calculations are:

- Emission data for the base year and the last year
- Uncertainty for activity rates
- Uncertainty for emission factors

11.1.1 Greenhouse gases

The Danish uncertainty estimates for GHGs are based on the tier 1 approach in IPCC Good Practice Guidance (IPCC 2000). The uncertainty levels have been estimated for the following emission source subcategories within stationary combustion:

- CO_2 emission from each of the applied fuel categories
- CH_4 emission from gas engines
- CH_4 emission from all other stationary combustion plants
- N_2O emission from all stationary combustion plants

The separate uncertainty estimation for gas engine CH_4 emission and CH_4 emission from other plants does not follow the recommendations in the IPCC Good Practice Guidance. Disaggregation is applied, because in Denmark the CH_4 emission from gas engines is much larger than the emission from other stationary combustion plants, and the CH_4 emission factor for gas engines is estimated with a much smaller uncertainty level than for other stationary combustion plants.

Most of the applied uncertainty estimates for activity rates and emission factors are default values from the IPCC Reference Manual. A few of the uncertainty estimates are, however, based on national estimates.

Table 34 Uncertainty rates for activity rates and emission factors.

IPCC Source category	Gas	Activity data uncertainty %	Emission factor uncertainty %
Stationary Combustion, Coal	CO_2	1 [1)]	5 [3)]
Stationary Combustion, BKB	CO_2	3 [1)]	5 [1)]
Stationary Combustion, Coke oven coke	CO_2	3 [1)]	5 [1)]
Stationary Combustion, Petroleum coke	CO_2	3 [1)]	5 [1)]
Stationary Combustion, Plastic waste	CO_2	5 [4)]	5 [4)]
Stationary Combustion, Residual oil	CO_2	2 [1)]	2 [3)]
Stationary Combustion, Gas oil	CO_2	4 [1)]	5 [1)]
Stationary Combustion, Kerosene	CO_2	4 [1)]	5 [1)]
Stationary Combustion, Orimulsion	CO_2	1 [1)]	2 [3)]
Stationary Combustion, Natural gas	CO_2	3 [1)]	1 [3)]
Stationary Combustion, LPG	CO_2	4 [1)]	5 [1)]
Stationary Combustion, Refinery gas	CO_2	3 [1)]	5 [1)]
Stationary combustion plants, gas engines	CH_4	2,2 [1)]	40 [2)]
Stationary combustion plants, other	CH_4	2,2 [1)]	100 [1)]
Stationary combustion plants	N_2O	2,2 [1)]	1000 [1)]

1) IPCC Good Practice Guidance (default value)
2) Kristensen (2001)
3) Jensen & Lindroth (2002)
4) NERI assumption

11.1.2 Other pollutants

With regard to other pollutants, IPCC methodologies for uncertainty estimates have been adopted for the LRTAP Convention reporting activities (Pulles & Aardenne 2003). The Danish uncertainty estimates are based on the simple tier 1 approach.

The uncertainty estimates are based on emission data for the base year and year 2004 as well as on uncertainties for fuel consumption and emission factors for each of the main SNAP sectors. For particulate matter 2000 is considered to be the base year, but for all other pollutants the base year is 1990. The applied uncertainties for activity rates and emission factors are default values referring to Pulles & Aardenne 2003. The uncertainty for PM is, however, estimated by NERI. The default uncertainties for emission factors are given in letter codes representing an uncertainty range. It has been assumed that the uncertainties were in the lower end of the range for all sources and pollutants. The applied uncertainties for emission factors are listed in Table 35. The uncertainty for fuel consumption in stationary combustion plants was assumed to be 2%.

Table 35 Uncertainty rates for emission factors [%].

SNAP sector	SO_2	NO_X	NMVOC	CO	PM	HM	PAH
01	10	20	50	20	50	100	100
02	20	50	50	50	500	1000	1000
03	10	20	50	20	50	100	100

11.2 Results

The uncertainty estimates for stationary combustion emission inventories are shown in Table 36. Detailed calculation sheets are provided in Appendix 9.

The uncertainty interval for GHG is estimated to be ±7,8% and the uncertainty for the trend in GHG emission is ±2%-age points. The main sources of uncertainty for GHG emission are N_2O emission (all plants) and CO_2 emission from coal combustion. The main source of uncertainty in the trend in GHG emission is CO_2 emission from the combustion of coal and natural gas.

The total emission uncertainty is 7% for SO_2, 16% for NO_x, 39% for NMVOC and 44% for CO. For PM, heavy metals, except Pb, and PAH the uncertainty estimate is greater than 100%.

Table 36 Danish uncertainty estimates, 2004.

Pollutant	Uncertainty Total emission [%]	Trend 1990-2004 [%]	Uncertainty Trend [%-age points]
GHG	7,8	-4,3	± 2
CO_2	2,7	-5,4	± 1,7
CH_4	39	+331	± 316
N_2O	1000	+11,4	± 3,5
SO_2	7	-87,1	±0,6
NO_x	16	-36	±2
NMVOC	39	54	±13
CO	44	19	±4,1
TSP [1)]	424	8,7	±2,8
PM_{10} [1)]	438	8,2	±3,5
$PM_{2.5}$ [1)]	450	8,5	±3,1
As	115	-57	±6
Cd	287	-50	±72
Cr	100	-85	±6
Cu	201	-73	±29
Hg	238	-66	±44
Ni	101	-63	±5
Pb	86	-76	±7
Se	114	-60	±16
Zn	182	-7	±18
Benzo(b)fluoranthene	971	74	±7
Benzo(k)fluoranthene	979	80	±39
Benzo(a)pyrene	989	71	±5
Indeno(1,2,3-c,d)	993	50	±10

1. The base year for PM is year 2000

12 Geographical distribution of the emissions

Geographical distribution of emissions has been reported to the LRTAP Convention for the years 1990, 1995 and 2000 (Illerup et al. 2003). The emissions are disaggregated to a grid of 50x50 km^2. Gridded data are reported for SO_2, NO_X, NMVOC, CO, PM, heavy metals and PAH. The assumptions and methodology will not be discussed here, but gridded emission data for SO_2 from stationary combustion plants are illustrated in Figure 40. The gridded emission data are available on the EU EIONET (European Environment Information and Observation Network) homepage, which can be linked from the NERI home page, www.dmu.dk.
Currently the geographical distribution of emissions is being updated. The results should be available for next years reporting.

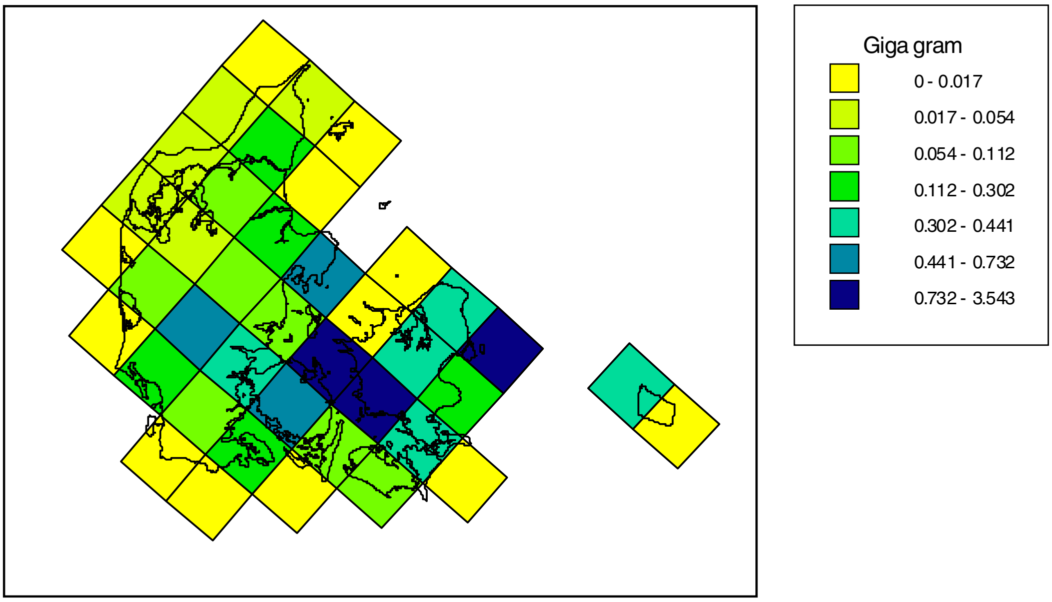


Figure 40 Gridded SO_2 emission from stationary combustion, 2003 (Hansen & Illerup 2003).

13 Improvements/recalculations since reporting in 2005

Improvements and recalculations since the 2005 emission inventory include:

- Update of fuel rates according to the latest energy statistics. The update included the years 1980-2003.
- Disaggregation of fuel consumption and emissions to industrial sub sectors. In addition to fuel consumption the following pollutants have been disaggregated: CO_2, CH_4, N_2O, SO_2, NO_x, NMVOC and CO. The disaggregation itself does not change the reported totals. Disaggregation of the remaining pollutants is planned.
- The emission factor for N_2O for coal powered plants in SNAP categories 0101xx has been updated based on new research.
- White spirit has been relocated to its own category instead of using the fuel category Other oil in the IPCC reference approach.
- The criteria for including a plant as a point source has been defined and included in this reporting.
- Some emission factors for SO_2 and NO_x has been corrected, see appendix 6 for a thorough discussion of SO_2 and NO_x emission factors.

14 Future improvements

Some planned improvements of the emission inventories are discussed below.

1) Improved documentation for CO_2 emission factors

The CO_2 emission factors applied for the Danish inventories are considered accurate, but documentation will be improved in future inventories. The documentation will be improved when the large plants start reporting CO_2 emission based on plant specific CO_2 emission factors (2006).

2) Improved documentation for other emission factors

Reporting of and references for the applied emission factors have been improved in the current year and will be further developed in future inventories.

3) QA/QC and validation

The QA/QC and validation of the inventories for stationary combustion will be implemented as part of the work that has been initiated for the Danish inventory as a whole. The work has started and is documented in Denmark's National Inventory Report (Illerup et al. 2006a)

4) Uncertainty estimates

Uncertainty estimates are based mainly on default uncertainty levels for activity rates and emission factors. More country-specific uncertainty estimates will be incorporated in future inventories.

5) Other improvements

– HM emission factors should be compared to new Danish legislation and updated if relevant.

15 Conclusion

The annual Danish emission inventories are prepared and reported by NERI. The inventories are based on the Danish energy statistics and on a set of emission factors for various sectors, technologies and fuels. Plant-specific emissions for large combustion sources are incorporated in the inventories.

Since 1990 fuel consumption has increased by 13% - fossil fuel consumption, however, by only 4,2%. The use of coal has decreased whereas the use of natural gas and renewable fuels has increased. The Danish fuel consumption fluctuates due to variation in the import/export of electricity from year to year.

Stationary combustion plants account for more than 50% of the total Danish emission for the following pollutants: SO_2, CO_2, heavy metals (except Cu), $PM_{2.5}$ and PAH. Furthermore, the emission from stationary combustion plants accounts for more than 10% of the total Danish emission for the following pollutants: NO_X, CO, NMVOC, TSP, PM_{10} and Cu. Stationary combustion plants account for less than 10% of the total Danish CH_4 and N_2O emission.

Public power plants are the most important stationary combustion emission source for SO_2, CO_2, NO_X and heavy metals.

Lean-burn gas engines installed in decentralised CHP plants are the largest stationary combustion emission source for CH_4. Furthermore, these plants are also a considerable emission source for NMVOC.

Residential plants represent the most important stationary combustion source for CO, NMVOC, particulate matter and PAH. Wood combustion in residential plants is the predominant emission source.

The greenhouse gas emission (GHG) development follows the CO_2 emission development closely. Both the CO_2 and the total GHG emission were lower in 2004 than in 1990: CO_2 by 5% and GHG by 4%. However fluctuations in the GHG emission level are great. The fluctuations in the time-series are a result of electricity import/export and of outdoor temperature variations from year to year.

The CH_4 emission from stationary combustion has increased by a factor of 4,3 since 1990. This is a result of the considerable number of lean-burn gas engines installed in CHP plants in Denmark during this period.

SO_2 emission from stationary combustion plants has decreased by 95% from 1980 and by 84% from 1995. The considerable emission decrease is mainly a result of the reduced emission from electricity and heat production due to installation of desulphurisation technology and the use of fuels with lower sulphur content.

The NO_X emission from stationary combustion plants has decreased by 50% since 1985 and 33% since 1995. The reduced emission is mainly a result of the reduced emission from electricity and heat production. The fluctuations in the emission time-series follow fluctuations in electricity import/export.

Wood consumption in residential plants has increased by 94% from 1990 to 2004 leading to an increased CO emission. The increase in CO emission from residential plants is less than the increase in wood consumption, because CO emission from straw-fired farmhouse boilers has decreased considerably.

The NMVOC emission from stationary combustion plants has increased by 51% from 1985 and 22% from 1995. The increased NMVOC emission is mainly a result of the increased use of lean-burn gas engines. The emission from residential plants is relatively constant, but the emission from wood combustion increased considerably and the emission from straw combustion decreased.

All the heavy metal emissions decreased considerably since 1990 – between 7% and 85%. This is a result of the installation and improved performance of gas cleaning devices in municipal waste incineration plants and large power plants.

The PAH emission has increased since 1990 due to the increased consumption of wood in residential plants.

The uncertainty level of the Danish greenhouse gas emission from stationary combustion is estimated to be within a range of ±7,8% and the trend uncertainty within a range of ±2%-age points. The sources contributing the most to the uncertainty estimates are the N_2O emission (all plants) and the CO_2 emission from coal combustion.

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Appendix

Appendix 1: The Danish emission inventory for the year 2004 reported to the Climate Convention in 2006

Appendix 2: Emission inventory for the year 2004 reported to the LRTAP Convention in 2006

Appendix 3: IPCC/SNAP source correspondence list

Appendix 4: Emission factors, references

Appendix 5: Fuel rate

Appendix 6: Emission factors

Appendix 7: Implied emission factors for power plants and municipal waste incineration plants

Appendix 8: Large point sources

Appendix 9: Uncertainty estimates

Appendix 10: Lower Calorific Value (LCV) of fuels

Appendix 11: Adjustment of CO_2 emission

Appendix 12: Reference approach

Appendix 13: Emission inventory 2004 based on SNAP sectors

Appendix 1 The Danish emission inventory for the year 2004 reported to the Climate Convention

Table 37 The Danish emission inventory for the year 2004 reported to the Climate Convention in 2006 (Illerup et al. 2005a).

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		CO2 emissions	CO2 removals	CH4	N2O	HFCs(1)		PFCs(1)		SF6	
						P	A	P	A	P	A
		(Gg)	CO2 equivalent (Gg)							(Gg)	
Total National Emissions and Removals		**53.938,31**	**-2.279,62**	**273,28**	**24,47**	**1.437,66**	**748,96**	**2,11**	**15,90**	**0,00**	**0,00**
1. Energy		**52.093,87**		**32,70**	**2,40**						
A. Fuel Combustion	Reference Approach (2)	50.735,33									
	Sectoral Approach (2)	51.485,49		27,86	2,39						
1. Energy Industries		25.387,80		15,37	0,50						
2. Manufacturing Industries and Construction		5.841,04		1,51	0,19						
3. Transport		12.858,60		2,57	1,40						
4. Other Sectors		7.159,03		8,40	0,29						
5. Other		239,02		0,01	0,01						
B. Fugitive Emissions from Fuels		608,39		4,84	0,01						
1. Solid Fuels		0,00		0,00	0,00						
2. Oil and Natural Gas		608,39		4,84	0,01						
2. Industrial Processes		**1.731,23**		**0,00**	**1,71**	**1.437,66**	**748,96**	**2,11**	**15,90**	**0,00**	**0,00**
A. Mineral Products		1.728,22		0,00	0,00						
B. Chemical Industry		3,01		0,00	1,71	0,00	0,00	0,00	0,00	0,00	0,00
C. Metal Production		0,00		0,00	0,00				0,00		0,00
D. Other Production (3)		NE									
E. Production of Halocarbons and SF6							0,00		0,00		0,00
F. Consumption of Halocarbons and SF6						1.437,66	748,96	2,11	15,90	0,00	0,00
G. Other		0,00		0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
3. Solvent and Other Product Use		111,17			0						
4. Agriculture		0	0	176,85	20,19						
A. Enteric Fermentation				129,07							
B. Manure Management				47,78	1,81						
C. Rice Cultivation				0							
D. Agricultural Soils				0	18,38						
E. Prescribed Burning of Savannas				0	0						
F. Field Burning of Agricultural Residues				0	0						
G. Other				0	0						
5. Land-Use Change and Forestry		0	-2279,6218	0	0						
A. Changes in Forest and Other Woody Biomass Stocks		0	-3449,4167								
B. Forest and Grassland Conversion		0		0	0						
C. Abandonment of Managed Lands		0	0								
D. CO_2 Emissions and Removals from Soil		1028,17	0								
E. Other		141,62	0	0	0						
6. Waste		2,04		63,73	0,17						
A. Solid Waste Disposal on Land		0		51,13							
B. Wastewater Handling				12,61	0,17						
C. Waste Incineration		0		0	0						
D. Other		2,04		0,00	0,00						
7. Other *(please specify)*		0	0	0	0	0	0	0	0	0	0

Memo Items: (7)											
International Bunkers		4991,90		0,10	0,25						
Aviation		2447,40		0,05	0,08						
Marine		2544,50		0,06	0,16						
Multilateral Operations		0,00		0	0						
CO2 Emissions from Biomass		9646,95									

Appendix 2 Emission inventory for the year 2004 reported to the LRTAP Convention in 2006

Table 38 Emission inventory for the year 2004 reported to the LRTAP in 2006 (a) (Illerup et al. 2006b).

	NOx	CO	NMVOC	SOx	TSP	PM10	PM2.5
	Gg NO2	Gg	Gg	Gg SO2	Mg	Mg	Mg
1 A 1 a Public Electricity and Heat Production	44,21	11,71	4,09	9,77	1328,10	1050,94	861,91
1 A 1 b Petroleum refining	1,61	0,24	0,00	0,42	133,08	122,37	117,01
1 A 1 c Manufacture of Solid Fuels and Other Energy Industries	6,84	0,20	0,04	0,01	2,91	1,72	1,43
1 A 2 Manufacturing Industries and Construction	15,00	10,07	2,23	5,68	1423,62	1260,52	1177,51
1 A 2 a Iron and Steel	IE	IE	IE	IE	181,20	54,36	8,15
1 A 2 b Non-ferrous Metals	IE	IE	IE	IE	22,92	20,58	9,66
1 A 2 c Chemicals	IE	IE	IE	IE	IE	IE	IE
1 A 2 d Pulp, Paper and Print	IE	IE	IE	IE	IE	IE	IE
1 A 2 e Food Processing, Beverages and Tobacco	IE	IE	IE	IE	IE	IE	IE
1 A 2 f Other (Please specify in a covering note)	10,01	10,47	0,10	1,51	456,41	399,71	246,22
1 A 3 a ii Civil Aviation (Domestic, LTO)	0,16	0,73	0,13	0,01	1,31	1,31	1,31
1 A 3 a ii Civil Aviation (Domestic, Cruise)	0,39	0,13	0,03	0,03	1,60	1,60	1,60
1 A 3 b Road Transportation	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 3 b i R.T., Passenger cars	25,31	195,78	14,36	0,20	670,92	670,92	670,92
1 A 3 b ii R.T., Light duty vehicles	10,96	15,51	1,85	0,08	1458,21	1458,21	1458,21
1 A 3 b iii R.T., Heavy duty vehicles	22,69	5,90	2,64	0,10	1028,65	1028,65	1028,65
1 A 3 b iv R.T., Mopeds & Motorcycles	0,12	15,46	2,80	0,00	56,54	56,54	56,54
1 A 3 b v R.T., Gasoline evaporation	NA	NA	4,81	NA	NA	NA	NA
1 A 3 b vi R.T., Automobile tyre and brake wear	NA	NA	NA	NA	1454,16	1090,52	593,54
1 A 3 b vii R.T., Automobile road abrasion	NA	NA	NA	NA	1004,36	502,18	271,18
1 A 3 c Railways	3,48	0,60	0,22	0,01	114,77	114,77	114,77
1 A 3 d ii National Navigation	7,99	7,77	1,47	2,26	532,66	513,72	495,72
1 A 3 e Other (Please specify in a covering note)	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 3 e i Pipeline compressors	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii Other mobile sources and machinery	NO	NO	NO	NO	NO	NO	NO
1 A 4 a Commercial / Institutional	1,09	0,91	0,57	0,26	133,21	129,90	122,72
1 A 4 b Residential	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 4 b i Residential plants	4,88	170,81	12,56	1,74	13309,12	12626,34	11952,29
1 A 4 b ii Household and gardening (mobile)	0,32	114,07	8,73	0,01	87,16	87,16	87,16
1 A 4 c Agriculture / Forestry / Fishing	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 4 c i Stationary	1,30	8,56	1,61	1,17	514,65	481,13	450,90
1 A 4 c ii Off-road Vehicles and Other Machinery	11,97	16,33	2,17	0,32	1010,72	1010,72	1010,72
1A 4 c iii National Fishing	8,53	1,11	0,35	0,63	272,21	258,61	245,69
1 A 5 a Other, Stationary (including Military)	NO	NO	NO	NO	NO	NO	NO
1 A 5 b Other, Mobile (Including military)	1,08	0,72	0,13	0,05	52,72	52,72	52,72
1B1 Fugitive Emissions from Solid Fuels	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 B 1 a Coal Mining and Handling	NA	31,78	NA	NA	1404,12	561,65	56,16
1 B 1 b Solid fuel transformation	NO	NO	NO	NO	NO	NO	NO
1 B 1 c Other (Please specify in a covering note)	NO	NO	NO	NO	NO	NO	NO
1 B 2 Oil and natural gas	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 B 2 a Oil	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 B 2 a i Exploration Production, Transport	NA	NA	11,53	IE	NA	NA	NA
1 B 2 a iv Refining / Storage	NA	NA	3,73	0,12	NA	NA	NA
1 B 2 a v Distribution of oil products	NA	NA	1,03	NA	NA	NA	NA
1 B 2 a vi Other	NO	NO	NO	NO	NO	NO	NO
1 B 2 b Natural gas	NA	NA	0,10	NA	NA	NA	NA
1 B 2 c Venting and flaring	3,13	0,27	0,06	0,06	2,62	2,62	2,62
2 A MINERAL PRODUCTS (b)	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2 A 1 Cement Production	IE	IE	IE	IE	IE	IE	IE
2 A 2 Lime Production	IE	IE	IE	IE	IE	IE	IE
2 A 3 Limestone and Dolomite Use	IE	IE	IE	IE	IE	IE	IE
2 A 4 Soda Ash Production and use	IE	IE	IE	IE	IE	IE	IE
2 A 5 Asphalt Roofing	NE	0,00	0,01	NE	NE	NE	NE
2 A 6 Road Paving with Asphalt	NE	0,24	0,55	NE	NE	NE	NE
2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)	NE	NE	0,02	NE	0,00	0,00	0,00
2 B CHEMICAL INDUSTRY	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2 B 1 Ammonia Production	NO	NO	NO	NO	NO	NO	NO
2 B 2 Nitric Acid Production	0,27	NE	NE	NE	192,00	153,00	115,00
2 B 3 Adipic Acid Production	NO	NO	NO	NO	NO	NO	NO
2 B 4 Carbide Production	NO	NO	NO	NO	NO	NO	NO
2 B 5 Other (Please specify in a covering note)	0,03	NE	0,03	NE	NE	NE	NE
2 C METAL PRODUCTION	NA	NE	NE	NA	NE	NE	NE
2 D OTHER PRODUCTION (b)	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2 D 1 Pulp and Paper	NE	NE	NE	NE	NE	NE	NE
2 D 2 Food and Drink	NE	NE	0,53	NE	NE	NE	NE
2 G OTHER (Please specify in a covering note)	NO	NO	NO	NO	NO	NO	NO
3 A PAINT APPLICATION	NA	NA	6,63	NA	NA	NA	NA
3 B DEGREASING AND DRY CLEANING	NA	NA	8,74	NA	NA	NA	NA
3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING	NA	NA	0,74	NA	NA	NA	NA

3 D OTHER including products containing HMs and POPs (Please specify in a covering note)	NA	NA	20,30	NA	NA	NA	NA
4 B MANURE MANAGEMENT (c)	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4 B 1 Cattle	IE	IE	IE	IE	IE	IE	IE
4 B 1 a Dairy	NA	NA	NA	NA	542,94	244,31	54,32
4 B 1 b Non-Dairy	NA	NA	NA	NA	1042,91	469,29	104,33
4 B 2 Buffalo	NO	NO	NO	NO	NO	NO	NO
4 B 3 Sheep	NA	NA	NA	NA	NE	NE	NE
4 B 4 Goats	NA	NA	NA	NA	NE	NE	NE
4 B 5 Camels and Llamas	NO	NO	NO	NO	NO	NO	NO
4 B 6 Horses	NA	NA	NA	NA	NE	NE	NE
4 B 7 Mules and Asses	NO	NO	NO	NO	NO	NO	NO
4 B 8 Swine	NA	NA	NA	NA	12868,00	5790,86	1286,27
4 B 9 Poultry	NA	NA	NA	NA	1951,64	878,46	195,00
4 B 13 Other	NA	NA	NA	NA	NE	NE	NE
4 C RICE CULTIVATION	NO	NO	NO	NO	NO	NO	NO
4 D AGRICULTURAL SOILS	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4 D 1 Direct Soil Emission	NA	NA	1,60	NA	NE	NE	NE
4 F FIELD BURNING OF AGRICULTURAL WASTES	NA	NA	NA	NA	NA	NA	NA
4 G OTHER (d)	NO	NO	NO	NO	NO	NO	NO
5 B FOREST AND GRASSLAND CONVERSION	NO	NO	NO	NO	NO	NO	NO
6 A SOLID WASTE DISPOSAL ON LAND	NA	NA	NE	NA	NA	NA	NA
6 B WASTE-WATER HANDLING	NA	NA	NE	NA	NA	NA	NA
6 C WASTE INCINERATION (e)	NO	NO	NO	NO	NO	NO	NO
6 D OTHER WASTE (f)	0,00	0,00	0,00	0,00	0,04	0,04	0,04
7 OTHER	NO	NO	NO	NO	NO	NO	NO
National Total	**181**	**619**	**117**	**24**	**43255**	**31095**	**22850**
Memo Items							
International Aviation (LTO)	1,02	0,70	0,12	0,07	3,60	3,60	3,60
International Aviation (Cruise)	9,42	1,15	0,33	0,71	35,90	35,90	35,90
International Navigation	69,70	5,93	1,86	34,82	4149,07	3941,62	3744,54
5 E Other	0,00	0,00	0,00	0,00	0,00	0,00	0,00
X (11 08 Volcanoes)	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Table 38 Emission inventory for the year 2004 reported to the LRTAP in 2006 (b) (Illerup et al. 2006b).

	Pb Mg	Cd Mg	Hg Mg	As Mg	Cr Mg	Cu Mg	Ni Mg	Se Mg	Zn Mg
1 A 1 a Public Electricity and Heat Production	2,15	0,21	0,56	0,35	0,43	0,61	2,09	0,75	13,71
1 A 1 b Petroleum refining	0,03	0,01	0,00	0,02	0,04	0,01	0,69	0,01	0,00
1 A 1 c Manufacture of Solid Fuels and Other Energy Industries	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1 A 2 Manufacturing Industries and Construction	0,21	0,12	0,07	0,12	0,26	0,59	4,41	0,10	0,91
1 A 2 a Iron and Steel	0,65	0,01	NE	0,03	0,10	NE	0,12	0,45	0,45
1 A 2 b Non-ferrous Metals	0,01	0,00	NE	NE	NE	0,00	NE	NE	-
1 A 2 c Chemicals	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 d Pulp, Paper and Print	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 e Food Processing, Beverages and Tobacco	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 2 f Other (Please specify in a covering note)	0,47	0,02	0,17	0,06	0,03	0,03	0,06	0,25	0,18
1 A 3 a ii Civil Aviation (Domestic, LTO)	1,30	0,00	NE	NE	0,00	0,02	0,00	0,00	0,01
1 A 3 a ii Civil Aviation (Domestic, Cruise)	-	0,00	-	-	0,00	0,05	0,00	0,00	0,03
1 A 3 b Road Transportation	-	-	-	-	-	-	-	-	-
1 A 3 b i R.T., Passenger cars	0,05	0,02	NE	NE	0,10	3,46	0,14	0,02	2,04
1 A 3 b ii R.T., Light duty vehicles	0,00	0,01	NE	NE	0,04	1,29	0,05	0,01	0,76
1 A 3 b iii R.T., Heavy duty vehicles	0,00	0,01	NE	NE	0,05	1,64	0,07	0,01	0,97
1 A 3 b iv R.T., Mopeds & Motorcycles	0,00	0,00	NE	NE	0,00	0,04	0,00	0,00	0,02
1 A 3 b v R.T., Gasoline evaporation	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vi R.T., Automobile tyre and brake wear	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 b vii R.T., Automobile road abrasion	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 A 3 c Railways	-	0,00	-	-	0,00	0,12	0,00	0,00	0,07
1 A 3 d ii National Navigation	0,02	0,00	0,00	0,02	0,01	0,08	1,23	0,03	0,11
1 A 3 e Other (Please specify in a covering note)	-	-	-	-	-	-	-	-	-
1 A 3 e i Pipeline compressors	IE	IE	IE	IE	IE	IE	IE	IE	IE
1 A 3 e ii Other mobile sources and machinery	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 4 a Commercial / Institutional	0,02	0,01	0,05	0,01	0,01	0,01	0,08	0,02	0,18
1 A 4 b Residential	-	-	-	-	-	-	-	-	-
1 A 4 b i Residential plants	0,13	0,13	0,17	0,03	0,03	0,15	0,05	0,12	2,69
1 A 4 b ii Household and gardening (mobile)	0,00	0,00	NE	NE	0,00	0,16	0,01	0,00	0,09
1 A 4 c Agriculture / Forestry / Fishing	-	-	-	-	-	-	-	-	-
1 A 4 c i Stationary	0,04	0,01	0,02	0,02	0,03	0,02	0,47	0,02	0,07
1 A 4 c ii Off-road Vehicles and Other Machinery	0,00	0,00	NE	-	0,02	0,56	0,02	0,00	0,33
1A 4 c iii National Fishing	0,01	0,00	0,01	0,01	0,01	0,01	0,04	0,03	0,07
1 A 5 a Other, Stationary (including Military)	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 A 5 b Other, Mobile (Including military)	0,08	0,00	-	-	0,00	0,13	0,01	0,00	0,08
1B1 Fugitive Emissions from Solid Fuels	-	-	-	-	-	-	-	-	-
1 B 1 a Coal Mining and Handling	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 1 b Solid fuel transformation	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 1 c Other (Please specify in a covering note)	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 Oil and natural gas	-	-	-	-	-	-	-	-	-
1 B 2 a Oil	-	-	-	-	-	-	-	-	-
1 B 2 a i Exploration Production, Transport	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a iv Refining / Storage	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a v Distribution of oil products	NA	NA	NA	NA	NA	NA	NA	NA	NO
1 B 2 a vi Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
1 B 2 b Natural gas	NA	NA	NA	NA	NA	NA	NA	NA	NA
1 B 2 c Venting and flaring	-	-	-	-	-	-	-	-	-
2 A MINERAL PRODUCTS (b)	-	-	-	-	-	-	-	-	-
2 A 1 Cement Production	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 2 Lime Production	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 3 Limestone and Dolomite Use	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 4 Soda Ash Production and use	IE	IE	IE	IE	IE	IE	IE	IE	IE
2 A 5 Asphalt Roofing	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 6 Road Paving with Asphalt	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 A 7 Other including Non Fuel Mining & Construction (Please specify in a covering note)	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B CHEMICAL INDUSTRY	-	-	-	-	-	-	-	-	-
2 B 1 Ammonia Production	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 2 Nitric Acid Production	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 B 3 Adipic Acid Production	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 4 Carbide Production	NO	NO	NO	NO	NO	NO	NO	NO	NO
2 B 5 Other (Please specify in a covering note)	NE	NE	NE	NE	NE	NE	NE	NE	NE
2 C METAL PRODUCTION	0,07	0,00	-	NE	-	0,05	-	NE	0,63
2 D OTHER PRODUCTION (b)	-	-	-	-	-	-	-	-	-
2 D 1 Pulp and Paper	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 D 2 Food and Drink	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 G OTHER (Please specify in a covering note)	NO	NO	NO	NO	NO	NO	NO	NO	NO
3 A PAINT APPLICATION	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 B DEGREASING AND DRY CLEANING	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 D OTHER including products containing HMs and POPs (Please specify in a covering note)	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B MANURE MANAGEMENT (c)	-	-	-	-	-	-	-	-	-
4 B 1 Cattle	IE	IE	IE	IE	IE	IE	IE	IE	IE
4 B 1 a Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 1 b Non-Dairy	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 2 Buffalo	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 3 Sheep	NA	NA	NA	NA	NA	NA	NA	NA	NA

4 B 4 Goats	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 5 Camels and Llamas	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 6 Horses	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 7 Mules and Asses	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 B 8 Swine	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 9 Poultry	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 B 13 Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 C RICE CULTIVATION	NO	NO	NO	NO	NO	NO	NO	NO	NO
4 D AGRICULTURAL SOILS	-	-	-	-	-	-	-	-	-
4 D 1 Direct Soil Emission	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 F FIELD BURNING OF AGRICULTURAL WASTES	NA	NA	NA	NA	NA	NA	NA	NA	NA
4 G OTHER (d)	NO	NO	NO	NO	NO	NO	NO	NO	NO
5 B FOREST AND GRASSLAND CONVERSION	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 A SOLID WASTE DISPOSAL ON LAND	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 B WASTE-WATER HANDLING	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 C WASTE INCINERATION (e)	NO	NO	NO	NO	NO	NO	NO	NO	NO
6 D OTHER WASTE (f)	NE	NE	NE	NE	NE	NE	NE	NE	NE
7 OTHER	NO	NO	NO	NO	NO	NO	NO	NO	NO
National Total	**5,25**	**0,58**	**1,06**	**0,66**	**1,16**	**9,03**	**9,55**	**1,84**	**23,4**
Memo Items									
International Aviation (LTO)	0,11	0,00	-	-	0,00	0,12	0,00	0,00	0,07
International Aviation (Cruise)	-	0,01	-	-	0,04	1,20	0,05	0,01	0,71
International Navigation	0,12	0,02	0,03	0,23	0,10	0,23	12,71	0,24	0,57
5 E Other	-	-	-	-	-	-	-	-	-
X (11 08 Volcanoes)	-	-	-	-	-	-	-	-	-

Table 38 Emission inventory for the year 2004 reported to the LRTAP in 2006 (c) (Illerup et al. 2006b).

	Benzo(a)-pyrene Mg	Benzo(b)-fluoranthene Mg	Benzo(k)-fluoranthene Mg	Indeno(1,3,3-c,d)pyrene Mg
1 A 1 a Public Electricity and Heat Production	0,007	0,029	0,014	0,007
1 A 1 b Petroleum refining	0,000	0,001	0,000	0,000
1 A 1 c Manufacture of Solid fuels and Other ENRrgy Industries	0,000	0,000	0,000	0,000
1 A 2 Manufacturing Industries and Construction	0,004	0,018	0,016	0,009
1 A 2 a Iron and Steel	NA	NA	NA	NA
1 A 2 b NAn-ferrous Metals	NA	NA	NA	NA
1 A 2 c Chemicals	NA	NA	NA	NA
1 A 2 d Pulp, Paper and Print	NA	NA	NA	NA
1 A 2 e Food Processing, Beverages & Tobacco	NA	NA	NA	NA
1 A 2 f Other (Please specify in a covering NAte)	0,026	0,084	0,004	0,003
1 A 3 a ii Civil Aviation (Domestic, LTO)	0,000	0,000	0,000	0,000
1 A 3 a ii Civil Aviation (Domestic, Cruise)	-	-	-	-
1 A 3 b Road Transportation	-	-	-	-
1 A 3 b i R.T., Passenger cars	0,027	0,027	0,027	0,031
1 A 3 b ii R.T., Light duty vehicles	0,017	0,016	0,015	0,017
1 A 3 b iii R.T., Heavy duty vehicles	0,004	0,020	0,030	0,005
1 A 3 b iv R.T., Mopeds & Motorcycles	0,001	0,001	0,001	0,001
1 A 3 b v R.T., GasoliNR evaporation	NA	NA	NA	NA
1 A 3 b vi R.T., Automobile tyre and brake wear	NA	NA	NA	NA
1 A 3 b vii R.T., Automobile road abrasion	NA	NA	NA	NA
1 A 3 c Railways	0,000	0,001	0,001	0,000
1 A 3 d ii National Navigation	0,001	0,003	0,002	0,005
1 A 3 e Other (Please specify in a covering NAte)	-	-	-	-
1 A 3 e i PipeliNR compressors	NA	NA	NA	NA
1 A 3 e ii Other mobile sources and machiNRry	NO	NO	NO	NO
1 A 4 a Commercial / Institutional	0,115	0,151	0,050	0,082
1 A 4 b Residential	NA	NA	NA	NA
1 A 4 b i Residential plants	2,980	3,906	1,301	2,104
1 A 4 b ii Household and gardening (mobile)	0,000	0,001	0,000	0,001
1 A 4 c Agriculture / Forestry / Fishing	NA	NA	NA	NA
1 A 4 c i Stationary	0,109	0,119	0,025	0,148
1 A 4 c ii Off-road Vehicles and Other MachiNRry	0,004	0,007	0,007	0,004
1A 4 c iii National Fishing	0,001	0,004	0,002	0,007
1 A 5 a Other, Stationary (including Military)	NO	NO	NO	NO
1 A 5 b Other, Mobile (Including military)	0,000	0,001	0,001	0,000
1B1 Fugitive Emissions from Solid Fuels	-	-	-	-
1 B 1 a Coal Mining and Handling	NA	NA	NA	NA
1 B 1 b Solid fuel transformation	NO	NO	NO	NO
1 B 1 c Other (Please specify in a covering NAte)	NO	NO	NO	NO
1 B 2 Oil and natural gas	-	-	-	-
1 B 2 a Oil	-	-	-	-
1 B 2 a i Exploration Production, Transport	NA	NA	NA	NA
1 B 2 a iv Refining / Storage	NA	NA	NA	NA
1 B 2 a v Distribution of oil products	NA	NA	NA	NA
1 B 2 a vi Other	NA	NA	NA	NA
1 B 2 b Natural gas	NA	NA	NA	NA
1 B 2 c Venting and flaring	-	-	-	-
2 A MINRRAL PRODUCTS (a)	-	-	-	-
2 A 1 Cement Production	NA	NA	NA	NA
2 A 2 Lime Production	NA	NA	NA	NA
2 A 3 LimestoNR and Dolomite Use	NA	NA	NA	NA
2 A 4 Soda Ash Production and use	NA	NA	NA	NA
2 A 5 Asphalt Roofing	NA	NA	NA	NA
2 A 6 Road Paving with Asphalt	NA	NA	NA	NA
2 A 7 Other including NAn Fuel Mining & Construction (Please specify in a covering NAte)	NA	NA	NA	NA
2 B CHEMICAL INDUSTRY	-	-	-	-
2 B 1 Ammonia Production	NO	NO	NO	NO
2 B 2 Nitric Acid Production	NA	NA	NA	NA
2 B 3 Adipic Acid Production	NO	NO	NO	NO
2 B 4 Carbide Production	NO	NO	NO	NO
2 B 5 Other (Please specify in a covering NAte)	NA	NA	NA	NA
2 C METAL PRODUCTION	NA	NA	NA	NA
2 D OTHER PRODUCTION (a)	NA	NA	NA	NA
2 D 1 Pulp and Paper	NA	NA	NA	NA
2 D 2 Food and Drink	NA	NA	NA	NA
2 G OTHER (Please specify in a covering NAte)	NO	NO	NO	NO
3 A PAINT APPLICATION	NA	NA	NA	NA
3 B DEGREASING AND DRY CLEANING	NA	NA	NA	NA
3 C CHEMICAL PRODUCTS, MANUFACTURE AND PROCESSING	NA	NA	NA	NA
3 D OTHER including products containing HMs and POPs (Please specify in a covering NAte)	NA	NA	NA	NA
4 B MANURE MANAGEMENT (b)	-	-	-	-

4 B 1 Cattle	NA	NA	NA	NA
4 B 1 a Dairy	NA	NA	NA	NA
4 B 1 b NAn-Dairy	NA	NA	NA	NA
4 B 2 Buffalo	NO	NO	NO	NO
4 B 3 Sheep	NA	NA	NA	NA
4 B 4 Goats	NA	NA	NA	NA
4 B 5 Camels and Llamas	NO	NO	NO	NO
4 B 6 Horses	NA	NA	NA	NA
4 B 7 Mules and Asses	NO	NO	NO	NO
4 B 8 SwiNR	NA	NA	NA	NA
4 B 9 Poultry	NA	NA	NA	NA
4 B 13 Other	NA	NA	NA	NA
4 C RICE CULTIVATION	NO	NO	NO	NO
4 D AGRICULTURAL SOILS	-	-	-	-
4 D 1 Direct Soil Emission	NA	NA	NA	NA
4 F FIELD BURNING OF AGRICULTURAL WASTES	NO	NO	NO	NO
4 G OTHER (c)	NO	NO	NO	NO
5 B FOREST AND GRASSLAND CONVERSION	NO	NO	NO	NO
6 A SOLID WASTE DISPOSAL ON LAND	NA	NA	NA	NA
6 B WASTEWATER HANDLING	NA	NA	NA	NA
6 C WASTE INCINRRATION (d)	NO	NO	NO	NO
6 D OTHER WASTE (e)	NA	NA	NA	NA
7 OTHER	NO	NO	NO	NO
National Total	**3,297**	**4,388**	**1,496**	**2,424**
International Aviation (LTO)	0,000	0,000	0,000	0,000
International Aviation (Cruise)	-	-	-	-
International MariNR (b)	0,004	0,014	0,006	0,023
5 E Other	NO	NO	NO	NO
X (11 08 VolcaNAes)	NO	NO	NO	NO

Appendix 3 IPCC/SNAP source correspondence list

Table 39 Correspondence list for IPCC source categories 1A1, 1A2 and 1A4 and SNAP (EMEP/Corinair 2004).

SNAP_id	SNAP_name	IPCC source
01	Combustion in energy and transformation industries	
0101	Public power	1A1a
010101	Combustion plants >= 300 MW (boilers)	1A1a
010102	Combustion plants >= 50 and < 300 MW (boilers)	1A1a
010103	Combustion plants < 50 MW (boilers)	1A1a
010104	Gas turbines	1A1a
010105	Stationary engines	1A1a
0102	District heating plants	1A1a
010201	Combustion plants >= 300 MW (boilers)	1A1a
010202	Combustion plants >= 50 and < 300 MW (boilers)	1A1a
010203	Combustion plants < 50 MW (boilers)	1A1a
010204	Gas turbines	1A1a
010205	Stationary engines	1A1a
0103	Petroleum refining plants	1A1b
010301	Combustion plants >= 300 MW (boilers)	1A1b
010302	Combustion plants >= 50 and < 300 MW (boilers)	1A1b
010303	Combustion plants < 50 MW (boilers)	1A1b
010304	Gas turbines	1A1b
010305	Stationary engines	1A1b
010306	Process furnaces	1A1b
0104	Solid fuel transformation plants	1A1c
010401	Combustion plants >= 300 MW (boilers)	1A1c
010402	Combustion plants >= 50 and < 300 MW (boilers)	1A1c
010403	Combustion plants < 50 MW (boilers)	1A1c
010404	Gas turbines	1A1c
010405	Stationary engines	1A1c
010406	Coke oven furnaces	1A1c
010407	Other (coal gasification, liquefaction, ...)	1A1c
0105	Coal mining, oil/gas extraction, pipeline compressors	
010501	Combustion plants >= 300 MW (boilers)	1A1c
010502	Combustion plants >= 50 and < 300 MW (boilers)	1A1c
010503	Combustion plants < 50 MW (boilers)	1A1c
010504	Gas turbines	1A1c
010505	Stationary engines	1A1c
02	Non-industrial combustion plants	
0201	Commercial and institutional plants (t)	1A4a
020101	Combustion plants >= 300 MW (boilers)	1A4a
020102	Combustion plants >= 50 and < 300 MW (boilers)	1A4a
020103	Combustion plants < 50 MW (boilers)	1A4a
020104	Stationary gas turbines	1A4a
020105	Stationary engines	1A4a
020106	Other stationary equipments (n)	1A4a
0202	Residential plants	1A4b
020201	Combustion plants >= 50 MW (boilers)	1A4b
020202	Combustion plants < 50 MW (boilers)	1A4b
020203	Gas turbines	1A4b
020204	Stationary engines	1A4b
020205 [2)]	Other equipments (stoves, fireplaces, cooking,...) [2)]	1A4b
0203	Plants in agriculture, forestry and aquaculture	1A4c
020301	Combustion plants >= 50 MW (boilers)	1A4c
020302	Combustion plants < 50 MW (boilers)	1A4c
020303	Stationary gas turbines	1A4c
020304	Stationary engines	1A4c
020305	Other stationary equipments (n)	1A4c
03	Combustion in manufacturing industry	
0301	Comb. in boilers, gas turbines and stationary	1A2f
030101	Combustion plants >= 300 MW (boilers)	1A2f
030102	Combustion plants >= 50 and < 300 MW (boilers)	1A2f
030103	Combustion plants < 50 MW (boilers)	1A2f
030104	Gas turbines	1A2f
030105	Stationary engines	1A2f
030106	Other stationary equipments (n)	1A2f
0302	Process furnaces without contact	
030203	Blast furnace cowpers	1A2a

030204	Plaster furnaces	1A2f
030205	Other furnaces	1A2f
0303	Processes with contact	
030301	Sinter and pelletizing plants	1A2a
030302	Reheating furnaces steel and iron	1A2a
030303	Gray iron foundries	1A2a
030304	Primary lead production	1A2b
030305	Primary zinc production	1A2b
030306	Primary copper production	1A2b
030307	Secondary lead production	1A2b
030308	Secondary zinc production	1A2b
030309	Secondary copper production	1A2b
030310	Secondary aluminium production	1A2b
030311	Cement (f)	1A2f
030312	Lime (includ. iron and steel and paper pulp industr.)(f)	1A2f
030313	Asphalt concrete plants	1A2f
030314	Flat glass (f)	1A2f
030315	Container glass (f)	1A2f
030316	Glass wool (except binding) (f)	1A2f
030317	Other glass (f)	1A2f
030318	Mineral wool (except binding)	1A2f
030319	Bricks and tiles	1A2f
030320	Fine ceramic materials	1A2f
030321	Paper-mill industry (drying processes)	1A2d
030322	Alumina production	1A2b
030323	Magnesium production (dolomite treatment)	1A2b
030324	Nickel production (thermal process)	1A2b
030325	Enamel production	1A2f
030326	Other	1A2f
08 1)	Other mobile sources and machinery	
0804 1)	Maritime activities	
080403 1)	National fishing	1A4c
0806 1)	Agriculture	1A4c
0807 1)	Forestry	1A4c
0808 1)	Industry	1A2f
0809 1)	Household and gardening	1A4b

1) Not stationary combustion. Included in a IPCC sector that also includes stationary combustion plants
2) Stoves, fireplaces and cooking is included in the sector 0202 or 020202 in the Danish inventory. It is not possible based on the Danish energy statistics to split the residential fuel consumption between stoves/fireplaces/cooking and residential boilers.

Appendix 4 Emission factors, references

Contents

1 SO_2

1.1 Coal, large power plants

Sector 1A1a (SNAP 0101, 010101, 010102, 010103, 010104, 010105)

The SO_2 emission and the fuel consumption for Danish power plants >25MW_e are available for all plants for the years 1990 and onwards. In general the plant specific data have been included in the emission inventories. For some years a small part of the coal consumption has, however, been included as an area source. The SO_2 emission factor for coal has been estimated as an average value based on the annual reporting from the electricity transmission companies in Denmark, Eltra and Elkraft System[2]. The total SO_2 emission from power plants >25MW_e has been assumed to origin from coal or residual oil. This has lead to a conservative estimate of the emission factor because SO_2 is also emitted from other fuels, and furthermore the emission from residual oil is higher than for coal (Danish plants > 25MW_e). The calculated time-series for the SO_2 emission factor are shown below. In 2004 the fuel consumption data were stated in TJ.

The emission factors for 1980-1982 refer to Fenhann & Kilde (1994). These emission factors were also estimated based on the plant specific data for plants > 25MW_e. In the inventories for 1980-1989 the power plants are not included as point sources, but the plant specific data are considered in the SO_2 emission factor.

Table 1 SO_2 emission factor for coal combusted in centralised power plants

Year	Total SO_2 emission [1000 ton] 1)	Total fuel consumption [PJ] 1)	Coal Consumption [Kton] 1)	H_u of coal [GJ/ton] 2)	Oil consumption [Kton] 1)	H_u of Residual oil [GJ/ton] 2)	Fuel consumption coal and residual oil [TJ]	SO_2 emission factor [g/GJ]
1990	119	243	9153	25,3	84	40,4	234965	**506**
1991	175	323	11975	25,4	62	40,4	306670	**571**
1992	130	279	11083	25,8	9	40,4	286305	**454**
1993	100	298	9820	25,2	295	40,4	259382	**386**
1994	103	337	11303	24,5	585	40,4	300558	**343**
1995	97	301	12293	24,5	232	40,4	310551	**312**
1996	138	432	12524	24,7	470	40,7	328472	**420**
1997	71	345	12886	24,96	226	40,65	330821	**215**
1998	51	305	7375	25	227	40,65	193603	**263**
1999	34	277	6709	25	215	40,65	176465	**193**
2000	9,4	252	5745	24,8	103	40,65	146663	**64**
2001	7,8	240	6397	24,9	163	40,65	165918	**47**
2002	7,9	246	6481	24,9	287	40,65	173048	**45**
2003	14,9	301	226	24,9	17	40,65	243222	**61**
2004	7,8	257	171	24,9	13	40,65	184420	**35**

1) Eltra and Elkraft System, annual reporting of total SO_2 and NO_x emissions from Danish power plants > 25MW_e

2) Danish Energy Authority, 2004

[2] Now part of the energy transmission company Energinet.dk

Table 2 SO_2 emission factor for coal combusted in centralised power plants, 1980-1989

	SO_2 emission factor 1) [g/GJ]
1980	714
1981	714
1982	714
1983	587
1984	508
1985	559
1986	549
1987	507
1988	560
1989	590

1980-1982 Fenhann & Kilde 1994, 1983-1989

1.2 Coal, other plants

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP 0102(xx), 03(xxxx), 02(xxxx))

1990-2004

According to Danish legislation the maximum sulphur content of coal used in plants that are not large power plants is 0,9% (Bek. 532, 2001). This value has been in force since 1989 (Bek. 901, 1994, Bek. 562, 1988). The average sulphur content from 1990 to 2004 has been assumed to be a little below the maximum – 0,8%. The lower heating value of coal used in other plants than power plants (Other hard coal) was 26,5 GJ/ton during the period 1991-2003 (DEA, 2004b). In spite of the fact that the lower calorific value was 26,1 GJ/ton in 1990 (DEA, 2004b) the same emission factor has been applied for 1990 as for 1991 and onwards. The sulphur retention in ash has been assumed to be 0,05 referring to EMEP/CorinAir Guidebook (EMEP/CorinAir, 2005, page B111-22, Table 8). Based on these data the emission factor 574 g/GJ has been calculated (see below).

$$EMF_{SO2} = 10^6 \cdot ((2 \cdot C_s \cdot (1-\alpha_s)) / H_u)$$

$$EMF_{SO2} = 10^6 \cdot ((2 \cdot 0{,}8 \cdot 0{,}01 \cdot (1-0{,}05)) / 26{,}5) = 574 \text{ g/GJ}$$

1980-1989

For the years 1980-1988 the sulphur content of coal has been assumed to be 0,9% and the average lower calorific value is 26,1 GJ/ton (DEA, 2004b). Based on the assumption that the sulphur retention in ash is 0,05 the estimated emission factor for 1980-1989 is 655 g/GJ. The emission factors that have been applied differ a little from this value. The difference is very small but the applied emission factor for 1980-1989 could be updated to ensure that the emission factors are referenced correctly.

Table 3 Emission factors for coal not applied in large power plants

Year	Sulphur content [%]	Sulphur retention in ash [kg/kg]	Lower heating value [GJ/ton]	Estimated emission factor [g/GJ]	Applied emission factor [g/GJ]
1980-1988	0,9	0,05	26,1 [1)]	655	649
1989	0,9	0,05	26,1 [1)]	655	584
1990-2004	0,8	0,05	26,5 [2)]	574	574

1. Average value for 1980-1989
2. The lower heating value for 1990 hasve been assumed to be 26,5 GJ/tonnes.

1.3 Brown coal briquettes and Coke oven coke

Sector 1A2f, 1A4a, 1A4b, 1A4c (SNAP 0301, 0201, 0202, 0203)

The emission factors for brown coal briquettes (BKB) and Coke oven coke have been assumed to be the same as for coal applied for other plants than power plants. This is a NERI assumption. The consumption of BKB and Coke oven coke has been very low in the considered time-series.

1.4 Petroleum coke

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP: All)

The emission factor for petroleum coke has been based on maximum sulphur content according to Danish legislation and on the lower heating values that is part of the Danish energy statistics.

The lower heating value for petroleum coke has been 31,4 GJ/ton all years since 1980 (DEA, 2004b).

According to Danish legislation the sulphur content of petroleum coke should be below 1% in 2001 and onwards (Bek. 532, 2001). In the years 1988 – 2000 the maximum sulphur content according to Danish legislation was 1,3% (Bek. 901, 1994; Bek 562, 1988). The same sulphur content has been assumed for 1980-1987.

The sulphur retention in ash has been assumed to be 0,05 referring to EMEP/CorinAir Guidebook value for coal (EMEP/CorinAir 2005, page B111-22, Table 8). It has been assumed that sulphur flue gas cleaning is not applied in plants combusting petroleum coke.

$EMF_{SO2} = 10^6 \cdot ((2 \cdot C_s \cdot (1-\alpha_s)) \ / \ H_u)$

1980-2000: $EMF_{SO2} = 10^6 \cdot ((2 \cdot 1{,}3 \cdot 0{,}01 \cdot (1-0{,}05)) \ / \ 31{,}4) = 787$ g/GJ

2001-2003: $EMF_{SO2} = 10^6 \cdot ((2 \cdot 1{,}0 \cdot 0{,}01 \cdot (1-0{,}05)) \ / \ 31{,}4) = 605$ g/GJ

1.5 Wood, CHP plants

Sector 1A1a (SNAP 0101, 010101, 010102, 010103, 010104)

The SO_2 emission factor for wood combusted in CHP plants refers to a Danish study (Nielsen & Illerup, 2003) that included emission measurements on two wood combusting plants. Despite the limited number of plants on which emission measurements were performed the fuel consumption of the plants represented 44% of the wood consumption in CHP plants in 2000. The emission factor 1,74 g/GJ has been applied for the inventories for 1992 and onwards. Before 1992 wood was not combusted in CHP plants.

1.6 Wood, other plants

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP 010105, 0102(xx), 0301(xx), 0201(xx), 0202, 0203(xx))

The emission factor refers to two reports, both in Danish: Serup et al. (1999) and Christiansen et al. (1997).

According to Serup et al. (1999) the emission factor is in the interval 5-30 g/GJ and a typical value is 15 g/GJ. According to Christiansen et al. (1997) the emission factor is in the interval 15-30 g/GJ.

Until now the emission factor 25 g/GJ has been applied all years. However, 15-20 g/GJ might be a better estimate.

1.7 Municipal waste, CHP plants

Sector 1A1a (SNAP 0101(xx))

The emission factor for the years 2000-2004 refers to a Danish study (Nielsen & Illerup, 2003) that included emission measurements on 16 CHP plants (19 combustion units) combusting municipal waste representing more than 70% of the consumption in CHP plants in 2000.

The flue gas cleaning systems in municipal waste CHP plants have been developed considerably during the last decade. Thus the emission factor applied for 2000 and onwards is not valid for the previous years. Power production based on municipal waste began in 1988 in Denmark.

The emission factors applied for the years 1990 and 1995 also refers to Nielsen & Illerup (2003). The estimates for 1990 and 1995, included in this report, have been based on knowledge of flue gas cleaning systems of the plants in 1990 and 1995 (Illerup et al., (1999). For plants with no flue gas cleaning the sulphur content was assumed to be 0,24% (Risø, 2005) and the sulphur retention in ash was assumed to be 63% (Blinksbjerg, 1994) and thus the estimated emission factor was 169 g/GJ. Further emission factors for plants with different flue gas cleaning systems were applied (Nielsen & Illerup, 2003).

The estimated emission factors were 138 g/GJ in 1990 and 30 g/GJ in 1995. The emission factor time-series between 1990 and 1995 and between 1995 and 2000 have been assumed linear (NERI assumption). In 1988 and 1989 the emission factor has been assumed to be the same as in 1990.

The emission factor time-series are shown below. Unfortunately a wrong emission factor has been applied in 1988-1990. This will be corrected in the inventories reported in 2006.

Table 4 Emission factors for CHP plants combusting municipal waste

Year	Applied emission factor [g/GJ]	Correct emission factor [1)] [g/GJ]
1988	116	138
1989	116	138
1990	116	138
1991	116	
1992	95	
1993	73	
1994	52	
1995	30	
1996	29	
1997	28	
1998	26	
1999	25	
2000	24	
2001	24	
2002	24	
2003	24	
2004	24	

In the inventories reported in 2005 the emission factor applied for 1988-1990 isare not correct. The error will be corrected next year.

1.8 Municipal waste, district heating and other plants

Sector 1A1a, 1A2f, 1A4a (SNAP 0102(xx), 0301(xx), 0102(xx))

The emission factor for the year 2000 was based on plant specific fuel consumption data in year 2000 (DEA, 2001) and on SO_2 emission data (annual environmental reports 2001) for each of the 5 non-power producing plants. Based on these data the emission factor 67 g/GJ has been estimated. The same emission factor has been applied for the following years.

The flue gas cleaning system applied in 1990 on plants that are not power producing refers to Illerup et al. (1999). The amount of municipal waste combusted in each flue gas cleaning category also refers to Illerup et al. (1999). For plants with no flue gas cleaning the sulphur content was assumed to be 0,24% and the sulphur retention in ash was assumed to be 63% (169 g/GJ). These assumptions refer to Risø (2005) and Blinksbjerg (1994) and the same assumptions have been applied for CHP plants with no sulphur flue gas cleaning. For plants with sulphur flue gas cleaning the emission factors refer to the emission factors estimated for CHP plants year 2000 (Nielsen & Illerup, 2003) with the same flue gas cleaning system. The estimated emission factor for 1990 is 138 g/GJ [3]. The emission factor time-series between 1990 and 2000 have been assumed linear (NERI assumption).

In 1980-1989 the emission factor has been assumed to be the same as in 1990 (NERI assumption).

Time-series and emission factor estimates for 1990 and 2000 are shown below.

[3] The emission factor is equal to the factor for CHP plants. This is, however, a accidental occurrence.

Table 5 Emission factors for non-power producing plants combusting municipal waste, 1990

Flue gas cleaning 1)	Municipal waste combustion 1990 2) [ton]	SO_2 emission factor 3) [g/GJ]	Consumption x emission factor 1990 [ton · g/GJ]
No sulphur cleaning	1327760	169	224391440
ESP WET	30700	50,5	1550350
SD (CYK) FB	148430	10,3	1528829
Other WET	12000	26,6	319200
Other DRY	156900	20,6	3232140
Total	1675790		231021959
			Emission factor 1990 [g/GJ]
			138

1. WET: wet flue gas cleaning, SD: semidry flue gas cleaning, DRY: dry flue gas cleaning, ESP: electrostatic precipitator, FB: fabric filter, CYK: cyclone
2. Illerup et al. 1999
3. Nielsen & Illerup 2003

Table 6 Emission factors for non- power producing plants combusting municipal waste, 2000

Fuel consumption [GJ]	SO_2 emission [ton]	SO_2 emission factor [g/GJ]
1440233	96,42	67

Table 7 Emission factors time-series for non- power producing plants combusting municipal waste

Year	Emission factor [g/GJ]
1980-1989	138
1990	138
1991	131
1992	124
1993	117
1994	110
1995	103
1996	95
1997	88
1998	81
1999	74
2000	67
2001	67
2002	67
2003	67
2004	67

1.9 Straw, CHP plants and power plants

Sector 1A1a (SNAP 0101(xx))

The SO_2 emission factor for straw combusted in CHP plants < $25MW_e$ refers to a Danish study (Nielsen & Illerup, 2003) that included emission measurements on five straw combusting plants. Despite the limited number of plants on which emission measurements were performed, the fuel consumption of the plants represented 58% of the straw consumption in decentralised CHP plants in 2000. The emission factor 47,1 g/GJ has also been applied for combustion of straw in large power plants. However, plant specific SO_2 emission data are usually available for large power plants. The emission factor has been applied for all years.

1.10 Straw, other plants

Sector 1A1a, 1A2f, 1A4b, 1A4c (SNAP 0102(xx), 0301(xx), 0202, 0203(xx))

The SO_2 emission factor (130 g/GJ) for straw combusted in plants that are not power producing refers to Nikolaisen et al. (1998). The reference states the typical value 130 g/GJ for district heating plants and an interval of 100-170 g/GJ. The emission factor for small farmhouse boilers and other plants has been assumed to be the same (NERI assumption).

1.11 Residual oil, large power plants

Sector 1A1a (SNAP 0101(xx))

The SO_2 emission and the fuel consumption for Danish power plants >25MW$_e$ are available for all plants for the years 1990 and onwards (Eltra & Elkraft System). In general the plant specific data have been included in the emission inventories. For some years a small part of the residual oil consumption has, however, been included as an area source. For 1990-2001 NERI hasve estimated the SO_2 emission factor for residual oil based on the sulphur content of the residual oil applied in power plants >25MW$_e$. This information was part of the reporting from the power plant owners (Eltra & Elkraft System) to the Danish Energy Authority at that time. The lower heating value for residual oil refers to DEA (2004b). There is no sulphur retention in ash and it has been assumed that there was no sulphur flue gas cleaning. The estimated emission factors are shown below.

The emission factors applied for 2002, 2003 and 2004 have been estimated based on the few large power plant blocks combusting primarily residual oil. This calculation, which is carried out by NERI, also refers to Eltra & Elkraft System.

Table 8 Emission factors time-series for residual oil applied in power plants

Year	Average sulphur content [%] 1)	Sulphur retention in ash [kg/kg]	Lower heating value [GJ/ton] 2)	Emission factor [g/GJ]
1990	0,9	0	40,4	446
1991	0,95	0	40,4	470
1992	0,99	0	40,4	490
1993	0,96	0	40,4	475
1994	3,16	0	40,4	1564
1995	0,71	0	40,4	351
1996	0,83	0	40,7	408
1997	0,7	0	40,65	344
1998	0,75	0	40,65	369
1999	0,75	0	40,65	369
2000	0,82	0	40,65	403
2001	0,641	0	40,65	315
2002				290 3)
2003				334 3)
				349 3)

1. Eltra & Elkraft System annual reportings
2. DEA 2005
3. Estimated based on plant specific data from Eltra & Elkraft System annual reportings

The emission factors for 1980-1989 refer to Fenhann & Kilde (1994). These emission factors were also estimated based on the plant specific data for plants > 25MW$_e$. In the inventories for 1980-1989 the power plants are not included as point sources, but the plant specific data are considered in the SO_2 emission factor.

1.12 Residual oil, refineries

Sector 1A1b (SNAP 010306)

For the years 1980-1993 the total SO_2 emission data from refinery furnaces (SNAP 030106) have been reported by Fenhann (1996). The data from Fenhann are not fuel specific and the SO_2 emission factors for residual oil have been estimated based on the assumption that the emission factors for gas oil (94 g/GJ), LPG (0,13 g/GJ) and refinery gas (190 g/GJ) applied in refinery furnaces are constant in the years 1980-1993. Thus the emission factor for residual oil combusted in refinery furnaces is used as a tool for making the estimated total SO_2 emission correct and to much should not be read into the emission factor time-series 1980-1993. Still the data from Fenhann (1996) are considered the best available data and preferred despite the methodology problems. As mentioned in Chapter 1.20 the emission factor for refinery gas (190 g/GJ) will be changed before the 2006 inventories and thus the emission factors for residual oil combusted in refinery furnaces will also be changed. The total emission from refinery furnaces will, however, be the same.

The refineries have been included in the Danish inventory as point sources from 1994 and onwards and as plant specific SO_2 emission data included in the inventories. Thus the emission factor has only been applied in the years in which a small amount of residual oil has been included as an area source.

The emission factor for 2003 has been estimated based on plant specific data from the two refineries in operation in Denmark (537 g/GJ). It has been assumed that all SO_2 originate from residual oil.

The main part of the fuel consumption has been included as part of point sources with plant specific SO_2 emission data. The emission factor estimated for 2003 will be applied for 1994-2002 in future inventories. This will not cause considerable changes of the estimated SO_2 emission from refinery furnaces.

1.13 Residual oil, other plants

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP 0102xx, 0301xx, 0201xx, 0202, 0203xx)

The emission factor for applied for 1997-2004 refers to Risø (2005) and to a note from the parlamential committee for environment (Miljø- og planlægningsudvalget, 1998).

According to Risø (2005) the average sulphur content of residual oil sold in Denmark has been 0,7% since 1997. Risø refers to the Danish Oil Forum. This is supported by Miljø- og planlægningsudvalget (1998). According to this reference the tax policy for fuel oil sold in Denmark has caused a sulphur content considerably under the legislative limit of 1% (Bek. 532, 2001; Bek. 580, 2000; Bek. 901, 1994; Bek. 562, 1988) that has been in force since 1988. The sulphur content of 0,7% has been confirmed by oil fact sheets from Shell (2005). The lower heating values refer to the Danish energy statistics (DEA, 2004b).

For the years 1988-1996 the legislative maximum sulphur content of 1% (Bek. 901, 1994; Bek. 562, 1988) has been assumed by NERI. The lower heating values refer to the Danish energy statistics (DEA, 2004b).

For the years 1980-1987 the emission factors refer to Risø (2005). These emission factors werebased on a sulphur content of 2,35% in 1980-1985 and 1,45% in 1986-1987.

1.14 Gas oil

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP <04)

For the years 1980-1988 the emission factors 234 g/GJ and 141 g/GJ were based on a sulphur content of 0,5% (1980-1985) and 0,3% (1986-1988) respectively. These legislative values refer to Cir. 122 (1986). The emission factors are confirmed by Risø (2005).

For the years 1989-1994 the emission factor 94 g/GJ refers to Danish legislation (Bek. 901, 1994; Bek 562, 1988) concerning sulphur content (0,2%) and the lower heating values refer to the Danish energy statistics (DEA 2004b).

For the years 1995-2004 the emission factor 23 g/GJ was based on a sulphur content of 0,05%, which is below the Danish legislation – 0,2% (Bek. 901, 1994; Bek. 580, 2000; Bek. 532, 2001). The sulphur content has been lower than the 0,2% due to Danish tax laws (Bek. 688, 1998). According to the tax laws the base sulphur content (no tax) for gas oil has been 0,05% since 1995. The low average sulphur content for gas oil applied in Denmark refers to a note from the parlamential committee for environment (Miljø- og planlægningsudvalget, 1998). According to this reference the oil sold in Denmark in 1998 had a sulphur content of 0,05% regardless of the legislative limit of 0,2% sulphur. The lower heating value for gas oil refers to DEA (2004b). The sulphur content of 0,05% has been confirmed by product data sheets from Q8, Shell and Statoil.

1.15 Kerosene

Sector 1A2f, 1A4a, 1A4b, 1A4c (SNAP <04)

The emission factor 5 g/GJ has been based on a sulphur content of 0,01%.

According to a product sheet from Shell (2005) the maximum sulphur content of kerosene is 0,05%. However, this maximum sulphur content has been stated in the product sheets as it is the maximum sulphur content allowed to avoid sulphur taxes (Bek. 688, 1998).

The actual sulphur content is somewhat lower (Tønder, 2004). According to Tønder (2004) the sulphur content was approximately 95-107 mg S/litre. According to the product sheet from Shell (2005) the density of kerosene is 775-840 g/litre and thus the actual sulphur content is approximately 0,012% sulphur.

The NERI estimate is based on a sulphur content of 0,01% sulphur (Tønder, 2004) and the lower heating value 43,1 GJ/ton that refers to the product data sheet from Shell (2005).

1.16 Fish & rape oil

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP <04)

The sulphur content of rape oil is below 0,001% and typically 0,0005% (Folkecenter for Vedvarende Energi, 2000). The lower heating value is 37,2 GJ/ton (DEA, 2004b). Based on these data the estimated emission factor is 0,2-0,6 g/GJ. However, NERI applies an emission factor that is somewhat higher – 1 g/GJ.

1.17 Orimulsion

Sector 1A1a (SNAP 010101)

Orimulsion has only been applied in a single large power plant boiler in Denmark. This power plant boiler has been included in the inventories as a point source with plant specific SO_2 emission data included all years. Thus the emission factors that are stated in the area source emission factor time-series are only included for information. The emission factors have been estimated based on the plant specific data from the power plant boiler combusting orimulsion. The plant specific SO_2 emission data refers to Eltra & Elkraft System (annual reporting) and the fuel consumption data refers to DEA (2005a) and the similar DEA data reported in former years.

1.18 Natural gas

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP <04)

This sulphur content refers to the Danish gas transmission company Gastra[4] (2005). The sulphur content originates from the H_2S content of natural gas and from the added odorant (THT, C_4H_8S). Natural gas data and estimates of the emission factor are shown below.

Table 9 SO_2 emission factor for natural gas

Data	Value	Reference
Hydrogen Sulphide	3,16 mg H_2S /m_n^3 natural gas	http://www.gastra.dk/dk/index.asp (23-05-2005)
THT	15 mg THT/m_n^3.	http://www.gastra.dk/dk/energi-service/gaskvalitet/datablad/datablad.htm (23-05-2005)
H_2S sulphur content	94% w/w (32/34)	Calculation
THT sulphur content	36% w/w (32/88)	Kristensen 2003
Sulphur content in 1 m_n^3	8,4 mg S/m_n^3	Calculation
Lower heating value	39,77 MJ/m_n^3	http://www.gastra.dk/dk/index.asp (23-05-2005)
SO_2 emission factor	0,42 g/GJ	Calculation

S content = $3{,}16 \cdot 0{,}94 + 15 \cdot 0{,}36 = 8{,}4$ mg S /m_n^3 mg/m_n^3
Emission factor = $2 \cdot (8{,}4/39{,}77) = 0{,}42$ g/GJ

The estimated emission factor 0,42 g/GJ has been based on average 2004 gas. The emission factor that has actually been applied in the Danish inventories is 0,3 g/GJ. This emission factor has been applied for all years. The emission factor 0,3 g/GJ refers to the latest environmental report from Danish Gas Technology Centre (Schmidt, 2004) and will be applied unchanged in future inventories.

The SO_2 emission from gas engines is somewhat higher due to the consumption of lube oil. This has not been taken into account in the Danish inventories.

[4] Now part of the Danish energy transmission company Energinet.dk. Gastra is a former part of DONG.

1.19 LPG

Sector 1A1a, 1A1b, 1A2f, 1A4a, 1A4b, 1A4c (SNAP <04)

The main part of the sulphur content in LPG originates from odorant that is added (Krebs, 2003). The maximum sulphur content of LPG is 50 mg S / kg (Krebs, 2003). The odourant applied is Ethylmercaptan (Augustesen, 2003). According to the Danish legislation concerning fuel gas a minimum of 8,8 mg odorant/m^3 should be added if ethylmercaptan (C_2H_6S) is used (Gasreglementet 2001). According to specifications from Statoil a minimum of 12 mg odourant/m^3 is added (Augustesen, 2003). The S content in the odourant is 51,61% and thus it corresponds to a sulphur content of 12·0,5161=6,19 mg S/m^3. The weight of 1 m^3 propane is 1,96 kg/m^3, whereas the weight of butane is 2,59 kg/m^3. A 40% propane / 60% butane weights 2,34 kg/m^3. Thus the sulphur content is at least 6,19/2,34=2,65 mg S/kg corresponding to 0,000265%.

The sulphur content of LPG is in the interval 0,000265% to 0,005%. NERI has assumed that the sulphur content is slightly above the specified minimum: 0,0003% S.

The lower heating value 46 GJ/ton refers to DEA (2005b) and the estimated emission factor is 0,13 g/GJ.

1.20 Refinery gas, refinery furnaces

Sector 1A1b (SNAP 030106)

The SO_2 emission from combustion of refinery gas in refinery furnaces has been included as a point source with plant specific SO_2 emission data in 1994 and onwards.

In 1980-1993 the consumption of refinery gas in refinery furnaces has been included as area sources and thus an emission factor applied. The emission factor 190 g/GJ has been based on plant specific emission data from the three refineries in operation in Denmark in 1994. The emission factor has been estimated based on the assumption that all SO_2 from refinery furnaces originate from refinery gas, and thus the emission share from residual oil has been assumed to be zero. This assumption is, however, considered inappropriate and the time-series will be changed before the 2006 reporting. Due to the way the emission factor for residual oil has been estimated the total SO_2 from refinery furnaces will, however, not change.

1.21 Refinery gas, gas turbines and other plants

The emission factor for gas turbines (1 g/GJ) has been based on plant specific emission data from a gas turbine only combusting refinery gas. The turbine is installed in a Danish refinery plant. Plant specific emission data for 1995-2002 have been included in the estimate. In the Danish energy statistics refinery gas also occurs in a few other non-furnace plants. For these plants the emission factor has been assumed to be the same as for the gas turbine (NERI assumption).

1.22 Biogas, gas engines

Sector 1A1a, 1A1c, 1A2f, 1A4a, 1A4c (SNAP 010105, 010205, 010505, 030105, 020105, 020304)

The SO_2 emission factor for biogas fuelled engines refers to a Danish study (Nielsen & Illerup, 2003) that included emission measurements on 5 biogas engines. Despite the limited number of emission measurements the fuel consumption of the plants represented 11% of the biogas consumption in gas engines in year 2000.

1.23 Biogas, other plants

Sector 1A1a, 1A2f, 1A4a, 1A4c (SNAP 0101, 010101, 010102, 010103, 010104, 0102, 010203, 0301, 030102, 030104, 0201, 020103, 020104, 0203)

The emission factor 25 g/GJ has been estimated based on a H_2S content of 200 ppm. The sulphur content refers to Christiansen (2003) and to Hjort-Gregersen (1999). The biogas has been assumed to be a typical manure gas consisting of approximately 35% CO_2 and 65% CH_4. The sulphur content is 0,025% (w/w).

Table 10 SO_2 emission factor for biogas

Dato	Value
H_2S content	200 ppm
Density H_2S	1,521 kg/m^3
Lower heating value	23,48 MJ/m$_n^3$
SO_2 emission factor	24,4 g/GJ
$200 \cdot 1{,}521/23{,}48 = 12{,}96$ mg H_2S/MJ	
$12{,}96 \cdot 32/34 = 12{,}19$ mg S/MJ	
$2 \cdot 12{,}19 = 24{,}4$ mg SO_2/MJ	

2 NO_x

2.1 Coal, large power plants

Sector 1A1a (SNAP 010101, 010102, 010103, 010104, 010105)

It has been assumed that the small fuel consumption of coal registered in plant category 010105 (engines) is actually combusted in another public power plant (SNAP 0101xx).

The NO_x emission and the fuel consumption for Danish power plants >25MW_e are available for all plants for the years 1990 and onwards. In general the plant specific data have been included in the emission inventories.

For some years a small part of the coal consumption has, however, been included as an area source. The NO_x emission factors for coal have been estimated as an average value based on the annual reporting from the electricity transmission companies in Denmark, Eltra and Elkraft System[5]. The implied emission factors have been estimated based on the assumption that all fuels contribute equally to the NO_x emission (total NO_x emission/total fuel consumption). The estimated emission factors have, however, only been applied for coal and residual oil.

The calculated time- series for the NO_x emission factor are shown below.

Table 11 NO_x emission factors for coal and residual oil, power plants

Year	NO_x emission [ton]	Total fuel consumption [TJ]	Estimated NO_x emission factor [g/GJ]
1990	83	243	342
1991	124	323	384
1992	82	279	294
1993	86	298	289
1994	90	337	267
1995	72	301	239
1996	108	432	250
1997	69	345	200
1998	54	305	177
1999	42	277	152
2000	32,5	252	129
2001	29	240	122
2002	32	246	130
2003	43	301	144
2004	34	257	131

The emission factors for 1980-1982 refer to Fenhann & Kilde (1994). The emission factor for 1983-1989 has been estimated by NERI based on emission data from Fenhann & Kilde (1994) and fuel consumption data from the Danish energy statistics (DEA, 2004a).

2.2 Coal, other plants

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP 0102(xx), 0301(xx), 02(xx))

The 2000-2004 emission factor for other plants refers to Danish legislation (Luftvejledningen, 2001). According to this legislation the NO_x emission from 5-50 MW boilers should be below

[5] Both are now part of the energy transmission company Energinet.dk

200 mg/m_n^3 (ref. 10% O_2). This equals the emission factor 95 g/GJ[6]. The NO_x emission limit applies for new plants (2001 and onwards), but NERI has also applied the emission factor for year 2000.

For 1980-1992 the applied emission factor 200 g/GJ refers to Fenhann and Kilde (1994). NERI has assumed the same emission factor for 1993-1999.

For comparison legislation concerning plants larger than 50MW (Bek. 689, 1990) has ensured that the emission limit, which was 650 g/m_n^3 (ref. 6% O_2) for plants installed before 1992 has been changed to 200 g/m_n^3 (ref. 6% O_2) for plants installed after 1992. These emission limits corresponds to 225 g/GJ and 69 g/GJ. However, in the inventories for 1990 and onwards plants larger than 50 MW have in general been included in the inventory as point sources with plant specific NO_x emission data.

2.3 Brown coal briquettes and Coke oven coke

Sector 1A2f, 1A4a, 1A4b & 1A4c (SNAP 0301(xx), 02(xx))

Emission factors for brown coal briquettes and coke oven coke have been assumed to be the same as for coal (NERI assumption). The consumption of these two fuels has been very low all years.

2.4 Petroleum coke, power plants, district heating and industry

Sector 1A1a & 1A2f (SNAP 0101(xx), 0102(xx), 0301(xx))

NERI have assumed that the emission factor for petroleum coke combusted in power plants, district heating plants and industrial plants is the same as for coal combustion in district heating/industrial plants. This has been assumed for all years.

2.5 Petroleum coke, residential and other plants

Sector 1A4a, 1A4b, 1A4c (SNAP 0201(xx), 0202(xx), 0203(xx))

The emission factor for petroleum coke combusted in residential plants or other plants refers to the EMEP/Corinair Guidebook (EMEP/CorinAir, 2004). The guidebook (page B112-15) suggests the NO_x emission factor 50 g/GJ for petroleum coke combusted in non-residential plants.

2.6 Wood, CHP plants and large power plants

Sector 1A1a (SNAP 010101, 010102, 010103, 010104)

The NO_x emission factor for wood combusted in CHP plants refers to a Danish study (Nielsen & Illerup, 2003) that included emission measurements on two wood combusting plants. Despite the limited number of plants on which emission measurements were performed the fuel consumption of the plants represented 44% of the wood consumption in CHP plants in year 2000. The emission factor 69 g/GJ has been applied for the inventories for 1992 and onwards. Wood was not combustion in CHP plants before 1992.

[6] The equation in the legislation is not correct. The constant 212 should have been 130.

2.7 Wood, residential plants

Sector 1A4b (SNAP 0202)

The emission factor for wood combustion in residential plants 120 g/GJ refers to the IPCC Reference Manual (IPCC, 1996). The emission factor for conventional stoves has been applied (page 1.56). The default emission factor for residential wood combustion is 100 g/GJ (page 1.38).

2.8 Wood, other plants

Sector 1A1a, 1A2f, 1A4a, 1A4c (SNAP 010105, 0102(xx), 0301(xx), 0201(xx), 0203(xx))

The applied emission factor for wood combustion in district heating plants, industrial plants and other non-power producing and non-residential plants is 130 g/GJ. Several references have been considered:

- According to Danish legislation (Luftvejledningen, 2001) the allowed NO_x emission for wood combustion is 300 mg/m_n^3 (ref. 10% O_2) that equals 143 g/GJ. This applies for 1-50 MW boilers and thus most district heating plants and industrial plants are included.
- According to a Danish report from 1999 (Serup et al. 1999) the emission factor for district heating plants combusting wood is in the interval 40-140 g/GJ and a typical value is 90 g/GJ.
- According to another Danish report from 1997 (Christensen, 1997) the emission factor is 55-230 g/GJ.
- According to the IPCC Reference Manual (IPCC, 1996) the default emission factor for district heating and industry is 100 g/GJ (page 1.38). On the detailed level the following emission factors have been stated:
  + Industrial stoker boilers 65 g/GJ (page 1.54)
  + Commercial boilers 130 g/GJ (page 1.57)

The applied emission factor 130 g/GJ is in the right level, but might be somewhat too high. In future inventories the emission factor 90 g/GJ will be applied at least for resent years.

2.9 Municipal waste, CHP plants

Sector 1A1a (SNAP 0101(xx))

The NO_x emission factor for municipal waste combusted in CHP plants refers to a Danish study (Nielsen & Illerup, 2003) that included emission measurements on five municipal waste CHP plants. Including the existing emission measurements that were collected during the project, data was available from 15 plants (17 combustion lines). These plants represented 70% of the consumption of municipal waste in CHP plants in year 2000. The emission factor 124 g/GJ has been applied for the inventories from 1988, which was the first year that included municipal waste combustion in CHP plants.

The current legislation for municipal waste incineration plants (Bek. 162, 2003) states two emission limits: 400 mg/m_n^3 (ref. 11% O_2) corresponding to 210 g/GJ for existing plants with a capacity of less than 6 tonnes/hour and 200 mg/m_n^3 (ref. 11% O_2) corresponding to 105 g/GJ for other plants. These emission factors will, however, not be fully implemented for existing plants until 2010. The former legislation concerning waste incineration (Bek. 41, 1997 and Vejledning 60273, 1993) did not include legislation concerning NO_x emission.

2.10 Municipal waste, other plants

Sector 1A1a, 1A2f, 1A4a (SNAP 0102(xx),0301(xx), 0201(xx))

The NO_x emission factor 164 g/GJ applied for non-power producing plants (mainly district heating plants) has been estimated by NERI based on plant specific emission data from non-power producing plants in 2000. The same emission factor has been applied in 1985-2004. In recent years the main part of municipal waste has been applied in power producing plants.

The current legislation will not be fully implemented until 2010 (see Chapter 2.9).

2.11 Straw, CHP plants and large power plants

Sector 1A1a (SNAP 0101(xx))

The NO_x emission factor for wood combusted in CHP plants < $25MW_e$ refers to a Danish study (Nielsen & Illerup, 2003) that included emission measurements on five straw combusting plants. Despite the limited number of plants on which emission measurements were performed, the fuel consumption of the plants represented 58% of the straw consumption in decentralised CHP plants in 2000. The emission factor 131 g/GJ has also been applied for combustion of straw in large power plants. However, plant specific NO_x emission data are usually available for large power plants. The emission factor has been applied for all years.

2.12 Straw, other plants

Sector 1A1a, 1A2f, 1A4b, 1A4c (SNAP 0102(xx), 0301(xx), 0202, 0203(xx))

The NO_x emission factor (153 g/GJ) for straw combusted in non-power producing plants refers to Danish legislation.

- According to Luftvejledningen (2001) the NO_x emission from 1-50 MW boilers should be below 300 mg/m_n^3 (ref. 10% O_2) corresponding to 156 g/GJ. A considerable part of the boilers are below five MW and thus the legislation is only relevant for part of the straw consumption. For plants producing district heating more than half the consumption is covered by the legislation. However, small farmhouse boilers are not regulated by the legislation.
- According to Bek. 689 (1990) the NO_x emission for large boilers (> 50MW) should be below 400 mg/m_n^3 (ref. 6% O_2) corresponding to 153 g/GJ. This is the present reference for the emission factor. However, the plant size is not typical for non-power producing boilers combusting straw. The reference should be altered in future inventories.

Due to lack of data from farmhouse boilers and other non district heating plants the emission factor has been assumed to be the same as for district heating plants (NERI assumption).

According to the EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) the emission factor for agricultural waste is 80-100 g/GJ. The reference has not been considered in the determination of the emission factor and it suggests that the present emission factor might be overestimated.

According to Nikolaisen et al. (1998) the typical emission factor for Danish district heating plants combusting straw is 90 g/GJ with a typical interval of 40-150 g/GJ. This reference has not been considered in the determination of the emission factor. However, the reference is considered relevant and it is suggested that the emission factor 90 g/GJ is applied for district heating plants in future inventories. The new emission factor meets the legislative emission limits in Luftvejledningen (2001). Due to lack of data from other non-power producing plants the emission factor 90 g/GJ will be applied for these as well.

2.13 Residual oil, power plants

Sector 1A1a (SNAP 0101(xx))

The NO_x emission and the fuel consumption for Danish power plants >25MW$_e$ are available for all plants for the years 1990 and onwards. In general the plant specific data have been included in the emission inventories.

For some years a small part of the residual oil consumption has, however, been included as an area source. The NO_x emission factor for residual oil has been estimated as an average value based on the annual reporting from the electricity transmission companies in Denmark, Eltra and Elkraft System[7]. The implied emission factors have been estimated based on the assumption that all fuels contribute equally to the NO_x emission (total NO_x emission/total fuel consumption). The estimated emission factors have, however, only been applied for coal and residual oil. The calculated time-series for the NO_x emission factor are shown in Chapter 2.1.

For the years 1980-1989 the applied emission factor is 240 g/GJ. This emission factor refers to Fenhann & Kilde (1994).

2.14 Residual oil, industrial plants

Sector 1A2f (SNAP 0301(xx))

The NO_x emission factor for residual oil combusted in industrial plants refers to Danish legislation.

- According to Luftvejledningen (2001) the NO_x emission from 2-50 MW boilers should be below 300 mg/m_n^3 (ref. 10% O_2) corresponding to 142 g/GJ. Residual oil should not be applied in boilers < 2 MW in Denmark.
- According to Bek 689 (1990) the NO_x emission from boilers > 50 MW should be below 450 mg/m_n^3 (ref. 3% O_2) corresponding to 130 g/GJ. The emission from plants installed after 1992 should be below 225 mg/m_n^3 (ref. 3% O_2) corresponding to 65 g/GJ. A later update of the legislation (Bek. 518, 1995) confirms the same emission limits for residual oil.

The industrial plants combusting residual oil have been analysed based on the energy statistics (DEA, 2004a; DEA, 2004c). Considering the year 2003 the industrial consumption on plants that produce power and/or district heating added up to 10% of the overall residual oil consumption in the industrial sector. The remaining 90% has been assumed to be boilers < 50 MW. The plants producing power or district heating are almost all > 50MW. The data are insufficient to decide which share has been installed before 1992, but it is a very limited number of plants and they are rather old. Thus approximately 90% of the consumption should have an emission factor below 142 g/GJ and approximately 10% should have an emission factor below 130 g/GJ.

Based on these reflections NERI has assumed that the emission factor is 130 g/GJ. The same emission factor has been assumed for all years. The emission factor has been assumed to be the same independent of plant type (engine, gas turbine or boiler) and independent of boiler capacity (NERI assumption).

For comparison the EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) suggests the emission factor 165 g/GJ for industrial plants (unknown plant type, page B112-15). IPCC

[7] Both are now part of the energy transmission company Energinet.dk

suggests the emission factor 170 g/GJ for industrial boilers combusting residual oil (IPCC, 1996). Both references suggest emission factors above Danish legislation.

2.15 Residual oil, other plants

Sector 1A1a, 1A1b, 1A4a, 1A4b, 1A4c (SNAP 0102(xx), 010306, 0201(xx), 0202, 0203(xx))

Residual oil combusted in plants that are not either power plants or industrial plants has been assumed to be boilers < 50MW. Thus the plants have to meet Danish legislation of 142 g/GJ (Luftvejledningen, 2001).

The EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) does not include a default emission factor for residual oil combusted in non-industrial plants. The IPCC Reference Manual (IPCC, 1996) suggests 130-200 g/GJ for utility boilers and 170 g/GJ for commercial boilers. Thus the legislative emission limit seems to be a reasonable choice.

The emission factor for refinery furnaces has been assumed to be the same (NERI assumption).

2.16 Gas oil, power plants

Sector 1A1a (SNAP 0101, 010101, 010102)

The emission factor applied for 2003 (249 g/GJ) has been estimated by NERI based on plant specific emission data 2003 (Eltra & Elkraft System, 2004) from two power plant boilers that only apply gas oil. Gas oil consumption ads up to less than 1% of the fuel consumption in power plants. This emission factor has also been utilized in 2004.

According to former sector reports for stationary combustion the emission factor applied for 1985-2002 (220 g/GJ) has been based on plant specific emission data for year 2000. However, the assumptions and the estimate itself have not been properly archived and therefore the 2003 emission factor (249 g/GJ) will be applied for 1985-2002 in future inventories.

2.17 Gas oil, gas turbines

Sector 1A1a, 1A2f (SNAP 010104, 030104)

The emission factor for gas turbines combusting gas oil (350 g/GJ) hasve been estimated by NERI based on plant specific emission data from power plant turbines for the year 2000 (Eltra & Elkraft System, 2001). The emission factor has been applied for all years. Almost all gas oil fuelled gas turbines in operation in Denmark in 2004 were installed in centralised power plants.

The IPCC Reference Manual (IPCC, 1996) recommends 300 g/GJ for gas oil combustion in gas turbines. The EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) states the interval 100-531 g/GJ (page B112-15).

Legislation for plants > 50 MW (Bek. 689, 1990 and Bek. 518, 1995) states the emission limits 225 mg/m_n^3 (ref. 3% O_2) for "new plants" corresponding to 65 g/GJ or 450 mg/m_n^3 (ref. 3% O_2) for old plants corresponding to 130 g/GJ. However, the legislation excepts reciprocating engines and gas turbines. The new legislation for plants > 50 MW (Bek. 808, 2003) excludes gas turbine plants installed before 2003. Gas oil fuelled gas turbines have not been installed in Denmark since the 2003 legislation came into force.

2.18 Gas oil, stationary engines

Sector 1A1a, 1A1c, 1A2f, 1A4a, 1A4c (SNAP 010105, 010205, 010505, 030105, 020105, 020304)

The emission factor for gas oil combusted in stationary engines (700 g/GJ) refers to the EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) that states an interval of 80-1493 g/GJ. The emission is not regulated in Danish legislation.

2.19 Gas oil, small power plant boilers, district heating plants and industrial boilers

Sector 1A1a, 1A1b, 1A2f (SNAP 010103, 0201, 020101, 020102, 020103, 010306,0301, 030102, 030103, 030106)

According to the Danish energy statistics (DEA, 2004c) 81% of the district heating boilers in operation in Denmark in 2003 were applied in boilers < 50MW. Industrial boilers were all > 50MW. Small power plant boilers (SNAP 010103) are all < 50MW. However, both power plant boilers and district heating boilers are usually installed in plants that are > 50 MW and thus the plants should meet the emission limit for plants > 50MW.

The applied emission factor 65 g/GJ (1997-2003) has been based on Danish legislation for large boilers (Bek. 689, 1990). The emission factor corresponds to the emission limit 225 mg/m_n^3 (ref. 3% O_2) that applies for boilers > 50 MW installed after 1987. Plants installed before 1987 have to meet a somewhat higher emission limit (130 g/GJ). The emission limit for 1987 and onwards has been confirmed in the 1995 legislation for large boilers (Bek. 518, 1995). In the 2003 legislation (Bek. 808, 2003) for large boilers the emission limit is 450 mg/m_n^3 (ref. 3% O_2) for plants installed before 2003. This corresponds to 130 g/GJ. For plants installed after 2003 the emission limit is 400 mg/m_n^3 (ref. 3% O2) corresponding to 116 g/GJ.

The EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) states the emission factor 70 g/GJ and the IPCC guidelines (IPCC, 1996) recommend the emission factor 65 g/GJ for industrial boilers. Thus these two references confirm the emission factor level.

For the years 1985-1990 the emission factor 100 g/GJ has been applied. This emission factor refers to Fenhann & Kilde (1994). The emission factors applied for 1991-1996 have been assumed to follow a constant decrease rate (NERI assumption). For small power plant boilers (SNAP 010103) the applied emission factors for 1994-1995 are not correct. The error will be corrected in the next inventory.

2.20 Gas oil, residential plants, commercial and institutional plants and plants in agriculture, forestry and aquaculture

Sector 1A4a, 1A4b, 1A4c (SNAP 0201, 020102, 020103, 0202, 0203, 020302)

Residential plants, commercial and institutional plants and plants in agriculture, forestry and aquaculture are all small plants. 120 kW - 50 MW boilers have to meet the Danish legislation in Luftvejledningen (2001). The emission limit is 110 mg/m_n^3 (ref. 10% O_2) for plants installed before 2001 and 250 mg/m_n^3 (ref. 10% O_2) for plants installed after 2001 corresponding to 52 g/GJ and 118 g/GJ. NERI is not acquainted with the year of installation for small boilers.

The EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) states the emission factor 47 g/GJ for residential gas oil combustion. IPCC Guidelines (IPCC, 1996) recommends the emission factor 65 g/GJ for residential combustion of gas oil.

NERI has assumed the same emission factor for residential plants, commercial and institutional plants and plants in agriculture, forestry and aquaculture. The applied emission factor 52 g/GJ refers to Luftvejledningen (2001).

2.21 Kerosene

Sector 1A2f, 1A4a, 1A4b, 1A4c (SNAP 0301, 0201, 0202, 0203)

The emission factor for kerosene 50 g/GJ refers to the EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004).

2.22 Fish & rape oil

Sector 1A1a, 1A2f, 1A4c (SNAP 010103, 0102(xx), 030105, 020304)

The emission factors for fish & rape oil have been assumed to be the same as for gas oil.

2.23 Orimulsion

Sector 1A1a (SNAP 010101)

Orimulsion has only been applied in a single large power plant boiler in Denmark. This power plant boiler has been included in the inventories as a point source with plant specific NO_x emission data included all years. Thus the emission factors that are stated in the area source emission factor time-series are only included for information. The emission factors have been estimated based on the plant specific data from the power plant boiler combusting orimulsion. The plant specific NO_x emission data refer to Eltra & Elkraft System (annual reporting) and the fuel consumption data refer to DEA (2005a) and the similar DEA data reported in former years.

2.24 Natural gas, power plants

Sector 1A1a (SNAP 0101, 010101, 010102)

Natural gas fuelled power plants have been included in the inventory as point sources with plant specific emission data (1990 and onwards). However, an area source emission factor has been estimated but only applied if small inconsistencies occur between plant specific fuel consumption data and total fuel consumption data.

The emission factor applied for 1985-1989 (240 g/GJ) refers to Fenhann & Kilde (1994).

The emission factor applied for 1990 and onwards 115 g/GJ has been based on plant specific emission data from power plants > 25 MW_e year 2000. Gas turbine plants were not included in the estimate.

In the new Danish legislation (Bek. 808, 2003) for existing large power plants combusting gas the emission limit is 350 mg/m_n^3 (ref. 3% O_2) corresponding to 97 g/GJ. This emission factor will be applied from 2004 and onwards.

2.25 Natural gas, gas turbines (and combined cycle plants)

Sector 1A1a, 1A2f, 1A4a, 1A4c (SNAP 010104, 030104, 020104, 020303)

Gas turbines > 25MW$_e$ have been included in the inventory as point sources with plant specific NO_x emission data.

The NO_x emission factor for gas turbines applied for the years 2000 and onwards (124 g/GJ) refers to a Danish study (Nielsen & Illerup, 2003). This study included emission measurements on 17 gas turbine plants < 25MW$_e$. The emission measurements included in the estimate represented 67% of the natural gas consumption in gas turbines < 25MW$_e$ in 2000. Time-series have been estimated based on the 1990 and 1995 emission factors (161 g/GJ and 141 g/GJ) also estimated in Nielsen & Illerup (2003). The decline rates in 1990-1995 and in 1995-2000 have been assumed constant.

The Danish legislation (Bek. 720, 1998) for gas turbines sets the emission limit to 200 mg/m_n^3 (ref. 5% O_2) corresponding to 62 g/GJ. Gas turbines installed before 1998 have to meet this emission limit in 2006. In 2004 it is still too soon to apply the lower emission factor.

2.26 Natural gas, gas engines

Sector 1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c (SNAP 010105, 010205, 010505, 030105, 020105, 020204, 020304)

The NO_x emission factor for gas engines applied for the years 2000 and onwards (168 g/GJ) refers to a Danish study (Nielsen & Illerup, 2003). This study included emission measurements on 157 gas engines. The emission measurements included in the estimate represented 54% of the natural gas consumption in gas engines in 2000. Time-series have been estimated based on the 1990 and 1995 emission factors (276 g/GJ and 194 g/GJ) also estimated in Nielsen & Illerup (2003). The decline rates in 1990-1995 and in 1995-2000 have been assumed constant.

The Danish legislation (Bek. 720, 1998) for gas engines sets the emission limit to 550 mg/m_n^3 (ref. 5% O_2) corresponding to 172 g/GJ. Gas engines installed before 1998 have to meet this emission limit in 2006. In 2004 it is still too soon to apply the lower emission factor.

2.27 Natural gas, small boilers

Sector 1A4a, 1A4b, 1A4c (SNAP 0201, 020103, 0202, 020202, 0203)

NERI has assumed that small natural gas fuelled boilers are the boilers applied in residential plants, commercial & institutional plants and plants in agriculture, forestry and aquaculture.

The applied emission factor for 1985-1989 (50 g/GJ) refers to Fenhann & Kilde (1994).

The emission factor applied for 1990 and onwards is 30 g/GJ. Several references have been taken into account. The first two are the primary references for the applied emission factor.

- According to the environmental report from Danish Gas Technology Centre (Gruijthuijsen & Jensen, 2000) the emission factor for residential plants is 20 g/GJ for condensing boilers and 50 g/GJ for conventional boilers.
- According to Danish legislation (Luftvejledningen, 2001) for 120 kW – 50 MW boilers new boilers have to meet the emission limit at 65 mg/m_n^3 (ref. 10% O_2) and for boilers installed before 2001 the emission limit is 125 mg/m_n^3 (ref. 10% O_2) corresponding to 29 g/GJ and 57 g/GJ, respectively.
- The IPCC Guidelines (IPCC, 1996) states the emission factor to 47 g/GJ for residential boilers and to 45 g/GJ for commercial boilers
- The EMEP/CorinAir Guidebook (EMEP/CorinAir, 2004) states the emission factors to 38 g/GJ for small consumers and to 30-46 g/GJ for residential boilers.

2.28 Natural gas, district heating boilers and industrial boilers

Sector 1A1a (SNAP 010103, 010202, 010203, 0301, 030102, 030103, 030106)

Boilers in district heating plants, industry and smaller boilers installed at power producing plants are considered large boilers – however, not larger than 50 MW.

The emission factor applied for 1985-1989 is 100 g/GJ. This emission factor has been applied for industrial boilers in Fenhann & Kilde (1994). However, Fenhann & Kilde (1994) states other emission factors for district heating plants and boilers installed in public power plants[8].

The emission factor for 1990 and onwards – 42 g/GJ – refers to a report from Danish Gas Technology Centre (Wit & Andersen, 2003). The emission factor is the average of the stated NO_x emission interval 30-55 g/GJ for ordinary gas-blower burners.

Regarding Danish legislation (Luftvejledningen, 2001) for 120 kW – 50 MW boilers new boilers have to meet the emission limit at 65 mg/m_n^3 (ref. 10% O_2) and for boilers installed before 2001 the emission limit is 125 mg/m_n^3 (ref. 10% O_2) corresponding to 29 g/GJ and 57 g/GJ respectively. Almost all boilers in operation are installed before 2001 (Kristensen, 2005 and Wit, 2005).

2.29 LPG

Sector 1A1a, 1A2f, 1A4a, 1A4b, 1A4c (SNAP: All)

The emission factors applied for LPG refer to the IPCC Guidelines (IPCC, 1996). The emission-applied factors are:

- 96 g/GJ for combustion in energy and transformation industry or in industrial plants (SNAP 01 and 03)
- 71 g/GJ for combustion in commercial and institutional plants and in agriculture, forestry and aquaculture (SNAP 0201 and 0203)
- 47 g/GJ for residential plants (SNAP 0202)

The same emission factors have been applied for all years.

2.30 Refinery gas, gas turbine

Sector 1A1b (SNAP 010304)

The applied emission factor for refinery gas combusted in gas turbines refers to plant specific emission data in 2000. The only refinery- fuelled gas turbine in operation in Denmark has, however, been included as a point source with plant specific emission data since 1994.

2.31 Refinery gas, other

Sector 1A1b (SNAP 0103, 010306)

[8] All boiler capacities

The refineries have been included as point sources with plant specific emission factors in the Danish inventory since 1994. The emission factor 100 g/GJ for refinery gas not applied in gas turbines refers to Fenhann & Kilde (1994).

2.32 Biogas, gas engines

Sector 1A1a, 1A1c, 1A2f, 1A4a, 1A4c (SNAP 010105, 010205, 010505, 030105, 020105, 020304)

The NO_x emission factor for gas engines applied for the years 2000 and onwards (540 g/GJ) refers to a Danish study (Nielsen & Illerup, 2003). This study included emission measurements on 15 gas engines. The emission measurements included in the estimate represented 21% of the biogas consumption in gas engines in 2000. Time-series have been estimated based on the 1990 and 1995 emission factors (711 g/GJ and 635 g/GJ) also estimated in Nielsen & Illerup (2003). The decline rates in 1990-1995 and in 1995-2000 have been assumed constant.

2.33 Biogas, industrial boilers > 50 MW

Sector 1A2f (SNAP 030102)

For industrial boilers > 50 MW the applied emission factor refers to Danish legislation for large boilers (Bek. 689, 1990 and Bek. 518, 1995). According to the legislation the emission limit for gas fuelled boilers > 50MW installed after 1987 is 225 mg/m_n^3 (ref. 5% O_2) corresponding to 59 g/GJ. The actual emission factor applied is 54 g/GJ, which is based on a somewhat different biogas quality than the biogas quality that has been assumed in resent years. In the next inventory the emission factor 59 g/GJ will be applied to achieve full agreement with the reference.

In the new legislation for boilers > 50 MW (Bek. 808, 2003) the emission limit is somewhat higher, but this has not been taken into consideration.

2.34 Biogas, other boilers

Sector 1A1a, 1A2f, 1A4a, 1A4c (SNAP 0101, 010101, 010102, 010103, 010104, 0102, 010203, 0301, 0201, 020103, 0203)

All boilers not registered as industrial boilers > 50 MW have been assumed < 50 MW. For boilers < 50 MW the emission factor 28 g/GJ refers to Danish legislation (Luftvejledningen, 2001).

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Bek. 518, 1995: Bekendtgørelse 518 af 20/06/1995. Bekendtgørelse om ændring af bekendtgørelse om begrænsning af emissioner af svovldioxid, kvælstofoxider og støv fra store fyringsanlæg. Miljø- og Energiministeriet 1995 (Danish legislation).

Bek. 41, 1997: Bekendtgørelse 41 af 14/01/1997. Bekendtgørelse om affaldsforbrændingsanlæg. Miljø- og Energiministeriet 1997. (Danish legislation).

Bek. 688, 1998: Bekendtgørelse af lov om afgift af svovl, Bekendtgørelse 688 af 17/09/1998. Skatteministeriet 1998.

Bek. 720, 1998: Bekendtgørelse 720 af 05/10/1998. Bekendtgørelse om begrænsning af emission af nitrogenoxider, uforbrændte carbonhydrider og carbonmonooxid fra gasmotorer og gasturbiner. Miljø- og Energiministeriet 1998 (Danish legislation)

Bek. 580, 2000: Bekendtgørelse 580 af 22/06/2000. Bekendtgørelse om begrænsning af svovlindholdet i visse flydende brændstoffer. Miljø- og Energiministeriet 2000. (Danish legislation)

Bek. 532, 2001: Bekendtgørelse 532 af 25/05/2001. Bekendtgørelse om begrænsning af svovlindholdet i visse flydende og faste brændstoffer. Miljø- og Energiministeriet 2001. (Danish legislation)

Bek. 162, 2003: Bekendtgørelse 162 af 11/03/2003. Bekendtgørelse om anlæg, der forbrænder affald. Miljøministeriet 2003 (Danish legislation)

Bek. 808, 2003: Bekendtgørelse 808 af 25/09/2003. Bekendtgørelse om begrænsning af visse luftforurenende emissioner fra store fyringsanlæg. Miljøministeriet 2003 (Danish legislation)

Vejledning 60273, 1993: Vejledning 60273 af 01/01/1993. Begrænsning af forurening fra forbrændingsanlæg (Danish legislation)

Cir. 122, 1986: Cirkulære nr. 122 af 14/10/1986. Cirkulære om begrænsning af svovlindhold i brændsel til fyrings- og transportformål. Miljøstyrelsen 1986.

Luftvejledningen 2001: Vejledning fra Miljøstyrelsen nr. 2 2001. Luftvejledningen, Begrænsning af luftforurening fra virksomheder. Miljøstyrelsen, 2001 (Danish legislation).

Miljø- og Planlægningsudvalg, 1998: J. nr. M 1034-0044. Grundnotat om forslag til Rådets direktiv om begrænsning af svovlindholdet i visse flydende brændstoffer om om ændring af direktiv 93/12/EØF, KOM nr. 97/0105(SYN). Available at: http://www.folketinget.dk/Samling/19971/udvbilag/00353840.htm (23-05-2005)

Appendix 5 Fuel rate

Table 40 Fuel consumption rate of stationary combustion plants [GJ].

fuel	fuel	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
102	COAL	253443653	344299909	286838436	300798816	323397473	270346013	371908020	276277338	234284903	196471582	164707937	174308631	174654028	238978034	182496587
106	BROWN COAL BRI.	115931	166823	95324	128246	91500	74609	56053	54331	47745	37606	25748	32903	18922	3056	0
107	COKE OVEN COKE	1275912	1449734	1181054	1154538	1226146	1272909	1226000	1253015	1346306	1422574	1187177	1109591	1068454	995409	1143051
110	PETROLEUM COKE	4459523	4403568	4814028	6179382	4308897	4849824	6381422	6523131	5797915	7283513	7291583	8313464	8281655	8465315	8878130
111	WOOD AND SIMIL.	18246813	20042437	21030660	22220198	21939961	21844810	23389205	23459225	22937838	24402569	26744717	29277912	29370315	35670110	38918149
114	MUNICIP. WASTES	15499033	16744033	17797251	19409907	20312344	22906324	24952440	26770061	26590826	29138335	30351595	32233660	35056955	36493642	36931453
117	STRAW	12481150	13306150	13880150	13366000	12662374	13053145	13545634	13911770	13903701	13668183	12219993	13698193	15651212	16718510	17938819
118	SEWAGE SLUDGE											40162	0	64508	55369	58266
203	RESIDUAL OIL	32115776	37019676	37331786	32498181	46701347	34069407	38484606	26693239	29479704	22987285	18049577	20248975	24751387	27208796	23488761
204	GAS OIL	61449256	64998154	56102476	62025402	53930105	53698269	58018611	51071033	48425146	47555370	41259963	43814958	38918286	39377307	36649389
206	KEROSENE	5086021	943393	783765	771272	649577	580777	539748	436636	417009	255606	169963	286786	256128	338430	214577
210	NAPHTA															
215	RAPE & FISH OIL	744000	744000	744000	800000	245419	250912	60409	13751	13619	27148	49046	191475	126772	258882	650447
225	ORIMULSION						19913113	36766527	40488416	32580001	34190632	34148181	30243677	23846404	1921399	18719
301	NATURAL GAS	76092457	86106669	90466659	102475053	114585627	132698559	156276599	164489313	178706886	187876815	186121970	193826826	193608713	196444240	195076156
303	LPG	2597544	2550099	2316450	2371906	2399717	2639678	2869571	2362592	2412781	2176932	1885313	1609877	1477458	1554215	1668540
308	REFINERY GAS	14169000	14537000	14865000	15405000	16359999	20837864	21476000	16945381	15225340	15723812	15556268	15755428	15197000	16554512	15890576
309	BIOGAS	752001	910000	898999	1077001	1279488	1753645	1985110	2390005	2635029	2612573	2870670	3020152	3331898	3551061	3634921
Total		**498528069**	**608221645**	**549146038**	**580680902**	**620089974**	**600789857**	**757935954**	**653139237**	**614804749**	**585830535**	**542679863**	**567972508**	**565680095**	**624588287**	**563656541**

Table 41 Detailed fuel consumption data for stationary combustion plants [GJ]

ipcc_id	fuel	fuel_gr_abbr	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
1A1a	102	COAL	0101	8523090	12892052	10175750	8221270											
1A1a	102	COAL	010101	219780959	303105248	252745120	269458670	295430108	244510483	347251766	252648133	211429498	176640613	146911420	158990462	161608390	225396935	167930883
1A1a	102	COAL	010102	2118951	2653700	2250130	2269060	8604699	8380814	9032905	8671429	9022776	8238010	6224846	4970502	4684578	4578267	4511500
1A1a	102	COAL	010103					837469	526213	149470	38928	24300	33747	35480	24354	15476	33831	23637
1A1a	102	COAL	010104					272428	269521	301136	74422							
1A1a	102	COAL	010105					20360										
1A1a	102	COAL	0102	6017000	6635000	5173000	3581000	0	0	0	0							
1A1a	102	COAL	010201					153003	20286									
1A1a	102	COAL	010202					1112251	789684	199724	64713	17914	371	371	1494	363	371	636
1A1a	102	COAL	010203					377837	316754	228340	48919	48071	6562	3551	439	0	0	0
1A1a	110	PETROLEUM COKE	0101				1239000											
1A1a	110	PETROLEUM COKE	010102															7130
1A1a	111	WOOD AND SIMIL.	0101			172000	515000											
1A1a	111	WOOD AND SIMIL.	010101					42966				263719	0		920	65930	304980	231380
1A1a	111	WOOD AND SIMIL.	010102			0	0	1053223	865377	861821	1001257	1371873	2377322	2274825	2186568	3175531	5854505	5626990
1A1a	111	WOOD AND SIMIL.	010103					623575	671570	578451	644712	575350	732058	669817	747047	780123	446474	1061917
1A1a	111	WOOD AND SIMIL.	010104					78890	4410							120031	1656898	4488031
1A1a	111	WOOD AND SIMIL.	010105										1674	53468	60394	61748	369	0
1A1a	111	WOOD AND SIMIL.	0102	3217000	3648000	4096000	3751000	0	0	0	0							
1A1a	111	WOOD AND SIMIL.	010201					8537										
1A1a	111	WOOD AND SIMIL.	010202					44	43575	164768	190941	207278	193907	179937	249689	164347	196112	620370
1A1a	111	WOOD AND SIMIL.	010203					3337730	3490933	3857403	3795439	3971995	3928219	3882223	4297719	4650874	5066279	4798365
1A1a	114	MUNICIP. WASTES	0101	990000	3563000	5578000	8433000											
1A1a	114	MUNICIP. WASTES	010101									1288015	1278184	1230861	2809020	3502130	143440	0
1A1a	114	MUNICIP. WASTES	010102		0	0	0	5110126	6527009	7152947	10831534	11715082	16937780	18305718	17902293	19002825	22524122	24730336
1A1a	114	MUNICIP. WASTES	010103					2909656	3755268	5002562	3074395	1957053	4039009	8361289	8343163	8321439	7848203	7885256
1A1a	114	MUNICIP. WASTES	010104					1665338	2027577	3191968	3025187	2806452	2452693	416975	0	0	625367	0
1A1a	114	MUNICIP. WASTES	010105											0	0	0	0	0
1A1a	114	MUNICIP. WASTES	0102	13567000	12142000	11111000	9839000	0	0	0	0							
1A1a	114	MUNICIP. WASTES	010201					6980										
1A1a	114	MUNICIP. WASTES	010202					3472288	3703267	4646064	4649086	4617704						
1A1a	114	MUNICIP. WASTES	010203					5908716	5559213	3698956	3978326	3458148	2915393	1395589	2195038	2430354	2570284	2282380
1A1a	117	STRAW	0101	479000	985000	1487000	1643000											
1A1a	117	STRAW	010101					100254	82215	610290	740153	1013770	1339800	1119600	1587710	2643060	3191917	4366424
1A1a	117	STRAW	010102	0	0	0	0	621557	1286956	1704388	1845052	1751935	1819429	1826796	1746166	1640945	1712033	1815157
1A1a	117	STRAW	010103					1126908	1297258	1361686	1174181	1180826	1058038	640340	1905033	1754340	1927521	1336411
1A1a	117	STRAW	010104												101730	1215692	1706623	2476858
1A1a	117	STRAW	0102	3524000	3843000	3915000	3806000	0	0	0	0							
1A1a	117	STRAW	010201					22040										
1A1a	117	STRAW	010202					57304	179930	114376	95990	136488	141564	150510	97600	0	0	95414
1A1a	117	STRAW	010203					3378461	3409001	3699694	3564019	3525786	3565456	3290636	3418313	3555625	3338866	3007005
1A1a	203	RESIDUAL OIL	0101	774830	364138	1742448	741228							0	0	0	0	0
1A1a	203	RESIDUAL OIL	010101	7171573	10052580	8691120	8420050	22142392	11174241	16072213	7736420	11557361	7213503	4045724	5950549	5018057	7329328	5577981
1A1a	203	RESIDUAL OIL	010102	42265	16950	27100	24390	180490	253891	443479	420683	510374	762923	513002	253635	278953	334256	595816
1A1a	203	RESIDUAL OIL	010103					252297	173028	201180	159318	115535	101551	108599	117384	120150	106040	17155
1A1a	203	RESIDUAL OIL	010104					320163	347198	237194	302167	355440	118177	117319	1767903	6694775	9358988	7484444
1A1a	203	RESIDUAL OIL	010105	9332	9332	9332	9332	11554	4323	4888	2415	5984	4136	17206	533	656	5900	1681
1A1a	203	RESIDUAL OIL	0102	2006000	2236000	1141000	879000	0	0	0	0							
1A1a	203	RESIDUAL OIL	010202					134116	172981	171395	140565	102376	135957	58729	86854	122795	83920	34421
1A1a	203	RESIDUAL OIL	010203					858909	938696	1201058	874538	779146	961623	625296	611665	547566	323210	208183
1A1a	204	GAS OIL	0101	239170	416396	641323	245263							0	0	0	0	0
1A1a	204	GAS OIL	010101					12386	51300	41614	194854	108730	258004	135602	122718	92395	956997	220146
1A1a	204	GAS OIL	010102	0	0	0	0	42898	30019	153012	113506	82184	158532	278595	366847	279069	114717	138782
1A1a	204	GAS OIL	010103					59149	40405	78104	41727	44468	61232	0	34258	36567	16629	14604
1A1a	204	GAS OIL	010104	43987	43987	43987	43987	43987	75632	81094	54042	146795	60385	103191	40026	75242	79241	80590
1A1a	204	GAS OIL	010105	16843	32617	34690	34750	116493	136913	99083	100449	133710	108002	68733	84634	66390	63501	106919
1A1a	204	GAS OIL	0102	1941000	813000	744000	947000	0	0	0	0							
1A1a	204	GAS OIL	010201					27268	7000									92649

1A1a	204	GAS OIL	010202					174046	360676	799818	514978	418139	257831	694229	830045	166763	256178	418842
1A1a	204	GAS OIL	010203					843648	444369	554844	509625	652349	296296	233116	354842	306816	1125856	492537
1A1a	204	GAS OIL	010205					717					1055	0	0	0	0	5416
1A1a	215	RAPE & FISH OIL	010102															521
1A1a	215	RAPE & FISH OIL	010103					33707	24000	21799	188	5212	6974				2168	54570
1A1a	215	RAPE & FISH OIL	010105															1819
1A1a	215	RAPE & FISH OIL	0102	744000	744000	744000	800000											
1A1a	215	RAPE & FISH OIL	010202														18807	4662
1A1a	215	RAPE & FISH OIL	010203					211712	226912	38610	13563	8407	20174	48900	190810	126336	237665	588875
1A1a	225	ORIMULSION	010101						19913113	36766527	40488416	32580001	34190632	34148181	30243677	23846404	1921399	18719
1A1a	301	NATURAL GAS	0101								5511	21264	16787	14558	11364	2	1188	1521
1A1a	301	NATURAL GAS	010101	4005028	4394781	3279455	4422200	8437973	10453816	12217008	14600070	20808855	21307826	23541558	20514966	19246614	20165293	19287200
1A1a	301	NATURAL GAS	010102	0	0	0	0	295111	299964	1346036	5620044	5987198	2416146	1589836	4250088	2893468	1877463	1581768
1A1a	301	NATURAL GAS	010103					2487008	1775265	1558418	1138214	958646	716525	683789	733694	657392	1057907	837246
1A1a	301	NATURAL GAS	010104	1859206	2396900	4806049	7327221	7776734	8547638	14500109	12220262	13002948	21614378	22973678	25003005	30030786	29928352	30713112
1A1a	301	NATURAL GAS	010105	677767	1291319	2199496	4168579	8358415	16419956	22162423	24109208	26700713	26833951	25639911	27865345	27701651	27012113	26392308
1A1a	301	NATURAL GAS	0102	11033000	13655000	12350000	11420000	0	0	0	0	0						
1A1a	301	NATURAL GAS	010202					1072469	1017168	844253	660506	539227	282207	217700	286968	291201	278471	428248
1A1a	301	NATURAL GAS	010203					6160497	5525191	3803076	2420020	1988837	1873511	1427019	1768484	1482319	1849960	1611725
1A1a	301	NATURAL GAS	010205					131795	338556	377124	230400	235829	226189	203414	228049	207211	171691	473922
1A1a	303	LPG	0101		1000	1000	3000											
1A1a	303	LPG	010103						736	0								
1A1a	303	LPG	0102	9000	13000	10000	0	0	0		0							
1A1a	303	LPG	010203					2732					9	246	0	0	0	0
1A1a	308	REFINERY GAS	010101							35204	40077							
1A1a	309	BIOGAS	0101	141178	218984	29049	41826											
1A1a	309	BIOGAS	010101					16910	419	24075	19550							
1A1a	309	BIOGAS	010102	0	0	0	0	9835	0	94326	40561	50269	29597	25771	23338	20466	21787	16857
1A1a	309	BIOGAS	010103					54324	118012	79237	111449	86924	103711	134968	123991	90125	97272	78245
1A1a	309	BIOGAS	010104			78865	89233	199961	169040	6536								
1A1a	309	BIOGAS	010105	94822	175016	251085	405941	415191	599387	826301	1229745	1548936	1500477	1548734	1589322	1686300	1704661	1435085
1A1a	309	BIOGAS	0102	30000	30000	53000	53000	0	0	0	0							
1A1a	309	BIOGAS	010203					45538	43775	54145	33623	31287	25003	21733	11129	12650	17130	23466
1A1a	309	BIOGAS	010205					40607										36380
1A1b	203	RESIDUAL OIL	010306	1309202	2038140	3568653	3490237	3336717	2333787	2244019	1622382	1106086	1089501	1322995	1442929	1362640	907082	1071635
1A1b	204	GAS OIL	010306		40029	44476	29125	49319	33321	21879	87482						3085	9469
1A1b	303	LPG	010306		0	4600		8004	15042	20654	18492							
1A1b	308	REFINERY GAS	0103	458000	926000	1526000	15917											
1A1b	308	REFINERY GAS	010304				2067083	2355000	2289700	5069590	4081532	2996106	4172606	3907567	3978922	3855200	3804097	3796653
1A1b	308	REFINERY GAS	010306	13520108	13485940	13236820	13213580	14004999	18548164	16336522	12771044	12202506	11551206	11648701	11776506	11341800	12750415	12093923
1A1c	204	GAS OIL	010505													151	116	114
1A1c	301	NATURAL GAS	010502	0	0	0	0	0	399247	390587	417415	413342	409043	340514	352650	379362	322831	360596
1A1c	301	NATURAL GAS	010504	9482284	9703068	11118697	11235480	12267791	12506433	14849859	19454575	21636547	23561526	25015663	24413386	26179968	26247274	27068915
1A1c	301	NATURAL GAS	010505	1760	3520	3520	3520	2570	4494	7551	4939	15340	13883	13889	11887	11473	12396	12395
1A1c	309	BIOGAS	010505	6803	6803	6803	6803	5946	51779	60257	57462	31144	29028	32507	28627	31216	31791	61257
1A2f	102	COAL	0301	8850301	8977254	6751419	7698631	5866929	4832666	4460978	4494493	4676030	3714902	3667193	3358610	2126818	2826288	3735874
1A2f	102	COAL	030102					614624	1051344	1449890	1466575	1405667	1411682	1063375	997381	998229	1569871	1498728
1A2f	102	COAL	030103					190179	182609	192925	192444	0						
1A2f	102	COAL	030311	5018873	6048697	6577274	6602369	6913652	7224934	7067609	7209034	6627624	5638061	5708047	4718458	4348589	3368675	3754171
1A2f	106	BROWN COAL BRI.	0301	4374	6680	3806	17714	2745	2031	1464	1025							
1A2f	107	COKE OVEN COKE	0301	1169318	1351052	1077654	1073318	1163151	286685	303658	295421	319382	380768	238247	223280	279401	276382	302127
1A2f	107	COKE OVEN COKE	030318						937440	885600	930960	1006560	1030320	943920	883440	786240	693360	814320
1A2f	110	PETROLEUM COKE	0301	300247	0	56107	122868	0	98156	110026	33598	25842	38999	285426	127924	223785	229902	180642
1A2f	110	PETROLEUM COKE	030311	2499252	2991306	3234048	3230652	3469025	3707398	4966161	5229890	4774684	6398880	6474743	7656733	7543476	7714392	8187958
1A2f	111	WOOD AND SIMIL.	0301	5783743	5690367	5750550	5821715	4464819	4254327	4097885	4166034	4273637	4250138	4450170	4596137	3313464	3523061	3530934
1A2f	111	WOOD AND SIMIL.	030102									1776	1496	955	950	0	0	0
1A2f	111	WOOD AND SIMIL.	030103					481414	412555	623748	523545	412235	413749	439542	430608	410827	294774	342172
1A2f	114	MUNICIP. WASTES	0301	28033	28033	37251	38907	26336	28516	27942	23857	28854	35287					
1A2f	114	MUNICIP. WASTES	030102									0				0	4602	0
1A2f	114	MUNICIP. WASTES	030311											505233	795492	1787613	1406393	1926563
1A2f	117	STRAW	0301									446	446					
1A2f	117	STRAW	030103						3085									

1A2f	117	STRAW	030105											386	91	0	0	0
1A2f	118	SEWAGE SLUDGE	030311											40162	0	64508	55369	58266
1A2f	203	RESIDUAL OIL	0301	16528584	17769972	17383144	14202407	13060233	11277994	11328646	9336208	8615100	7973673	7362935	7287922	7207646	5381688	5112335
1A2f	203	RESIDUAL OIL	030102					741775	911133	788578	789663	663124	695536	714099	791893	808652	1644621	1690130
1A2f	203	RESIDUAL OIL	030103					200248	207326	165590	122783	121633	135661	140375	89987	0	0	0
1A2f	203	RESIDUAL OIL	030104								54439		0	0	0	0	0	0
1A2f	203	RESIDUAL OIL	030105												22	10	787	302
1A2f	203	RESIDUAL OIL	030311	1762853	2152997	2366678	2397243	2618777	2840311	1771379	1863965	2538540	885967	858853	784	591804	587464	817378
1A2f	204	GAS OIL	0301	537931	1369948	1430556	951740	812691	1460371	2251856	1895198	1799389	2477807	2184410	3090543	2496543	2891632	2957087
1A2f	204	GAS OIL	030102						3438			440	1327	3138	5071	199	3574	2830
1A2f	204	GAS OIL	030103					1678	1453	11390	1015	1623	64	82107	19	0	0	0
1A2f	204	GAS OIL	030104								244	377	6787	51	0	897	0	0
1A2f	204	GAS OIL	030105			1447	1578	1578						103	511	0	0	0
1A2f	204	GAS OIL	030106	6098	6636	8644	2762	9433	7030	6743	8178	15603	70265	8070	9828	7066	6887	8716
1A2f	204	GAS OIL	030315								1040	603	4950	1650	2009	681	933	3802
1A2f	206	KEROSENE	0301	69635	45692	38315	35461	30485	24464	30937	27840	16078	8909	7552	25543	65146	48233	19836
1A2f	215	RAPE & FISH OIL	030105													334	242	0
1A2f	301	NATURAL GAS	0301	22280195	23780869	23887554	25535326	29248293	30317635	29252137	29423362	29114015	31167462	28607521	30958244	29348181	28485704	27524037
1A2f	301	NATURAL GAS	030102					862925	2661779	2464665	2971625	2961903	3100115	2690206	2869052	1190136	2273628	2295787
1A2f	301	NATURAL GAS	030103					300216	64308	146812	169825	131608	126872	116411	117965	14707	118562	124427
1A2f	301	NATURAL GAS	030104	506337	608907	664092	729919	761202	909952	2562511	3366152	5106083	6501018	6756339	6138931	6724144	6526151	6632596
1A2f	301	NATURAL GAS	030105	187	187	187	187	11210	172920	873431	960232	1157405	1160055	1556394	1641970	1545466	1543942	1570267
1A2f	301	NATURAL GAS	030106	136059	24239	37695	70154	53489	24415	15283	5288	31735	38608	50809	53712	25558	17229	22029
1A2f	301	NATURAL GAS	030315								924066	903336	1005440	1101274	1089048	1016242	945777	911205
1A2f	301	NATURAL GAS	030318						624960	590400	620640	671040	686880	629280	588960	524160	552240	606880
1A2f	303	LPG	0301	1577575	1690755	1590314	1452076	1559182	1739094	1920315	1596586	1623548	1355035	1019122	761460	677846	730090	749425
1A2f	308	REFINERY GAS	0301	190892	125060	102180	108420	0	0	34684	52728	26728						
1A2f	309	BIOGAS	0301	0	0	0	0	13014	126131	96199	117439	73558	32726	32593	27929	37953	33614	45593
1A2f	309	BIOGAS	030102					6534	16370	16478	19080	16361	16116	15755	59220	71672	95546	112700
1A2f	309	BIOGAS	030104						1052	1265	1137							
1A2f	309	BIOGAS	030105									381	269	1487	23805	18459	14205	16947
1A4a	102	COAL	0201	87539	9010	95877	75870	90286	66064	41260	43062	2306						1298
1A4a	106	BROWN COAL BRI.	0201	1025	1720		8217	769	622	421	309							
1A4a	110	PETROLEUM COKE	0201	62023	104190	90150	96354	91988	70415	90528	97770	70544	50434	12070	12086	5355	9003	0
1A4a	111	WOOD AND SIMIL.	0201	204488	204488	204488	204488	216160	273035	449435	471415	492803	642041	775926	665349	672399	673803	680953
1A4a	111	WOOD AND SIMIL.	020105									2096	2057		97	796	0	110
1A4a	114	MUNICIP. WASTES	0201	914000	1011000	1071000	1099000	1182354	1274551	1222406	1179697	709930	1472645	122160	175985	0	1296406	31068
1A4a	114	MUNICIP. WASTES	020103					30550	30923	9595	7979	9588	7344	13770	12669	12594	74825	75850
1A4a	203	RESIDUAL OIL	0201	1070494	865011	600545	517393	718786	677072	717757	729305	383913	450237	343022	173185	478286	174366	107544
1A4a	203	RESIDUAL OIL	020103					87533	78081									
1A4a	204	GAS OIL	0201	11794783	10622868	9062255	9007046	7156617	6556065	6619841	6093376	5442142	5781168	4957566	4685349	4031236	4288708	4411382
1A4a	204	GAS OIL	020102					190782		215		75						
1A4a	204	GAS OIL	020103					72		57796	58202	53618	39101	71306	44010	43890	29646	19369
1A4a	204	GAS OIL	020105			1361	1485	733	20330	1754	294	21	66	1277	673	743	727	756
1A4a	206	KEROSENE	0201	569083	209843	206978	188910	154647	124344	103314	96459	127964	117233	63008	79642	69668	74131	76734
1A4a	301	NATURAL GAS	0201	6376293	6934201	7382035	8908566	7343015	8436587	11247402	9106736	8661696	7525335	7233923	7323256	7623549	9190345	8942521
1A4a	301	NATURAL GAS	020103					2177			2434	49460	10801	43211	67208	165296	11053	50446
1A4a	301	NATURAL GAS	020104		0			11946	25798	31397	25514	22995	30739	23335	31001	42862	33669	22070
1A4a	301	NATURAL GAS	020105	45985	88875	278287	350372	473892	609395	681480	866185	959184	985839	1033132	1044813	1079590	1023163	1033012
1A4a	303	LPG	0201	82757	77097	76519	122201	125183	131001	137989	128417	116413	109573	121621	119345	136552	169985	214880
1A4a	303	LPG	020103									9						
1A4a	303	LPG	020105									803	771					21
1A4a	309	BIOGAS	0201	199072	179112	83895	64492	112893	169712	173026	271951	225094	292653	310904	354917	424989	321897	510454
1A4a	309	BIOGAS	020103							14474	39396	71226	74379	86680	84512	74286	85295	101260
1A4a	309	BIOGAS	020104						27092									
1A4a	309	BIOGAS	020105	270479	290438	386655	406059	349088	410626	389678	404594	439292	436918	506512	504222	528119	531465	517152
1A4b	102	COAL	0202	589051	1125243	866285	785646	618696	376644	85595	86470	127147	79262	14442	12906	15370	318	292
1A4b	106	BROWN COAL BRI.	0202	50600	66685	39107	80209	75963	62403	47324	48550	43847	37606	25748	32903	18922	3056	0
1A4b	107	COKE OVEN COKE	0202	106594	98682	103400	81220	62995	48784	36742	26634	20364	11486	5010	2871	2813	25667	26604
1A4b	110	PETROLEUM COKE	0202	760877	697484	961122	990337	747884	734273	928841	839269	725791	705961	513190	513393	509008	511264	502400
1A4b	111	WOOD AND SIMIL.	0202	8954432	10412432	10720472	11859632	11564240	11760665	12668890	12569082	11134265	11615182	13847545	15894835	15807245	17525175	17409247
1A4b	117	STRAW	0202	5086890	5086890	5086890	4750200	4413510	4076820	3633120	3891945	3773190	3442590	3111555	2901450	2901450	2901450	2901450

1A4b	203	RESIDUAL OIL	0202	216927	218605	167748	129878	95249	62794	66254	45933	43266	50365	35611	26881	148870	47430	44417
1A4b	204	GAS OIL	0202	46463224	50638393	42913606	49967084	43678618	43287857	45295557	39595464	37849748	35675468	30275667	31506271	28997757	27027087	25290533
1A4b	206	KEROSENE	0202	4404777	659635	512024	520836	437788	410845	382564	287211	251843	118954	91190	159051	110143	205243	110525
1A4b	301	NATURAL GAS	0202	17362132	20432645	21439693	24903983	24736624	26947401	30412122	28361811	29137977	28981613	27568914	29262248	28081591	30022155	29858709
1A4b	301	NATURAL GAS	020202							25676	24503	18059	31289	55319	69007	30105	63281	63692
1A4b	301	NATURAL GAS	020204	0	7932	499046	776351	1022812	1094868	1448246	1488432	1575546	1554382	1439173	1450266	1392257	1451228	1475531
1A4b	303	LPG	0202	669665	521639	442269	672725	588599	628367	653211	510109	545681	624403	650995	648947	607682	596053	650748
1A4c	102	COAL	0203	2457889	2853705	2203581	2106300	2294953	1797998	1446423	1238716	903570	708372	1079212	1234026	856215	1203478	1039568
1A4c	106	BROWN COAL BRI.	0203	59932	91738	52411	22106	12023	9553	6844	4447	3898						
1A4c	110	PETROLEUM COKE	0203	837124	610588	472601	500171	0	239582	285866	322604	201054	89239	6154	3328	31	754	0
1A4c	111	WOOD AND SIMIL.	0203	87150	87150	87150	68363	68363	68363	86804	96800	230244	230875	170093	147164	147000	127680	127680
1A4c	111	WOOD AND SIMIL.	020304									567	13851	216	435			
1A4c	117	STRAW	0203	3391260	3391260	3391260	3166800	2942340	2717880	2422080	2594630	2515460	2295060	2074370	1934300	1934300	1934300	1934300
1A4c	117	STRAW	020302								5800	5800	5800	5800	5800	5800	5800	5800
1A4c	203	RESIDUAL OIL	0203	1223716	1295951	1634018	1687023	1942109	2616552	3070976	2492455	2563430	2396266	1778526	1640210	1365228	914218	720074
1A4c	203	RESIDUAL OIL	020302									9051	1105	3269	2069	1964	6081	5265
1A4c	203	RESIDUAL OIL	020304									9345	11104	4017	4570	3335	3417	0
1A4c	204	GAS OIL	0203	406220	1014280	1176131	793582	707992	1182090	1940156	1799028	1675132	2297030	2156378	2634581	2311036	2505478	2374846
1A4c	204	GAS OIL	020302								7							
1A4c	204	GAS OIL	020304							3855	2324			4774	2723	4846	6315	0
1A4c	206	KEROSENE	0203	42526	28223	26448	26065	26657	21124	22933	25126	21124	10510	8213	22550	11171	10823	7482
1A4c	215	RAPE & FISH OIL	020304											146	665	102	0	0
1A4c	301	NATURAL GAS	0203	2222000	2680002	2385006	2462538	2485322	2559680	2666407	2644836	2476128	2241939	2383877	2687167	2543009	2351781	2256591
1A4c	301	NATURAL GAS	020303						0	5959	26127	65805	77171	61906	59503	64374	53821	53805
1A4c	301	NATURAL GAS	020304	104224	104224	135847	160657	282141	961133	1796227	2620381	3354165	3379285	3109418	2934589	3116038	2855572	2863595
1A4c	303	LPG	0203	258547	246608	191748	121904	116017	125438	137402	108988	126327	87141	93329	80125	55378	58087	53466
1A4c	309	BIOGAS	0203					2750	4455	132108	26121	34614	30392	76487	80321	96277	140632	268187
1A4c	309	BIOGAS	020304	9647	9647	9647	9647	6897	15795	17005	17897	25943	41304	76539	108819	239386	455766	411338
Total				498528069	608221645	549146038	580680902	620089974	600789857	757935954	653139237	614804749	585830535	542679863	567972508	565680095	624588287	563656541

Appendix 6 Emission factors

Table 42 CO_2 emission factors.

Fuel	Emission factor Biomass	Fossil fuel	Unit	Reference type	IPCC fuel Category
Coal		95	kg/GJ	Country specific	Solid
Brown coal briquettes		94,6	kg/GJ	IPCC reference manual	Solid
Coke oven coke		108	kg/GJ	IPCC reference manual	Solid
Petroleum coke		92	kg/GJ	Country specific	Liquid
Wood	102		kg/GJ	Corinair	Biomass
Municipal waste	94,5	17,6	kg/GJ	Country specific	Biomass / Other fuels
Straw	102		kg/GJ	Country specific	Biomass
Residual oil		78	kg/GJ	Corinair	Liquid
Gas oil		74	kg/GJ	Corinair	Liquid
Kerosene		72	kg/GJ	Corinair	Liquid
Fish & rape oil	74		kg/GJ	Country specific	Biomass
Orimulsion		80	kg/GJ	Country specific	Liquid
Natural gas		57,12	kg/GJ	Country specific	Gas
LPG		65	kg/GJ	Corinair	Liquid
Refinery gas		56,9	kg/GJ	Country specific	Liquid
Biogas	83,6		kg/GJ	Country specific	Biomass

Time-series for natural gas and municipal waste are shown below. All other emission factors are the same for 1990-2004.

Table 43 CO_2 emission factors, time-series.

Year	Natural gas [kg/GJ]	Municipal waste, plastic [kg/GJ]	Municipal waste biomass [kg/GJ]
1990	56,9	22,5	+89,6
1991	56,9	22,5	+89,6
1992	56,9	20,5	+91,6
1993	56,9	19,6	+92,5
1994	56,9	19,6	+92,5
1995	56,9	18,5	+93,6
1996	56,9	17,6	+94,5
1997	56,9	17,6	+94,5
1998	56,9	17,6	+94,5
1999	56,9	17,6	+94,5
2000	57,1	17,6	+94,5
2001	57,25	17,6	+94,5
2002	57,28	17,6	+94,5
2003	57,19	17,6	+94,5
2004	57,12	17,6	+94,5

Table 44 CH_4 emission factors and references 2004.

Fuel	ipcc_id	SNAP_id	Emission factor [g/GJ]	Reference
COAL	1A1a	010101, 010102, 010103	1,5	EMEP/Corinair 2004
COAL	1A1a, 1A2f, 1A4b, 1A4c	010202, 010203, 0301, 0202, 0203	15	EMEP/Corinair 2004
BROWN COAL BRI.	all	all	15	EMEP/Corinair 2004, assuming same emission factor as for coal
COKE OVEN COKE	all	all	15	EMEP/Corinair 2004, assuming same emission factor as for coal
PETROLEUM COKE	all	all	15	EMEP/Corinair 2004
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	2	Nielsen & Illerup 2003
WOOD AND SIMIL.	1A4a, 1A4b, 1A4c	0201, 0202, 0203	200	EMEP/Corinair 2004
WOOD AND SIMIL.	1A1a, 1A2f	010105, 010202, 010203, 0301, 030102, 030103	32	EMEP/Corinair 2004
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	0,59	Nielsen & Illerup 2003
MUNICIP. WASTES	1A1a, 1A2f, 1A4a	all other	6	EMEP/Corinair 2004
STRAW	1A1a	010102, 010103	0,5	Nielsen & Illerup 2003
STRAW	1A1a, 1A2f, 1A4c	010202, 010203, 020302, 030105	32	EMEP/Corinair 2004
STRAW	1A4b, 1A4c	0202, 0203	200	EMEP/Corinair 2004
RESIDUAL OIL	all	all	3	EMEP/Corinair 2004
GAS OIL	all	all	1,5	EMEP/Corinair 2004
KEROSENE	all	all	7	EMEP/Corinair 2004
FISH & RAPE OIL	all	all	1,5	EMEP/Corinair 2004, assuming same emission factor as gas oil
ORIMULSION	1A1a	010101	3	EMEP/Corinair 2004, assuming same emission factor as residual oil
NATURAL GAS	1A1a	0101, 010101, 010102, 010202	6	DGC 2001
NATURAL GAS	1A1a	010103, 010203	15	Gruijthuijsen & Jensen 2000
NATURAL GAS	1A1a, 1Ac, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 010504, 030104, 020104, 020303	1,5	Nielsen & Illerup 2003
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	1) 520	Nielsen & Illerup 2003
NATURAL GAS	1A1c, 1A2f, 1A4a, 1A4b, 1A4c	010502, 0301, 0201, 0202, 0203	6	DGC 2001
NATURAL GAS	1A2f, 1A4a, 1A4b	030103, 030106, 020103, 020202	15	Gruijthuijsen & Jensen 2000
LPG	all	all	1	EMEP/Corinair 2004
REFINERY GAS	1A1b	010304	1,5	EMEP/Corinair 2004
BIOGAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas engines: 010105, 010505, 030105, 020105, 020304	1) 323	Nielsen & Illerup 2003
BIOGAS	1A1a, 1A2f, 1A4a, 1A4c	all other	4	EMEP/Corinair 2004

1) 2004 emission factor. Time-series is shown below

Time-series for CH_4 emission factors for gas engines are shown below. All other CH_4 emission factors are the same for 1990-2004.

Table 45 CH_4 emission factors, time-series.

Year	Natural gas fuelled engines Emission factor [g/GJ]	Biogas fuelled engines Emission factor [g/GJ]
1990	257	239
1991	299	251
1992	347	264
1993	545	276
1994	604	289
1995	612	301
1996	596	305
1997	534	310
1998	525	314
1999	524	318
2000	520	323
2001	520	323
2002	520	323
2003	520	323
2004	520	323

Table 46 N_2O emission factors and references 2004.

Fuel	ipcc_id	SNAP_id	Emission factor [g/GJ]	Reference
COAL	1A1a	0101**	0,8	Elsam 2005
COAL	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	All except 0101**	3	EMEP/Corinair 2004
BROWN COAL BRI.	all	all	3	EMEP/Corinair 2004
COKE OVEN COKE	all	all	3	EMEP/Corinair 2004
PETROLEUM COKE	all	all	3	EMEP/Corinair 2004
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	0,8	Nielsen & Illerup 2003
WOOD AND SIMIL.	1A1a	010105, 010202, 010203	4	EMEP/Corinair 2004
WOOD AND SIMIL.	1A2f, 1A4a, 1A4b, 1A4c	all	4	EMEP/Corinair 2004
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	1,2	Nielsen & Illerup 2003
MUNICIP. WASTES	1A1a	010203	4	EMEP/Corinair 2004
MUNICIP. WASTES	1A2f, 1A4a	030102, 0201, 020103	4	EMEP/Corinair 2004
STRAW	1A1a	010102, 010103	1,4	Nielsen & Illerup 2003
STRAW	1A1a	010202, 010203	4	EMEP/Corinair 2004
STRAW	1A2f, 1A4b, 1A4c	all	4	EMEP/Corinair 2004
RESIDUAL OIL	all	all	2	EMEP/Corinair 2004
GAS OIL	all	all	2	EMEP/Corinair 2004
KEROSENE	all	all	2	EMEP/Corinair 2004
FISH & RAPE OIL	all	all	2	EMEP/Corinair 2004, assuming same emission factor as gas oil
ORIMULSION	1A1a	010101	2	EMEP/Corinair 2004, assuming same emission factor as residual oil
NATURAL GAS	1A1a	0101, 010101, 010102, 010103, 010202, 010203	1	EMEP/Corinair 2004
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 010504, 030104, 020104, 020303	2,2	Nielsen & Illerup 2003
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	1,3	Nielsen & Illerup 2003
NATURAL GAS	1A1c, 1A2f, 1A4a, 1A4b, 1A4c	010502, 0301, 030103, 030106, 0201, 020103, 0202, 020202, 0203	1	EMEP/Corinair 2004
LPG	all	all	2	EMEP/Corinair 2004
REFINERY GAS	all	all	2,2	EMEP/Corinair 2004
BIOGAS	1A1a	010102, 010103, 010203	2	EMEP/Corinair 2004
BIOGAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas engines: 010105, 010505, 030105, 020105, 020304	0,5	Nielsen & Illerup 2003
BIOGAS	1A2f, 1A4a, 1A4c	0301, 030102, 0201, 020103, 0203	2	EMEP/Corinair 2004

The same N_2O emission factors are applied for 1990-2004

Table 47 SO_2, NO_X, NMVOC and CO emission factors and references 2004.

Fuel	IPCC sector	SNAP	SO_2 [g/GJ]	Ref.	NO_X [g/GJ]	Ref.	NMVOC [g/GJ]	Ref.	CO [g/GJ]	Ref.
COAL	1A1a	010101, 010102, 010103	**42**	18	**131**	18	**1,5**	1	**10**	3
COAL	1A1a, 1A2f, 1A4c	010202, 010203, 0301, 0203	**574**	19	**95**	4	**15**	1	**10**	1
COAL	1A4b	0202	**574**	19	**95**	4	**15**	1	**2000**	32
BROWN COAL BRI.	1A4b	0202	**574**	29	**95**	29	**15**	29	**2000**	29
COKE OVEN COKE	1A2f	0301	**574**	29	**95**	29	**15**	29	**10**	29
COKE OVEN COKE	1A4b	0202	**574**	29	**95**	29	**15**	29	**2000**	29
PETROLEUM COKE	1A2f	0301	**605**	20	**95**	29	**1,5**	1	**61**	4
PETROLEUM COKE	1A4a, 1A4b, 1A4c	0201, 0202, 0203	**605**	20	**50**	1	**1,5**	1	**1000**	1
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	**1,74**	31	**69**	31	**3,3**	31	**79**	31
WOOD AND SIMIL.	1A1a	010105	**25**	22, 21	**90**	22, 21, 4	**48**	1	**50**	3
WOOD AND SIMIL.	1A1a, 1A2f	010202, 010203, 0301, 030102, 030103	**25**	22, 21	**90**	22, 21, 4	**48**	1	**240**	4
WOOD AND SIMIL.	1A4a, 1A4c	0201, 020105, 0203	**25**	22, 21	**90**	22, 21, 4	**600**	1	**240**	4
WOOD AND SIMIL.	1A4b	0202	**25**	22, 21	**120**	22	**600**	1, 32	**9000**	12, 13
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	**23,9**	31	**124**	31	**0,98**	31	**7,4**	31
MUNICIP. WASTES	1A1a, 1A2f, 1A4a	010203, 030102, 0201, 020103	**67**	9	**164**	9	**9**	1	**10**	9
STRAW	1A1a	010102, 010103	**47,1**	31	**131**	31	**0,8**	31	**63**	31
STRAW	1A1a, 1A2f, 1A4c	010202, 010203, 030105, 020302	**130**	5	**90**	4, 28	**50**	1	**325**	4, 5
STRAW	1A4b, 1A4c	0201, 0203	**130**	5	**90**	4, 28	**600**	1	**4000**	1,6,7
RESIDUAL OIL	1A1a	0101, 010101, 010102, 010103, 010104, 010105	**349**	18	**131**	18	**3**	1	**15**	3
RESIDUAL OIL	1A1a, 1A4a, 1A4b, 1A4c	010202, 010203, 0201, 0202, 0203, 020302	**344**	25, 10, 24	**142**	4	**3**	1	**30**	1
RESIDUAL OIL	1A1b	010306	**537**	33	**142**	4	**3**	1	**30**	1
RESIDUAL OIL	1A2f	0301, 030102, 030103	**344**	25, 10, 24	**130**	28	**3**	1	**30**	1
RESIDUAL OIL	1A2f	030104	**344**	25, 10, 24	**130**	28	**3**	1	**15**	1
RESIDUAL OIL	1A2f	030105	**344**	25, 10, 24	**130**	28	**3**	1	**100**	1
RESIDUAL OIL	1A4c	020304	**344**	25, 10, 24	**142**	4	**3**	1	**100**	1
GAS OIL	1A1a	0101, 010101, 010102	**23**	27	**249**	18	**1,5**	1	**15**	3
GAS OIL	1A1a, 1A2f	Gas turbines: 010104, 030104	**23**	27	**350**	9	**2**	1	**15**	3
GAS OIL	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Engines: 010105, 010205, 010505, 030105, 020105, 020304	**23**	27	**700**	1	**100**	1	**100**	1
GAS OIL	1A1a	010103	**23**	27	**65**	28	**1,5**	1	**15**	3
GAS OIL	1A1a, 1A1b, 1A2f	010202, 010203, 010306, 0301, 030102, 030103, 030106	**23**	27	**65**	28	**1,5**	1	**30**	1
GAS OIL	1A4a, 1A4c	0201, 020103, 0203	**23**	27	**52**	4	**3**	1	**30**	1
GAS OIL	1A4b	0202	**23**	27	**52**	4	**3**	1	**43**	1
KEROSENE	all	all	**5**	30	**50**	1	**3**	1	**20**	1
FISH & RAPE OIL	1A1a	010103	**1**	37	**220**	38	**1,5**	15	**15**	15
FISH & RAPE OIL	1A1a	010202, 010203	**1**	37	**65**	15	**1,5**	15	**15**	15
FISH & RAPE OIL	1A2f, 1A4c	030105, 020304	**1**	37	**700**	15	**100**	15	**100**	15
ORIMULSION	1A1a	010101	**12**	34	**86**	34	**3**	16	**15**	16
NATURAL GAS	1A1a	0101, 010101, 010102	**0,3**	17	**97**	9	**2**	14	**15**	3
NATURAL GAS	1A1a, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 030104, 020104, 020303	**0,3**	17	**124**	31	**1,4**	31	**6,2**	31
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	**0,3**	17	**168**	31	**117**	31	**175**	31
NATURAL GAS	1A1a, 1A2f	010103, 010202, 010203, 0301, 030103, 030106	**0,3**	17	**42**	36	**2**	14	**28**	4
NATURAL GAS	1A1c	010504	**0,3**	17	**250**	1, 8, 32	**1,4**	31	**6,2**	31
NATURAL GAS	1A4a, 1A4c	0201, 020103, 0203	**0,3**	17	**30**	1, 4, 11	**2**	14	**28**	4
NATURAL GAS	1A4b	0202, 020202	**0,3**	17	**30**	1, 4, 11	**4**	11	**20**	11
LPG	1A1a, 1A2f	010203, 0301	**0,13**	23	**96**	32	**2**	1	**25**	1
LPG	1A4a, 1A4c	0201, 0203	**0,13**	23	**71**	32	**2**	1	**25**	1
LPG	1A4b	0202	**0,13**	23	**47**	32	**2**	1	**25**	1
REFINERY GAS	1A1b	010304	**1**	2	**170**	9	**1,4**	35	**6,2**	35
BIOGAS	1A1a, 1A2f, 1A4a, 1A4c	010102, 010103, 010203, 0301, 0201, 020103, 0203	**25**	26	**28**	4	**4**	1	**36**	4
BIOGAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas engines: 010105, 010505, 030105, 020105, 020304	**19,2**	31	**540**	31	**14**	31	**273**	31
BIOGAS	1A2f	030102	**25**	26	**59**	4	**4**	1	**36**	4

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Time-series for emission factors for SO_2, NO_x, NMVOC and CO that are not the same in 1990-2004 are shown below. All other factors are constant in 1990-2004.

Table 48 SO_2, NO_x, NMVOC and CO emission factors time-series [g/GJ].

pol.	fuel	snap_id	ipcc_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
SO2	COAL	0101	1A1a	506	571	454	386											
SO2	COAL	010101	1A1a	506	571	454	386	343	312	420	215	263	193	64	47	45	61	42
SO2	COAL	010102	1A1a	506	571	454	386	343	312	420	215	263	193	64	47	45	61	42
SO2	COAL	010103	1A1a					343	312	420	215	263	193	64	47	45	61	42
SO2	COAL	010104	1A1a					343	312	420	215							
SO2	PETROLEUM COKE	0201	1A4a	787	787	787	787	787	787	787	787	787	787	787	605	605	605	605
SO2	PETROLEUM COKE	0202	1A4b	787	787	787	787	787	787	787	787	787	787	787	605	605	605	605
SO2	PETROLEUM COKE	0203	1A4c	787	787	787	787	787	787	787	787	787	787	787	605	605	605	605
SO2	PETROLEUM COKE	0301	1A2f	787	787	787	787	787	787	787	787	787	787	787	605	605	605	605
SO2	MUNICIP. WASTES	0101	1A1a	138	116	95	73											
SO2	MUNICIP. WASTES	010102	1A1a		116	95	73	52	30			26	25	23,9	23,9	23,9	23,9	23,9
SO2	MUNICIP. WASTES	010103	1A1a					52	30	29	28	26	25	23,9	23,9	23,9	23,9	23,9
SO2	MUNICIP. WASTES	010104	1A1a					52	30	29	28	26	25	23,9	23,9	23,9	23,9	23,9
SO2	MUNICIP. WASTES	010105	1A1a											23,9	23,9	23,9	23,9	23,9
SO2	MUNICIP. WASTES	0102	1A1a	138	131	124	117	110	103	95	88							
SO2	MUNICIP. WASTES	010202	1A1a					110	103									
SO2	MUNICIP. WASTES	010203	1A1a					110	103	95	88	81	74	67	67	67	67	67
SO2	MUNICIP. WASTES	0201	1A4a	138	131	124	117	110	103	95	88	81	74	67	67	67	67	67
SO2	MUNICIP. WASTES	020103	1A4a					110	103	95	88	81	74	67	67	67	67	67
SO2	MUNICIP. WASTES	0301	1A2f	138	131	124	117	110	103	95	88	81	74					
SO2	RESIDUAL OIL	0101	1A1a	446	470	490	475							403	315	290	334	349
SO2	RESIDUAL OIL	010101	1A1a						351	408	344	369	369	403	315	290	334	349
SO2	RESIDUAL OIL	010102	1A1a	446	470	490	475	1564	351	408	344	369	369	403	315	290	334	349
SO2	RESIDUAL OIL	010103	1A1a					1564	351	408	344	369	369	403	315	290	334	349
SO2	RESIDUAL OIL	010104	1A1a					1564	351	408	344	369	369	403	315	290	334	349
SO2	RESIDUAL OIL	010105	1A1a	446	470	490	475	1564	351	408	344	369	369	403	315	290	334	349
SO2	RESIDUAL OIL	0102	1A1a	495	495	495	495	495	495	495	344							
SO2	RESIDUAL OIL	010202	1A1a					495	495	495	344	344	344	344	344	344	344	344
SO2	RESIDUAL OIL	010203	1A1a					495	495	495	344	344	344	344	344	344	344	344
SO2	RESIDUAL OIL	010306	1A1b	643	38	222	389				537	537	537	537	537	537	537	537
SO2	RESIDUAL OIL	0201	1A4a	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344
SO2	RESIDUAL OIL	020103	1A4a					495	495									

SO2	RESIDUAL OIL	0202	1A4b	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344
SO2	RESIDUAL OIL	0203	1A4c	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344
SO2	RESIDUAL OIL	020302	1A4c									344	344	344	344	344	344	344
SO2	RESIDUAL OIL	020304	1A4c									344	344	344	344	344	344	344
SO2	RESIDUAL OIL	0301	1A2f	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344
SO2	RESIDUAL OIL	030102	1A2f					495	495	495	344	344	344	344	344	344	344	344
SO2	RESIDUAL OIL	030103	1A2f					495	495	495	344	344	344	344	344	344	344	344
SO2	GAS OIL	0101	1A1a	94	94	94	94							23	23	23	23	23
SO2	GAS OIL	010101	1A1a					94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	010102	1A1a	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	010103	1A1a					94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	010104	1A1a	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	010105	1A1a	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	0102	1A1a	94	94	94	94	94	23	23	23							
SO2	GAS OIL	010201	1A1a					94	23									23
SO2	GAS OIL	010202	1A1a					94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	010203	1A1a					94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	010205	1A1a					94					23	23	23	23	23	23
SO2	GAS OIL	010306	1A1b		94	94	94	94	23	23	23						23	23
SO2	GAS OIL	010505	1A1c													23	23	23
SO2	GAS OIL	0201	1A4a	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	020102	1A4a					94		23		23						
SO2	GAS OIL	020103	1A4a					94		23	23	23	23	23	23	23	23	23
SO2	GAS OIL	020105	1A4a			94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	0202	1A4b	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	0203	1A4c	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	0301	1A2f	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	030103	1A2f					94	23	23	23	23	23	23	23	23	23	23
SO2	GAS OIL	030105	1A2f			94	94	94						23	23	23	23	23
SO2	GAS OIL	030106	1A2f	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23
SO2	ORIMULSION	010101	1A1a							147	149				10	12	12	12
NOX	COAL	0101	1A1a	342	384	294	289											
NOX	COAL	010101	1A1a	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131
NOX	COAL	010102	1A1a	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131
NOX	COAL	010103	1A1a					267	239	250	200	177	152	129	122	130	144	131
NOX	COAL	010104	1A1a					267	239	250	200							
NOX	COAL	010202	1A1a					200	200	200	200	200	200	95	95	95	95	95
NOX	COAL	010203	1A1a					200	200	200	200	200	200	95	95	95	95	95
NOX	COAL	0201	1A4a	200	200	200	200	200	200	200	200	200						95
NOX	COAL	0202	1A4b	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95
NOX	COAL	0203	1A4c	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95
NOX	COAL	0301	1A2f	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95
NOX	BROWN COAL BRI.	0202	1A4b	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95
NOX	COKE OVEN COKE	0202	1A4b	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95
NOX	COKE OVEN COKE	0301	1A2f	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95
NOX	PETROLEUM COKE	0301	1A2f	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95
NOX	WOOD AND SIMIL.	010202	1A1a					130	130	130	130	130	90	90	90	90	90	90
NOX	WOOD AND SIMIL.	010203	1A1a					130	130	130	130	130	90	90	90	90	90	90
NOX	WOOD AND SIMIL.	0201	1A4a	130	130	130	130	130	130	130	130	130	90	90	90	90	90	90
NOX	WOOD AND SIMIL.	020105	1A4a									130	90		90	90	90	90
NOX	WOOD AND SIMIL.	0203	1A4c	130	130	130	130	130	130	130	130	130	90	90	90	90	90	90
NOX	WOOD AND SIMIL.	020304	1A4c									130	90	90	90			
NOX	WOOD AND SIMIL.	0301	1A2f	130	130	130	130	130	130	130	130	130	90	90	90	90	90	90
NOX	WOOD AND SIMIL.	030102	1A2f									130	90	90	90	90	90	90
NOX	WOOD AND SIMIL.	030103	1A2f					130	130	130	130	130	90	90	90	90	90	90
NOX	RESIDUAL OIL	0101	1A1a	342	384	294	289							129	122	130	144	131
NOX	RESIDUAL OIL	010101	1A1a						239	250	200	177	152	129	122	130	144	131
NOX	RESIDUAL OIL	010102	1A1a	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131
NOX	RESIDUAL OIL	010103	1A1a					267	239	250	200	177	152	129	122	130	144	131
NOX	RESIDUAL OIL	010104	1A1a					267	239	250	200	177	152	129	122	130	144	131
NOX	RESIDUAL OIL	010105	1A1a	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131
NOX	GAS OIL	010103	1A1a					80	75	65	65	65	65	65	65	65	65	65
NOX	GAS OIL	0102	1A1a	100	95	90	85	80	75	70	65							
NOX	GAS OIL	010201	1A1a					80	75									65
NOX	GAS OIL	010202	1A1a					80	75	70	65	65	65	65	65	65	65	65
NOX	GAS OIL	010203	1A1a					80	75	70	65	65	65	65	65	65	65	65
NOX	GAS OIL	010306	1A1b		95	90	85	80	75	70	65						65	65
NOX	GAS OIL	0301	1A2f	100	95	90	85	80	75	70	65	65	65	65	65	65	65	65
NOX	GAS OIL	030102	1A2f						75			65	65	65	65	65	65	65
NOX	GAS OIL	030103	1A2f					80	75	70	65	65	65	65	65	65	65	65
NOX	GAS OIL	030106	1A2f	100	95	90	85	80	75	70	65	65	65	65	65	65	65	65
NOX	FISH & RAPE OIL	0102	1A1a	100	95	90	85											
NOX	FISH & RAPE OIL	010203	1A1a					80	75	70	65	65	65	65	65	65	65	65
NOX	ORIMULSION	010101	1A1a							139	138				88	86	86	86
NOX	NATURAL GAS	0101	1A1a								115	115	115	115	115	115	115	97
NOX	NATURAL GAS	010101	1A1a					115			115				115	115	115	97
NOX	NATURAL GAS	010102	1A1a	115	115	115	115	115	115			115	115	115	115	115	115	97
NOX	NATURAL GAS	010104	1A1a	161	157	153	149	145	141	138	134	131	127	124	124	124	124	124
NOX	NATURAL GAS	010105	1A1a	276	241	235	214	199	194	193	170	167	167	168	168	168	168	168
NOX	NATURAL GAS	010205	1A1a					199	194	193	170	167	167	168	168	168	168	168
NOX	NATURAL GAS	010505	1A1c	276	241	235	214	199	194	193	170	167	167	168	168	168	168	168
NOX	NATURAL GAS	020104	1A4a		157			145	141	138	134	131	127	124	124	124	124	124
NOX	NATURAL GAS	020105	1A4a	276	241	235	214	199	194	193	170	167	167	168	168	168	168	168
NOX	NATURAL GAS	020204	1A4b	276	241	235	214	199	194	193	170	167	167	168	168	168	168	168
NOX	NATURAL GAS	020303	1A4c						141	138	134	131	127	124	124	124	124	124
NOX	NATURAL GAS	020304	1A4c	276	241	235	214	199	194	193	170	167	167	168	168	168	168	168
NOX	NATURAL GAS	030104	1A2f	161				145	141	138	134	131	127	124	124	124	124	124
NOX	NATURAL GAS	030105	1A2f	276	241	235	214	199	194	193	170	167	167	168	168	168	168	168
NOX	BIOGAS	010105	1A1a	711	696	681	665	650	635	616	597	578	559	540	540	540	540	540
NOX	BIOGAS	010505	1A1c	711	696	681	665	650	635	616	597	578	559	540	540	540	540	540
NOX	BIOGAS	020105	1A4a	711	696	681	665	650	635	616	597	578	559	540	540	540	540	540
NOX	BIOGAS	020304	1A4c	711	696	681	665	650	635	616	597	578	559	540	540	540	540	540
NOX	BIOGAS	030105	1A2f									578	559	540	540	540	540	540
NMVOC	NATURAL GAS	010105	1A1a	58	67	78	122	136	137	134	120	118	118	117	117	117	117	117
NMVOC	NATURAL GAS	010205	1A1a					136	137	134	120	118	118	117	117	117	117	117

NMVOC	NATURAL GAS	010505	1A1c	58	67	78	122	136	137	134	120	118	118	117	117	117	117	117
NMVOC	NATURAL GAS	020105	1A4a	58	67	78	122	136	137	134	120	118	118	117	117	117	117	117
NMVOC	NATURAL GAS	020204	1A4b	58	67	78	122	136	137	134	120	118	118	117	117	117	117	117
NMVOC	NATURAL GAS	020304	1A4c	58	67	78	122	136	137	134	120	118	118	117	117	117	117	117
NMVOC	NATURAL GAS	030105	1A2f	58	67	78	122	136	137	134	120	118	118	117	117	117	117	117
CO	WOOD AND SIMIL.	0102	1A1a	400	373	347	320	293	267	240	240							
CO	WOOD AND SIMIL.	010202	1A1a					293	267	240	240	240	240	240	240	240	240	240
CO	WOOD AND SIMIL.	010203	1A1a					293	267	240	240	240	240	240	240	240	240	240
CO	WOOD AND SIMIL.	0201	1A4a	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240
CO	WOOD AND SIMIL.	0203	1A4c	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240
CO	WOOD AND SIMIL.	0301	1A2f	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240
CO	WOOD AND SIMIL.	030103	1A2f					293	267	240	240	240	240	240	240	240	240	240
CO	MUNICIP. WASTES	0102	1A1a	100	85	70	55	40	25	10	10							
CO	MUNICIP. WASTES	010201	1A1a					40										
CO	MUNICIP. WASTES	010202	1A1a					40	25									
CO	MUNICIP. WASTES	010203	1A1a					40	25	10	10	10	10	10	10	10	10	10
CO	MUNICIP. WASTES	0201	1A4a	100	85	70	55	40	25	10	10	10	10	10	10	10	10	10
CO	MUNICIP. WASTES	020103	1A4a					40	25	10	10	10	10	10	10	10	10	10
CO	MUNICIP. WASTES	0301	1A2f	100	85	70	55	40	25	10	10	10	10					
CO	STRAW	0102	1A1a	600	554	508	463	417	371	325	325							
CO	STRAW	010202	1A1a					417	371	325	325	325	325	325	325	325	325	325
CO	STRAW	010203	1A1a					417	371	325	325	325	325	325	325	325	325	325
CO	STRAW	0202	1A4b	8500	8500	8500	8500	8500	7500	6500	5500	4500	4000	4000	4000	4000	4000	4000
CO	STRAW	0203	1A4c	8500	8500	8500	8500	8500	7500	6500	5500	4500	4000	4000	4000	4000	4000	4000
CO	NATURAL GAS	010105	1A1a	181	202	203	217	216	212	211	174	174	174	175	175	175	175	175
CO	NATURAL GAS	010205	1A1a					216	212	211	174	174	174	175	175	175	175	175
CO	NATURAL GAS	010505	1A1c	181	202	203	217	216	212	211	174	174	174	175	175	175	175	175
CO	NATURAL GAS	020105	1A4a	181	202	203	217	216	212	211	174	174	174	175	175	175	175	175
CO	NATURAL GAS	020204	1A4b	181	202	203	217	216	212	211	174	174	174	175	175	175	175	175
CO	NATURAL GAS	020304	1A4c	181	202	203	217	216	212	211	174	174	174	175	175	175	175	175
CO	NATURAL GAS	030105	1A2f	181	202	203	217	216	212	211	174	174	174	175	175	175	175	175
CO	BIOGAS	010105	1A1a	230	234	239	243	248	252	256	260	265	269	273	273	273	273	273
CO	BIOGAS	010505	1A1c	230	234	239	243	248	252	256	260	265	269	273	273	273	273	273
CO	BIOGAS	020105	1A4a	230	234	239	243	248	252	256	260	265	269	273	273	273	273	273
CO	BIOGAS	020304	1A4c	230	234	239	243	248	252	256	260	265	269	273	273	273	273	273
CO	BIOGAS	030105	1A2f									265	269	273	273	273	273	273

Table 49 PM emission factors and references 2004.

Fuel	IPCC sector	SNAP	TSP [g/GJ]	Reference	PM_{10} [g/GJ]	Reference	$PM_{2.5}$ [g/GJ]	Reference
COAL	1A1a	010101, 010102, 010103	**3**	12	**2,6**	12	**2,1**	12
COAL	1A1a	010202, 010203	**6**	9	**6**	9	**5**	9
COAL	1A2f, 1A4b, 1A4c	0301, 0202, 0203	**17**	6	**12**	14	**7**	14
BROWN COAL BRI.	1A4b	0202	**17**	16	**12**	16	**7**	16
COKE OV.COKE	1A2f, 1A4b	0301, 0202	**17**	16	**12**	16	**7**	16
PETROLEUM COKE	1A2f	0301	**10**	9	**7**	9	**3**	9
PETROLEUM COKE	1A4a, 1A4b, 1A4c	0201, 0202, 0203	**100**	9	**60**	9	**30**	9
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	**7,9**	3	**1,94**	3	**1,23**	3
WOOD AND SIMIL.	1A1a, 1A2f	010105, 010202, 010203, 0301, 030102, 030103	**19**	1	**13**	2	**10**	2
WOOD AND SIMIL.	1A4a, 1A4c	0201, 020105, 0203	**143**	1	**143**	9	**135**	9
WOOD AND SIMIL.	1A4b	0202	**715**	17	**679**	17	**643**	17
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	**2,02**	3	**1,126**	3	**1,084**	3
MUNICIP. WASTES	1A1a, 1A2f, 1A4a	010203, 030102, 0201, 020103	**6**	10	**5**	11	**4**	11
STRAW	1A1a	010102, 010103	**3,97**	3	**0,133**	3	**0,102**	3
STRAW	1A1a, 1A2f, 1A4c	010202, 010203, 030105, 020302	**21**	1	**15**	2	**12**	2
STRAW	1A4b, 1A4c	0202, 0203	**234**	4	**222**	5	**211**	5
RESIDUAL OIL	1A1a	0101, 010101, 010102, 010103, 010104, 010105, 010202, 010203	**3**	9	**3**	9	**2,5**	9
RESIDUAL OIL	1A1b	010306	**50**	9	**40**	9	**35**	9
RESIDUAL OIL	1A2f, 1A4a, 1A4b, 1A4c	0301, 030102, 030103, 030104, 030105, 0201, 0202, 0203, 020302	**14**	6	**10,5**	13	**7**	13
RESIDUAL OIL	1A4c	Engines: 020304	**60**	9	**50**	9	**40**	9
GAS OIL	all	all	**5**	9	**5**	9	**5**	9
KEROSENE	all	all	**5**	9	**5**	9	**5**	9
FISH & RAPE OIL	all	all	**3**	15	**3**	15	**3**	15
ORIMULSION	1A1a	010101	**1,9**	12	**1,8**	12	**1,6**	12
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	0101, 010101, 010102, 010103, 010202, 010203, 010502, 0301, 030103, 030106, 0201, 020103, 0202, 020202, 0203	**0,1**	9	**0,1**	9	**0,1**	9
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 010504, 030104, 020104, 020303	**0,1**	3	**0,061**	3	**0,051**	3
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	**0,76**	3	**0,189**	3	**0,161**	3
LPG	all	all	**0,2**	9	**0,2**	9	**0,2**	9
REFINERY GAS	1A1b	010304	**5**	9	**5**	9	**5**	9
BIOGAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas engines: 010105, 010505, 030105, 020105, 020304	**2,63**	3	**0,451**	3	**0,206**	3
BIOGAS	1A1a, 1A2f, 1A4a, 1A4c	010102, 010103, 010203, 0301, 030102, 0201, 020103, 0203	**1,5**	6	**1,5**	7	**1,5**	7

1. Danish legislation, Miljøstyrelsen 2001. Luftvejledningen, Begrænsning af luftforurening fra virksomheder, Vejledning fra Miljøstyrelsen nr 2 2001
2. Particulate size distribution for wood and straw combustion in power plants refers to the TNO CEPMEIP emission factor database 2001 (wood). Available on the internet at: http://www.air.sk/tno/cepmeip/
3. Nielsen, M. & Illerup, J.B: 2003. Emissionsfaktorer og emissionsopgørelse for decentral kraftvarme. Eltra PSO projekt 3141. Kortlægning af emissioner fra decentrale kraftvarmeværker. Delrapport 6. Danmarks Miljøundersøgelser. 116 s. –Faglig rapport fra DMU nr. 442.(In Danish, whith an english summary). Available on the Internet at :http://www.dmu.dk/1_viden/2_Publikationer/3_fagrapporter/rapporter/FR442.pdf
4. German, L., 2003. The Danish Technological Institute, Personal communication, rough estimate
5. Particulate size distribution for wood and straw combustion in residential plants refers to the TNO CEPMEIP emission factor database 2001 (wood). Available on the internet at: http://www.air.sk/tno/cepmeip/
6. Danish legislation. Miljøstyrelsen 1990, Bekendtgørelse 689, 15/10/1990, Bekendtgørelse om begrænsning af emissioner af svovldioxid, kvælstofoxider og støv fra store fyringsanlæg. (and Bekendtgørelse 518/1995)
7. All TSP emission is assumed to be <2,5µm (NERI assumption)
8. -
9. The TNO CEPMEIP emission factor database 2001. Available on the internet at: http://www.air.sk/tno/cepmeip/
10. Implied emission factor calculation based on annual environmental reports of a large number of municipal waste incineration plants, 2000
11. Particulate size distribution is unknown. The PM_{10} fraction is assumed to equal 85% of TSP and the $PM_{2.5}$ fraction is assumed to equal 70% of TSP (NERI assumption)
12. Livbjerg, H. Thellefsen, M. Sander, B. Simonsen, P., Lund, C., Poulsen, K.& Fogh, C.L., 2001. Feltstudier af Forbrændingsaerosoler, EFP -98 Projekt, Aerosollaboratoriet DTU, FLS Miljø, Forskningscenter Risø, Elsam, Energi E2 (in Danish)
13. Particulate size distribution for residual oil combustion refers to the TNO CEPMEIP emission factor database 2001. Available on the internet at: http://www.air.sk/tno/cepmeip/
14. Particulate size distribution for coal combustion refers to the TNO CEPMEIP emission factor database 2001. Available on the internet at: http://www.air.sk/tno/cepmeip/
15. Assuming same emission factors as for gas oil (NERI assumption).
16. Same emission factor as for coal is assumed (NERI assumption)
17. Illerup, J.B., Nielsen, M. 2004. Improved PM emission inventory for residential wood combustion. Available on the internet at: http://www.dmu.dk/NR/rdonlyres/11C23CE2-582B-48F0-8EBD-FF3BA608F2E2/3319/PMworkshopDKresidentialwoodburning_.pdf. The poster have been based on Sternhufvud et al. 2004: Sternhufvud, C., Karvosenoja, N., Illerup, J., Kindbom, K., Lükewille, A., Johansson, M. Jensen, D. 2003. Particulate matter emissions and abatement options in residential wood burning in the Nordic countries.

Time series have been estimated for the PM emission factors for residential wood combustion. All other emission factors are constant in 2000-2004. The time series for residential wood combustion are shown below.

Table 49b PM emission factors, time series

	2000	2001	2002	2003	2004
TSP	807	743	720	715	715
PM_{10}	767	706	684	679	679
$PM_{2.5}$	726	669	648	643	643

Table 50 HM emission factors and references 2004.

Fuel	IPCC sec-tor	SNAP	As [mg/GJ]	Refer ence	Cd [mg/GJ]	Refer ence	Cr [mg/GJ]	Refer ence	Cu [mg/GJ]	Refer ence	Hg [mg/GJ]	Refer ence	Ni [mg/GJ]	Refer ence	Pb [mg/GJ]	Refer ence	Se [mg/GJ]	Refer ence	Zn [mg/GJ]	Refer ence
COAL	all	all	3,2	1	0,1	1	2,3	1	3,1	1	1,7	1	4,4	1	6	1	0,5	1	10,5	1
BROWN COAL BRI.	1A4b	0202	3,2	1	0,1	1	2,3	1	3,1	1	1,7	1	4,4	1	6	1	0,5	1	10,5	1
COKE OV.COKE	all	all	3,2	1	0,1	1	2,3	1	3,1	1	1,7	1	4,4	1	6	1	0,5	1	10,5	1
PETROLEUM COKE	all	all	3,2	1	0,1	1	2,3	1	3,1	1	1,7	1	4,4	1	6	1	0,5	1	10,5	1
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	2,34	2	0,9	2	2,34	2	2,6	2	0,72	2	2,34	2	3,62	2			136	1
WOOD AND SIMIL.	1A1a 1A2f 1A4a 1A4b 1A4c	010105 010202 010203 0301 030102 030103 0201 020105 0202 0203			6,8	1			6,8	1	6,8	1			3,4	1			136	1
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	6,74	2	4,73	2	2,43	2	10,03	2	7,39	2	4,71	2	123	2			359,5	1
MUNICIP. WASTES	1A1a 1A2f 1A4a	010203, 030102, 0201, 020103	3,53	1	9,21	1	32,97	1	31,8	1	58,7	1	55,4	1	137,5 7	1			359,5	1
STRAW	1A1a	010102, 010103	2	2	0,72	2	1,52	2	1,66	2	0,53	2	1,62	2	6,12	2			8,39	1
STRAW	1A1a, 1A2f, 1A4b, 1A4c	010202, 010203, 030105, 0202, 0203, 020302			0,62	1	0,62	1	1,06	1	6,8	1	0,53	1	3,22	1			8,39	1
RESIDUAL OIL	all	all	14,07	1	13,5	1	33,33	1	12,96	1	4,3	1	642	1	23,46	1	12,3	1	2,72	1
GAS OIL	all	all	1,17	1	0,23	1	0,94	1	1,17	1	1,17	1	0,64	1	2,34	1	4,68	1	11,7	1
FISH & RAPE OIL	all	all	1,17	3	0,23	3	0,94	3	1,17	3	1,17	3	0,64	3	2,34	3	4,68	3	11,7	3
ORIMULSION	1A1a	010101	14,07	4	13,5	4	33,33	4	12,96	4	4,3	4	642	4	23,46	4	12,3	4	2,72	4

1. Illerup, J.B., Geertinger, A., Hoffmann, L. & Christiansen, K., 1999. Emissionsfaktorer for tungmetaller 1990-1996. Danmarks Miljøundersøgelser. 66 s. – Faglig rapport fra DMU nr. 301. (In Danish) Available on the internet at: http://www.dmu.dk/1_viden/2_Publikationer/3_fagrapporter/rapporter/fr301.pdf
2. Nielsen, M. & Illerup, J.B. 2003. Emissionsfaktorer og emissionsopgørelse for decentral kraftvarme. Eltra PSO projekt 3141. Kortlægning af emissioner fra decentrale kraftvarmeværker. Delrapport 6. Danmarks Miljøundersøgelser. 116 s. –Faglig rapport fra DMU nr. 442.(In Danish, whith an english summary). Available on the Internet at :http://www.dmu.dk/1_viden/2_Publikationer/3_fagrapporter/rapporter/FR442.pdf
3. Assumed same emission factors as for gas oil (NERI assumption)
4. Assumed same emission factors as for residual oil (NERI assumption)

For large power plants combusting coal or residual oil other emission factors are applied for point sources than for area sources. The emission inventories are however mainly based on plants specific emission data from each plant. The large point source emission factors that differ from the area source emission factors are shown below.

Table 51 HM emission factors [mg/GJ] 2004 for large point sources. Only emission factors that differ from the area source emission factors are included.

Fuel	SNAP	As	Cd	Cr	Cu	Hg	Ni	Pb	Se	Zn
Coal	010102	3,3	0,1	8,02	4,41	2,2	6,81	6	13	10,5
Residual oil	010101, 010102	1,48	4,43	1,33	1,48	0,15	191	1,48	0,59	11,7

Time-series for emission factors for heavy metals is not constant for municipal waste. Time series are shown in Table 52. All other factors are constant in 1990-2004.

Table 52 HM emission factors time-series for municipal waste [mg/GJ].

pollutant	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
As	0101	7,82	7,21	6,74	6,74											
As	010102		7,21	6,74	6,74	6,74	6,74			6,74	6,74	6,74	6,74	6,74	6,74	6,74
As	0102	7,82	7,21	6,59	5,98	5,37	4,76	4,14	3,53							
As	0201	7,82	7,21	6,59	5,98	5,37	4,76	4,14	3,53	3,53	3,53	3,53	3,53	3,53	3,53	3,53
As	0301	7,82	7,21	6,59	5,98	5,37	4,76	4,14	3,53	3,53	3,53					
Cd	0101	31,3	28,2	25	21,8											
Cd	010102		28,2	25	21,8	18,7	15,5			9,21	9,21	4,73	4,73	4,73	4,73	4,73
Cd	010103					18,7	15,5	12,4	9,21	9,21	9,21	4,73	4,73	4,73	4,73	4,73
Cd	0102	31,3	28,2	25	21,8	18,7	15,5	12,4	9,21							
Cd	0201	31,3	28,2	25	21,8	18,7	15,5	12,4	9,21	9,21	9,21	9,21	9,21	9,21	9,21	9,21
Cd	0301	31,3	28,2	25	21,8	18,7	15,5	12,4	9,21	9,21	9,21					
Cr	0101	186	164	142	120											
Cr	010102		164	142	120	98,6	76,7			33	33	2,43	2,43	2,43	2,43	2,43
Cr	010103					98,6	76,7	54,8	33	33	33	2,43	2,43	2,43	2,43	2,43
Cr	0102	186	164	142	120	98,6	76,7	54,8	33							
Cr	0201	186	164	142	120	98,6	76,7	54,8	33	33	33	33	33	33	33	33
Cr	0301	186	164	142	120	98,6	76,7	54,8	33	33	33					
Cu	0101	123	110	97,3	84,2											
Cu	010102		110	97,3	84,2	71,1	58			31,8	31,8	10	10	10	10	10
Cu	010103					71,1	58	44,9	31,8	31,8	31,8	10	10	10	10	10
Cu	0102	123	110	97,3	84,2	71,1	58	44,9	31,8							
Cu	0201	123	110	97,3	84,2	71,1	58	44,9	31,8	31,8	31,8	31,8	31,8	31,8	31,8	31,8
Cu	0301	123	110	97,3	84,2	71,1	58	44,9	31,8	31,8	31,8					
Hg	0101	132	122	111	101											
Hg	010102		122	111	101	90,3	79,8			58,7	58,7	7,39	7,39	7,39	7,39	7,39
Hg	010103					7,39	79,8	69,2	58,7	58,7	58,7	7,39	7,39	7,39	7,39	7,39
Hg	0102	132	122	111	101	90,3	79,8	69,2	58,7							
Hg	0201	132	122	111	101	90,3	79,8	69,2	58,7	58,7	58,7	58,7	58,7	58,7	58,7	58,7
Hg	0301	132	122	111	101	90,3	79,8	69,2	58,7	58,7	58,7					
Ni	0101	192	172	153	133											
Ni	010102		172	153	133	114	94,4			55,4	55,4	4,71	4,71	4,71	4,71	4,71
Ni	010103					114	94,4	74,9	55,4	55,4	55,4	4,71	4,71	4,71	4,71	4,71
Ni	0102	192	172	153	133	114	94,4	74,9	55,4							
Ni	0201	192	172	153	133	114	94,4	74,9	55,4	55,4	55,4	55,4	55,4	55,4	55,4	55,4
Ni	0301	192	172	153	133	114	94,4	74,9	55,4	55,4	55,4					
Pb	0101	639	639	555	472											
Pb	010102		639	555	472	388	305			138	138	123	123	123	123	123
Pb	010103					388	305	221	138	138	138	123	123	123	123	123
Pb	0102	723	639	555	472	388	305	221	138							
Pb	0201	723	639	555	472	388	305	221	138	138	138	138	138	138	138	138
Pb	0301	723	639	555	472	388	305	221	138	138	138					
Zn	0101	805	741	678	614											
Zn	010102		741	678	614	550	487			360	360	360	360	360	360	360
Zn	010103					550	487	423	360	360	360	360	360	360	360	360
Zn	010104					550	487	423	360	360	360	360	360	360	360	360
Zn	0102	805	741	678	614	550	487	423	360							
Zn	010202					550	487									
Zn	010203					550	487	423	360	360	360	360	360	360	360	360
Zn	0201	805	741	678	614	550	487	423	360	360	360	360	360	360	360	360
Zn	020103					550	487	423	360	360	360	360	360	360	360	360
Zn	0301	805	741	678	614	550	487	423	360	360	360					

Table 53 PAH emission factors 2004.

Fuel	IPCC id	SNAP	Benzo(a)-pyrene		Benzo(b)-fluoranthene		Benzo(k)-fluoranthene		Indeno(1,2,3-c,d)-pyrene	
			[µg/GJ]	Refer-ence	[µg/GJ]	Refer-ence	[µg/GJ]	Refer-ence	[µg/GJ]	Refer-ence
COAL	1A1a	010101, 010102, 010103, 010202, 010203	0,14	4	0,29	4	0,29	4	0,28	4
COAL	1A2f	0301	23	4	929	4	929	4	698	4
COAL	1A4b, 1A4c	0202, 0203	59524	4	63492	4	1984	4	119048	4
BROWN COAL BRI.	1A4b	0202	59524	4 (9)	63492	4 (9)	1984	4 (9)	119048	4 (9)
COKE OV.COKE	1A2f	0301	23	4 (9)	929	4 (9)	929	4 (9)	698	4 (9)
COKE OV.COKE	1A4b	0202	59524	4 (9)	63492	4 (9)	1984	4 (9)	119048	4 (9)
PETROLEUM COKE	all	all	3184	5	9554	5				
WOOD AND SIMIL.	1A1a	010102, 010103, 010104	3	8	2	8	2	8	2	8
WOOD AND SIMIL.	1A1a, 1A2f	010105, 010202, 010203, 0301, 030102, 030103	6,46	4	1292,52	4	1292,52	4	11,56	4
WOOD AND SIMIL.	1A4a, 1A4b, 1A4c	0201, 020105, 0202, 0203	168707	4	221769	4	73469	4	119728	4
MUNICIP. WASTES	1A1a	010102, 010103, 010104, 010105	0,8	8	1,7	8	0,8	8	0,9	8
MUNICIP. WASTES	1A1a, 1A2f, 1A4a	010203, 030102, 0201, 020103	67	5	571	5	1	5	1	5
STRAW	1A1a	010102	1,6	1	1,4	1	1	1	1,6	1
STRAW	1A1a	010103	21	8	157	8	90	8	23	8
STRAW	1A1a, 1A2f	010202, 010203, 030105	1529	2	3452	2	1400	2	1029	2
STRAW	1A4b, 1A4c	0202, 0203, 020302	12956	2	12828	2	6912	2	4222	2
RESIDUAL OIL	1A1a, 1A1b	0101, 010101, 010102, 010103, 010104, 010105, 010202, 010203, 010306	109,6	4	475,41	4	93,21	4	177,28	4
RESIDUAL OIL	1A2f 1A4a 1A4b 1A4c	0301, 030102, 030103, 030104, 030105, 0201, 0202, 0203, 020302, 020304	80	4	42	4	66	4	160	4
GAS OIL	1A1a, 1A1b 1A1c	0101, 010101, 010102, 010103, 010104, 010105, 010202, 010203, 010205, 010306, 010505	109,6	4	475,41	4	93,21	4	177,28	4
GAS OIL	1A2f 1A4a 1A4b 1A4c	0301, 030102, 030103, 030104, 030105, 030106, 0201, 020103, 020105, 0202, 0203, 020304	80	4	42	4	66	4	160	4
FISH & RAPE OIL	1A1a	010103, 010202, 010203	109,6	3	475,41	3	93,21	3	177,28	3
FISH & RAPE OIL	1A2f, 1A4c	030105, 020304	80	3	42	3	66	3	160	3
ORIMULSION	1A1a	010101	109,6	4 (7)	475,41	4 (7)	93,21	4 (7)	177,28	4 (7)
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4c	Gas turbines: 010104, 010504, 030104, 020104, 020303	1	8	1	8	2	8	3	8
NATURAL GAS	1A1a, 1A1c, 1A2f, 1A4a, 1A4b, 1A4c	Gas engines: 010105, 010205, 010505, 030105, 020105, 020204, 020304	3	8	42	8	24	8	6	8
NATURAL GAS	1A4b	020202	0,133	6	0,663	6	0,265	6	2,653	6
BIOGAS	all	all	1	8	1	8	0,4	8	1,1	8

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9. Same emission factor as for coal is assumed (NERI assumption)

The same PAH emission factors have been applied for 1990-2004.

Appendix 7 Implied emission factors for municipal waste incineration plants and power plants combustion coal

Table 54 Implied emission factors for municipal waste incineration plants 2004.

Pollutant	Implied Emission factor	Unit
SO_2	25	g/GJ
NO_x	117	g/GJ
TSP	3,1	g/GJ
PM_{10}	2,5	g/GJ
$PM_{2.5}$	2,1	g/GJ
As	5,4	mg/GJ
Cd	3,9	mg/GJ
Cr	4,2	mg/GJ
Cu	10,8	mg/GJ
Hg	9,5	mg/GJ
Ni	8,3	mg/GJ
Pb	47,9	mg/GJ
Zn	349,5	mg/GJ

Table 55 Implied emission factors for power plants combusting coal, 2004.

Pollutant	Implied Emission factor	Unit
SO_2	33,6	g/GJ
NO_x	138,2	g/GJ
TSP	3,9	g/GJ
PM_{10}	3,1	g/GJ
$PM_{2.5}$	2,5	g/GJ
As	0,75	mg/GJ
Cd	0,07	mg/GJ
Cr	1,4	mg/GJ
Cu	0,87	mg/GJ
Hg	0,94	mg/GJ
Ni	3,5	mg/GJ
Pb	1,3	mg/GJ
Se	4,4	mg/GJ
Zn	0,79	mg/GJ

Appendix 8 Large point sources

Table 56 Large point sources, fuel consumption in 2004 (1A1, 1A2 and 1A4).

lps_id	lps name	part_id	SNAP_id	fuel_id	fuel	fuel consumption [GJ]	IPCC source
001	Amagervaerket	01	010101	102	COAL	1778930	1A1a
001	Amagervaerket	01	010101	203	RESIDUAL OIL	39853	1A1a
001	Amagervaerket	02	010101	117	STRAW	708764	1A1a
001	Amagervaerket	02	010101	203	RESIDUAL OIL	298759	1A1a
001	Amagervaerket	03	010101	102	COAL	14104740	1A1a
001	Amagervaerket	03	010101	203	RESIDUAL OIL	107521	1A1a
002	Svanemoellevaerket	05	010101	203	RESIDUAL OIL	23130	1A1a
002	Svanemoellevaerket	05	010101	301	NATURAL GAS	1685480	1A1a
002	Svanemoellevaerket	07	010104	204	GAS OIL	1775	1A1a
002	Svanemoellevaerket	07	010104	301	NATURAL GAS	4725000	1A1a
003	H.C.Oerstedsvaerket	03	010101	203	RESIDUAL OIL	504818	1A1a
003	H.C.Oerstedsvaerket	03	010101	301	NATURAL GAS	1159470	1A1a
003	H.C.Oerstedsvaerket	07	010101	203	RESIDUAL OIL	612405	1A1a
003	H.C.Oerstedsvaerket	07	010101	301	NATURAL GAS	1988930	1A1a
003	H.C.Oerstedsvaerket	08	010101	301	NATURAL GAS	1456810	1A1a
004	Kyndbyvaerket	21	010101	203	RESIDUAL OIL	228510	1A1a
004	Kyndbyvaerket	21	010101	204	GAS OIL	16350	1A1a
004	Kyndbyvaerket	22	010101	203	RESIDUAL OIL	173990	1A1a
004	Kyndbyvaerket	26	010101	203	RESIDUAL OIL	235060	1A1a
004	Kyndbyvaerket	28	010101	203	RESIDUAL OIL	52590	1A1a
004	Kyndbyvaerket	41	010105	204	GAS OIL	3450	1A1a
004	Kyndbyvaerket	52	010104	204	GAS OIL	25480	1A1a
005	Masnedoevaerket	12	010102	111	WOOD AND SIMIL.	115573	1A1a
005	Masnedoevaerket	12	010102	117	STRAW	466528	1A1a
005	Masnedoevaerket	12	010102	204	GAS OIL	1130	1A1a
005	Masnedoevaerket	31	010104	204	GAS OIL	13320	1A1a
007	Stigsnaesvaerket	01	010101	102	COAL	298700	1A1a
007	Stigsnaesvaerket	01	010101	203	RESIDUAL OIL	76757	1A1a
007	Stigsnaesvaerket	02	010101	102	COAL	8815360	1A1a
007	Stigsnaesvaerket	02	010101	203	RESIDUAL OIL	201853	1A1a
007	Stigsnaesvaerket	03	010101	203	RESIDUAL OIL	66040	1A1a
008	Asnaesvaerket	01	010101	203	RESIDUAL OIL	61874	1A1a
008	Asnaesvaerket	02	010101	102	COAL	6516440	1A1a
008	Asnaesvaerket	02	010101	203	RESIDUAL OIL	78681	1A1a
008	Asnaesvaerket	04	010101	102	COAL	680640	1A1a
008	Asnaesvaerket	04	010101	203	RESIDUAL OIL	103566	1A1a
008	Asnaesvaerket	05	010101	102	COAL	13435970	1A1a
008	Asnaesvaerket	05	010101	203	RESIDUAL OIL	1219298	1A1a
008	Asnaesvaerket	05	010101	225	ORIMULSION	18719	1A1a
009	Statoil Raffinaderi	01	010306	203	RESIDUAL OIL	84893	1A1b
009	Statoil Raffinaderi	01	010306	308	REFINERY GAS	7886864	1A1b
010	Avedoerevaerket	01	010101	102	COAL	16086390	1A1a
010	Avedoerevaerket	01	010101	203	RESIDUAL OIL	55916	1A1a
010	Avedoerevaerket	01	010101	204	GAS OIL	8436	1A1a
010	Avedoerevaerket	02	010104	111	WOOD AND SIMIL.	4483061	1A1a
010	Avedoerevaerket	02	010104	117	STRAW	1861866	1A1a
010	Avedoerevaerket	02	010104	203	RESIDUAL OIL	7387153	1A1a
010	Avedoerevaerket	02	010104	301	NATURAL GAS	7990914	1A1a
011	Fynsvaerket	03	010101	102	COAL	1932860	1A1a
011	Fynsvaerket	03	010101	203	RESIDUAL OIL	106960	1A1a
011	Fynsvaerket	03	010101	301	NATURAL GAS	742490	1A1a
011	Fynsvaerket	07	010101	102	COAL	17705230	1A1a
011	Fynsvaerket	07	010101	203	RESIDUAL OIL	204110	1A1a
011	Fynsvaerket	08	010102	114	MUNICIP. WASTES	2819230	1A1a
011	Fynsvaerket	08	010102	204	GAS OIL	23711	1A1a
012	Studstrupvaerket	03	010101	102	COAL	8508190	1A1a
012	Studstrupvaerket	03	010101	203	RESIDUAL OIL	282050	1A1a
012	Studstrupvaerket	04	010101	102	COAL	17612220	1A1a
012	Studstrupvaerket	04	010101	117	STRAW	1879810	1A1a
012	Studstrupvaerket	04	010101	203	RESIDUAL OIL	164060	1A1a
014	Vendsysselvaerket	02	010101	102	COAL	2193960	1A1a
014	Vendsysselvaerket	02	010101	203	RESIDUAL OIL	94310	1A1a
014	Vendsysselvaerket	03	010101	102	COAL	17847660	1A1a
014	Vendsysselvaerket	03	010101	203	RESIDUAL OIL	249490	1A1a
014	Vendsysselvaerket	03	010101	204	GAS OIL	28400	1A1a
016	Kemira Danmark	03	030104	301	NATURAL GAS	375920	1A2f
017	Shell Raffinaderi	01	010306	203	RESIDUAL OIL	986742	1A1b
017	Shell Raffinaderi	01	010306	308	REFINERY GAS	4207059	1A1b
017	Shell Raffinaderi	05	010304	308	REFINERY GAS	2442200	1A1b
018	Skaerbaekvaerket	03	010101	204	GAS OIL	125060	1A1a
018	Skaerbaekvaerket	03	010101	301	NATURAL GAS	12254020	1A1a
019	Enstedvaerket	03	010101	102	COAL	23986250	1A1a
019	Enstedvaerket	03	010101	203	RESIDUAL OIL	210800	1A1a
019	Enstedvaerket	04	010101	111	WOOD AND SIMIL.	231380	1A1a
019	Enstedvaerket	04	010101	117	STRAW	1777850	1A1a
019	Enstedvaerket	04	010101	204	GAS OIL	18770	1A1a
020	Esbjergvaerket	03	010101	102	COAL	16427340	1A1a
020	Esbjergvaerket	03	010101	203	RESIDUAL OIL	125580	1A1a
022	Oestkraft	05	010102	203	RESIDUAL OIL	122580	1A1a
022	Oestkraft	06	010102	102	COAL	710750	1A1a
022	Oestkraft	06	010102	111	WOOD AND SIMIL.	37457	1A1a
022	Oestkraft	06	010102	203	RESIDUAL OIL	24962	1A1a
023	Danisco Ingredients	01	030102	102	COAL	558750	1A2f
023	Danisco Ingredients	01	030102	301	NATURAL GAS	8303	1A2f

024	Dansk Naturgas Behandlingsanlaeg	01	010502	301	NATURAL GAS	360596,14	1A1c
025	Horsens Kraftvarmevaerk	01	010102	111	WOOD AND SIMIL.	4970	1A1a
025	Horsens Kraftvarmevaerk	01	010102	114	MUNICIP. WASTES	930050	1A1a
025	Horsens Kraftvarmevaerk	02	010104	301	NATURAL GAS	884320	1A1a
026	Herningvaerket	01	010102	111	WOOD AND SIMIL.	2446570	1A1a
026	Herningvaerket	01	010102	203	RESIDUAL OIL	130580	1A1a
026	Herningvaerket	01	010102	301	NATURAL GAS	1133060	1A1a
027	Vestforbraendingen	01	010102	114	MUNICIP. WASTES	2431742	1A1a
027	Vestforbraendingen	01	010102	204	GAS OIL	14778	1A1a
027	Vestforbraendingen	01	010102	301	NATURAL GAS	26170	1A1a
027	Vestforbraendingen	02	010102	114	MUNICIP. WASTES	2721440	1A1a
028	Amagerforbraendingen	01	010102	114	MUNICIP. WASTES	4220210	1A1a
029	Randersvaerket	01	010102	102	COAL	2624200	1A1a
029	Randersvaerket	01	010102	110	PETROLEUM COKE	7130	1A1a
029	Randersvaerket	01	010102	111	WOOD AND SIMIL.	523635	1A1a
029	Randersvaerket	01	010102	309	BIOGAS	16857	1A1a
029	Randersvaerket	02	010102	204	GAS OIL	61660	1A1a
030	Grenaavaerket	01	010102	102	COAL	1176550	1A1a
030	Grenaavaerket	01	010102	111	WOOD AND SIMIL.	52289	1A1a
030	Grenaavaerket	01	010102	117	STRAW	888219	1A1a
030	Grenaavaerket	01	010102	203	RESIDUAL OIL	121017	1A1a
030	Grenaavaerket	01	010102	204	GAS OIL	14082	1A1a
031	Hilleroedvaerket	01	010104	301	NATURAL GAS	3128230	1A1a
032	Helsingoervaerket	01	010104	301	NATURAL GAS	1797475	1A1a
032	Helsingoervaerket	02	010105	301	NATURAL GAS	10938	1A1a
033	Staalvalsevaerket	01	030102	301	NATURAL GAS	1247994	1A2f
034	Stora Dalum	01	030102	301	NATURAL GAS	1039490	1A2f
035	Assens Sukkerfabrik	01	030102	102	COAL	280258	1A2f
035	Assens Sukkerfabrik	01	030102	203	RESIDUAL OIL	361300	1A2f
035	Assens Sukkerfabrik	01	030102	309	BIOGAS	8370	1A2f
036	Kolding Kraftvarmevaerk	01	010103	114	MUNICIP. WASTES	694280	1A1a
036	Kolding Kraftvarmevaerk	02	010103	114	MUNICIP. WASTES	257790	1A1a
037	Maabjergvaerket	02	010102	111	WOOD AND SIMIL.	364650	1A1a
037	Maabjergvaerket	02	010102	114	MUNICIP. WASTES	1666000	1A1a
037	Maabjergvaerket	02	010102	117	STRAW	460410	1A1a
037	Maabjergvaerket	02	010102	301	NATURAL GAS	183690	1A1a
038	Soenderborg Kraftvarmevaerk	01	010102	114	MUNICIP. WASTES	681744	1A1a
038	Soenderborg Kraftvarmevaerk	02	010104	301	NATURAL GAS	1230540	1A1a
039	Kara Affaldsforbraendingsanlaeg	01	010102	114	MUNICIP. WASTES	2123340	1A1a
039	Kara Affaldsforbraendingsanlaeg	01	010102	301	NATURAL GAS	9489	1A1a
040	Viborg Kraftvarmevaerk	01	010104	301	NATURAL GAS	2227010	1A1a
042	Nordforbraendingen	01	010102	114	MUNICIP. WASTES	1149670	1A1a
045	Aalborg Portland	01	030311	102	COAL	3754171	1A2f
045	Aalborg Portland	01	030311	110	PETROLEUM COKE	8187958	1A2f
045	Aalborg Portland	01	030311	114	MUNICIP. WASTES	1926563	1A2f
045	Aalborg Portland	01	030311	118	SEWAGE SLUDGE	58266	1A2f
045	Aalborg Portland	01	030311	203	RESIDUAL OIL	817378	1A2f
046	Aarhus Nord	01	010102	114	MUNICIP. WASTES	1921990	1A1a
047	Reno Nord	01	010103	114	MUNICIP. WASTES	1442080	1A1a
048	Silkeborg Kraftvarmevaerk	01	010104	301	NATURAL GAS	3397950	1A1a
049	Rensningsanlægget Lynetten	01	020103	114	MUNICIP. WASTES	75850	1A4a
049	Rensningsanlægget Lynetten	01	020103	204	GAS OIL	19369	1A4a
049	Rensningsanlægget Lynetten	01	020103	309	BIOGAS	101260	1A4a
050	I/S Fasan	01	010203	114	MUNICIP. WASTES	701750	1A1a
051	AVV Forbrændingsanlæg	01	010103	114	MUNICIP. WASTES	615260	1A1a
052	I/S REFA Kraftvarmeværk	01	010103	114	MUNICIP. WASTES	1084990	1A1a
053	Svendborg Kraftvarmeværk	01	010102	114	MUNICIP. WASTES	503590	1A1a
053	Svendborg Kraftvarmeværk	01	010102	301	NATURAL GAS	2090	1A1a
054	Kommunekemi	01	010102	114	MUNICIP. WASTES	723930	1A1a
054	Kommunekemi	01	010102	203	RESIDUAL OIL	114652	1A1a
054	Kommunekemi	01	010102	204	GAS OIL	7245	1A1a
054	Kommunekemi	02	010102	114	MUNICIP. WASTES	545460	1A1a
054	Kommunekemi	02	010102	203	RESIDUAL OIL	39316	1A1a
054	Kommunekemi	02	010102	204	GAS OIL	7209	1A1a
054	Kommunekemi	03	010102	114	MUNICIP. WASTES	384770	1A1a
054	Kommunekemi	03	010102	203	RESIDUAL OIL	21652	1A1a
054	Kommunekemi	03	010102	204	GAS OIL	8967	1A1a
055	I/S Fælles Forbrænding	01	010203	114	MUNICIP. WASTES	270020	1A1a
056	Vestfyns Forbrænding	01	010203	114	MUNICIP. WASTES	216560	1A1a
058	I/S Reno Syd	01	010103	114	MUNICIP. WASTES	624280	1A1a
059	I/S Kraftvarmeværk Thisted	01	010103	111	WOOD AND SIMIL.	3627	1A1a
059	I/S Kraftvarmeværk Thisted	01	010103	114	MUNICIP. WASTES	535010	1A1a
059	I/S Kraftvarmeværk Thisted	01	010103	117	STRAW	6931	1A1a
060	Knudmoseværket	01	010103	114	MUNICIP. WASTES	413080	1A1a
060	Knudmoseværket	01	010103	301	NATURAL GAS	39766	1A1a
061	Kavo I/S Energien	01	010103	114	MUNICIP. WASTES	879586	1A1a
062	VEGA (Vestforbraending Taastrup)	01	010203	114	MUNICIP. WASTES	590120	1A1a
065	Haderslev Kraftvarmeværk	01	010103	114	MUNICIP. WASTES	583600	1A1a
065	Haderslev Kraftvarmeværk	01	010103	301	NATURAL GAS	550	1A1a
066	Frederiskhavn Affaldskraftvarmeværk	01	010103	114	MUNICIP. WASTES	370600	1A1a
066	Frederiskhavn Affaldskraftvarmeværk	01	010103	204	GAS OIL	775	1A1a
067	Vejen Kraftvarmeværk	01	010103	114	MUNICIP. WASTES	384700	1A1a
068	Bofa I/S	01	010203	114	MUNICIP. WASTES	201000	1A1a
069	DTU	01	010104	301	NATURAL GAS	1358840	1A1a
070	Næstved Kraftvarmeværk	01	010104	301	NATURAL GAS	224304	1A1a
071	Maricogen	01	030104	301	NATURAL GAS	1863340	1A2f
072	Hjørring KVV	01	010104	301	NATURAL GAS	1228030	1A1a
075	Rockwool A/S Hedehusene	01	030318	301	NATURAL GAS	64000	1A2f
076	Rockwool A/S Vamdrup	01	030318	107	COKE OVEN COKE	438480	1A2f
076	Rockwool A/S Vamdrup	01	030318	301	NATURAL GAS	292320	1A2f
077	Rockwool A/S Doense	01	030318	107	COKE OVEN COKE	375840	1A2f
077	Rockwool A/S Doense	01	030318	301	NATURAL GAS	250560	1A2f
078	Rexam Glass Holmegaard A/S	01	030315	204	GAS OIL	3802	1A2f
078	Rexam Glass Holmegaard A/S	01	030315	301	NATURAL GAS	911205	1A2f
081	Haldor Topsøe	02	0301	301	NATURAL GAS	478700	1A2f

081	Haldor Topsøe	02	0301	303	LPG	100	1A2f
082	Danisco Sugar Nakskov	02	030102	102	COAL	659720	1A2f
082	Danisco Sugar Nakskov	02	030102	203	RESIDUAL OIL	561380	1A2f
082	Danisco Sugar Nakskov	02	030102	204	GAS OIL	2830	1A2f
082	Danisco Sugar Nakskov	02	030102	309	BIOGAS	45966	1A2f
083	Danisco Sugar Nykøbing	02	030102	203	RESIDUAL OIL	767450	1A2f
083	Danisco Sugar Nykøbing	02	030102	309	BIOGAS	58364	1A2f
085	L90 Affaldsforbrænding	01	010102	114	MUNICIP. WASTES	1907170	1A1a
085	L90 Affaldsforbrænding	01	010102	203	RESIDUAL OIL	21057	1A1a
086	Hammel Fjernvarme	01	010203	114	MUNICIP. WASTES	302930	1A1a
086	Hammel Fjernvarme	01	010203	203	RESIDUAL OIL	20920	1A1a

Table 57 Large point sources, plant specific emissions (IPCC 1A1, 1A2 and 1A4)[1).]

LPS_id	LPS name	LPS part	Sector (IPCC)	Sector (SNAP)	SO_2	NO_x	NMVOC	CO	TSP	PM_{10} 2)	$PM_{2.5}$ 2)	As	Cd	Cr	Cu	Hg	Ni	Pb	Se	Zn
001	Amagervaerket	01	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
001	Amagervaerket	02	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
001	Amagervaerket	03	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
002	Svanemoellevaerket	05	1A1a	010101	x	x														
002	Svanemoellevaerket	07	1A1a	010104		x														
003	H.C.Oerstedsvaerket	03	1A1a	010101	x	x						x	x	x	x	x	x	x	x	x
003	H.C.Oerstedsvaerket	07	1A1a	010101	x	x						x	x	x	x	x	x	x	x	x
004	Kyndbyvaerket	21	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
004	Kyndbyvaerket	22	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
004	Kyndbyvaerket	26	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
004	Kyndbyvaerket	28	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
004	Kyndbyvaerket	41	1A1a	010105					x	x	x	x	x	x	x	x	x	x	x	x
004	Kyndbyvaerket	51	1A1a	010104	x	x			x	x	x	x	x	x	x	x	x	x	x	x
004	Kyndbyvaerket	52	1A1a	010104	x	x			x	x	x	x	x	x	x	x	x	x	x	x
005	Masnedoevaerket	12	1A1a	010102	x	x														
005	Masnedoevaerket	31	1A1a	010104	x	x														
007	Stigsnaesvaerket	01	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
007	Stigsnaesvaerket	02	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
008	Asnaesvaerket	02	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
008	Asnaesvaerket	03	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
008	Asnaesvaerket	04	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
008	Asnaesvaerket	05	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
009	Statoil Raffinaderi	01	1A1b	010306	x															
010	Avedoerevaerket	01	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
010	Avedoerevaerket	02	1A1a	010104	x	x			x	x	x	x	x	x	x	x	x	x	x	x
011	Fynsvaerket	03	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
011	Fynsvaerket	07	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
011	Fynsvaerket	08	1A1a	010102	x	x		x	x	x	x	x	x	x	x	x	x	x		
012	Studstrupvaerket	03	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
012	Studstrupvaerket	04	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
014	Vendsysselvaerket	02	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
014	Vendsysselvaerket	03	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
017	Shell Raffinaderi	01	1A1b	010306	x	x														
017	Shell Raffinaderi	05	1A1b	010304	x	x														
018	Skaerbaekvaerket	01	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	
018	Skaerbaekvaerket	03	1A1a	010101	x	x			x	x	x						x			
019	Enstedvaerket	03	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
019	Enstedvaerket	04	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
020	Esbjergvaerket	03	1A1a	010101	x	x			x	x	x	x	x	x	x	x	x	x	x	x
022	Oestkraft	05	1A1a	010102	x	x														
022	Oestkraft	06	1A1a	010102	x	x														
023	Danisco Ingredients	01	1A2f	030102	x															
024	Dansk Naturgas Behandlingsanlaeg	01	1A1c	010502		x														
025	Horsens Kraftvarmevaerk	01	1A1a	010102	x	x		x	x	x	x	x	x	x	x	x	x	x		
025	Horsens Kraftvarmevaerk	02	1A1a	010104		x														
026	Herningvaerket	01	1A1a	010102	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
027	Vestforbraendingen	01	1A1a	010102	x	x			x	x	x					x				
027	Vestforbraendingen	02	1A1a	010102	x	x			x	x	x					x				
028	Amagerforbraendingen	01	1A1a	010102	x	x	x	x	x	x	x		x			x		x		
029	Randersvaerket	01	1A1a	010102	x	x			x	x	x									
030	Grenaavaerket	01	1A1a	010102	x	x		x	x	x	x	x	x	x	x	x	x	x		
031	Hilleroedvaerket	01	1A1a	010104		x														
032	Helsingoervaerket	01	1A1a	010104		x														
032	Helsingoervaerket	02	1A1a	010105		x														
033	Staalvalsevaerket	01	1A2f	030102		x			x	x	x									
034	Stora Dalum	01	1A2f	030102		x														
035	Assens Sukkerfabrik	01	1A2f	030102	x				x	x	x									
036	Kolding Kraftvarmevaerk	01	1A1a	010103	x		x	x	x	x	x	x	x	x	x	x	x	x		
036	Kolding Kraftvarmevaerk	02	1A1a	010103	x		x	x	x	x	x	x	x	x	x	x	x	x		
037	Maabjergvaerket	02	1A1a	010102	x	x		x	x	x	x	x	x	x	x	x	x	x		

038	Soenderborg Kraft-varmevaerk	01	1A1a	010102	x	x		x	x	x	x	x	x	x	x	x	x	x		
038	Soenderborg Kraft-varmevaerk	02	1A1a	010104		x														
039	Kara Affaldsforbraend-ingsanlaeg	01	1A1a	010102	x			x	x	x	x							x		
040	Viborg Kraftvarme-vaerk	01	1A1a	010104		x														
042	Nordforbraendingen	01	1A1a	010102	x			x	x	x	x							x		
046	Aarhus Nord	01	1A1a	010102	x				x	x	x							x		
047	Reno Nord	01	1A1a	010103	x			x	x	x	x	x	x	x	x	x	x	x		
048	Silkeborg Kraftvarme-vaerk	01	1A1a	010104		x														
049	Rensningsanlægget Lynetten	01	1A4a	020103	x				x	x	x	x	x	x	x	x	x	x		
050	I/S Fasan	01	1A1a	010203	x	x		x	x	x	x	x						x		
051	AVV Forbrænding-sanlæg	01	1A1a	010103	x			x	x	x	x							x		
052	I/S REFA Kraftvar-meværk	01	1A1a	010103					x	x	x							x		
053	Svendborg Kraftvar-meværk	01	1A1a	010102	x	x	x	x	x	x	x							x		
054	Kommunekemi	01	1A1a	010102	x			x	x	x	x					x				
054	Kommunekemi	02	1A1a	010102	x			x	x	x	x					x				
054	Kommunekemi	03	1A1a	010102	x			x	x	x	x					x				
056	Vestfyns Forbrænding	01	1A1a	010203	x	x		x	x	x	x									
058	I/S Reno Syd	01	1A1a	010103	x			x	x	x	x							x		
059	I/S Kraftvarmeværk Thisted	01	1A1a	010103	x			x	x	x	x		x			x		x		
060	Knudmoseværket	01	1A1a	010103	x			x	x	x	x					x		x		
061	Kavo I/S Energien	01	1A1a	010103	x		x	x	x	x	x	x	x	x	x	x	x	x		x
062	VEGA (Vestforbraend-ing Taastrup)	01	1A1a	010203	x	x		x	x	x	x							x		
065	Haderslev Kraftvar-meværk	01	1A1a	010103	x	x		x	x	x	x					x	x	x		
066	Frederiskhavn Af-faldskraftvarmeværk	01	1A1a	010103	x	x		x	x	x	x					x		x		
067	Vejen Kraftvarmeværk	01	1A1a	010103	x	x		x	x	x	x	x	x	x	x	x	x	x		
068	Bofa I/S	01	1A1a	010203	x			x	x	x	x							x		
069	DTU	01	1A1a	010104		x														
070	Næstved Kraftvar-meværk	01	1A1a	010104		x		x												
071	Maricogen	01	1A2f	030104		x														
072	Hjørring KVV	01	1A1a	010104		x														
075	Rockwool A/S Hede-husene	01	1A2f	030318	x		x	x	x	x	x									
076	Rockwool A/S Vam-drup	01	1A2f	030318	x		x	x	x	x	x									
077	Rockwool A/S Doense	01	1A2f	030318	x		x	x	x	x	x									
078	Rexam Glass Hol-megaard A/S	01	1A2f	030315		x		x	x	x	x							x	x	x
080	Saint-Gobain Isover A/S	01	1A2f	030316					x	x	x									
081	Haldor Topsøe	02	1A2f	0301					x	x	x									
082	Danisco Sugar Nak-skov	02	1A2f	030102					x	x	x									
083	Danisco Sugar Nykøbing	02	1A2f	030102					x	x	x									
045	Aalborg Portland	01/03	1A2f	030311	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
085	L90 Affaldsforbrænd-ing	01	1a1a	010102	x	x		x	x	x	x									
086	Hammel Fjernvarme	01	1a1a	010203	x	x		x	x	x	x									
	Total				**10105**	**36740**	**20**	**9701**	**1482**	**1163**	**930**	**157**	**47**	**244**	**233**	**314**	**1462**	**1651**	**919**	**57**

1) Emission of the pollutants marked with "x" is plant specific. Emission of other pollutants is estimated based on emission factors. The total shown *in this table* only includes plant specific data.
2) Based on particle size distribution

Appendix 9 Uncertainty estimates

Table 58 Uncertainty estimation, GHG.

IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Gg CO_2 eq	Gg CO_2 eq	%	%	%	%	%	%	%	%	%
Stationary Combustion, Coal	CO_2	24077	17337	1	5	5,099	2,425	-0,149	0,455	-0,746	0,644	0,985
Stationary Combustion, BKB	CO_2	11	0	3	5	5,831	0,000	0,000	0,000	-0,001	0,000	0,001
Stationary Combustion, Coke	CO_2	138	123	3	5	5,831	0,020	0,000	0,003	-0,001	0,014	0,014
Stationary Combustion, Petroleum coke	CO_2	410	817	3	5	5,831	0,131	0,011	0,021	0,056	0,091	0,107
Stationary Combustion, Plastic waste	CO_2	349	676	5	5	7,071	0,131	0,009	0,018	0,045	0,126	0,133
Stationary Combustion, Residual oil	CO_2	2505	1832	2	2	2,828	0,142	-0,015	0,048	-0,030	0,136	0,139
Stationary Combustion, Gas oil	CO_2	4564	2712	4	5	6,403	0,476	-0,043	0,071	-0,217	0,403	0,458
Stationary Combustion, Kerosene	CO_2	366	15	4	5	6,403	0,003	-0,009	0,000	-0,044	0,002	0,044
Stationary Combustion, Orimulsion	CO_2	0	1	1	2	2,236	0,000	0,000	0,000	0,000	0,000	0,000
Stationary Combustion, Natural gas	CO_2	4330	11143	3	1	3,162	0,966	0,184	0,293	0,184	1,241	1,255
Stationary Combustion, LPG	CO_2	164	108	4	5	6,403	0,019	-0,001	0,003	-0,006	0,016	0,017
Stationary Combustion, Refinery gas	CO_2	806	904	3	5	5,831	0,145	0,003	0,024	0,017	0,101	0,102
Stationary combustion plants, gas engines	CH_4	6	386	2,2	40	40,060	0,424	0,010	0,010	0,399	0,032	0,400
Stationary combustion plants, other	CH_4	115	136	2,2	100	100,024	0,373	0,001	0,004	0,068	0,011	0,069
Stationary combustion plants	N_2O	240	268	2,2	1000	1000,002	7,344	0,001	0,007	0,988	0,022	0,988
Total		38082	36461				61,372					3,957
Total uncertainties		**Overall uncertainty in the year (%):**					**7,834**		**Trend uncertainty (%):**			**1,989**

Table 59 Uncertainty estimation, CO_2.

IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Gg CO_2	Gg CO_2	%	%	%	%	%	%	%	%	%
Stationary Combustion, Coal	CO_2	24077	17337	1	5	5,099	2,478	-0,143	0,460	-0,715	0,650	0,967
Stationary Combustion, BKB	CO_2	11	0	3	5	5,831	0,000	0,000	0,000	-0,001	0,000	0,001
Stationary Combustion, Coke	CO_2	138	123	3	5	5,831	0,020	0,000	0,003	-0,001	0,014	0,014
Stationary Combustion, Petroleum coke	CO_2	410	817	3	5	5,831	0,134	0,011	0,022	0,057	0,092	0,108
Stationary Combustion, Plastic waste	CO_2	349	676	5	5	7,071	0,134	0,009	0,018	0,046	0,127	0,135
Stationary Combustion, Residual oil	CO_2	2505	1832	2	2	2,828	0,145	-0,014	0,049	-0,028	0,137	0,140
Stationary Combustion, Gas oil	CO_2	4564	2712	4	5	6,403	0,487	-0,042	0,072	-0,212	0,407	0,459
Stationary Combustion, Kerosene	CO_2	366	15	4	5	6,403	0,003	-0,009	0,000	-0,044	0,002	0,044
Stationary Combustion, Orimulsion	CO_2	0	1	1	2	2,236	0,000	0,000	0,000	0,000	0,000	0,000
Stationary Combustion, Natural gas	CO_2	4330	11143	3	1	3,162	0,988	0,187	0,295	0,187	1,253	1,267
Stationary Combustion, LPG	CO_2	164	108	4	5	6,403	0,019	-0,001	0,003	-0,006	0,016	0,017
Stationary Combustion, Refinery gas	CO_2	806	904	3	5	5,831	0,148	0,004	0,024	0,019	0,102	0,103
Total	CO_2	37720	35671				7,434					2,813

Total uncertainties	**Overall uncertainty in the year (%):**	**2,727**		**Trend uncertainty (%):**	**1,677**

Table 60 Uncertainty estimation, CH_4.

IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Mg CH_4	Mg CH_4	%	%	%	%	%	%	%	%	%
Stationary combustion plants, gas engines	CH_4	305	18388	2,2	40	40,060	29,628	2,956	3,185	118,256	9,910	118,671
Stationary combustion plants, other	CH_4	5468	6475	2,2	100	100,024	26,049	-2,930	1,122	-293,021	3,490	293,041
Total	CH_4	5773	24863				1556,4					99956

Total uncertainties	**Overall uncertainty in the year (%):**	**39,451**	**Trend uncertainty (%): 316,158**

Table 61 Uncertainty estimation, N_2O.

IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Gg N_2O	Gg N_2O	%	%	%	%	%	%	%	%	%
Stationary combustion plants	N_2O	0,775	0,864	2,200	1000	1000,002	1000,002	0,000	1,114	0,000	3,466	3,466
Total	N_2O	0,775	0,864				1000005					12,010

Total uncertainties	**Overall uncertainty in the year (%):**	**1000,002**	**Trend uncertainty (%): 3,466**

Table 62 Uncertainty estimation, SO_2.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer-	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Mg SO_2	Mg SO_2	%	%	%	%	%	%	%	%	%
01	SO_2	129601	10196	2	10	10,198	5,123	-0,041	0,065	-0,409	0,183	0,448
02	SO_2	11491	3176	2	20	20,100	3,145	0,011	0,020	0,215	0,057	0,222
03	SO_2	16507	6927	2	10	10,198	3,480	0,030	0,044	0,304	0,124	0,329
Total	SO_2	157599	20299				48,240					0,358
Total uncertainties				Overall uncertainty in the year (%):			**6,954**				Trend uncertainty (%):	**0,598**

Table 63 Uncertainty estimation, NO_x.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer-	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Mg NO_x	Mg NO_x	%	%	%	%	%	%	%	%	%
01	NO_x	94738	52660	2	20	20,100	14,266	-0,072	0,4571	-1,438	1,293	1,934
02	NO_x	7518	7268	2	50	50,040	4,902	0,021	0,0631	1,053	0,178	1,068
03	NO_x	12954	14265	2	20	20,100	3,865	0,051	0,1238	1,027	0,350	1,085
Total	NO_x	115209	74194				242,487					6,056
Total uncertainties				Overall uncertainty in the year (%):			**15,572**				Trend uncertainty (%):	**2,461**

Table 64 Uncertainty estimation, NMVOC.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Mg NMVOC	Mg NMVOC	%	%	%	%	%	%	%	%	%
01	NMVOC	1073	4128	2	50	50,040	10,583	0,195	0,3251	9,749	0,920	9,792
02	NMVOC	10996	14739	2	50	50,040	37,787	-0,169	1,1609	-8,456	3,283	9,071
03	NMVOC	627	652	2	50	50,040	1,670	-0,025	0,0513	-1,228	0,145	1,236
Total	NMVOC	12696	19519				1542,622					179,706
Total uncertainties				Overall uncertainty in the year (%):			**39,276**				Trend uncertainty (%):	**13,405**

Table 65 Uncertainty estimation, CO.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Mg CO	Mg CO	%	%	%	%	%	%	%	%	%
01	CO	8256	12142	2	20	20,100	1,188	0,013	0,070	0,269	0,199	0,334
02	CO	159295	180277	2	50	50,040	43,928	-0,053	1,044	-2,645	2,954	3,965
03	CO	5082	12941	2	20	20,100	1,267	0,040	0,075	0,799	0,212	0,826
Total	CO	172633	205360				1932,678					16,515
Total uncertainties				Overall uncertainty in the year (%):			**43,962**				Trend uncertainty (%):	**4,064**

Table 66 Uncertainty estimation, TSP.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg TSP	kg TSP	%	%	%	%	%	%	%	%	%
01	TSP	1158	1464	2	50	50,040	4,449	0,014	0,097	0,676	0,273	0,729
02	TSP	12843	13957	2	500	500,004	423,750	0,000	0,921	-0,219	2,606	2,616
03	TSP	1146	1047	2	50	50,040	3,183	-0,013	0,069	-0,654	0,196	0,682
Total	TSP	15147	16469				179593,575					7,838
Total uncertainties				Overall uncertainty in the year (%):			**423,785**				Trend uncertainty (%):	**2,800**

Table 67 Uncertainty estimation, PM_{10}.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg PM_{10}	kg PM_{10}	%	%	%	%	%	%	%	%	%
01	PM_{10}	941	1175	2	50	50,040	3,891	0,011	0,084	0,561	0,238	0,610
02	PM_{10}	12185	13237	2	500	500,004	438,011	0,004	0,948	1,994	2,680	3,340
03	PM_{10}	843	699	2	50	50,040	2,313	-0,015	0,050	-0,762	0,141	0,775
Total	PM_{10}	13969	15111				191874,048					12,131
Total uncertainties				Overall uncertainty in the year (%):			**438,034**				Trend uncertainty (%):	**3,483**

Table 68 Uncertainty estimation, $PM_{2.5}$.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg $PM_{2.5}$	kg $PM_{2.5}$	%	%	%	%	%	%	%	%	%
01	$PM_{2.5}$	804	980	2	50	50,040	3,526	0,008	0,076	0,421	0,216	0,473
02	$PM_{2.5}$	11520	12526	2	500	500,004	450,215	0,002	0,977	1,142	2,763	2,989
03	$PM_{2.5}$	500	405	2	50	50,040	1,456	-0,011	0,032	-0,537	0,089	0,544
Total	$PM_{2.5}$	12825	13911				202707,930					9,457
Total uncertainties				Overall uncertainty in the year (%):			**450,231**				Trend uncertainty (%):	**3,075**

Table 69 Uncertainty estimation, As.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg As	kg As	%	%	%	%	%	%	%	%	%
01	As	965	362	2	100	100,020	57,853	-0,039	0,251	-3,922	0,709	3,986
02	As	127	59	2	1000	1000,002	94,407	0,003	0,041	2,697	0,116	2,699
03	As	349	205	2	100	100,020	32,725	0,037	0,142	3,670	0,401	3,691
Total	As	1442	625				13330,538					36,799
Total uncertainties				Overall uncertainty in the year (%):			**115,458**				Trend uncertainty (%):	**6,066**

Table 70 Uncertainty estimation, Cd.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Cd	kg Cd	%	%	%	%	%	%	%	%	%
01	Cd	592	222	2	100	100,020	42,576	-0,068	0,211	-6,777	0,598	6,804
02	Cd	145	148	2	1000	1000,002	282,605	0,072	0,140	71,917	0,397	71,918
03	Cd	315	152	2	100	100,020	29,178	-0,004	0,145	-0,385	0,410	0,562
Total	Cd	1052	522				82529,603					5218,824
Total uncertainties				Overall uncertainty in the year (%):			**287,280**				Trend uncertainty (%):	**72,241**

Table 71 Uncertainty estimation, Cr.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Cr	kg Cr	%	%	%	%	%	%	%	%	%
01	Cr	4674	468	2	100	100,020	51,425	-0,037	0,077	-3,722	0,217	3,728
02	Cr	326	69	2	1000	1000,002	75,904	0,003	0,011	3,356	0,032	3,356
03	Cr	1103	373	2	100	100,020	41,003	0,034	0,061	3,408	0,173	3,413
Total	Cr	6103	909				10087,264					36,812
Total uncertainties				Overall uncertainty in the year (%):			100,435				Trend uncertainty (%):	6,067

Table 72 Uncertainty estimation, Cu.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Cu	kg Cu	%	%	%	%	%	%	%	%	%
01	Cu	2915	625	2	100	100,020	63,879	-0,045	0,173	-4,456	0,488	4,482
02	Cu	301	186	2	1000	1000,002	189,774	0,029	0,051	28,772	0,145	28,773
03	Cu	405	168	2	100	100,020	17,159	0,016	0,046	1,610	0,131	1,616
Total	Cu	3622	979				40389,053					850,560
Total uncertainties				Overall uncertainty in the year (%):			200,970				Trend uncertainty (%):	29,164

Table 73 Uncertainty estimation, Hg.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Hg	kg Hg	%	%	%	%	%	%	%	%	%
01	Hg	2509	567	2	100	100,020	53,932	-0,094	0,184	-9,370	0,521	9,385
02	Hg	330	243	2	1000	1000,002	230,748	0,042	0,079	42,209	0,223	42,210
03	Hg	238	242	2	100	100,020	23,009	0,052	0,079	5,217	0,222	5,222
Total	Hg	3076	1051				56682,786					1896,998
Total uncertainties				Overall uncertainty in the year (%):			238,081				Trend uncertainty (%):	47,106

Table 74 Uncertainty estimation, Ni.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Ni	kg Ni	%	%	%	%	%	%	%	%	%
01	Ni	8384	2782	2	100	100,020	34,989	-0,016	0,130	-1,571	0,368	1,613
02	Ni	1852	597	2	1000	1000,002	75,073	-0,004	0,028	-4,294	0,079	4,295
03	Ni	11140	4573	2	100	100,020	57,522	0,020	0,214	1,996	0,605	2,086
Total	Ni	21376	7952				10169,032					25,395
Total uncertainties				Overall uncertainty in the year (%):			**100,842**				Trend uncertainty (%):	**5,039**

Table 75 Uncertainty estimation, Pb.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Pb	kg Pb	%	%	%	%	%	%	%	%	%
01	Pb	11994	2177	2	100	100,020	58,688	-0,047	0,142	-4,651	0,401	4,669
02	Pb	945	189	2	1000	1000,002	50,897	-0,003	0,012	-2,572	0,035	2,572
03	Pb	2421	1345	2	100	100,020	36,241	0,049	0,088	4,937	0,248	4,944
Total	Pb	15361	3711				7348,191					52,852
Total uncertainties				Overall uncertainty in the year (%):			**85,722**				Trend uncertainty (%):	**7,270**

Table 76 Uncertainty estimation, Se.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Se	kg Se	%	%	%	%	%	%	%	%	%
01	Se	2961	767	2	100	100,020	44,391	-0,095	0,177	-9,473	0,500	9,486
02	Se	308	162	2	1000	1000,002	93,670	0,009	0,037	9,007	0,106	9,007
03	Se	1065	799	2	100	100,020	46,260	0,086	0,184	8,615	0,521	8,631
Total	Se	4334	1727				12884,639					245,606
Total uncertainties				Overall uncertainty in the year (%):			**113,511**				Trend uncertainty (%):	**15,672**

Table 77 Uncertainty estimation, Zn.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer-	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg Zn	kg Zn	%	%	%	%	%	%	%	%	%
01	Zn	14801	13716	2	100	100,020	76,484	-0,001	0,709	-0,056	2,006	2,007
02	Zn	2810	2951	2	1000	1000,002	164,527	0,018	0,153	17,805	0,432	17,810
03	Zn	1729	1270	2	100	100,020	7,080	-0,017	0,066	-1,725	0,186	1,735
Total	Zn	19340	17937				32969,052					324,245
Total uncertainties				Overall uncertainty in the year (%):			**181,574**				Trend uncertainty (%):	**18,007**

Table 78 Uncertainty estimation, Benzo(b)fluoranthene.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer-	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg	kg	%	%	%	%	%	%	%	%	%
01		31	29	2	100	100,020	0,678	-0,010	0,012	-1,001	0,033	1,002
02		2391	4177	2	1000	1000,002	970,903	0,006	1,690	5,635	4,781	7,390
03		49	96	2	100	100,020	2,232	0,004	0,039	0,432	0,110	0,446
Total		2471	4302				942657,456					55,812
Total uncertainties				Overall uncertainty in the year (%):			**970,905**				Trend uncertainty (%):	**7,471**

Table 79 Uncertainty estimation, Benzo(k)fluoranthene.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer-	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg	kg	%	%	%	%	%	%	%	%	%
01		11	14	2	100	100,020	1,005	-0,006	0,018	-0,619	0,051	0,621
02		749	1376	2	1000	1000,002	979,181	0,039	1,760	38,636	4,979	38,955
03		23	15	2	100	100,020	1,077	-0,033	0,019	-3,281	0,055	3,281
Total		782	1406				958797,883					1528,673
Total uncertainties				Overall uncertainty in the year (%):			**979,182**				Trend uncertainty (%):	**39,098**

Table 80 Uncertainty estimation, Benzo(a)pyrene.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg	kg	%	%	%	%	%	%	%	%	%
01		8	7	2	100	100,020	0,220	-0,003	0,004	-0,337	0,011	0,337
02		1880	3204	2	1000	1000,002	989,187	-0,002	1,688	-1,593	4,774	5,033
03		11	28	2	100	100,020	0,861	0,005	0,015	0,498	0,042	0,500
Total		1898	3239				978492,444					25,692
Total uncertainties				Overall uncertainty in the year (%):			**989,188**				Trend uncertainty (%):	**5,069**

Table 81 Uncertainty estimation, Indeno(1,2,3-c,d)pyrene.

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		kg	kg	%	%	%	%	%	%	%	%	%
01		6	7	2	100	100,020	0,289	-0,002	0,004	-0,169	0,012	0,170
02		1552	2334	2	1000	1000,002	993,361	0,009	1,485	8,913	4,200	9,853
03		14	9	2	100	100,020	0,375	-0,007	0,006	-0,731	0,016	0,731
Total		1572	2350				986766,045					97,644
Total uncertainties				Overall uncertainty in the year (%):			**993,361**				Trend uncertainty (%):	**9,882**

Appendix 10 Lower Calorific Value (LCV) of fuels

Table 82 Time-series for calorific values of fuels (Danish Energy Authority, DEA 2005b).

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Crude Oil, Average	GJ / ton	42,40	42,40	42,40	42,70	42,70	42,70	42,70	43,00	43,00	43,00	43,00	43,00	43,00	43,00	43,00
Crude Oil, Golf	GJ / ton	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80	41,80
Crude Oil, North Sea	GJ / ton	42,70	42,70	42,70	42,70	42,70	42,70	42,70	43,00	43,00	43,00	43,00	43,00	43,00	43,00	43,00
Refinery Feedstocks	GJ / ton	41,60	41,60	41,60	41,60	41,60	41,60	41,60	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70
Refinery Gas	GJ / ton	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00	52,00
LPG	GJ / ton	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00	46,00
Naphtha (LVN)	GJ / ton	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50	44,50
Motor Gasoline	GJ / ton	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80
Aviation Gasoline	GJ / ton	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80
JP4	GJ / ton	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80	43,80
		34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80	34,80
Other Kerosene	GJ / ton	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50
JP1	GJ / ton	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50
		35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87	35,87
Gas/Diesel Oil	GJ / ton	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70	42,70
Fuel Oil	GJ / ton	40,40	40,40	40,40	40,40	40,40	40,40	40,70	40,65	40,65	40,65	40,65	40,65	40,65	40,65	40,65
Orimulsion	GJ / ton	27,60	27,60	27,60	27,60	27,60	28,13	28,02	27,72	27,84	27,58	27,62	27,64	27,71	27,65	27,65
Petroleum Coke	GJ / ton	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40
Waste Oil	GJ / ton	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90
White Spirit	GJ / ton	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50	43,50
Bitumen	GJ / ton	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80	39,80
Lubricants	GJ / ton	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90	41,90
Natural Gas	GJ / 1000 Nm3	39,00	39,00	39,00	39,30	39,30	39,30	39,30	39,60	39,90	40,00	40,15	39,99	40,06	39,94	39,77
Town Gas	GJ / 1000 m3							17,00	17,00	17,00	17,00	17,01	16,88	17,39	16,88	17,58
Electricity Plant Coal	GJ / ton	25,30	25,40	25,80	25,20	24,50	24,50	24,70	24,96	25,00	25,00	24,80	24,90	25,15	24,73	24,60
Other Hard Coal	GJ / ton	26,10	26,50	26,50	26,50	26,50	26,50	26,50	26,50	26,50	26,50	26,50	26,50	26,50	26,50	26,50
Gas Plant Coal	GJ / ton															
Coke	GJ / ton	31,80	29,30	29,30	29,30	29,30	29,30	29,30	29,30	29,30	29,30	29,30	29,30	29,30	29,30	29,30
Brown Coal Briquettes	GJ / ton	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30	18,30
Straw	GJ / ton	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50	14,50
Wood Chips	GJ/Rummeter	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80	2,80
Firewood, Hardwood	GJ / m3	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40	10,40
Firewood, Conifer	GJ / m3	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60	7,60
Wood Pellets	GJ / ton	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50	17,50
Wood Waste	GJ / ton	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70	14,70
Wood Waste	GJ/Rummeter	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20	3,20
Biogas	GJ / 1000 m3								23,00	23,00	23,00	23,00	23,00	23,00	23,00	23,00
Waste Combustion	GJ / ton	8,20	8,20	9,00	9,40	9,40	10,00	10,50	10,50	10,50	10,50	10,50	10,50	10,50	10,50	10,50
Liquid Biofuels											37,60	37,60	37,60	37,60	37,60	37,60
Fish Oil	GJ / ton	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20	37,20

Table 83 Fuel category correspondence list, Danish Energy Authority, NERI and Climate convention reportings (IPCC).

Danish Energy Authority	NERI Emission database	IPCC fuel category
Other Hard Coal	Coal	Solid
Coke	Coke oven coke	Solid
Electricity Plant Coal	Coal	Solid
Brown Coal Briquettes	Brown coal briq.	Solid
Orimulsion	Orimulsion	Liquid
Petroleum Coke	Petroleum coke	Liquid
Fuel Oil	Residual oil	Liquid
Waste Oil	Residual oil	Liquid
Gas/Diesel Oil	Gas oil	Liquid
Other Kerosene	Kerosene	Liquid
LPG	LPG	Liquid
Refinery Gas	Refinery gas	Liquid
Town Gas	Natural gas	Gas
Natural Gas	Natural gas	Gas
Straw	Straw	Biomass
Wood Waste	Wood and simil.	Biomass
Wood Pellets	Wood and simil.	Biomass
Wood Chips	Wood and simil.	Biomass
Firewood, Hardwood & Conifer	Wood and simil.	Biomass
Waste Combustion	Municip. wastes	Biomass 1)
Fish Oil	Fish & Rape oil	Biomass
Biogas	Biogas	Biomass
Biogas, other	Biogas	Biomass
Biogas, landfill	Biogas	Biomass
Biogas, sewage sludge	Biogas	Biomass

1) CO_2 from plastic part included in Other fuels

Appendix 11 Adjustment of CO_2 emission

Table 84 Adjustment of CO_2 emission (ref. Danish Energy Authority).

Degree Days		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Actual Degree Days	Degree days	2093	2515	3022	3434	3148	3297	3837	3236	3217	3056	2902	3279	3011	3150	3113
Normal Degree Days	Degree days	2691	2691	3370	3370	3370	3370	3370	3370	3370	3370	3370	3370	3370	3370	3370
Net electricity import	TJ	25373	-7 099	13486	4 266	-17424	-2 858	-55444	-26107	-15552	-8 327	2 394	-2 071	-7 453	-30760	-10340
Actual CO_2 emission	1.000.000 tonnes	52,7	62,8	56,7	58,9	62,7	59,6	73,0	63,2	59,4	56,4	52,4	53,8	53,0	58,0	52,7
Adjusted CO_2 emission	1.000.000 tonnes	60,9	61,8	60,8	59,8	59,7	59,1	58,4	57,6	56,2	55,4	54,3	53,7	52,4	51,8	51,2

Appendix 12 Reference approach

TABLE 1.A(b) SECTORAL BACKGROUND DATA FOR ENERGY
CO_2 from Fuel Combustion Activities - Reference Approach (IPCC Worksheet 1-1)
(Sheet 1 of 1)

FUEL TYPES			Unit	Production	Imports	Exports	International bunkers	Stock change	Apparent consumption
Liquid Fossil	Primary Fuels	Crude Oil	TJ	828.564,21	160.588,66	642.420,56		1.594,18	345.138,13
		Orimulsion	TJ	0,00	0,00	0,00		-55,94	55,94
		Natural Gas Liquids	TJ	0,00	0,00	0,00		0,00	0,00
	Secondary Fuels	Gasoline	TJ		38.457,38	41.952,69	24,60	-1.191,31	-2.328,61
		Jet Kerosene	TJ		30.841,26	18.306,19	33.983,35	1.522,19	-22.970,47
		Other Kerosene	TJ		0,00	0,00	0,00	0,00	0,00
		Shale Oil	TJ		0,00	0,00		0,00	0,00
		Gas / Diesel Oil	TJ		78.409,31	49.845,90	16.152,08	-7.172,13	19.583,46
		Residual Fuel Oil	TJ		36.520,89	56.644,64	17.298,08	1.034,75	-38.456,57
		LPG	TJ		203,50	4.373,96		-133,49	-4.036,96
		Ethane	TJ		0,00	0,00		0,00	0,00
		Naphtha	TJ		0,00	201,90		77,03	-278,93
		Bitumen	TJ		9.134,58	105,11		-145,43	9.174,90
		Lubricants	TJ		1.870,79	68,38	83,38	-25,01	1.744,05
		Petroleum Coke	TJ		7.452,82	433,54		-1.373,66	8.392,94
		Refinery Feedstocks	TJ		5.224,26	4.717,33		1.022,37	-515,43
		Other Oil	TJ		1.044,00	55,03		0,00	988,97
Liquid Fossil Totals									
Solid Fossil	Primary Fuels	Anthracite [2]	TJ	0,00	0,00	0,00		0,00	0,00
		Coking Coal	TJ	0,00	0,00	0,00		0,00	0,00
		Other Bit. Coal	TJ	0,00	187.862,03	3.874,10	0,00	2.753,55	181.234,38
		Sub-bit. Coal	TJ	0,00	0,00	0,00	0,00	0,00	0,00
		Lignite	TJ	0,00	0,00	0,00		0,00	0,00
		Oil Shale	TJ	0,00	0,00	0,00		0,00	0,00
		Peat	TJ	0,00	0,00	0,00		0,00	0,00
	Secondary Fuels	BKB & Patent Fuel	TJ		5,76	6,00		0,00	-0,24
		Coke Oven/Gas Coke	TJ		1.232,27	52,48		-40,14	1.219,93
Solid Fuel Totals									
Gaseous Fossil		Natural Gas (Dry)	TJ	355.529,91	0,00	154.549,78		6.972,59	194.007,54
Total									
Biomass total									
		Solid Biomass	TJ	84.230,73	10.265,02	0,00		0,00	94.495,75
		Liquid Biomass	TJ	2.444,00	0,00	2.444,00		0,00	0,00
		Gas Biomass	TJ	3.738,12	0,00	0,00		0,00	3.738,12

FUEL TYPES	Conversion factor [1] (TJ/Unit)	[1]	Apparent consumption (TJ)	Carbon emission factor (t C/TJ)	Carbon content (Gg C)	Carbon stored (Gg C)	Net carbon emissions (Gg C)	Fraction of carbon oxidized	Actual CO_2 emissions (Gg CO_2)
Crude Oil	1,00	NCV	345.138,13	20,00	6.902,76		6.902,76	1,00	25.310,13
Orimulsion	1,00	NCV	55,94	22,00	1,23		1,23	1,00	4,51
Natural Gas Liquids	1,00	NCV	0,00	17,20	0,00		0,00	1,00	0,00
Gasoline	1,00	NCV	-2.328,61	18,90	-44,01		-44,01	1,00	-161,37
Jet Kerosene	1,00	NCV	-22.970,47	19,50	-447,92		-447,92	1,00	-1.642,39
Other Kerosene	1,00	NCV	0,00	19,60	0,00		0,00	1,00	0,00
Shale Oil	1,00	NCV	0,00	20,00	0,00		0,00	1,00	0,00
Gas / Diesel Oil	1,00	NCV	19.583,46	20,20	395,59	0,00	395,59	1,00	1.450,48
Residual Fuel Oil	1,00	NCV	-38.456,57	21,10	-811,43		-811,43	1,00	-2.975,26
LPG	1,00	NCV	-4.036,96	17,20	-69,44	0,00	-69,44	1,00	-254,60
Ethane	1,00	NCV	0,00	16,80	0,00	0,00	0,00	1,00	0,00
Naphtha	1,00	NCV	-278,93	20,00	-5,58	0,00	-5,58	1,00	-20,45
Bitumen	1,00	NCV	9.174,90	22,00	201,85	213,80	-11,95	1,00	-43,82
Lubricants	1,00	NCV	1.744,05	20,00	34,88	18,34	16,54	1,00	60,63
Petroleum Coke	1,00	NCV	8.392,94	27,50	230,81		230,81	1,00	846,29
Refinery Feedstocks	1,00	NCV	-515,43	20,00	-10,31		-10,31	1,00	-37,80
Other Oil	1,00	NCV	988,97	20,00	19,78	9,30	10,48	1,00	38,44
Liquid Fossil Totals			316.491,41		6.398,20	241,44	6.156,76		22.574,80
Anthracite [2]	1,00	NCV	0,00	26,80	0,00		0,00	1,00	0,00
Coking Coal	1,00	NCV	0,00	25,80	0,00	0,00	0,00	1,00	0,00
Other Bit. Coal	1,00	NCV	181.234,38	25,80	4.675,85		4.675,85	1,00	17.144,77
Sub-bit. Coal	1,00	NCV	0,00	26,20	0,00		0,00	1,00	0,00
Lignite	1,00	NCV	0,00	27,60	0,00		0,00	1,00	0,00
Oil Shale	1,00	NCV	0,00	29,10	0,00		0,00	1,00	0,00
Peat	1,00	NCV	0,00	28,90	0,00		0,00	1,00	0,00
BKB & Patent Fuel	1,00	NCV	-0,24	25,80	-0,01		-0,01	1,00	-0,02
Coke Oven/Gas Coke	1,00	NCV	1.219,93	29,50	35,99		35,99	1,00	131,96
Solid Fuel Totals			182.454,07		4.711,83	0,00	4.711,83		17.276,71
Natural Gas (Dry)	1,00	NCV	194.007,54	15,30	2.968,32	0,00	2.968,32	1,00	10.883,82
Total			**692.953,02**		**14.078,35**	**241,44**	**13.836,91**		**50.735,33**
Biomass total			98.233,87		2.910,65	0,00	2.910,65		10.672,39
Solid Biomass	1,00	NCV	94.495,75	29,90	2.825,42		2.825,42	1,00	10.359,88
Liquid Biomass	1,00	NCV	0,00	20,00	0,00		0,00	1,00	0,00
Gas Biomass	1,00	NCV	3.738,12	22,80	85,23		85,23	1,00	312,51

TABLE 1.A(c) COMPARISON OF CO_2 EMISSIONS FROM FUEL COMBUSTION
(Sheet 1 of 1)

Denmark
2004
2006, Jan 13

FUEL TYPES	Reference approach		National approach [1]		Difference [2]	
	Energy consumption (PJ)	CO_2 emissions (Gg)	Energy consumption (PJ)	CO_2 emissions (Gg)	Energy consumption (%)	CO_2 emissions (%)
Liquid Fuels (excluding international bunkers)	316,49	22.574,80	301,40	22.176,13	5,01	1,80
Solid Fuels (excluding international bunkers)	182,45	17.276,71	183,64	17.460,63	-0,65	-1,05
Gaseous Fuels	194,01	10.883,82	195,08	11.142,75	-0,55	-2,32
Other [3]	-12,17	676,45	0,40	705,98	-3.108,44	-4,18
***Total* [3]**	**680,78**	**51.411,78**	**680,52**	**51.485,49**	**0,04**	**-0,14**

[1] "National approach" is used to indicate the approach (if different from the Reference approach) followed by the Party to estimate its CO_2 emissions from fuel combustion reported in the national GHG inventory.

[2] Difference of the Reference approach over the National approach (i.e. difference = 100% x ((RA-NA)/NA), where NA = National approach and RA = Reference approach).

[3] Emissions from biomass are not included.

Note: In addition to estimating CO_2 emissions from fuel combustion by sector, Parties should also estimate these emissions using the IPCC Reference approach, as found in the IPCC Guidelines, Worksheet 1-1(Volume 2. Workbook). The Reference approach is to assist in verifying the sectoral data. Parties should also complete the above tables to compare the alternative estimates, and if the emission estimates lie more than 2 percent apart, should explain the source of this difference in the documentation box provided.

Documentation Box:
Non-energy use of fuels is not included in the Danish National Approach. Fuel consumption for non-energy is subtracted in Reference Approach to make results comparable.
CO2 emission from plastic part of municipal wastes is included in the Danish National Approach.
CO2 emission from the plastic part of municipal wastes is added in Reference Approach to make results comparable. (Other fuels of sources 1A1, 1A2 and 1A4)

Table 85 Fuel category correspondence list for the reference approach.

Reference approach		Danish energy statistics
Biomass	Gas Biomass	Biogas, other
Biomass	Gas Biomass	Biogas, landfill
Biomass	Gas Biomass	Biogas, sewage sludge
Biomass	Liquid Biomass	Liquid biofuels
Biomass	Solid Biomass	Fish oil
Biomass	Solid Biomass	Waste combustion, plastic
Biomass	Solid Biomass	Waste combustion, other
Biomass	Solid Biomass	Firewood
Biomass	Solid Biomass	Straw
Biomass	Solid Biomass	Wood Chips
Biomass	Solid Biomass	Firewood
Biomass	Solid Biomass	Wood Pellets
Liquid fossil	Bitumen	Bitumen
Liquid fossil	Crude oil	Crude Oil
Liquid fossil	Crude oil	Waste Oil
Liquid fossil	Ethane	-
Liquid fossil	Gas/diesel oil	Gas/Diesel Oil
Liquid fossil	Gasoline	Aviation Gasoline
Liquid fossil	Gasoline	Motor Gasoline
Liquid fossil	Jet Kerosene	JP1
Liquid fossil	Jet Kerosene	JP4
Liquid fossil	LPG	LPG
Liquid fossil	Lubricants	Lubricants
Liquid fossil	Other Oil	White Spirit
Liquid fossil	Naphtha	Naphtha (LVN)
Gaseous fossil	Natural gas	Natural Gas
Liquid fossil	Natural gas liquids	-
Liquid fossil	Orimulsion	Orimulsion
Liquid fossil	Other kerosene	Other Kerosene
Liquid fossil	Petroleum coke	Petroleum Coke
Liquid fossil	Refinery feedstocks	Refinery Feedstocks
Liquid fossil	Residual fuel oil	Fuel Oil
Liquid fossil	Shale oil	-
Solid fossil	Anthracite	-
Solid fossil	BKB & Patent fuel	Brown Coal Briquettes
Solid fossil	Coke oven/gas coke	Coke
Solid fossil	Coking Coal	-
Solid fossil	Lignite	-
Solid fossil	Oil Shale	-
Solid fossil	Other Bit. Coal	Other Hard Coal
Solid fossil	Other Bit. Coal	Electricity Plant Coal
Solid fossil	Peat	-
Solid fossil	Sub-bit. coal	-

Appendix 13 Emission inventory 2004 based on SNAP sectors

Table 86 Emission inventory 2004 based on SNAP sectors.

SNAP 2)	SO2 [Mg]	NOX [Mg]	NMVOC [Mg]	CH4 [Mg]	CO [Mg]	CO_2 1) [Gg]	N2O [Mg]	TSP [Mg]	PM10 [Mg]	PM2,5 [Mg]	As [kg]	Cd [kg]	Cr [kg]	Cu [kg]	Hg [kg]	Ni [kg]	Pb [kg]	Se [kg]	Zn [kg]	Flouran-the [kg]	Benzo(b) [kg]	Benzo(k) [kg]	Benzo(a) [kg]	Benzo(g,) [kg]	Indeno [kg]
Total 01	10196	52660	4128	15365	12142	31924	498	1464	1175	980	362	222	468	625	567	2782	2177	767	13716	220	29	14	7	17	7
101	-	0	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10101	6943	27881	312	387	2349	17977	172	731	584	481	127	17	222	146	148	1424	219	692	26	14	3	1	1	2	1
10102	1218	4603	57	45	714	4008	43	120	88	72	157	84	98	246	122	259	1330	45	9393	6	0	0	0	0	0
10103	422	1303	16	21	261	1204	13	60	37	30	47	41	20	98	96	45	411	1	2678	3	0	0	0	0	0
10104	391	3628	82	79	824	3112	90	209	206	171	3	2	5	3	1	80	7	5	12	18	4	1	1	2	1
10105	39	5282	3119	14188	5021	1648	35	24	6	5	0	0	0	0	0	1	0	1	1	4	1	1	0	0	0
102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10201	2	6	0	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10202	50	115	36	26	206	132	4	16	12	10	1	5	2	5	6	22	4	2	90	6	1	1	0	0	0
10203	700	1289	407	290	2238	1246	45	166	118	93	11	59	85	112	189	262	181	8	1512	167	19	11	5	11	3
10204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10205	1	103	57	258	93	31	1	0	0	0	0	-	0	0	0	-	0	0	0	0	0	0	-	-	-
103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10302	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10304	1	641	2	2	24	216	8	19	19	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10306	420	967	0	0	214	772	26	114	103	98	15	14	36	14	5	688	25	13	3	2	1	0	0	0	0
104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10403	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10502	0	40	1	2	10	21	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10503	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10504	8	6767	38	41	168	1546	60	3	2	1	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0
10505	1	35	2	26	19	6	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10506	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 02	3176	7268	14739	8033	180277	7867	216	13957	13237	12526	59	148	69	186	243	597	189	162	2951	15261	4177	1376	3204	4324	2334
201	174	613	443	200	578	1005	22	123	123	117	7	7	9	12	12	74	19	22	156	548	151	50	115	157	82
20101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20103	80	18	1	2	6	21	1	8	7	5	4	1	2	2	40	2	2	0	27	1	0	-	0	-	-
20104	0	3	0	0	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20105	10	453	128	704	322	102	2	2	0	0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
20106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
202	1738	4631	12385	4289	170550	5752	165	13308	12626	11952	32	127	28	153	169	49	132	119	2694	14227	3906	1301	2980	4035	2104
20201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20202	0	2	0	1	1	4	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20204	0	248	173	767	258	84	2	1	0	0	-	-	-	-	-	-	-	-	-	0	0	0	-	0	0
20205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

203	1161	589	1268	448	7945	696	20	511	480	450	16	12	30	18	22	469	35	20	74	483	119	25	109	132	148
20301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20302	3	1	0	0	2	1	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0
20303	0	7	0	0	0	3	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20304	9	703	341	1622	613	198	4	3	1	1	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0
20305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 03	6927	14265	652	1464	12941	5526	150	1047	699	405	205	152	373	168	242	4573	1345	799	1270	3681	96	15	28	9	9
301	4352	2806	307	362	1932	3026	72	239	177	125	89	94	183	107	57	3303	164	79	573	168	10	9	1	5	4
30101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30102	1049	467	33	42	134	415	10	140	42	12	29	23	60	27	10	1092	49	22	20	26	1	2	0	1	1
30103	9	36	17	13	86	42	1	7	4	3	-	2	-	2	2	-	1	-	47	1	0	0	-	0	-
30104	2	672	9	10	41	379	15	1	0	0	-	-	-	-	-	-	-	-	-	0	-	0	-	0	0
30105	1	273	184	822	279	91	2	1	0	0	-	-	0	-	-	0	0	-	-	0	0	0	-	0	0
30106	0	1	0	0	1	2	0	0	0	0	0	-	0	0	0	0	0	0	0	0	-	-	-	-	-
302	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30302	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30303	-	-	-	-	-	-	-	181	54	8	27	13	100	-	-	118	652	453	453	-	-	-	-	-	-
30304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30307	-	-	-	-	-	-	-	2	1	1	-	0	-	1	-	-	9	-	-	-	-	-	-	-	-
30308	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30310	-	-	-	-	-	-	-	20	18	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30311	992	9441	89	193	1240	1396	45	196	177	78	57	20	29	29	172	57	29	20	143	3473	83	4	26	3	3
30312	-	-	-	-	-	-	-	27	14	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30315	0	467	2	5	10	52	1	23	21	18	-	-	-	-	-	-	436	225	25	0	-	-	-	-	-
30316	-	-	-	-	-	-	-	99	89	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30317	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30318	522	103	11	16	9218	123	3	111	100	78	3	0	2	3	1	4	5	0	9	11	1	1	0	1	1
30319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30321	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30324	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30327	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1) Including CO_2 emission from biomass
2) SNAP sector codes are shown in appendix 3

Annex 2B

Transport

List of content

Annex 2B-1: Fleet data 1990-2004 for road transport (No. vehicles)

Sector	Subsector	Tech	FYear	LYear	1985	1986	1987	1988	1989	1990	1991	1992	1993
Passenger Cars	Gasoline <1.4 l	PRE ECE	0	1969	80570	70965	61916	53661	49471	46208	44014	42804	36466
Passenger Cars	Gasoline <1.4 l	ECE 15/00-01	1970	1978	333714	319739	297370	247511	217970	187911	161642	139011	119423
Passenger Cars	Gasoline <1.4 l	ECE 15/02	1979	1980	104223	81798	75344	97293	92422	86056	79240	72588	65798
Passenger Cars	Gasoline <1.4 l	ECE 15/03	1981	1985	345946	374460	359056	308509	306989	301692	295678	288944	280769
Passenger Cars	Gasoline <1.4 l	ECE 15/04	1986	1990		46574	114381	206106	245261	282011	280180	278685	278152
Passenger Cars	Gasoline <1.4 l	Euro I	1991	1996							39608	73527	101489
Passenger Cars	Gasoline <1.4 l	Euro II	1997	2000									
Passenger Cars	Gasoline <1.4 l	Euro III	2001	2005									
Passenger Cars	Gasoline 1.4 - 2.0 l	PRE ECE	0	1969	61592	54869	48157	41737	38477	35940	34233	33292	28362
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/00-01	1970	1978	218181	211819	199591	168672	148280	127631	109640	94187	80843
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/02	1979	1980	60836	50077	46439	62263	59148	55063	50674	46402	42040
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/03	1981	1985	210573	222174	211067	178826	177843	174544	170748	166595	161592
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/04	1986	1990		31049	74328	131279	159911	190297	188948	187873	187524
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro I	1991	1996							35647	75763	119561
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro II	1997	2000									
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro III	2001	2005									
Passenger Cars	Gasoline >2.0 l	PRE ECE	0	1969	5923	5243	4586	3975	3665	3423	3260	3171	2701
Passenger Cars	Gasoline >2.0 l	ECE 15/00-01	1970	1978	18531	17532	16672	14346	12566	10780	9234	7914	6782
Passenger Cars	Gasoline >2.0 l	ECE 15/02	1979	1980	8729	6326	4457	4966	4718	4392	4042	3702	3355
Passenger Cars	Gasoline >2.0 l	ECE 15/03	1981	1985	31066	33255	31913	25237	25111	24666	24157	23596	22911
Passenger Cars	Gasoline >2.0 l	ECE 15/04	1986	1990		4085	9932	19410	22965	25679	25524	25389	25338
Passenger Cars	Gasoline >2.0 l	Euro I	1991	1996							3961	8129	12434
Passenger Cars	Gasoline >2.0 l	Euro II	1997	2000									
Passenger Cars	Gasoline >2.0 l	Euro III	2001	2005									
Passenger Cars	Diesel <2.0 l	Euro I	1991	1996							4042	8018	11873
Passenger Cars	Diesel <2.0 l	Euro II	1997	2000									
Passenger Cars	Diesel <2.0 l	Euro III	2001	2005									
Passenger Cars	Diesel <2.0 l	Conventional	0	1990	75827	78430	79758	80200	80188	79714	75795	72294	68535

Passenger Cars	Diesel >2.0 l	Euro I	1991	1996							213	436	667
Passenger Cars	Diesel >2.0 l	Euro II	1997	2000									
Passenger Cars	Diesel >2.0 l	Euro III	2001	2005									
Passenger Cars	Diesel >2.0 l	Conventional	0	1990	3451	3566	3627	3647	3706	3704	3557	3423	3280

Sector	Subsector	Tech	FYear	LYear	1985	1986	1987	1988	1989	1990	1991	1992	1993
Passenger Cars	LPG	Euro I	1991	1996	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Euro II	1997	2000	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Euro III	2001	2005	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Conventional	0	1990	287	287	287	287	287	286	286	288	289
Passenger Cars	2-Stroke	Conventional	0	9999	4823	5402	5997	6026	5853	5417	4804	4308	3747
Light Duty Vehicles	Gasoline <3.5t	Conventional	0	1994	33049	36810	39724	41321	41967	42333	43215	44179	45487
Light Duty Vehicles	Gasoline <3.5t	Euro I	1995	1998									
Light Duty Vehicles	Gasoline <3.5t	Euro II	1999	2001									
Light Duty Vehicles	Gasoline <3.5t	Euro III	2002	2006									
Light Duty Vehicles	Diesel <3.5 t	Conventional	0	1994	121431	135248	145954	151822	154198	155543	158782	162324	167129
Light Duty Vehicles	Diesel <3.5 t	Euro I	1995	1998									
Light Duty Vehicles	Diesel <3.5 t	Euro II	1999	2001									
Light Duty Vehicles	Diesel <3.5 t	Euro III	2002	2006									
Heavy Duty Vehicles	Gasoline >3.5 t	Conventional	0	9999	251	261	262	255	254	250	255	261	267
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Conventional	0	1993	5140	5338	5353	5228	5194	5108	5214	5331	5487
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro I	1994	1996									
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro II	1997	2001									
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro III	2002	2006									
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Conventional	0	1993	10350	10750	10779	10528	10460	10286	10500	10735	11052
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro I	1994	1996									
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro II	1997	2001									
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro III	2002	2006									
Heavy Duty Vehicles	Diesel 16 - 32 t	Conventional	0	1993	13115	13623	13659	13342	13255	13034	13306	13603	14006
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro I	1994	1996									
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro II	1997	2001									
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro III	2002	2006									
Heavy Duty Vehicles	Diesel >32t	Conventional	0	1993	11517	11962	11994	11715	11640	11446	11683	11944	12299
Heavy Duty Vehicles	Diesel >32t	Euro I	1994	1996									

Heavy Duty Vehicles	Diesel >32t	Euro II	1997	2001
Heavy Duty Vehicles	Diesel >32t	Euro III	2002	2006

Sector	Subsector	Tech	FYear	LYear	1985	1986	1987	1988	1989	1990	1991	1992	1993
Buses	Urban Buses	Conventional	0	1993	4712	4768	4771	4761	4724	4753	4561	4522	4489
Buses	Urban Buses	Euro I	1994	1996									
Buses	Urban Buses	Euro II	1997	2001									
Buses	Urban Buses	Euro III	2002	2006									
Buses	Coaches	Conventional	0	1993	3298	3337	3339	3332	3307	3327	2868	3007	3086
Buses	Coaches	Euro I	1994	1996									
Buses	Coaches	Euro II	1997	2001									
Buses	Coaches	Euro III	2002	2006									
Mopeds	<50 cm³	Conventional	0	1999	151000	139000	133000	127000	124000	120000	118000	113000	109000
Mopeds	<50 cm³	97/24/EC I	2000	2002									
Mopeds	<50 cm³	97/24/EC II	2003	9999									
Motorcycles	2-stroke >50 cm³	Conventional	0	1999	6209	6280	6368	6368	6488	6617	6804	6904	7111
Motorcycles	4-stroke <250 cm³	Conventional	0	1999	7037	7118	7218	7217	7353	7499	7712	7824	8059
Motorcycles	4-stroke <250 cm³	97/24/EC	2000	2003									
Motorcycles	4-stroke <250 cm³	Stage II	2004	2006									
Motorcycles	4-stroke 250 - 750 cm³	Conventional	0	1999	19352	19573	19848	19845	20222	20622	21207	21516	22162
Motorcycles	4-stroke 250 - 750 cm³	97/24/EC	2000	2003									
Motorcycles	4-stroke 250 - 750 cm³	Stage II	2004	2006									
Motorcycles	4-stroke >750 cm³	Conventional	0	1999	8796	8897	9022	9021	9192	9374	9639	9780	10074
Motorcycles	4-stroke >750 cm³	97/24/EC	2000	2003									
Motorcycles	4-stroke >750 cm³	Stage II	2004	2006									

Sector	Subsector	Tech	FYear	LYear	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Passenger Cars	Gasoline <1.4 l	PRE ECE	0	1969	39959	37597	37130	3434	2761	2103	1744	1614	1475	1392	1313
Passenger Cars	Gasoline <1.4 l	ECE 15/00-01	1970	1978	80742	67991	53301	44337	31104	22513	17979	15837	14154	13149	12404
Passenger Cars	Gasoline <1.4 l	ECE 15/02	1979	1980	49613	42977	34748	25889	17457	10806	7298	5510	4177	3128	2433
Passenger Cars	Gasoline <1.4 l	ECE 15/03	1981	1985	262502	250449	233657	215509	183239	147179	118980	97964	79041	60724	45825
Passenger Cars	Gasoline <1.4 l	ECE 15/04	1986	1990	275858	272988	269954	275190	264791	254033	235890	219215	194543	171430	142491
Passenger Cars	Gasoline <1.4 l	Euro I	1991	1996	139813	169133	205235	210861	208282	206804	204184	201708	197423	192152	185489
Passenger Cars	Gasoline <1.4 l	Euro II	1997	2000				38465	74494	108508	135031	132813	130153	128898	126401
Passenger Cars	Gasoline <1.4 l	Euro III	2001	2005								21858	47428	70311	99658
Passenger Cars	Gasoline 1.4 - 2.0 l	PRE ECE	0	1969	31079	29242	28879	2671	2148	1635	1356	1255	1147	1083	1021
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/00-01	1970	1978	54600	45990	36078	30465	21519	15648	12537	11078	9923	9231	8708
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/02	1979	1980	31712	27445	22172	16510	11141	6870	4642	3500	2658	1987	1545
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/03	1981	1985	150612	143385	133411	122642	103931	83270	67222	55301	44572	34237	25811
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/04	1986	1990	186046	184195	182297	186155	179510	172582	160800	149915	133745	118448	99092
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro I	1991	1996	201006	288095	375253	383871	378062	375137	370803	367135	359958	351646	340424
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro II	1997	2000				95358	196046	274022	326267	320971	314678	311808	305622
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro III	2001	2005								49700	105324	147067	195431
Passenger Cars	Gasoline >2.0 l	PRE ECE	0	1969	2960	2785	2750	254	205	156	129	120	109	103	97
Passenger Cars	Gasoline >2.0 l	ECE 15/00-01	1970	1978	4568	3849	3022	2619	1882	1367	1110	989	885	823	777
Passenger Cars	Gasoline >2.0 l	ECE 15/02	1979	1980	2531	2190	1770	1318	889	549	371	280	212	158	123
Passenger Cars	Gasoline >2.0 l	ECE 15/03	1981	1985	21429	20432	19054	17570	14933	12016	9723	8008	6459	4965	3744
Passenger Cars	Gasoline >2.0 l	ECE 15/04	1986	1990	25119	24845	24547	24976	23976	22975	21252	19699	17377	15265	12606
Passenger Cars	Gasoline >2.0 l	Euro I	1991	1996	20068	27915	35769	36617	36081	35807	35387	35024	34329	33515	32430
Passenger Cars	Gasoline >2.0 l	Euro II	1997	2000				12432	27315	44922	61899	60799	59506	58896	57816
Passenger Cars	Gasoline >2.0 l	Euro III	2001	2005								15179	30712	45080	65819
Passenger Cars	Diesel <2.0 l	Euro I	1991	1996	18305	24557	31178	31314	31728	35117	39313	43578	48670	53462	59969
Passenger Cars	Diesel <2.0 l	Euro II	1997	2000				7046	14640	23084	31540	34764	38841	43327	49262
Passenger Cars	Diesel <2.0 l	Euro III	2001	2005								5482	13338	21371	33648
Passenger Cars	Diesel <2.0 l	Conventional	0	1990	62145	58846	55003	48252	43894	43002	42599	42638	42101	40524	38623
Passenger Cars	Diesel >2.0 l	Euro I	1991	1996	1078	1499	1921	1929	1951	2161	2420	2683	2998	3294	3698
Passenger Cars	Diesel >2.0 l	Euro II	1997	2000				655	1478	2710	4232	4658	5196	5789	6592
Passenger Cars	Diesel >2.0 l	Euro III	2001	2005								1163	2681	4432	7505

Passenger Cars	Diesel >2.0 l	Conventional	0	1990	3041	2904	2749	2461	2267	2234	2228	2228	2190	2097	1977

Sector	Subsector	Tech	FYear	LYear	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Passenger Cars	LPG	Euro I	1991	1996	0	0	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Euro II	1997	2000	0	0	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Euro III	2001	2005	0	0	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Conventional	0	1990	289	301	311	172	97	44	32	63	21	15	15
Passenger Cars	2-Stroke	Conventional	0	9999	3029	2443	1824	1248	761	400	300	200	150	100	50
Light Duty Vehicles	Gasoline <3.5t	Conventional	0	1994	47260	44601	41519	37209	34454	31490	28488	25423	21615	18838	14577
Light Duty Vehicles	Gasoline <3.5t	Euro I	1995	1998		4259	8524	12645	17212	16632	15979	15528	15050	13949	14793
Light Duty Vehicles	Gasoline <3.5t	Euro II	1999	2001						4705	9300	14017	13916	13805	14126
Light Duty Vehicles	Gasoline <3.5t	Euro III	2002	2006									5140	10719	16724
Light Duty Vehicles	Diesel <3.5 t	Conventional	0	1994	173650	163878	152553	142109	131572	122991	115694	105397	92990	82926	66760
Light Duty Vehicles	Diesel <3.5 t	Euro I	1995	1998		15648	31318	48292	65728	64964	64894	64370	64743	61407	67752
Light Duty Vehicles	Diesel <3.5 t	Euro II	1999	2001						18376	37766	58112	59870	60772	64698
Light Duty Vehicles	Diesel <3.5 t	Euro III	2002	2006									22112	47185	76596
Heavy Duty Vehicles	Gasoline >3.5 t	Conventional	0	9999	278	288	295	262	274	251	257	248	249	248	233
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Conventional	0	1993	5205	4891	4532	3999	3692	3079	2406	1978	1739	1407	1069
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro I	1994	1996	497	1004	1506	1440	1434	1269	1056	951	956	814	902
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro II	1997	2001				529	1088	1487	1702	1990	2064	1872	2036
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro III	2002	2006									484	941	1541
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Conventional	0	1993	10482	9850	9126	7801	6604	5613	5085	4211	3136	2571	1639
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro I	1994	1996	1001	2022	3034	2808	2565	2313	2234	2025	1724	1485	1384
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro II	1997	2001				1032	1945	2709	3601	4235	3724	3421	3123
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro III	2002	2006									872	1721	2364
Heavy Duty Vehicles	Diesel 16 - 32 t	Conventional	0	1993	13283	12481	11564	10719	9831	8982	7933	6815	5525	4571	3110
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro I	1994	1996	1268	2562	3844	3859	3821	3702	3486	3276	3037	2642	2627
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro II	1997	2001				1419	2896	4336	5616	6853	6560	6082	5926
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro III	2002	2006									1537	3058	4484
Heavy Duty Vehicles	Diesel >32t	Conventional	0	1993	11665	10961	10155	9337	8720	8180	7361	6527	5486	4716	3283
Heavy Duty Vehicles	Diesel >32t	Euro I	1994	1996	1114	2250	3375	3362	3389	3372	3234	3138	3016	2726	2772
Heavy Duty Vehicles	Diesel >32t	Euro II	1997	2001				1236	2568	3948	5211	6564	6513	6275	6253
Heavy Duty Vehicles	Diesel >32t	Euro III	2002	2006									1526	3155	4732

Sector	Subsector	Tech	FYear	LYear	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Buses	Urban Buses	Conventional	0	1993	4083	3635	3261	2946	2793	2542	2319	2158	1976	1860	1711
Buses	Urban Buses	Euro I	1994	1996	390	746	1084	1060	972	913	852	792	752	714	663
Buses	Urban Buses	Euro II	1997	2001				390	728	1053	1346	1596	1525	1446	1345
Buses	Urban Buses	Euro III	2002	2006									346	669	951
Buses	Coaches	Conventional	0	1993	2928	4507	4156	3662	3370	3006	2723	2444	2165	1962	1773
Buses	Coaches	Euro I	1994	1996	280	925	1381	1318	1174	1079	1001	896	823	752	688
Buses	Coaches	Euro II	1997	2001				485	879	1246	1580	1807	1670	1527	1394
Buses	Coaches	Euro III	2002	2006									379	706	986
Mopeds	<50 cm³	Conventional	0	1999	105000	114167	123333	132500	141667	150833	143607	136249	128209	120305	112262
Mopeds	<50 cm³	97/24/EC I	2000	2002							16393	28751	42791	40611	38395
Mopeds	<50 cm³	97/24/EC II	2003	9999										8084	18343
Motorcycles	2-stroke >50 cm³	Conventional	0	1999	7406	7672	8214	8980	9598	10385	11054	11367	11582	11850	12326
Motorcycles	2-stroke >50 cm³	97/24/EC	2000	2003	0	0	0	0	0	0	0	0	0		0
Motorcycles	2-stroke >50 cm³	Stage II	2004	9999											
Motorcycles	4-stroke <250 cm³	Conventional	0	1999	8394	8695	9310	10177	10878	11769	11670	12487	12882	13380	14078
Motorcycles	4-stroke <250 cm³	97/24/EC	2000	2003							858	918	1348	1806	1816
Motorcycles	4-stroke <250 cm³	Stage II	2004	9999											604
Motorcycles	4-stroke 250 - 750 cm³	Conventional	0	1999	23083	23911	25602	27986	29914	32365	32093	34338	35424	36794	38714
Motorcycles	4-stroke 250 - 750 cm³	97/24/EC	2000	2003							2360	2525	3707	4967	4993
Motorcycles	4-stroke 250 - 750 cm³	Stage II	2004	9999											1661
Motorcycles	4-stroke >750 cm³	Conventional	0	1999	10492	10869	11637	12721	13597	14712	14588	15608	16102	16725	17597
Motorcycles	4-stroke >750 cm³	97/24/EC	2000	2003							1073	1148	1685	2258	2270
Motorcycles	4-stroke >750 cm³	Stage II	2004	9999											755

Annex 2B-2: Mileage data 1990-2004 for road transport (km)

Sector	Subsector	Tech	FYear	LYear	1985	1986	1987	1988	1989	1990	1991	1992	1993
Passenger Cars	Gasoline <1.4 l	PRE ECE	0	1969	9579	9371.7	9286.7	9480	9566.2	10410	11215	11916	11961
Passenger Cars	Gasoline <1.4 l	ECE 15/00-01	1970	1978	12134	11492	11034	10690	10079	10410	11215	11916	11961
Passenger Cars	Gasoline <1.4 l	ECE 15/02	1979	1980	16077	14937	13860	13562	13205	13297	12204	11916	11961
Passenger Cars	Gasoline <1.4 l	ECE 15/03	1981	1985	18829	17755	16960	16559	15737	16477	16988	17032	16112
Passenger Cars	Gasoline <1.4 l	ECE 15/04	1986	1990		20401	19818	19551	19317	20164	20649	20997	19980
Passenger Cars	Gasoline <1.4 l	Euro I	1991	1996							24415	25479	24809
Passenger Cars	Gasoline <1.4 l	Euro II	1997	2000									
Passenger Cars	Gasoline <1.4 l	Euro III	2001	2005									
Passenger Cars	Gasoline 1.4 - 2.0 l	PRE ECE	0	1969	9579	9371.7	9286.7	9480	9566.2	10410	11215	11916	11961
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/00-01	1970	1978	12052	11426	10978	10642	10052	10410	11215	11916	11961
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/02	1979	1980	16070	14949	13860	13560	13203	13291	12193	11916	11961
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/03	1981	1985	18912	17820	16975	16522	15701	16440	16953	16997	16053
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/04	1986	1990		20401	19825	19573	19366	20308	20805	21135	20127
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro I	1991	1996							24415	25538	25030
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro II	1997	2000									
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro III	2001	2005									
Passenger Cars	Gasoline >2.0 l	PRE ECE	0	1969	9579	9371.7	9286.7	9480	9566.2	10410	11215	11916	11961
Passenger Cars	Gasoline >2.0 l	ECE 15/00-01	1970	1978	12071	11335	10877	10548	10019	10410	11215	11916	11961
Passenger Cars	Gasoline >2.0 l	ECE 15/02	1979	1980	16075	15017	13902	13563	13206	13300	12209	11916	11961
Passenger Cars	Gasoline >2.0 l	ECE 15/03	1981	1985	18863	17813	17033	16598	15766	16506	17015	17075	16182
Passenger Cars	Gasoline >2.0 l	ECE 15/04	1986	1990		20401	19821	19486	19280	20009	20515	20893	19826
Passenger Cars	Gasoline >2.0 l	Euro I	1991	1996							24415	25523	24981
Passenger Cars	Gasoline >2.0 l	Euro II	1997	2000									
Passenger Cars	Gasoline >2.0 l	Euro III	2001	2005									
Passenger Cars	Diesel <2.0 l	Euro I	1991	1996							44774	44798	43686
Passenger Cars	Diesel <2.0 l	Euro II	1997	2000									
Passenger Cars	Diesel <2.0 l	Euro III	2001	2005									
Passenger Cars	Diesel <2.0 l	Conventional	0	1990	30140	30143	30146	29412	29852	30226	30006	29506	28618
Passenger Cars	Diesel >2.0 l	Euro I	1991	1996							44774	44824	43778
Passenger Cars	Diesel >2.0 l	Euro II	1997	2000									
Passenger Cars	Diesel >2.0 l	Euro III	2001	2005									
Passenger Cars	Diesel >2.0 l	Conventional	0	1990	31387	31386	31387	30749	31224	31385	31124	30558	29450

Sector	Subsector	Tech	FYear	LYear	1985	1986	1987	1988	1989	1990	1991	1992	1993
Passenger Cars	LPG	Euro I	1991	1996	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Euro II	1997	2000	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Euro III	2001	2005	0	0	0	0	0	0	0	0	0
Passenger Cars	LPG	Conventional	0	1990	18862	17780	16967	16544	15723	16463	16974	17018	16091
Passenger Cars	2-Stroke	Conventional	0	9999	18862	17780	16967	16544	15723	16463	16974	17018	16091
Light Duty Vehicles	Gasoline <3.5t	Conventional	0	1994	19874	19443	19267	19668	19215	20316	20772	21385	20746
Light Duty Vehicles	Gasoline <3.5t	Euro I	1995	1998									
Light Duty Vehicles	Gasoline <3.5t	Euro II	1999	2001									
Light Duty Vehicles	Gasoline <3.5t	Euro III	2002	2006									
Light Duty Vehicles	Diesel <3.5 t	Conventional	0	1994	35513	37963	36672	36790	38329	40670	41136	39162	37638
Light Duty Vehicles	Diesel <3.5 t	Euro I	1995	1998									
Light Duty Vehicles	Diesel <3.5 t	Euro II	1999	2001									
Light Duty Vehicles	Diesel <3.5 t	Euro III	2002	2006									
Heavy Duty Vehicles	Gasoline >3.5 t	Conventional	0	9999	22450	21964	21765	22218	21707	24538	25088	25829	25057
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Conventional	0	1993	31444	33613	32470	32575	33937	41507	41982	39966	38412
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro I	1994	1996									
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro II	1997	2001									
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro III	2002	2006									
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Conventional	0	1993	43811	46833	45241	45387	47285	50173	50747	48311	46432
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro I	1994	1996									
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro II	1997	2001									
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro III	2002	2006									
Heavy Duty Vehicles	Diesel 16 - 32 t	Conventional	0	1993	60901	65102	62888	63092	65730	69745	70543	67157	64545
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro I	1994	1996									
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro II	1997	2001									
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro III	2002	2006									
Heavy Duty Vehicles	Diesel >32t	Conventional	0	1993	60901	65102	62888	63092	65730	69745	70543	67157	64545
Heavy Duty Vehicles	Diesel >32t	Euro I	1994	1996									
Heavy Duty Vehicles	Diesel >32t	Euro II	1997	2001									
Heavy Duty Vehicles	Diesel >32t	Euro III	2002	2006									

Sector	Subsector	Tech	FYear	LYear	1985	1986	1987	1988	1989	1990	1991	1992	1993
Buses	Urban Buses	Conventional	0	1993	91883	98221	94881	95188	99168	105226	108958	105212	104456
Buses	Urban Buses	Euro I	1994	1996									
Buses	Urban Buses	Euro II	1997	2001									
Buses	Urban Buses	Euro III	2002	2006									
Buses	Coaches	Conventional	0	1993	82367	89984	90154	90858	94640	94328	99821	99971	99704
Buses	Coaches	Euro I	1994	1996									
Buses	Coaches	Euro II	1997	2001									
Buses	Coaches	Euro III	2002	2006									
Mopeds	<50 cm³	Conventional	0	1999	2017	1973	1955	1996	1950	2062	2158	2254	2258
Mopeds	<50 cm³	97/24/EC I	2000	2002	0	0	0	0	0	0	0	0	0
Mopeds	<50 cm³	97/24/EC II	2003	9999	0	0	0	0	0	0	0	0	0
Motorcycles	2-stroke >50 cm³	Conventional	0	1999	5705	5582	5531	5646	5516	5832	6131	6425	6427
Motorcycles	2-stroke >50 cm³	97/24/EC	2000	2003	0	0	0	0	0	0	0	0	0
Motorcycles	4-stroke <250 cm³	Conventional	0	1999	5705	5582	5531	5646	5516	5832	6131	6425	6427
Motorcycles	4-stroke <250 cm³	97/24/EC	2000	2003									
Motorcycles	4-stroke <250 cm³	Stage II	2004	9999									
Motorcycles	4-stroke 250 - 750 cm³	Conventional	0	1999	5705	5582	5531	5646	5516	5832	6131	6425	6427
Motorcycles	4-stroke 250 - 750 cm³	97/24/EC	2000	2003									
Motorcycles	4-stroke 250 - 750 cm³	Stage II	2004	9999									
Motorcycles	4-stroke >750 cm³	Conventional	0	1999	5705	5582	5531	5646	5516	5832	6131	6425	6427
Motorcycles	4-stroke >750 cm³	97/24/EC	2000	2003									
Motorcycles	4-stroke >750 cm³	Stage II	2004	9999									

Sector	Subsector	Tech	FYear	LYear	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Passenger Cars	Gasoline <1.4 l	PRE ECE	0	1969	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline <1.4 l	ECE 15/00-01	1970	1978	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline <1.4 l	ECE 15/02	1979	1980	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline <1.4 l	ECE 15/03	1981	1985	15150	14269	12818	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline <1.4 l	ECE 15/04	1986	1990	18877	18427	17364	16286	14812	13545	12675	11803	11487	11484	1149
Passenger Cars	Gasoline <1.4 l	Euro I	1991	1996	24465	24045	23055	22047	20728	19419	18242	17209	16501	15216	1429
Passenger Cars	Gasoline <1.4 l	Euro II	1997	2000				25933	25403	24304	23596	21890	20971	20039	1892
Passenger Cars	Gasoline <1.4 l	Euro III	2001	2005								24734	24632	25527	2369
Passenger Cars	Gasoline 1.4 - 2.0 l	PRE ECE	0	1969	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/00-01	1970	1978	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/02	1979	1980	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/03	1981	1985	15080	14224	12800	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/04	1986	1990	18987	18548	17477	16395	14982	13730	12835	11886	11487	11484	1149
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro I	1991	1996	24848	24782	23824	22740	21414	20014	18769	17719	17032	15922	1507
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro II	1997	2000				25933	25429	24289	23491	21803	20844	19933	1887
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro III	2001	2005								24734	24623	25273	2355
Passenger Cars	Gasoline >2.0 l	PRE ECE	0	1969	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline >2.0 l	ECE 15/00-01	1970	1978	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline >2.0 l	ECE 15/02	1979	1980	11947	12148	11930	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline >2.0 l	ECE 15/03	1981	1985	15186	14290	12826	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	Gasoline >2.0 l	ECE 15/04	1986	1990	18775	18326	17264	16166	14623	13409	12568	11733	11487	11484	1149
Passenger Cars	Gasoline >2.0 l	Euro I	1991	1996	24775	24661	23694	22620	21297	19908	18680	17632	16939	15805	1494
Passenger Cars	Gasoline >2.0 l	Euro II	1997	2000				25933	25455	24485	23852	22229	21286	20301	1912
Passenger Cars	Gasoline >2.0 l	Euro III	2001	2005								24734	24605	25454	2371
Passenger Cars	Diesel <2.0 l	Euro I	1991	1996	45013	43827	42670	41081	38968	37769	35666	33848	32622	30618	2904
Passenger Cars	Diesel <2.0 l	Euro II	1997	2000				47363	46792	46335	45147	42127	40440	39001	3707
Passenger Cars	Diesel <2.0 l	Euro III	2001	2005								47735	47693	46789	4631
Passenger Cars	Diesel <2.0 l	Conventional	0	1990	28903	27774	26548	25802	24873	24478	23626	22534	22247	22433	2256
Passenger Cars	Diesel >2.0 l	Euro I	1991	1996	45168	44095	42927	41309	39200	37968	35855	34029	32806	30876	2933
Passenger Cars	Diesel >2.0 l	Euro II	1997	2000				47363	46854	46700	45781	42902	41224	39658	3754
Passenger Cars	Diesel >2.0 l	Euro III	2001	2005								47735	47653	46802	4655
Passenger Cars	Diesel >2.0 l	Conventional	0	1990	29540	28241	26855	25911	24753	24315	23450	22412	22247	22433	2256

Sector	Subsector	Tech	FYear	LYear	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Passenger Cars	LPG	Euro I	1991	1996	0	0	0	0	0	0	0	0	0		[illegible]
Passenger Cars	LPG	Euro II	1997	2000	0	0	0	0	0	0	0	0	0		[illegible]
Passenger Cars	LPG	Euro III	2001	2005	0	0	0	0	0	0	0	0	0		[illegible]
Passenger Cars	LPG	Conventional	0	1990	15123	14251	12811	11913	11873	11671	11563	11362	11487	11484	1149
Passenger Cars	2-Stroke	Conventional	0	9999	15123	14251	12811	11913	11873	11671	11563	11362	11487	11484	1149
Light Duty Vehicles	Gasoline <3.5t	Conventional	0	1994	19693	20175	19973	19783	18763	18198	18190	18247	18252	17408	1787
Light Duty Vehicles	Gasoline <3.5t	Euro I	1995	1998		20175	19973	19783	18763	18198	18190	18247	18252	17408	1787
Light Duty Vehicles	Gasoline <3.5t	Euro II	1999	2001						18198	18190	18247	18252	17408	1787
Light Duty Vehicles	Gasoline <3.5t	Euro III	2002	2006									18252	17408	1787
Light Duty Vehicles	Diesel <3.5 t	Conventional	0	1994	38875	37046	37446	37191	35122	34377	32931	32240	32281	33225	3517
Light Duty Vehicles	Diesel <3.5 t	Euro I	1995	1998		37046	37446	37191	35122	34377	32931	32240	32281	33225	3517
Light Duty Vehicles	Diesel <3.5 t	Euro II	1999	2001						34377	32931	32240	32281	33225	3517
Light Duty Vehicles	Diesel <3.5 t	Euro III	2002	2006									32281	33225	3517
Heavy Duty Vehicles	Gasoline >3.5 t	Conventional	0	9999	23785	24367	24124	21382	21560	21408	22116	25464	25159	25344	2434
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Conventional	0	1993	39673	37807	38216	30943	31912	33764	34395	44252	44011	49367	4658
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro I	1994	1996	39673	37807	38216	30943	31912	33764	34395	44252	44011	49367	4658
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro II	1997	2001				30943	31912	33764	34395	44252	44011	49367	4658
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro III	2002	2006									44011	49367	4658
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Conventional	0	1993	47957	45702	46194	43396	42485	39368	37712	21018	18001	19957	1969
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro I	1994	1996	47957	45702	46194	43396	42485	39368	37712	21018	18001	19957	1969
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro II	1997	2001				43396	42485	39368	37712	21018	18001	19957	1969
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro III	2002	2006									18001	19957	1969
Heavy Duty Vehicles	Diesel 16 - 32 t	Conventional	0	1993	66665	63530	64216	65012	65865	67197	64369	68491	67300	72548	7215
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro I	1994	1996	66665	63530	64216	65012	65865	67197	64369	68491	67300	72548	7215
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro II	1997	2001				65012	65865	67197	64369	68491	67300	72548	7215
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro III	2002	2006									67300	72548	7215
Heavy Duty Vehicles	Diesel >32t	Conventional	0	1993	66665	63530	64216	65012	65865	67197	64369	68491	67300	72548	7215
Heavy Duty Vehicles	Diesel >32t	Euro I	1994	1996	66665	63530	64216	65012	65865	67197	64369	68491	67300	72548	7215
Heavy Duty Vehicles	Diesel >32t	Euro II	1997	2001				65012	65865	67197	64369	68491	67300	72548	7215
Heavy Duty Vehicles	Diesel >32t	Euro III	2002	2006									67300	72548	7215

Sector	Subsector	Tech	FYear	LYear	1994	1995	1996	1997	1998	1999	2000	2001	2002		2003
Buses	Urban Buses	Conventional	0	1993	109250	103609	104411	103783	102642	100407	96179	93914	94414	101833	10570
Buses	Urban Buses	Euro I	1994	1996	109250	103609	104411	103783	102642	100407	96179	93914	94414	101833	10570
Buses	Urban Buses	Euro II	1997	2001				103783	102642	100407	96179	93914	94414	101833	10570
Buses	Urban Buses	Euro III	2002	2006									94414	101833	10570
Buses	Coaches	Conventional	0	1993	104261	90357	85396	83925	82776	81456	78186	76384	76791	82825	8597
Buses	Coaches	Euro I	1994	1996	104261	90357	85396	83925	82776	81456	78186	76384	76791	82825	8597
Buses	Coaches	Euro II	1997	2001				83925	82776	81456	78186	76384	76791	82825	8597
Buses	Coaches	Euro III	2002	2006									76791	82825	8597
Mopeds	<50 cm³	Conventional	0	1999	2171	2213	2184	2165	2151	1806	1622	1290	1295	1295	130
Mopeds	<50 cm³	97/24/EC I	2000	2002							1622	1290	1295	1295	130
Mopeds	<50 cm³	97/24/EC II	2003	9999										1295	130
Motorcycles	2-stroke >50 cm³	Conventional	0	1999	6174	6284	6210	6175	6168	6010	6058	6108	6179	6212	630
Motorcycles	2-stroke >50 cm³	97/24/EC	2000	2003	0	0	0	0	0	0	0	0	0		0
Motorcycles	4-stroke <250 cm³	Conventional	0	1999	6174	6284	6210	6175	6168	6010	6058	6108	6179	6212	630
Motorcycles	4-stroke <250 cm³	97/24/EC	2000	2003							6058	6108	6179	6212	630
Motorcycles	4-stroke <250 cm³	Stage II	2004	9999											630
Motorcycles	4-stroke 250 - 750 cm³	Conventional	0	1999	6174	6284	6210	6175	6168	6010	6058	6108	6179	6212	630
Motorcycles	4-stroke 250 - 750 cm³	97/24/EC	2000	2003							6058	6108	6179	6212	630
Motorcycles	4-stroke 250 - 750 cm³	Stage II	2004	9999											630
Motorcycles	4-stroke >750 cm³	Conventional	0	1999	6174	6284	6210	6175	6168	6010	6058	6108	6179	6212	630
Motorcycles	4-stroke >750 cm³	97/24/EC	2000	2003							6058	6108	6179	6212	630
Motorcycles	4-stroke >750 cm³	Stage II	2004	9999											630

Annex 2B-3: EU directive emission limits for road transportation vehicles

Private cars and light duty vehicles I (<1305 kg)

g/km		**EURO 1**	**EURO 2**	**EURO 3**[1]	**EURO 4**
Normal temp.					
CO	Gasoline	2,72	2,2	2,3	1,0
	Diesel	2,72	1,0	0,64	0,5
HC	Gasoline	-	-	0,20	0,10
NO_x	Gasoline	-	-	0,15	0,08
	Diesel	-	-	0,5	0,25
$HC+NO_x$	Gasoline	0,97	0,5	-	-
	Diesel	0,97	0,7/0,9[2]	0,56	0,30
Particulates	Diesel	0,14	0,08/0,10[2]	0,05	0,025
Low temp.					
CO	Gasoline	-	-	-	15
HC	Gasoline	-	-	-	1,8
Evaporation					
HC[3]	Gasoline	2,0	2,0	2,0	2,0

[1] Changed test procedure at normal temperatures (40 s warm-up phase omitted) and for evaporation measurements
[2] Less stringent emission limits for direct injection diesel engines
[3] Unit: g/test

Light duty vehicles II (1305-1760 kg)

g/km		EURO 1	EURO 2	EURO 3[1)]	EURO 4
Normal temp.					
CO	Gasoline	5,17	4,0	4,17	1,81
	Diesel	5,17	1,25	0,80	0,63
HC	Gasoline	-	-	0,25	0,13
NO_x	Gasoline	-	-	0,18	0,10
	Diesel	-	-	0,65	0,33
$HC+NO_x$	Gasoline	1,4	0,6	-	-
	Diesel	1,4	1,0/1,3[2)]	0,72	0,39
Particulates	Diesel	0,19	0,12/0,14[2)]	0,07	0,04
Low temp.					
CO	Gasoline	-	-	-	24
HC	Gasoline	-	-		2,7
Evaporation					
HC[3)]	Gasoline	2,0	2,0	2,0	2,0

[1)] Changed test procedure at normal temperatures (40 s warm-up phase omitted) and for evaporation measurements
[2)] Less stringent emission limits for direct injection diesel engines
[3)] Unit: g/test

Light duty vehicles III (>1760 kg)

g/km		EURO 1	EURO 2	EURO 3[1)]	EURO 4
Normal temp.					
CO	Gasoline	6,9	5,0	5,22	2,27
	Diesel	6,9	1,5	0,95	0,74
HC	Gasoline	-	-	0,29	0,16
NO_x	Gasoline	-	-	0,21	0,11
	Diesel	-	-	0,78	0,39
$HC+NO_x$	Gasoline	1,7	0,7	-	-
	Diesel	1,7	1,2/1,6[2)]	0,86	0,46
Particulates	Diesel	0,25	0,17/0,20[2)]	0,10	0,06
Low temp.					
CO	Gasoline	-	-	-	30
HC	Gasoline	-	-	-	3,2
Evaporation					
HC[3)]	Gasoline	2,0	2,0	2,0	2,0

[1)] Changed test procedure at normal temperatures (40 s warm-up phase omitted) and for evaporation measurements
[2)] Less stringent emission limits for direct injection diesel engines
[3)] Unit: g/test

Heavy duty diesel vehicles

(g/kWh)		EURO 1	EURO 2	EURO 3	EURO 4	EURO 5	EEV[2)]
	Test[1)]	1993	1996	2001	2006	2009	2000
CO	ECE/ESC	4,5	4,0	2,1	1,5	1,5	1,5
	ETC	-	-	(5,45)	4,0	4,0	3,0
HC	ECE/ESC	1,1	1,1	0,66	0,46	0,46	0,25
	ETC	-	-	(0,78)	0,55	0,55	0,40
NO_x	ECE/ESC	8,0	7,0	5,0	3,5	2,0	2,0
	ETC	-	-	(5,0)	3,5	2,0	2,0
Particulates[3)]	ECE/ESC	0,36/0,61	0,15/0,25	0,10/0,13	0,02	0,02	0,02
	ETC	-	-	(0,16/0,21)	0,03	0,03	0,02
	ELR	-	-	0,8	0,5	0,5	0,15

[1)] Test procedure: Euro 1 og Euro 2: ECE (stationary)
Euro 3: ESC (stationary) + ELR (load response)
Euro 4, Euro 5 og EEV: ESC (stationary) + ETC (transient) + ELR (load response)

[2)] EEV: Emission limits for extra environmental friendly vehicles, used as a basis for economical incitaments (gas fueled vehicles).

[3)] For Euro 1, Euro 2 og Euro 3 less stringent emission limits apply for small engines:
Euro 1: <85 kW
Euro 2: <0,7 l
Euro 3: <0,75 l

Annex 2B-4: Basis emission factors (g/km)

Sector	Subsector	Tech	FCu	FCr	FCh	CO2u	CO2r	CO2h	CH4u	CH4r	CH4h	N2Ou	N2Or	N2Oh
Passenger Cars	Gasoline <1.4 l	PRE ECE	67.5	55.0	62.7	216	176	201	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline <1.4 l	ECE 15/00-01	58.2	44.5	48.6	186	142	155	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline <1.4 l	ECE 15/02	53.2	45.2	51.2	170	144	164	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline <1.4 l	ECE 15/03	53.2	45.2	51.2	170	144	164	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline <1.4 l	ECE 15/04	51.4	43.4	47.7	164	139	153	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline <1.4 l	Euro I	51.1	38.0	43.9	164	121	140	0.038	0.018	0.021	0.053	0.016	0.035
Passenger Cars	Gasoline 1.4 - 2.0 l	PRE ECE	79.3	67.0	76.4	253	214	244	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/00-01	67.8	51.1	60.3	217	163	193	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/02	61.7	50.7	59.7	197	162	191	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/03	61.7	50.7	59.7	197	162	191	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/04	61.7	49.1	52.1	197	157	166	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro I	65.9	44.0	48.0	211	141	154	0.039	0.017	0.016	0.053	0.016	0.035
Passenger Cars	Gasoline >2.0 l	PRE ECE	96.5	80.0	88.3	309	256	282	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline >2.0 l	ECE 15/00-01	73.8	57.1	66.3	236	183	212	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline >2.0 l	ECE 15/02	75.3	63.3	70.7	241	202	226	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline >2.0 l	ECE 15/03	75.3	63.3	70.7	241	202	226	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline >2.0 l	ECE 15/04	71.1	58.1	69.9	227	186	223	0.092	0.029	0.026	0.005	0.005	0.005
Passenger Cars	Gasoline >2.0 l	Euro I	79.4	46.4	51.1	254	148	163	0.040	0.017	0.010	0.053	0.016	0.035
Passenger Cars	Diesel <2.0 l	Euro I	52.7	42.2	47.4	167	133	150	0.004	0.005	0.009	0.027	0.027	0.027
Passenger Cars	Diesel <2.0 l	Conventional	57.5	41.2	50.1	182	130	158	0.004	0.005	0.009	0.027	0.027	0.027
Passenger Cars	Diesel >2.0 l	Euro I	52.7	42.2	47.4	167	133	150	0.004	0.005	0.009	0.027	0.027	0.027
Passenger Cars	Diesel >2.0 l	Conventional	57.5	41.2	50.1	182	130	158	0.004	0.005	0.009	0.027	0.027	0.027
Passenger Cars	LPG	Conventional	59.0	45.0	54.0	176	135	161	0.080	0.035	0.025	0.015	0.015	0.015
Passenger Cars	2-Stroke	Conventional	111.5	66.0	56.9	357	211	182	0.150	0.040	0.025	0.005	0.005	0.005

Sector	Subsector	Tech	FCu	FCr	FCh	CO2u	CO2r	CO2h	CH4u	CH4r	CH4h	N2Ou	N2Or	N2Oh
Light Duty Vehicles	Gasoline <3.5t	Conventional	82.3	59.9	56.5	263	191	181	0.150	0.040	0.025	0.006	0.006	0.006
Light Duty Vehicles	Gasoline <3.5t	Euro I	96.5	70.4	66.5	308	225	212	0.038	0.020	0.016	0.053	0.016	0.035
Light Duty Vehicles	Diesel <3.5 t	Conventional	76.7	65.9	72.1	242	208	228	0.005	0.005	0.005	0.017	0.017	0.017
Light Duty Vehicles	Diesel <3.5 t	Euro I	68.9	58.2	63.7	218	184	201	0.005	0.005	0.005	0.017	0.017	0.017
Heavy Duty Vehicles	Gasoline >3.5 t	Conventional	225.0	150.0	165.0	719	480	528	0.140	0.110	0.070	0.006	0.006	0.006
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Conventional	95.8	87.1	109.2	303	275	345	0.085	0.023	0.020	0.030	0.030	0.030
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro I	95.8	87.1	109.2	303	275	345	0.085	0.023	0.020	0.030	0.030	0.030
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Conventional	186.8	147.0	169.1	590	465	534	0.085	0.023	0.020	0.030	0.030	0.030
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro I	186.8	147.0	169.1	590	465	534	0.085	0.023	0.020	0.030	0.030	0.030
Heavy Duty Vehicles	Diesel 16 - 32 t	Conventional	295.3	227.0	230.7	933	717	729	0.175	0.080	0.070	0.030	0.030	0.030
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro I	295.3	227.0	230.7	933	717	729	0.175	0.080	0.070	0.030	0.030	0.030
Heavy Duty Vehicles	Diesel >32t	Conventional	392.8	311.5	297.4	1241	984	940	0.175	0.080	0.070	0.030	0.030	0.030
Heavy Duty Vehicles	Diesel >32t	Euro I	392.8	311.5	297.4	1241	984	940	0.175	0.080	0.070	0.030	0.030	0.030
Buses	Urban Buses	Conventional	315.8	253.3	219.0	998	800	692	0.175	0.080	0.070	0.030	0.030	0.030
Buses	Urban Buses	Euro I	315.8	253.3	219.0	998	800	692	0.175	0.080	0.070	0.030	0.030	0.030
Buses	Coaches	Conventional	281.8	214.6	198.3	890	678	627	0.175	0.080	0.070	0.030	0.030	0.030
Buses	Coaches	Euro I	281.8	214.6	198.3	890	678	627	0.175	0.080	0.070	0.030	0.030	0.030
Mopeds	<50 cm^3	Conventional	25.0	25.0	0.0	80	80	0	0.219	0.000	0.000	0.001	0.000	0.000
Motorcycles	2-stroke >50 cm^3	Conventional	30.4	32.4	37.0	97	104	118	0.150	0.150	0.150	0.002	0.002	0.002
Motorcycles	4-stroke <250 cm^3	Conventional	23.2	26.7	35.6	74	85	114	0.200	0.200	0.200	0.002	0.002	0.002
Motorcycles	4-stroke 250 - 750 cm^3	Conventional	28.6	28.6	34.7	92	92	111	0.200	0.200	0.200	0.002	0.002	0.002
Motorcycles	4-stroke >750 cm^3	Conventional	37.5	34.4	38.6	120	110	123	0.200	0.200	0.200	0.002	0.002	0.002

Sector	Subsector	Tech	COu	COr	COh	NOxu	NOxr	NOxh	NMVOCu	NMVOCr	NMVOCh
Passenger Cars	Gasoline <1.4 l	PRE ECE	27.505	19.333	15.520	1.849	2.062	2.023	2.262	1.568	1.221
Passenger Cars	Gasoline <1.4 l	ECE 15/00-01	18.966	14.480	18.620	1.849	2.062	2.023	1.770	1.227	1.095
Passenger Cars	Gasoline <1.4 l	ECE 15/02	15.859	8.200	8.260	1.619	2.102	2.909	1.757	1.032	0.924
Passenger Cars	Gasoline <1.4 l	ECE 15/03	16.752	8.793	7.620	1.680	2.253	3.276	1.757	1.032	0.924
Passenger Cars	Gasoline <1.4 l	ECE 15/04	9.087	4.956	4.292	1.691	2.089	2.662	1.388	0.866	0.672
Passenger Cars	Gasoline <1.4 l	Euro I	1.898	0.557	3.176	0.314	0.356	0.593	0.175	0.064	0.082
Passenger Cars	Gasoline 1.4 - 2.0 l	PRE ECE	27.505	19.333	15.520	2.164	2.683	3.130	2.262	1.568	1.221
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/00-01	18.966	14.480	18.620	2.164	2.683	3.130	1.770	1.227	1.095
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/02	15.859	8.200	8.260	1.831	2.377	3.283	1.757	1.032	0.924
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/03	16.752	8.793	7.620	1.917	2.580	3.472	1.757	1.032	0.924
Passenger Cars	Gasoline 1.4 - 2.0 l	ECE 15/04	9.087	4.956	4.292	2.122	2.757	3.524	1.388	0.866	0.672
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro I	2.583	0.937	2.402	0.323	0.349	0.530	0.138	0.066	0.067
Passenger Cars	Gasoline >2.0 l	PRE ECE	27.505	19.333	15.520	2.860	4.090	5.500	2.262	1.568	1.221
Passenger Cars	Gasoline >2.0 l	ECE 15/00-01	18.966	14.480	18.620	2.860	4.090	5.500	1.770	1.227	1.095
Passenger Cars	Gasoline >2.0 l	ECE 15/02	15.859	8.200	8.260	2.066	2.675	3.680	1.757	1.032	0.924
Passenger Cars	Gasoline >2.0 l	ECE 15/03	16.752	8.793	7.620	2.806	3.441	4.604	1.757	1.032	0.924
Passenger Cars	Gasoline >2.0 l	ECE 15/04	9.087	4.956	4.292	2.293	2.750	3.687	1.388	0.866	0.672
Passenger Cars	Gasoline >2.0 l	Euro I	3.838	0.814	0.976	0.427	0.406	0.521	0.232	0.147	0.105
Passenger Cars	Diesel <2.0 l	Euro I	0.432	0.109	0.165	0.679	0.488	0.619	0.073	0.028	0.020
Passenger Cars	Diesel <2.0 l	Conventional	0.651	0.472	0.384	0.520	0.433	0.528	0.141	0.081	0.052
Passenger Cars	Diesel >2.0 l	Euro I	0.432	0.109	0.165	0.679	0.488	0.619	0.073	0.028	0.020
Passenger Cars	Diesel >2.0 l	Conventional	0.651	0.472	0.384	0.824	0.723	0.861	0.141	0.081	0.052
Passenger Cars	LPG	Conventional	2.043	2.373	9.723	2.203	2.584	2.861	1.002	0.632	0.465
Passenger Cars	2-Stroke	Conventional	20.700	7.500	8.700	0.300	1.020	0.720	15.250	7.160	5.875

Sector	Subsector	Tech	COu	COr	COh	NOxu	NOxr	NOxh	NMVOCu	NMVOCr	NMVOCh
Light Duty Vehicles	Gasoline <3.5t	Conventional	14.925	6.075	7.389	2.671	3.118	3.387	1.727	0.689	0.421
Light Duty Vehicles	Gasoline <3.5t	Euro I	4.187	0.862	1.087	0.427	0.400	0.429	0.181	0.090	0.062
Light Duty Vehicles	Diesel <3.5 t	Conventional	1.124	1.009	1.060	1.673	0.843	0.834	0.126	0.101	0.096
Light Duty Vehicles	Diesel <3.5 t	Euro I	0.393	0.328	0.423	1.138	0.975	1.022	0.126	0.101	0.096
Heavy Duty Vehicles	Gasoline >3.5 t	Conventional	70.000	55.000	55.000	4.500	7.500	7.500	6.860	5.390	3.430
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Conventional	3.156	2.170	1.777	3.247	2.169	2.615	1.688	1.082	0.838
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro I	3.156	2.170	1.777	3.247	2.169	2.615	1.688	1.082	0.838
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Conventional	3.156	2.170	1.777	6.684	4.293	4.091	1.688	1.082	0.838
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro I	3.156	2.170	1.777	6.684	4.293	4.091	1.688	1.082	0.838
Heavy Duty Vehicles	Diesel 16 - 32 t	Conventional	3.156	2.170	1.777	12.561	9.060	7.610	1.598	1.025	0.788
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro I	3.156	2.170	1.777	12.561	9.060	7.610	1.598	1.025	0.788
Heavy Duty Vehicles	Diesel >32t	Conventional	3.156	2.170	1.777	18.269	13.523	11.517	1.598	1.025	0.788
Heavy Duty Vehicles	Diesel >32t	Euro I	3.156	2.170	1.777	18.269	13.523	11.517	1.598	1.025	0.788
Buses	Urban Buses	Conventional	4.687	3.204	2.494	15.288	11.731	9.853	1.138	0.696	0.479
Buses	Urban Buses	Euro I	4.687	3.204	2.494	15.288	11.731	9.853	1.138	0.696	0.479
Buses	Coaches	Conventional	3.227	2.053	1.612	12.210	8.260	7.844	1.713	1.090	0.837
Buses	Coaches	Euro I	3.227	2.053	1.612	12.210	8.260	7.844	1.713	1.090	0.837
Mopeds	<50 cm³	Conventional	15.000	15.000	0.000	0.030	0.030	0.000	8.781	9.000	0.000
Mopeds	<50 cm³	97/24/EC I	15.000	15.000	0.000	0.030	0.030	0.000	8.781	9.000	0.000
Motorcycles	2-stroke >50 cm³	Conventional	23.380	25.490	27.500	0.032	0.088	0.133	9.190	8.252	8.210
Motorcycles	4-stroke <250 cm³	Conventional	22.380	26.300	38.600	0.130	0.242	0.362	1.350	0.760	1.120
Motorcycles	4-stroke 250 - 750 cm³	Conventional	20.440	21.517	25.810	0.136	0.251	0.374	1.150	0.744	0.810
Motorcycles	4-stroke >750 cm³	Conventional	14.880	18.030	24.300	0.148	0.266	0.392	2.320	1.410	0.990

Annex 2B-5: Reduction factors for road transport emission factors

Sector	Subsector	Tech	COuR	COrR	COhR	NOxuR	NOxrR	NOxhR	VOCuR	VOCrR	VOChR
Passenger Cars	Gasoline <1.4 l	Euro I - 91/441/EEC	0	0	0	0	0	0	0	0	0
Passenger Cars	Gasoline <1.4 l	Euro II - 94/12/EC	32	32	32	64	64	64	79	79	79
Passenger Cars	Gasoline <1.4 l	Euro III - 98/69/EC Stage2000	44	44	44	76	76	76	85	85	85
Passenger Cars	Gasoline <1.4 l	Euro IV - 98/69/EC Stage2005	66	66	66	87	87	87	97	97	97
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro I - 91/441/EEC	0	0	0	0	0	0	0	0	0
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro II - 94/12/EC	32	32	32	64	64	64	79	79	79
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro III - 98/69/EC Stage2000	44	44	44	76	76	76	86	86	86
Passenger Cars	Gasoline 1.4 - 2.0 l	Euro IV - 98/69/EC Stage2005	66	66	66	87	87	87	97	97	97
Passenger Cars	Gasoline >2.0 l	Euro I - 91/441/EEC	0	0	0	0	0	0	0	0	0
Passenger Cars	Gasoline >2.0 l	Euro II - 94/12/EC	32	32	32	64	64	64	76	76	76
Passenger Cars	Gasoline >2.0 l	Euro III - 98/69/EC Stage2000	44	44	44	76	76	76	84	84	84
Passenger Cars	Gasoline >2.0 l	Euro IV - 98/69/EC Stage2005	65	65	65	87	87	87	95	95	95
Passenger Cars	Diesel <2.0 l	Euro I - 91/441/EEC	0	0	0	0	0	0	0	0	0
Passenger Cars	Diesel <2.0 l	Euro II - 94/12/EC	0	0	0	0	0	0	0	0	0
Passenger Cars	Diesel <2.0 l	Euro III - 98/69/EC Stage2000	0	0	0	23	23	23	15	15	15
Passenger Cars	Diesel <2.0 l	Euro IV - 98/69/EC Stage2005	0	0	0	62	62	62	31	31	31
Passenger Cars	Diesel >2.0 l	Euro I - 91/441/EEC	0	0	0	0	0	0	0	0	0
Passenger Cars	Diesel >2.0 l	Euro II - 94/12/EC	0	0	0	0	0	0	0	0	0
Passenger Cars	Diesel >2.0 l	Euro III - 98/69/EC Stage2000	0	0	0	23	23	23	15	15	15
Passenger Cars	Diesel >2.0 l	Euro IV - 98/69/EC Stage2005	0	0	0	62	62	62	31	31	31
Light Duty Vehicles	Gasoline <3.5t	Euro I - 93/59/EEC	0	0	0	0	0	0	0	0	0
Light Duty Vehicles	Gasoline <3.5t	Euro II - 96/69/EC	39	39	39	66	66	66	76	76	76
Light Duty Vehicles	Gasoline <3.5t	Euro III - 98/69/EC Stage2000	48	48	48	79	79	79	86	86	86
Light Duty Vehicles	Gasoline <3.5t	Euro IV - 98/69/EC Stage2005	72	72	72	90	90	90	94	94	94
Light Duty Vehicles	Diesel <3.5 t	Euro I - 93/59/EEC	0	0	0	0	0	0	0	0	0
Light Duty Vehicles	Diesel <3.5 t	Euro II - 96/69/EC	0	0	0	0	0	0	0	0	0
Light Duty Vehicles	Diesel <3.5 t	Euro III - 98/69/EC Stage2000	18	18	18	35	35	35	38	38	38
Light Duty Vehicles	Diesel <3.5 t	Euro IV - 98/69/EC Stage2005	35	35	35	67	67	67	77	77	77

Sector	Subsector	Tech	COuR	COrR	COhR	NOxuR	NOxrR	NOxhR	VOCuR	VOCrR	VOChR
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Conventional	0	0	0	0	0	0	0	0	0
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro I - 91/542/EEC Stage I	50	40	45	30	30	10	25	25	25
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro II - 91/542/EEC Stage II	60	45	50	50	45	35	30	30	30
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro III - 2000 Standards	72	61.5	65	65	61.5	54.5	51	51	51
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro IV - 2005 Standards	79.6	71.9	74.5	75.5	73.1	68.2	65.7	65.7	65.7
Heavy Duty Vehicles	Diesel 3.5 - 7.5 t	Euro V - 2008 Standards	79.6	71.9	74.5	86	84.6	81.8	65.7	65.7	65.7
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Conventional	0	0	0	0	0	0	0	0	0
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro I - 91/542/EEC Stage I	50	40	45	30	30	10	25	25	25
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro II - 91/542/EEC Stage II	60	45	50	50	45	35	30	30	30
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro III - 2000 Standards	72	61.5	65	65	61.5	54.5	51	51	51
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro IV - 2005 Standards	79.6	71.9	74.5	75.5	73.1	68.2	65.7	65.7	65.7
Heavy Duty Vehicles	Diesel 7.5 - 16 t	Euro V - 2008 Standards	79.6	71.9	74.5	86	84.6	81.8	65.7	65.7	65.7
Heavy Duty Vehicles	Diesel 16 - 32 t	Conventional	0	0	0	0	0	0	0	0	0
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro I - 91/542/EEC Stage I	45	40	35	45	40	45	50	35	25
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro II - 91/542/EEC Stage II	55	50	35	60	55	55	55	40	35
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro III - 2000 Standards	68.5	65	54.5	72	68.5	68.5	68.5	58	54.5
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro IV - 2005 Standards	77	74.5	66.8	80.4	78	78	78	70.6	68.2
Heavy Duty Vehicles	Diesel 16 - 32 t	Euro V - 2008 Standards	77	74.5	66.8	88.8	87.4	87.4	78	70.6	68.2
Heavy Duty Vehicles	Diesel >32t	Conventional	0	0	0	0	0	0	0	0	0
Heavy Duty Vehicles	Diesel >32t	Euro I - 91/542/EEC Stage I	45	40	35	45	40	45	50	35	25
Heavy Duty Vehicles	Diesel >32t	Euro II - 91/542/EEC Stage II	55	50	35	60	55	55	55	40	35
Heavy Duty Vehicles	Diesel >32t	Euro III - 2000 Standards	68.5	65	54.5	72	68.5	68.5	68.5	58	54.5
Heavy Duty Vehicles	Diesel >32t	Euro IV - 2005 Standards	77	74.5	66.8	80.4	78	78	78	70.6	68.2
Heavy Duty Vehicles	Diesel >32t	Euro V - 2008 Standards	77	74.5	66.8	88.8	87.4	87.4	78	70.6	68.2
Buses	Urban Buses	Conventional	0	0	0	0	0	0	0	0	0
Buses	Urban Buses	Euro I - 91/542/EEC Stage I	50	40	45	30	30	10	25	25	25
Buses	Urban Buses	Euro II - 91/542/EEC Stage II	60	45	50	50	45	35	30	30	30
Buses	Urban Buses	Euro III - 2000 Standards	72	61.5	65	65	61.5	54.5	51	51	51
Buses	Urban Buses	Euro IV - 2005 Standards	79.6	71.9	74.5	75.5	73.1	68.2	65.7	65.7	65.7
Buses	Urban Buses	Euro V - 2008 Standards	79.6	71.9	74.5	86	84.6	81.8	65.7	65.7	65.7
Buses	Coaches	Conventional	0	0	0	0	0	0	0	0	0
Buses	Coaches	Euro I - 91/542/EEC Stage I	45	40	35	45	40	45	50	35	25
Buses	Coaches	Euro II - 91/542/EEC Stage II	55	50	35	60	55	55	55	40	35
Buses	Coaches	Euro III - 2000 Standards	68.5	65	54.5	72	68.5	68.5	68.5	58	54.5
Buses	Coaches	Euro IV - 2005 Standards	77	74.5	66.8	80.4	78	78	78	70.6	68.2

Buses	Coaches	Euro V - 2008 Standards	77	74.5	66.8	88.8	87.4	87.4	78	70.6	68.2

Sector	Subsector	Tech	COuR	COrR	COhR	NOxuR	NOxrR	NOxhR	VOCuR	VOCrR	VOChR
Mopeds	<50 cm³	Conventional	0	0	0	0	0	0	0	0	0
Mopeds	<50 cm³	97/24/EC Stage I	50	50	100	0	0	100	55	55	100
Mopeds	<50 cm³	97/24/EC Stage II	90	90	100	67	67	100	78	78	100
Motorcycles	2-stroke >50 cm³	97/24/EC	0	0	0	0	0	0	0	0	0
Motorcycles	2-stroke >50 cm³	97/24/EC Stage II (proposal)	31	31	31	-200	-200	-200	70	70	70
Motorcycles	2-stroke >50 cm³	97/24/EC Stage III (proposal)	75	75	75	-50	-50	-50	80	80	80
Motorcycles	4-stroke <250 cm³	97/24/EC	0	0	0	0	0	0	0	0	0
Motorcycles	4-stroke <250 cm³	97/24/EC Stage II (proposal)	58	58	58	0	0	0	67	67	67
Motorcycles	4-stroke <250 cm³	97/24/EC Stage III (proposal)	85	85	85	50	50	50	90	90	90
Motorcycles	4-stroke 250 - 750 cm³	97/24/EC	0	0	0	0	0	0	0	0	0
Motorcycles	4-stroke 250 - 750 cm³	97/24/EC Stage II (proposal)	58	58	58	0	0	0	67	67	67
Motorcycles	4-stroke 250 - 750 cm³	97/24/EC Stage III (proposal)	85	85	85	50	50	50	90	90	90
Motorcycles	4-stroke >750 cm³	97/24/EC	0	0	0	0	0	0	0	0	0
Motorcycles	4-stroke >750 cm³	97/24/EC Stage II (proposal)	58	58	58	0	0	0	67	67	67
Motorcycles	4-stroke >750 cm³	97/24/EC Stage III (proposal)	85	85	85	50	50	50	90	90	90

Annex 2B-6: Fuel use factors (MJ/km) and emission factors (g/km)

Sector	ForecastYear	FCu (MJ)	FCr (MJ)	FCh (MJ)	CO2u	CO2r	CO2h	CH4u	CH4r	CH4h	N2Ou	N2Or	N2Oh	SO2u	SO2r	SO2h	NOxu	NOxr	NOxh
Passenger Cars	1985	3.352	2.100	2.409	245	153	176	0.167	0.027	0.024	0.007	0.007	0.007	0.074	0.044	0.054	1.873	2.191	2.804
Passenger Cars	1986	3.317	2.090	2.391	242	153	175	0.164	0.027	0.024	0.007	0.007	0.007	0.048	0.029	0.035	1.865	2.191	2.814
Passenger Cars	1987	3.306	2.079	2.369	242	152	173	0.166	0.027	0.024	0.007	0.007	0.007	0.048	0.029	0.035	1.867	2.188	2.811
Passenger Cars	1988	3.227	2.068	2.345	236	151	171	0.157	0.027	0.024	0.007	0.007	0.007	0.046	0.028	0.034	1.848	2.188	2.816
Passenger Cars	1989	3.194	2.063	2.335	233	151	171	0.153	0.027	0.024	0.007	0.007	0.007	0.033	0.020	0.024	1.838	2.185	2.822
Passenger Cars	1990	3.180	2.062	2.327	232	151	170	0.153	0.027	0.024	0.007	0.007	0.007	0.032	0.020	0.023	1.844	2.198	2.845
Passenger Cars	1991	3.212	2.044	2.304	235	149	168	0.169	0.026	0.024	0.010	0.008	0.009	0.031	0.019	0.023	1.771	2.066	2.681
Passenger Cars	1992	3.197	2.027	2.283	234	148	167	0.174	0.026	0.023	0.013	0.008	0.011	0.022	0.014	0.016	1.690	1.944	2.531
Passenger Cars	1993	3.234	2.011	2.262	236	147	165	0.191	0.025	0.023	0.016	0.009	0.013	0.013	0.008	0.009	1.632	1.831	2.396
Passenger Cars	1994	3.229	1.990	2.234	236	145	163	0.198	0.024	0.022	0.021	0.010	0.016	0.013	0.008	0.009	1.513	1.642	2.166
Passenger Cars	1995	3.264	1.975	2.213	239	144	162	0.213	0.023	0.021	0.024	0.011	0.018	0.013	0.008	0.009	1.441	1.508	2.001
Passenger Cars	1996	3.319	1.959	2.191	243	143	160	0.236	0.022	0.021	0.028	0.012	0.020	0.013	0.008	0.009	1.378	1.379	1.841
Passenger Cars	1997	3.279	1.929	2.152	240	141	157	0.217	0.019	0.018	0.032	0.013	0.022	0.013	0.008	0.009	1.259	1.216	1.645
Passenger Cars	1998	3.305	1.917	2.136	242	140	156	0.214	0.017	0.016	0.035	0.013	0.024	0.013	0.008	0.009	1.160	1.073	1.463
Passenger Cars	1999	3.303	1.905	2.122	241	139	155	0.197	0.015	0.015	0.037	0.014	0.026	0.011	0.006	0.007	1.074	0.952	1.305
Passenger Cars	2000	3.298	1.897	2.112	241	139	154	0.189	0.014	0.014	0.039	0.015	0.027	0.008	0.004	0.005	1.011	0.862	1.187
Passenger Cars	2001	3.335	1.891	2.105	244	138	154	0.189	0.013	0.013	0.040	0.015	0.028	0.008	0.004	0.005	0.955	0.791	1.093
Passenger Cars	2002	3.309	1.885	2.098	242	138	153	0.168	0.012	0.012	0.041	0.016	0.029	0.008	0.004	0.005	0.883	0.713	0.988
Passenger Cars	2003	3.325	1.880	2.092	243	138	153	0.161	0.011	0.011	0.042	0.016	0.030	0.008	0.004	0.005	0.823	0.646	0.895
Passenger Cars	2004	3.274	1.874	2.086	240	137	153	0.138	0.010	0.010	0.043	0.017	0.030	0.008	0.004	0.005	0.759	0.580	0.804
Light Duty Vehicles	1985	4.030	2.790	3.000	298	206	222	0.049	0.010	0.008	0.016	0.016	0.016	0.802	0.573	0.627	2.056	1.143	1.171
Light Duty Vehicles	1986	4.007	2.792	3.006	296	206	222	0.045	0.009	0.007	0.016	0.016	0.016	0.485	0.348	0.381	2.037	1.121	1.146
Light Duty Vehicles	1987	4.020	2.791	3.005	297	206	222	0.046	0.009	0.008	0.016	0.016	0.016	0.485	0.347	0.379	2.045	1.127	1.153
Light Duty Vehicles	1988	3.963	2.791	3.003	293	206	222	0.044	0.009	0.008	0.016	0.016	0.016	0.477	0.346	0.379	2.011	1.132	1.158
Light Duty Vehicles	1989	3.938	2.792	3.008	291	206	222	0.041	0.009	0.007	0.016	0.016	0.016	0.319	0.233	0.255	1.992	1.116	1.140
Light Duty Vehicles	1990	3.932	2.792	3.008	290	206	222	0.041	0.009	0.007	0.016	0.016	0.016	0.319	0.233	0.255	1.988	1.115	1.139
Light Duty Vehicles	1991	3.968	2.792	3.007	293	206	222	0.043	0.009	0.007	0.016	0.016	0.016	0.321	0.233	0.254	2.011	1.117	1.142
Light Duty Vehicles	1992	3.952	2.790	3.002	292	206	222	0.044	0.010	0.008	0.016	0.016	0.016	0.206	0.150	0.164	2.006	1.137	1.164
Light Duty Vehicles	1993	3.989	2.790	3.001	295	206	222	0.046	0.010	0.008	0.016	0.016	0.016	0.081	0.058	0.063	2.028	1.139	1.167
Light Duty Vehicles	1994	3.957	2.792	3.007	292	206	222	0.043	0.009	0.007	0.016	0.016	0.016	0.081	0.059	0.064	2.005	1.118	1.143
Light Duty Vehicles	1995	3.955	2.771	2.980	292	205	220	0.045	0.009	0.007	0.016	0.016	0.016	0.080	0.058	0.063	1.957	1.120	1.149
Light Duty Vehicles	1996	3.973	2.752	2.959	293	203	219	0.046	0.009	0.007	0.017	0.016	0.016	0.080	0.057	0.062	1.918	1.100	1.130
Light Duty Vehicles	1997	3.900	2.732	2.939	288	202	217	0.041	0.009	0.007	0.017	0.016	0.017	0.079	0.057	0.062	1.826	1.077	1.108

Light Duty Vehicles	1998	3.883	2.714	2.918	287	200	216	0.041	0.008	0.007	0.018	0.016	0.017	0.078	0.056	0.062	1.770	1.064	1.097
Light Duty Vehicles	1999	3.846	2.697	2.900	284	199	214	0.038	0.008	0.007	0.018	0.016	0.017	0.043	0.031	0.034	1.701	1.042	1.076
Light Duty Vehicles	2000	3.816	2.681	2.882	282	198	213	0.036	0.008	0.007	0.018	0.016	0.017	0.009	0.006	0.007	1.640	1.027	1.061
Light Duty Vehicles	2001	3.833	2.665	2.864	283	197	212	0.036	0.007	0.006	0.019	0.016	0.018	0.009	0.006	0.007	1.602	1.011	1.047
Light Duty Vehicles	2002	3.779	2.647	2.845	279	196	210	0.031	0.007	0.006	0.019	0.016	0.018	0.009	0.006	0.007	1.487	0.962	0.998
Light Duty Vehicles	2003	3.765	2.629	2.830	278	194	209	0.028	0.006	0.006	0.019	0.017	0.018	0.009	0.006	0.007	1.404	0.914	0.948
Light Duty Vehicles	2004	3.686	2.605	2.806	272	192	207	0.023	0.006	0.005	0.019	0.017	0.018	0.009	0.006	0.007	1.279	0.868	0.903
Sector	ForecastYear	FCu (MJ)	FCr (MJ)	FCh (MJ)	CO2u	CO2r	CO2h	CH4u	CH4r	CH4h	N2Ou	N2Or	N2Oh	SO2u	SO2r	SO2h	NOxu	NOxr	NOxh
Heavy Duty Vehicles	1985	11.446	9.640	10.283	847	713	761	0.138	0.063	0.060	0.030	0.030	0.030	2.672	2.253	2.405	11.344	8.920	8.329
Heavy Duty Vehicles	1986	11.447	9.641	10.284	847	713	761	0.138	0.063	0.060	0.030	0.030	0.030	1.604	1.352	1.443	11.347	8.921	8.329
Heavy Duty Vehicles	1987	11.446	9.640	10.283	847	713	761	0.138	0.063	0.060	0.030	0.030	0.030	1.604	1.352	1.443	11.346	8.921	8.329
Heavy Duty Vehicles	1988	11.446	9.640	10.283	847	713	761	0.138	0.063	0.060	0.030	0.030	0.030	1.604	1.352	1.443	11.346	8.921	8.329
Heavy Duty Vehicles	1989	11.447	9.641	10.284	847	713	761	0.138	0.063	0.060	0.030	0.030	0.030	1.069	0.902	0.962	11.347	8.921	8.329
Heavy Duty Vehicles	1990	11.328	9.570	10.240	838	708	758	0.137	0.063	0.060	0.030	0.030	0.030	1.058	0.895	0.958	11.215	8.841	8.285
Heavy Duty Vehicles	1991	11.328	9.570	10.240	838	708	758	0.137	0.063	0.060	0.030	0.030	0.030	1.058	0.895	0.958	11.215	8.840	8.285
Heavy Duty Vehicles	1992	11.327	9.569	10.240	838	708	758	0.137	0.063	0.060	0.030	0.030	0.030	0.688	0.582	0.623	11.213	8.840	8.285
Heavy Duty Vehicles	1993	11.328	9.570	10.240	838	708	758	0.137	0.063	0.060	0.030	0.030	0.030	0.264	0.224	0.240	11.213	8.840	8.285
Heavy Duty Vehicles	1994	11.328	9.570	10.240	838	708	758	0.132	0.061	0.059	0.030	0.030	0.030	0.265	0.224	0.240	10.807	8.543	7.983
Heavy Duty Vehicles	1995	11.328	9.570	10.240	838	708	758	0.127	0.059	0.058	0.030	0.030	0.030	0.264	0.224	0.240	10.416	8.259	7.694
Heavy Duty Vehicles	1996	11.328	9.570	10.240	838	708	758	0.123	0.057	0.056	0.030	0.030	0.030	0.265	0.224	0.240	10.045	7.988	7.420
Heavy Duty Vehicles	1997	11.697	9.804	10.378	866	725	768	0.120	0.057	0.056	0.030	0.030	0.030	0.273	0.229	0.243	9.874	7.840	7.183
Heavy Duty Vehicles	1998	11.818	9.891	10.430	874	732	772	0.116	0.056	0.055	0.030	0.030	0.030	0.276	0.231	0.244	9.463	7.547	6.884
Heavy Duty Vehicles	1999	12.059	10.052	10.526	892	744	779	0.113	0.055	0.054	0.030	0.030	0.030	0.155	0.129	0.135	9.203	7.355	6.654
Heavy Duty Vehicles	2000	12.112	10.086	10.550	896	746	781	0.108	0.054	0.053	0.030	0.030	0.030	0.028	0.024	0.025	8.780	7.048	6.373
Heavy Duty Vehicles	2001	12.530	10.368	10.704	927	767	792	0.107	0.055	0.053	0.030	0.030	0.030	0.029	0.024	0.025	8.657	6.967	6.197
Heavy Duty Vehicles	2002	12.599	10.426	10.742	932	771	795	0.100	0.052	0.050	0.030	0.030	0.030	0.030	0.024	0.025	8.017	6.498	5.767
Heavy Duty Vehicles	2003	12.632	10.456	10.767	935	774	797	0.094	0.049	0.048	0.030	0.030	0.030	0.030	0.024	0.025	7.456	6.077	5.399
Heavy Duty Vehicles	2004	12.635	10.468	10.778	935	775	798	0.085	0.046	0.044	0.030	0.030	0.030	0.030	0.025	0.025	6.655	5.491	4.873
Buses	1985	13.074	10.124	8.802	967	749	651	0.175	0.080	0.070	0.030	0.030	0.030	3.062	2.371	2.061	14.418	10.279	8.603
Buses	1986	13.068	10.116	8.798	967	749	651	0.175	0.080	0.070	0.030	0.030	0.030	1.836	1.421	1.236	14.405	10.260	8.593
Buses	1987	13.057	10.101	8.790	966	747	650	0.175	0.080	0.070	0.030	0.030	0.030	1.835	1.419	1.235	14.382	10.229	8.576
Buses	1988	13.055	10.099	8.790	966	747	650	0.175	0.080	0.070	0.030	0.030	0.030	1.834	1.419	1.235	14.379	10.226	8.573
Buses	1989	13.055	10.099	8.789	966	747	650	0.175	0.080	0.070	0.030	0.030	0.030	1.223	0.946	0.823	14.379	10.225	8.573
Buses	1990	13.074	10.124	8.802	967	749	651	0.175	0.080	0.070	0.030	0.030	0.030	1.225	0.948	0.825	14.418	10.279	8.603
Buses	1991	13.099	10.158	8.820	969	752	653	0.175	0.080	0.070	0.030	0.030	0.030	1.227	0.952	0.826	14.471	10.350	8.644
Buses	1992	13.072	10.121	8.801	967	749	651	0.175	0.080	0.070	0.030	0.030	0.030	0.796	0.616	0.536	14.414	10.273	8.600
Buses	1993	13.061	10.106	8.793	966	748	651	0.175	0.080	0.070	0.030	0.030	0.030	0.306	0.237	0.206	14.390	10.241	8.582

Sector	ForecastYear	FCu (MJ)	FCr (MJ)	FCh (MJ)	CO2u	CO2r	CO2h	CH4u	CH4r	CH4h	N2Ou	N2Or	N2Oh	SO2u	SO2r	SO2h	NOxu	NOxr	NOxh
Buses	1994	13.048	10.089	8.785	966	747	650	0.170	0.078	0.068	0.030	0.030	0.030	0.306	0.236	0.206	13.939	9.906	8.334
Buses	1995	12.897	9.901	8.699	954	733	644	0.165	0.076	0.067	0.030	0.030	0.030	0.302	0.232	0.204	13.200	9.231	7.879
Buses	1996	12.910	9.916	8.705	955	734	644	0.160	0.074	0.066	0.030	0.030	0.030	0.302	0.232	0.204	12.837	8.993	7.671
Buses	1997	12.923	9.931	8.711	956	735	645	0.154	0.072	0.064	0.030	0.030	0.030	0.303	0.233	0.204	12.239	8.618	7.352
Buses	1998	12.934	9.944	8.717	957	736	645	0.151	0.070	0.062	0.030	0.030	0.030	0.303	0.233	0.204	11.835	8.371	7.140
Buses	1999	12.939	9.950	8.720	957	736	645	0.147	0.069	0.061	0.030	0.030	0.030	0.167	0.128	0.112	11.376	8.080	6.896
Buses	2000	12.940	9.952	8.721	958	736	645	0.143	0.067	0.060	0.030	0.030	0.030	0.030	0.023	0.020	10.963	7.816	6.676
Buses	2001	12.952	9.967	8.727	958	738	646	0.141	0.066	0.059	0.030	0.030	0.030	0.030	0.023	0.020	10.661	7.634	6.521
Buses	2002	12.964	9.981	8.733	959	739	646	0.135	0.063	0.057	0.030	0.030	0.030	0.030	0.023	0.020	10.168	7.309	6.245
Buses	2003	12.976	9.996	8.740	960	740	647	0.131	0.062	0.055	0.030	0.030	0.030	0.030	0.023	0.020	9.780	7.055	6.028
Buses	2004	12.982	10.003	8.744	961	740	647	0.127	0.060	0.053	0.030	0.030	0.030	0.030	0.023	0.020	9.414	6.810	5.821
Mopeds	1985	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1986	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1987	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1988	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1989	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1990	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1991	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1992	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1993	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1994	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1995	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1996	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1997	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1998	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	1999	1.095	1.095		80	80		0.219	0.219		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	2000	1.095	1.095		80	80		0.207	0.207		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	2001	1.095	1.095		80	80		0.198	0.198		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	2002	1.095	1.095		80	80		0.189	0.189		0.001	0.001		0.003	0.003		0.030	0.030	
Mopeds	2003	1.095	1.095		80	80		0.182	0.182		0.001	0.001		0.003	0.003		0.029	0.029	
Mopeds	2004	1.095	1.095		80	80		0.173	0.173		0.001	0.001		0.003	0.003		0.028	0.028	
Motorcycles	1985	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1986	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1987	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1988	1.307	1.318	1.578	95	96	115	0.192	0.192	0.192	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1989	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340

Motorcycles	1990	1.307	1.318	1.578	95	96	115	0.192	0.192	0.192	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1991	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1992	1.307	1.318	1.578	95	96	115	0.192	0.192	0.192	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1993	1.307	1.318	1.578	95	96	115	0.192	0.192	0.192	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1994	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1995	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1996	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1997	1.307	1.318	1.578	95	96	115	0.192	0.192	0.192	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1998	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	1999	1.307	1.318	1.578	95	96	115	0.192	0.192	0.192	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	2000	1.307	1.318	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.228	0.340
Motorcycles	2001	1.307	1.317	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.122	0.229	0.341
Motorcycles	2002	1.307	1.317	1.578	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.123	0.230	0.342
Motorcycles	2003	1.307	1.316	1.577	95	96	115	0.193	0.193	0.193	0.002	0.002	0.002	0.003	0.003	0.004	0.124	0.231	0.343
Motorcycles	2004	1.307	1.315	1.577	95	96	115	0.189	0.189	0.189	0.002	0.002	0.002	0.003	0.003	0.004	0.124	0.232	0.344

Sector	ForecastYear	NMVOCu (exh)	NMVOCr (exh)	NMVOCh (exh)	NMVOCu (tot)	NMVOCr (tot)	NMVOCh (tot)	COu	COr	COh
Passenger Cars	1985	3.368	1.048	0.923	5.597	1.424	0.973	40.810	10.109	10.525
Passenger Cars	1986	3.256	1.026	0.898	5.490	1.403	0.948	38.410	9.606	9.893
Passenger Cars	1987	3.217	1.002	0.869	5.426	1.376	0.919	36.822	9.035	9.225
Passenger Cars	1988	2.958	0.974	0.833	5.260	1.363	0.885	32.048	8.298	8.333
Passenger Cars	1989	2.845	0.955	0.811	5.167	1.347	0.864	30.059	7.893	7.799
Passenger Cars	1990	2.802	0.944	0.797	5.139	1.339	0.850	29.076	7.606	7.398
Passenger Cars	1991	2.775	0.878	0.741	4.921	1.241	0.790	29.147	7.057	6.936
Passenger Cars	1992	2.593	0.816	0.689	4.621	1.159	0.735	27.232	6.547	6.560
Passenger Cars	1993	2.573	0.756	0.638	4.385	1.062	0.680	27.389	6.036	6.227
Passenger Cars	1994	2.308	0.659	0.556	3.934	0.934	0.593	24.650	5.245	5.631
Passenger Cars	1995	2.199	0.588	0.498	3.635	0.831	0.530	23.852	4.705	5.355
Passenger Cars	1996	2.157	0.520	0.441	3.374	0.726	0.468	23.919	4.182	5.079
Passenger Cars	1997	1.806	0.428	0.366	2.868	0.608	0.390	19.973	3.361	4.573
Passenger Cars	1998	1.644	0.362	0.310	2.506	0.508	0.330	18.882	2.904	4.268
Passenger Cars	1999	1.433	0.306	0.262	2.174	0.431	0.279	16.767	2.513	4.005
Passenger Cars	2000	1.303	0.265	0.228	1.799	0.349	0.239	15.681	2.247	3.841
Passenger Cars	2001	1.248	0.234	0.202	1.676	0.306	0.212	15.628	2.051	3.704
Passenger Cars	2002	1.085	0.202	0.175	1.457	0.265	0.183	13.970	1.838	3.504
Passenger Cars	2003	1.005	0.176	0.152	1.320	0.229	0.159	13.433	1.652	3.291
Passenger Cars	2004	0.845	0.149	0.130	1.114	0.195	0.136	11.564	1.465	3.059
Light Duty Vehicles	1985	0.685	0.178	0.139	0.958	0.221	0.147	6.399	1.679	1.897
Light Duty Vehicles	1986	0.642	0.172	0.136	0.896	0.212	0.143	5.948	1.629	1.834
Light Duty Vehicles	1987	0.657	0.174	0.137	0.914	0.214	0.144	6.108	1.643	1.852
Light Duty Vehicles	1988	0.622	0.175	0.137	0.893	0.217	0.145	5.803	1.653	1.864
Light Duty Vehicles	1989	0.587	0.171	0.135	0.846	0.211	0.143	5.448	1.617	1.820
Light Duty Vehicles	1990	0.582	0.171	0.135	0.841	0.211	0.142	5.404	1.615	1.818
Light Duty Vehicles	1991	0.610	0.172	0.135	0.868	0.212	0.143	5.655	1.621	1.825
Light Duty Vehicles	1992	0.621	0.177	0.138	0.902	0.220	0.146	5.805	1.665	1.879
Light Duty Vehicles	1993	0.649	0.177	0.138	0.922	0.220	0.146	6.066	1.670	1.886
Light Duty Vehicles	1994	0.604	0.172	0.135	0.867	0.213	0.143	5.604	1.623	1.827
Light Duty Vehicles	1995	0.615	0.170	0.134	0.871	0.210	0.142	5.764	1.568	1.777
Light Duty Vehicles	1996	0.615	0.164	0.130	0.836	0.198	0.137	5.754	1.466	1.668
Light Duty Vehicles	1997	0.550	0.156	0.126	0.751	0.187	0.132	5.144	1.356	1.548
Light Duty Vehicles	1998	0.533	0.151	0.123	0.709	0.178	0.128	5.022	1.273	1.461
Light Duty Vehicles	1999	0.491	0.144	0.119	0.650	0.168	0.123	4.574	1.175	1.354

Light Duty Vehicles	2000	0.462	0.138	0.116	0.574	0.156	0.119	4.313	1.097	1.271
Light Duty Vehicles	2001	0.460	0.133	0.112	0.557	0.148	0.115	4.267	1.018	1.187
Light Duty Vehicles	2002	0.403	0.123	0.105	0.484	0.136	0.108	3.749	0.912	1.070
Light Duty Vehicles	2003	0.367	0.113	0.098	0.430	0.123	0.100	3.350	0.809	0.954
Light Duty Vehicles	2004	0.305	0.103	0.091	0.351	0.110	0.092	2.770	0.692	0.826
Sector	ForecastYear	NMVOCu (exh)	NMVOCr (exh)	NMVOCh (exh)	NMVOCu (tot)	NMVOCr (tot)	NMVOCh (tot)	COu	COr	COh
Heavy Duty Vehicles	1985	1.654	1.054	0.802	1.654	1.054	0.802	3.405	2.315	1.871
Heavy Duty Vehicles	1986	1.652	1.053	0.802	1.652	1.053	0.802	3.384	2.303	1.863
Heavy Duty Vehicles	1987	1.653	1.053	0.802	1.653	1.053	0.802	3.390	2.307	1.866
Heavy Duty Vehicles	1988	1.653	1.053	0.802	1.653	1.053	0.802	3.394	2.309	1.867
Heavy Duty Vehicles	1989	1.652	1.052	0.802	1.652	1.052	0.802	3.380	2.300	1.862
Heavy Duty Vehicles	1990	1.653	1.053	0.803	1.653	1.053	0.803	3.390	2.307	1.867
Heavy Duty Vehicles	1991	1.654	1.054	0.803	1.654	1.054	0.803	3.393	2.309	1.867
Heavy Duty Vehicles	1992	1.655	1.054	0.803	1.655	1.054	0.803	3.412	2.320	1.875
Heavy Duty Vehicles	1993	1.655	1.055	0.803	1.655	1.055	0.803	3.413	2.320	1.875
Heavy Duty Vehicles	1994	1.598	1.025	0.785	1.598	1.025	0.785	3.264	2.233	1.810
Heavy Duty Vehicles	1995	1.546	0.998	0.769	1.546	0.998	0.769	3.159	2.172	1.763
Heavy Duty Vehicles	1996	1.495	0.972	0.753	1.495	0.972	0.753	3.037	2.100	1.709
Heavy Duty Vehicles	1997	1.423	0.935	0.728	1.423	0.935	0.728	2.844	1.984	1.635
Heavy Duty Vehicles	1998	1.362	0.904	0.706	1.362	0.904	0.706	2.712	1.904	1.586
Heavy Duty Vehicles	1999	1.301	0.873	0.686	1.301	0.873	0.686	2.570	1.817	1.534
Heavy Duty Vehicles	2000	1.254	0.849	0.668	1.254	0.849	0.668	2.474	1.759	1.500
Heavy Duty Vehicles	2001	1.185	0.819	0.648	1.185	0.819	0.648	2.395	1.700	1.469
Heavy Duty Vehicles	2002	1.102	0.772	0.614	1.102	0.772	0.614	2.236	1.594	1.394
Heavy Duty Vehicles	2003	1.034	0.731	0.583	1.034	0.731	0.583	2.081	1.494	1.323
Heavy Duty Vehicles	2004	0.941	0.679	0.545	0.941	0.679	0.545	1.870	1.361	1.229
Buses	1985	1.301	0.861	0.702	1.301	0.861	0.702	4.274	2.722	1.945
Buses	1986	1.303	0.863	0.703	1.303	0.863	0.703	4.268	2.716	1.941
Buses	1987	1.308	0.867	0.706	1.308	0.867	0.706	4.257	2.706	1.933
Buses	1988	1.308	0.867	0.707	1.308	0.867	0.707	4.256	2.705	1.932
Buses	1989	1.308	0.867	0.707	1.308	0.867	0.707	4.256	2.705	1.932
Buses	1990	1.301	0.861	0.702	1.301	0.861	0.702	4.274	2.722	1.945
Buses	1991	1.291	0.853	0.694	1.291	0.853	0.694	4.299	2.746	1.963
Buses	1992	1.301	0.862	0.702	1.301	0.862	0.702	4.272	2.720	1.944
Buses	1993	1.306	0.865	0.705	1.306	0.865	0.705	4.261	2.710	1.936
Buses	1994	1.271	0.846	0.693	1.271	0.846	0.693	4.067	2.604	1.861
Buses	1995	1.283	0.865	0.712	1.283	0.865	0.712	3.759	2.392	1.721

Buses	1996	1.238	0.839	0.695	1.238	0.839	0.695	3.613	2.320	1.670
Buses	1997	1.188	0.809	0.672	1.188	0.809	0.672	3.426	2.230	1.615
Buses	1998	1.155	0.789	0.656	1.155	0.789	0.656	3.307	2.174	1.582
Buses	1999	1.121	0.769	0.639	1.121	0.769	0.639	3.166	2.104	1.539
Buses	2000	1.091	0.751	0.625	1.091	0.751	0.625	3.039	2.041	1.501
Buses	2001	1.066	0.735	0.613	1.066	0.735	0.613	2.947	1.999	1.475
Buses	2002	1.020	0.705	0.588	1.020	0.705	0.588	2.801	1.918	1.419
Buses	2003	0.983	0.680	0.567	0.983	0.680	0.567	2.688	1.855	1.375
Buses	2004	0.950	0.658	0.549	0.950	0.658	0.549	2.581	1.794	1.332
Sector	ForecastYear	NMVOCu (exh)	NMVOCr (exh)	NMVOCh (exh)	NMVOCu (tot)	NMVOCr (tot)	NMVOCh (tot)	COu	COr	COh
Mopeds	1985	8.781	8.781		9.095	9.095		15.000	15.000	
Mopeds	1986	8.781	8.781		9.098	9.098		15.000	15.000	
Mopeds	1987	8.781	8.781		9.092	9.092		15.000	15.000	
Mopeds	1988	8.781	8.781		9.111	9.111		15.000	15.000	
Mopeds	1989	8.781	8.781		9.119	9.119		15.000	15.000	
Mopeds	1990	8.781	8.781		9.119	9.119		15.000	15.000	
Mopeds	1991	8.781	8.781		9.110	9.110		15.000	15.000	
Mopeds	1992	8.781	8.781		9.119	9.119		15.000	15.000	
Mopeds	1993	8.781	8.781		9.100	9.100		15.000	15.000	
Mopeds	1994	8.781	8.781		9.117	9.117		15.000	15.000	
Mopeds	1995	8.781	8.781		9.115	9.115		15.000	15.000	
Mopeds	1996	8.781	8.781		9.100	9.100		15.000	15.000	
Mopeds	1997	8.781	8.781		9.119	9.119		15.000	15.000	
Mopeds	1998	8.781	8.781		9.104	9.104		15.000	15.000	
Mopeds	1999	8.781	8.781		9.139	9.139		15.000	15.000	
Mopeds	2000	8.286	8.286		8.583	8.583		14.232	14.232	
Mopeds	2001	7.939	7.939		8.264	8.264		13.693	13.693	
Mopeds	2002	7.572	7.572		7.909	7.909		13.123	13.123	
Mopeds	2003	7.293	7.293		7.627	7.627		12.552	12.552	
Mopeds	2004	6.940	6.940		7.272	7.272		11.831	11.831	
Motorcycles	1985	2.639	2.014	2.011	3.464	2.236	2.045	20.029	22.185	27.917
Motorcycles	1986	2.639	2.014	2.011	3.470	2.237	2.045	20.029	22.185	27.917
Motorcycles	1987	2.639	2.014	2.011	3.458	2.234	2.045	20.029	22.185	27.917
Motorcycles	1988	2.639	2.015	2.011	3.495	2.244	2.047	20.029	22.185	27.917
Motorcycles	1989	2.639	2.014	2.011	3.509	2.248	2.047	20.029	22.185	27.917
Motorcycles	1990	2.639	2.014	2.011	3.511	2.248	2.047	20.029	22.185	27.917
Motorcycles	1991	2.639	2.014	2.011	3.493	2.243	2.046	20.029	22.185	27.917

Motorcycles	1992	2.639	2.015	2.011	3.509	2.248	2.047	20.029	22.185	27.917
Motorcycles	1993	2.639	2.014	2.011	3.472	2.238	2.046	20.029	22.185	27.917
Motorcycles	1994	2.639	2.014	2.011	3.506	2.247	2.047	20.029	22.185	27.917
Motorcycles	1995	2.639	2.014	2.011	3.502	2.246	2.047	20.029	22.185	27.917
Motorcycles	1996	2.639	2.014	2.011	3.472	2.238	2.045	20.029	22.185	27.917
Motorcycles	1997	2.639	2.014	2.011	3.511	2.248	2.047	20.029	22.185	27.917
Motorcycles	1998	2.639	2.014	2.011	3.481	2.240	2.046	20.029	22.185	27.917
Motorcycles	1999	2.639	2.014	2.011	3.509	2.248	2.047	20.029	22.185	27.917
Motorcycles	2000	2.639	2.014	2.011	3.325	2.198	2.039	20.029	22.185	27.917
Motorcycles	2001	2.600	1.978	1.975	3.276	2.159	2.003	20.010	22.166	27.919
Motorcycles	2002	2.562	1.941	1.938	3.252	2.126	1.967	19.990	22.146	27.922
Motorcycles	2003	2.523	1.904	1.902	3.207	2.088	1.930	19.970	22.127	27.924
Motorcycles	2004	2.453	1.848	1.846	3.147	2.034	1.874	19.591	21.708	27.410

Annex 2B-7: Fuel use (GJ) and emissions (tons) per vehicle category and as totals

Sector	Year	FC (PJ)	SO2	NOx	NMVOC	CH4	CO	CO2	N2O	NH3
Passenger Cars	1985	64	1395	54217	69102	1862	516779	4685	176	47
Passenger Cars	1986	64	916	54954	68768	1861	494176	4713	180	48
Passenger Cars	1987	65	930	55400	68330	1890	474552	4730	182	48
Passenger Cars	1988	65	912	56462	68016	1855	428732	4764	183	49
Passenger Cars	1989	64	658	56050	66506	1811	401081	4708	184	49
Passenger Cars	1990	68	669	59653	69953	1917	409520	4968	191	52
Passenger Cars	1991	72	690	60008	70514	2183	426126	5277	254	224
Passenger Cars	1992	76	513	59977	69855	2348	420560	5540	321	410
Passenger Cars	1993	76	295	56866	65494	2519	412178	5529	370	568
Passenger Cars	1994	77	304	52694	59616	2619	376184	5608	462	839
Passenger Cars	1995	81	318	51707	57508	2917	377712	5916	555	1103
Passenger Cars	1996	83	326	48919	53498	3227	375653	6043	632	1334
Passenger Cars	1997	85	334	45598	47178	3067	326831	6207	737	1641
Passenger Cars	1998	87	347	41900	41756	3064	311583	6357	821	1884
Passenger Cars	1999	88	286	38237	36461	2835	280381	6411	885	2048
Passenger Cars	2000	87	200	35106	30061	2702	260867	6385	924	2139
Passenger Cars	2001	86	198	32109	27213	2633	252270	6317	939	2166
Passenger Cars	2002	88	201	29798	24080	2401	231251	6404	986	2258
Passenger Cars	2003	89	203	27593	21836	2314	222391	6483	1019	2317
Passenger Cars	2004	89	204	25308	18651	2020	195780	6495	1051	2347
Light Duty Vehicles	1985	16	3285	7289	2323	114	16714	1195	77	6
Light Duty Vehicles	1986	19	2345	8454	2579	126	18552	1404	92	7
Light Duty Vehicles	1987	20	2447	8885	2745	135	19802	1470	96	7
Light Duty Vehicles	1988	21	2538	9235	2835	136	20072	1528	100	7
Light Duty Vehicles	1989	22	1789	9578	2844	135	20073	1600	105	8
Light Duty Vehicles	1990	23	1913	10234	3028	144	21356	1711	113	8
Light Duty Vehicles	1991	24	1983	10653	3202	154	22762	1776	116	8
Light Duty Vehicles	1992	24	1254	10553	3269	156	22970	1742	114	8
Light Duty Vehicles	1993	23	484	10523	3287	160	23446	1732	113	8
Light Duty Vehicles	1994	25	517	11002	3314	158	23405	1834	120	9
Light Duty Vehicles	1995	25	506	10823	3292	164	23426	1814	121	16
Light Duty Vehicles	1996	25	521	10964	3249	170	23630	1870	127	24
Light Duty Vehicles	1997	26	528	10842	3036	160	21869	1890	133	31
Light Duty Vehicles	1998	25	512	10394	2818	156	20641	1840	132	37
Light Duty Vehicles	1999	25	289	10293	2660	147	19264	1862	136	43
Light Duty Vehicles	2000	25	59	10181	2422	142	18370	1876	140	49
Light Duty Vehicles	2001	26	60	10214	2390	144	18209	1914	145	57
Light Duty Vehicles	2002	27	63	10078	2217	133	16886	1987	154	64
Light Duty Vehicles	2003	29	67	10229	2128	128	16135	2118	166	69
Light Duty Vehicles	2004	32	76	10959	2066	125	15515	2399	192	83
Heavy Duty Vehicles	1985	22	5083	19694	2356	168	5140	1609	63	6
Heavy Duty Vehicles	1986	24	3387	21863	2614	187	5675	1787	70	7
Heavy Duty Vehicles	1987	23	3280	21177	2532	181	5506	1731	68	7
Heavy Duty Vehicles	1988	23	3214	20752	2482	177	5400	1696	67	7
Heavy Duty Vehicles	1989	24	2218	21478	2567	183	5568	1755	69	7
Heavy Duty Vehicles	1990	25	2325	22486	2715	193	5900	1840	73	7
Heavy Duty Vehicles	1991	26	2400	23217	2803	199	6096	1900	75	8
Heavy Duty Vehicles	1992	25	1519	22599	2731	194	5964	1849	73	7
Heavy Duty Vehicles	1993	25	578	22364	2703	192	5903	1830	73	7
Heavy Duty Vehicles	1994	27	620	23151	2816	199	6087	1963	78	8
Heavy Duty Vehicles	1995	26	611	22016	2700	190	5826	1935	77	8

Heavy Duty Vehicles	1996	27	633	22009	2719	191	5825	2003	80	8
Heavy Duty Vehicles	1997	28	643	21357	2584	187	5454	2035	79	8
Heavy Duty Vehicles	1998	29	671	21204	2574	188	5413	2122	82	8
Heavy Duty Vehicles	1999	30	384	21132	2542	190	5302	2211	84	8
Heavy Duty Vehicles	2000	29	68	19521	2380	177	4959	2141	81	8
Heavy Duty Vehicles	2001	30	70	19192	2278	177	4806	2198	81	8
Heavy Duty Vehicles	2002	29	68	17358	2081	162	4390	2148	79	8
Heavy Duty Vehicles	2003	31	74	17486	2122	165	4443	2323	85	9
Heavy Duty Vehicles	2004	31	73	15621	1946	151	4023	2306	85	8
Buses	1985	8	1855	8363	727	85	2325	586	21	2
Buses	1986	9	1213	9107	795	92	2529	639	23	2
Buses	1987	8	1187	8904	782	90	2470	625	23	2
Buses	1988	8	1191	8927	784	91	2476	627	23	2
Buses	1989	9	821	9228	811	94	2560	648	23	2
Buses	1990	9	857	9661	840	98	2685	677	24	2
Buses	1991	9	828	9358	803	94	2609	654	23	2
Buses	1992	9	531	9210	802	93	2559	646	23	2
Buses	1993	9	204	9184	804	93	2549	645	23	2
Buses	1994	9	216	9419	831	96	2583	682	25	2
Buses	1995	10	242	10075	958	105	2697	766	28	3
Buses	1996	10	238	9624	911	100	2556	752	28	3
Buses	1997	10	236	9090	866	96	2412	744	27	3
Buses	1998	10	235	8769	840	93	2330	742	27	3
Buses	1999	10	126	8234	795	89	2187	723	27	3
Buses	2000	9	22	7613	743	83	2021	693	25	3
Buses	2001	9	21	7171	702	79	1904	670	25	2
Buses	2002	9	21	6864	674	76	1822	672	25	2
Buses	2003	10	23	7153	703	80	1898	727	27	3
Buses	2004	10	24	7073	698	79	1877	747	27	3
Mopeds	1985	0	1	9	2770	67	4568	24	0	0
Mopeds	1986	0	1	8	2496	60	4114	22	0	0
Mopeds	1987	0	1	8	2364	57	3901	21	0	0
Mopeds	1988	0	1	8	2310	56	3802	20	0	0
Mopeds	1989	0	1	7	2205	53	3627	19	0	0
Mopeds	1990	0	1	7	2256	54	3711	20	0	0
Mopeds	1991	0	1	8	2320	56	3820	20	0	0
Mopeds	1992	0	1	8	2322	56	3820	20	0	0
Mopeds	1993	0	1	7	2240	54	3692	20	0	0
Mopeds	1994	0	1	7	2078	50	3419	18	0	0
Mopeds	1995	0	1	8	2303	55	3790	20	0	0
Mopeds	1996	0	1	8	2452	59	4041	22	0	0
Mopeds	1997	0	1	9	2616	63	4304	23	0	0
Mopeds	1998	0	1	9	2774	67	4570	24	0	0
Mopeds	1999	0	1	8	2489	60	4085	22	0	0
Mopeds	2000	0	1	8	2227	54	3693	21	0	0
Mopeds	2001	0	1	6	1759	42	2914	17	0	0
Mopeds	2002	0	1	7	1752	42	2907	18	0	0
Mopeds	2003	0	1	6	1669	40	2746	17	0	0
Mopeds	2004	0	1	6	1602	38	2607	18	0	0
Motorcycles	1985	0	1	46	658	45	5190	23	0	0
Motorcycles	1986	0	1	45	652	45	5135	23	0	0
Motorcycles	1987	0	1	46	654	45	5160	23	0	0
Motorcycles	1988	0	1	46	672	46	5267	24	0	0
Motorcycles	1989	0	1	46	671	46	5243	24	0	0
Motorcycles	1990	0	1	50	724	50	5653	25	1	1
Motorcycles	1991	0	1	54	780	54	6111	27	1	1
Motorcycles	1992	0	1	57	832	57	6498	29	1	1
Motorcycles	1993	0	1	59	850	59	6695	30	1	1

Motorcycles	1994	0	1	59	857	59	6698	30	1	1
Motorcycles	1995	0	1	62	903	62	7063	32	1	1
Motorcycles	1996	0	1	66	949	65	7473	33	1	1
Motorcycles	1997	0	1	72	1040	71	8123	36	1	1
Motorcycles	1998	1	1	77	1104	76	8673	39	1	1
Motorcycles	1999	1	1	81	1170	80	9143	41	1	1
Motorcycles	2000	1	1	87	1208	86	9811	44	1	1
Motorcycles	2001	1	1	93	1275	92	10514	47	1	1
Motorcycles	2002	1	2	100	1346	99	11215	50	1	1
Motorcycles	2003	1	2	107	1413	105	11956	54	1	1
Motorcycles	2004	1	2	118	1514	113	12849	59	1	1
Total	1985	111	11620	89618	77938	2341	550715	8123	339	62
Total	1986	117	7861	94432	77903	2371	530183	8588	366	64
Total	1987	117	7846	94420	77406	2398	511392	8600	369	65
Total	1988	118	7856	95431	77098	2361	465749	8658	374	66
Total	1989	119	5486	96389	75603	2322	438153	8754	382	66
Total	1990	126	5766	102091	79517	2456	448826	9241	402	70
Total	1991	131	5902	103297	80422	2739	467522	9654	471	243
Total	1992	134	3819	102403	79811	2904	462370	9825	532	429
Total	1993	133	1562	99004	75378	3076	454463	9785	579	586
Total	1994	138	1658	96332	69511	3181	418376	10135	686	859
Total	1995	143	1679	94690	67664	3493	420514	10483	782	1131
Total	1996	146	1720	91590	63777	3813	419178	10723	868	1370
Total	1997	149	1743	86967	57320	3644	368994	10936	977	1684
Total	1998	151	1766	82353	51865	3644	353211	11124	1063	1933
Total	1999	153	1087	77984	46118	3400	320362	11270	1134	2104
Total	2000	152	351	72515	39042	3244	299720	11159	1172	2200
Total	2001	152	351	68785	35617	3167	290617	11163	1191	2234
Total	2002	154	355	64205	32150	2913	268471	11279	1244	2334
Total	2003	159	369	62574	29871	2832	259570	11722	1298	2398
Total	2004	164	378	59085	26477	2526	232650	12024	1357	2443

Annex 2B-8: COPERT III:DEA statistics fuel use ratios and mileage adjustment factors

		1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Fuel ratio	DEA:COPERT III	0.89	0.88	0.87	0.89	0.86	0.91	0.96	1.00	1.00	0.96	0.98	0.97	0.96	0.95	0.92	0.92	0.92	0.93	0.93	0.93
	DEA:COPERT III	1.50	1.59	1.55	1.55	1.61	1.70	1.75	1.69	1.68	1.75	1.67	1.68	1.67	1.65	1.61	1.54	1.50	1.49	1.58	1.61
Mileage factor	DEA:COPERT III	0.89	0.88	0.87	0.89	0.86	0.91	0.96	1.00	1.00	0.96	0.98	0.97	0.96	0.95	0.92	0.92	0.92	0.93	0.93	0.93
	DEA:COPERT III	1.60	1.71	1.65	1.66	1.72	1.83	1.90	1.83	1.82	1.90	1.80	1.82	1.81	1.79	1.75	1.67	1.63	1.64	1.77	1.84

Annex 2B-9: Basis fuel use and emission factors, deterioration factors, transient factors for non road working machinery and equipment, and recreational craft

Basis factors for diesel fuelled non road machinery

Engine size [P=kW]	Emission Level	NO_x	VOC	CO	N_2O	NH_3	TSP	Fuel
					[g/kWh]			
P<19	<1981	12.0	5.0	7	0.035	0.002	2.8	300
P<19	1981-1990	11.5	3.8	6	0.035	0.002	2.3	285
P<19	1991-Stage I	11.2	2.5	5	0.035	0.002	1.6	270
P<19	Stage I	11.2	2.5	5	0.035	0.002	1.6	270
P<19	Stage II	11.2	2.5	5	0.035	0.002	1.6	270
P<19	Stage IIIA	11.2	2.5	5	0.035	0.002	1.6	270
P<19	Stage IIIB	11.2	2.5	5	0.035	0.002	1.6	270
P<19	Stage IV	11.2	2.5	5	0.035	0.002	1.6	270
19<=P<37	<1981	18.0	2.5	6.5	0.035	0.002	2	300
19<=P<37	1981-1990	18.0	2.2	5.5	0.035	0.002	1.4	281
19<=P<37	1991-Stage I	9.8	1.8	4.5	0.035	0.002	1.4	262
19<=P<37	Stage I	9.8	1.8	4.5	0.035	0.002	1.4	262
19<=P<37	Stage II	6.5	0.6	2.2	0.035	0.002	0.4	262
19<=P<37	Stage IIIA	6.2	0.6	2.2	0.035	0.002	0.4	262
19<=P<37	Stage IIIB	6.2	0.6	2.2	0.035	0.002	0.4	262
19<=P<37	Stage IV	6.2	0.6	2.2	0.035	0.002	0.4	262
37<=P<56	<1981	7.7	2.4	6	0.035	0.002	1.8	290
37<=P<56	1981-1990	8.6	2.0	5.3	0.035	0.002	1.2	275
37<=P<56	1991-Stage I	11.5	1.5	4.5	0.035	0.002	0.8	260
37<=P<56	Stage I	7.7	0.6	2.2	0.035	0.002	0.4	260
37<=P<56	Stage II	5.5	0.4	2.2	0.035	0.002	0.2	260
37<=P<56	Stage IIIA	3.9	0.4	2.2	0.035	0.002	0.2	260
37<=P<56	Stage IIIB	3.9	0.4	2.2	0.035	0.002	0.0225	260
37<=P<56	Stage IV	3.9	0.4	2.2	0.035	0.002	0.0225	260
56<=P<75	<1981	7.7	2.0	5	0.035	0.002	1.4	290
56<=P<75	1981-1990	8.6	1.6	4.3	0.035	0.002	1	275
56<=P<75	1991-Stage I	11.5	1.2	3.5	0.035	0.002	0.4	260
56<=P<75	Stage I	7.7	0.4	1.5	0.035	0.002	0.2	260
56<=P<75	Stage II	5.5	0.3	1.5	0.035	0.002	0.2	260
56<=P<75	Stage IIIA	4.0	0.3	1.5	0.035	0.002	0.2	260
56<=P<75	Stage IIIB	3.0	0.2	1.5	0.035	0.002	0.0225	260
56<=P<75	Stage IV	0.4	0.2	1.5	0.035	0.002	0.0225	260
75<=P<130	<1981	10.5	2.0	5	0.035	0.002	1.4	280
75<=P<130	1981-1990	11.8	1.6	4.3	0.035	0.002	1	268
75<=P<130	1991-Stage I	13.3	1.2	3.5	0.035	0.002	0.4	255
75<=P<130	Stage I	8.1	0.4	1.5	0.035	0.002	0.2	255
75<=P<130	Stage II	5.2	0.3	1.5	0.035	0.002	0.2	255
75<=P<130	Stage IIIA	3.4	0.3	1.5	0.035	0.002	0.2	255
75<=P<130	Stage IIIB	3.0	0.2	1.5	0.035	0.002	0.0225	255
75<=P<130	Stage IV	0.4	0.2	1.5	0.035	0.002	0.0225	255
130<=P<560	<1981	17.8	1.5	2.5	0.035	0.002	0.9	270
130<=P<560	1981-1990	12.4	1.0	2.5	0.035	0.002	0.8	260
130<=P<560	1991-Stage I	11.2	0.5	2.5	0.035	0.002	0.4	250
130<=P<560	Stage I	7.6	0.3	1.5	0.035	0.002	0.2	250
130<=P<560	Stage II	5.2	0.3	1.5	0.035	0.002	0.1	250
130<=P<560	Stage IIIA	3.4	0.3	1.5	0.035	0.002	0.1	250

130<=P<560	Stage IIIB	3.0	0.2	1.5	0.035	0.002	0.0225	250
130<=P<560	Stage IV	0.4	0.2	1.5	0.035	0.002	0.0225	250

Basis factors for 4-stroke gasoline non road machinery

Engine	Size code	Size classe [S=ccm]	Emission Level	NO_x	VOC	CO	N_2O [g/kWh]	NH_3	TSP	Fuel
4-stroke	SH2	20<=S<50	<1981	2.4	33	198	0.002	0.03	0.08	496
4-stroke	SH2	20<=S<50	1981-1990	3.5	27.5	165	0.002	0.03	0.08	474
4-stroke	SH2	20<=S<50	1991-Stage I	4.7	22	132	0.002	0.03	0.08	451
4-stroke	SH2	20<=S<50	Stage I	4.7	22	132	0.002	0.03	0.08	406
4-stroke	SH2	20<=S<50	Stage II	4.7	22	132	0.002	0.03	0.08	406
4-stroke	SH3	S>=50	<1981	2.4	33	198	0.002	0.03	0.08	496
4-stroke	SH3	S>=50	1981-1990	3.5	27.5	165	0.002	0.03	0.08	474
4-stroke	SH3	S>=50	1991-Stage I	4.7	22	132	0.002	0.03	0.08	451
4-stroke	SH3	S>=50	Stage I	4.7	22	132	0.002	0.03	0.08	406
4-stroke	SH3	S>=50	Stage II	4.7	22	132	0.002	0.03	0.08	406
4-stroke	SN1	S<66	<1981	1.2	26.9	822	0.002	0.03	0.08	603
4-stroke	SN1	S<66	1981-1990	1.8	22.5	685	0.002	0.03	0.08	603
4-stroke	SN1	S<66	1991-Stage I	2.4	18	548	0.002	0.03	0.08	603
4-stroke	SN1	S<66	Stage I	4.3	16.1	411	0.002	0.03	0.08	475
4-stroke	SN1	S<66	Stage II	4.3	16.1	411	0.002	0.03	0.08	475
4-stroke	SN2	66<=S<100	<1981	2.3	10.5	822	0.002	0.03	0.08	627
4-stroke	SN2	66<=S<100	1981-1990	3.5	8.7	685	0.002	0.03	0.08	599
4-stroke	SN2	66<=S<100	1991-Stage I	4.7	7	548	0.002	0.03	0.08	570
4-stroke	SN2	66<=S<100	Stage I	4.7	7	467	0.002	0.03	0.08	450
4-stroke	SN2	66<=S<100	Stage II	4.7	7	467	0.002	0.03	0.08	450
4-stroke	SN3	100<=S<225	<1981	2.6	19.1	525	0.002	0.03	0.08	601
4-stroke	SN3	100<=S<225	1981-1990	3.8	15.9	438	0.002	0.03	0.08	573
4-stroke	SN3	100<=S<225	1991-Stage I	5.1	12.7	350	0.002	0.03	0.08	546
4-stroke	SN3	100<=S<225	Stage I	5.1	11.6	350	0.002	0.03	0.08	546
4-stroke	SN3	100<=S<225	Stage II	5.1	9.4	350	0.002	0.03	0.08	546
4-stroke	SN4	S>=225	<1981	1.3	11.1	657	0.002	0.03	0.08	539
4-stroke	SN4	S>=225	1981-1990	2	9.3	548	0.002	0.03	0.08	514
4-stroke	SN4	S>=225	1991-Stage I	2.6	7.4	438	0.002	0.03	0.08	490
4-stroke	SN4	S>=225	Stage I	2.6	7.4	438	0.002	0.03	0.08	490
4-stroke	SN4	S>=225	Stage II	2.6	7.4	438	0.002	0.03	0.08	490

Basis factors for 2-stroke gasoline non road machinery

Engine	Size code	Size classe [ccm]	Emission Level	NO_x	VOC	CO	N_2O [g/kWh]	NH_3	TSP	Fuel
2-stroke	SH2	20<=S<50	<1981	1	305	695	0.002	0.01	7	882
2-stroke	SH2	20<=S<50	1981-1990	1	300	579	0.002	0.01	5.3	809
2-stroke	SH2	20<=S<50	1991-Stage I	1.1	203	463	0.002	0.01	3.5	735
2-stroke	SH2	20<=S<50	Stage I	1.5	188	379	0.002	0.01	3.5	720
2-stroke	SH2	20<=S<50	Stage II	1.5	44	379	0.002	0.01	3.5	500
2-stroke	SH3	S>=50	<1981	1.1	189	510	0.002	0.01	3.6	665
2-stroke	SH3	S>=50	1981-1990	1.1	158	425	0.002	0.01	2.7	609
2-stroke	SH3	S>=50	1991-Stage I	1.2	126	340	0.002	0.01	1.8	554
2-stroke	SH3	S>=50	Stage I	2	126	340	0.002	0.01	1.8	529
2-stroke	SH3	S>=50	Stage II	1.2	64	340	0.002	0.01	1.8	500
2-stroke	SN1	S<66	<1981	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN1	S<66	1981-1990	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN1	S<66	1991-Stage I	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN1	S<66	Stage I	0.5	155	418	0.002	0.01	2.6	652

2-stroke	SN1	S<66	Stage II	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN2	66<=S<100	<1981	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN2	66<=S<100	1981-1990	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN2	66<=S<100	1991-Stage I	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN2	66<=S<100	Stage I	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN2	66<=S<100	Stage II	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN3	100<=S<225	<1981	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN3	100<=S<225	1981-1990	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN3	100<=S<225	1991-Stage I	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN3	100<=S<225	Stage I	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN3	100<=S<225	Stage II	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN4	S>=225	<1981	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN4	S>=225	1981-1990	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN4	S>=225	1991-Stage I	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN4	S>=225	Stage I	0.5	155	418	0.002	0.01	2.6	652
2-stroke	SN4	S>=225	Stage II	0.5	155	418	0.002	0.01	2.6	652

Fuel use and emission factors LPG fork lifts

NO_x [g/kWh]	VOC [g/kWh]	CO [g/kWh]	NH_3 [g/kWh]	N_2O [g/kWh]	TSP [g/kWh]	FC [g/kWh]
19	2.2	1.5	0.003	0.05	0.07	311

Fuel use and emission factors for All Terrain Vehicles (ATV's)

ATV type	NO_x [g/GJ]	VOC [g/GJ]	CO [g/GJ]	NH_3 [g/GJ]	N_2O [g/GJ]	TSP [g/GJ]	Fuel [kg/hour]
Professional	108	1077	16306	2	2	32	1.125
Private	128	1527	22043	2	2	39	0.75

Fuel use and emission factors for recreational craft

Fuel type	Vessel type	Engine	Engine type	Direktiv	Engine size	CO	VOC	N_2O	NH_3	NO_x	TSP	Fuel
					[kW]				[g/kWh]			
Gasoline	Other boats (< 20 ft)	Out board	2-stroke	2003/44	8	202.5	45.9	0.01	0.002	2	10	791
Gasoline	Other boats (< 20 ft)	Out board	2-stroke	Konv.	8	427	257.0	0.01	0.002	2	10	791
Gasoline	Other boats (< 20 ft)	Out board	4-stroke	2003/44	8	202.5	24.0	0.03	0.002	7	0.08	426
Gasoline	Other boats (< 20 ft)	Out board	4-stroke	Konv.	8	520	24.0	0.03	0.002	7	0.08	426
Gasoline	Yawls and cabin boats	Out board	2-stroke	2003/44	20	162	36.5	0.01	0.002	3	10	791
Gasoline	Yawls and cabin boats	Out board	2-stroke	Konv.	20	374	172.0	0.01	0.002	3	10	791
Gasoline	Yawls and cabin boats	Out board	4-stroke	2003/44	20	162	14.0	0.03	0.002	10	0.08	426
Gasoline	Yawls and cabin boats	Out board	4-stroke	Konv.	20	390	14.0	0.03	0.002	10	0.08	426
Gasoline	Sailing boats (< 26 ft)	Out board	2-stroke	2003/44	10	189	43.0	0.01	0.002	2	10	791
Gasoline	Sailing boats (< 26 ft)	Out board	2-stroke	Konv.	10	427	257.0	0.01	0.002	2	10	791
Gasoline	Sailing boats (< 26 ft)	Out board	4-stroke	2003/44	10	189	24.0	0.03	0.002	7	0.08	426
Gasoline	Sailing boats (< 26 ft)	Out board	4-stroke	Konv.	10	520	24.0	0.03	0.002	7	0.08	426
Gasoline	Speed boats	In board	4-stroke	2003/44	90	141	10.0	0.03	0.002	12	0.08	426
Gasoline	Speed boats	In board	4-stroke	Konv.	90	346	10.0	0.03	0.002	12	0.08	426
Gasoline	Speed boats	Out board	2-stroke	2003/44	50	145.8	31.8	0.01	0.002	3	10	791
Gasoline	Speed boats	Out board	2-stroke	Konv.	50	374	172.0	0.01	0.002	3	10	791
Gasoline	Speed boats	Out board	4-stroke	2003/44	50	145.8	14.0	0.03	0.002	10	0.08	426
Gasoline	Speed boats	Out board	4-stroke	Konv.	50	390	14.0	0.03	0.002	10	0.08	426
Gasoline	Water scooters	Built in	2-stroke	2003/44	45	147	32.2	0.01	0.002	3	10	791
Gasoline	Water scooters	Built in	2-stroke	Konv.	45	374	172.0	0.01	0.002	3	10	791
Gasoline	Water scooters	Built in	4-stroke	2003/44	45	147	14.0	0.03	0.002	10	0.08	426
Gasoline	Water scooters	Built in	4-stroke	Konv.	45	390	14.0	0.03	0.002	10	0.08	426
Diesel	Motor boats (27-34 ft)	In board		2003/44	150	5	1.7	0.035	0.002	8.6	1	275

Diesel	Motor boats (27-34 ft)	In board	Konv.	150	5.3	2.0	0.035	0.002	8.6	1.2	275
Diesel	Motor boats (> 34 ft)	In board	2003/44	250	5	1.6	0.035	0.002	8.6	1	275
Diesel	Motor boats (> 34 ft)	In board	Konv.	250	5.3	2.0	0.035	0.002	8.6	1.2	275
Diesel	Motor boats (< 27 ft)	In board	2003/44	40	5	1.8	0.035	0.002	9.8	1	281
Diesel	Motor boats (< 27 ft)	In board	Konv.	40	5.5	2.2	0.035	0.002	18	1.4	281
Diesel	Motor sailors	In board	2003/44	30	5	1.9	0.035	0.002	9.8	1	281
Diesel	Motor sailors	In board	Konv.	30	5.5	2.2	0.035	0.002	18	1.4	281
Diesel	Sailing boats (> 26 ft)	In board	2003/44	30	5	1.9	0.035	0.002	9.8	1	281
Diesel	Sailing boats (> 26 ft)	In board	Konv.	30	5.5	2.2	0.035	0.002	18	1.4	281

CH_4 shares of VOC for diesel, gasoline and LPG

Fuel type	CH_4 share of VOC
Diesel	0.016
Gasoline 4-stroke	0.1
Gasoline 2-stroke	0.009
LPG	0.05

Deterioration factors for diesel machinery

Emission Level	NO_x	VOC	CO	TSP
<1981	0.024	0.047	0.185	0.473
1981-1990	0.024	0.047	0.185	0.473
1991-Stage I	0.024	0.047	0.185	0.473
Stage I	0.024	0.036	0.101	0.473
Stage II	0.009	0.034	0.101	0.473
Stage IIIA	0.008	0.027	0.151	0.473
Stage IIIB	0.008	0.027	0.151	0.473
Stage IV	0.008	0.027	0.151	0.473

Deterioration factors for gasoline 2-stroke machinery

Engine	Size code	Size classe	Emission Level	NO_x	VOC	CO	TSP
2-stroke	SH2	20<=S<50	<1981	0	0.2	0.2	0
2-stroke	SH2	20<=S<50	1981-1990	0	0.2	0.2	0
2-stroke	SH2	20<=S<50	1991-Stage I	0	0.2	0.2	0
2-stroke	SH2	20<=S<50	Stage I	0	0.29	0.24	0
2-stroke	SH2	20<=S<50	Stage II	0	0.29	0.24	0
2-stroke	SH3	S>=50	<1981	-0.031	0.2	0.2	0
2-stroke	SH3	S>=50	1981-1990	-0.031	0.2	0.2	0
2-stroke	SH3	S>=50	1991-Stage I	-0.031	0.2	0.2	0
2-stroke	SH3	S>=50	Stage I	0	0.266	0.231	0
2-stroke	SH3	S>=50	Stage II	0	0.266	0.231	0
2-stroke	SN1	S<66	<1981	-0.6	0.201	0.9	1.1
2-stroke	SN1	S<66	1981-1990	-0.6	0.201	0.9	1.1
2-stroke	SN1	S<66	1991-Stage I	-0.6	0.201	0.9	1.1
2-stroke	SN1	S<66	Stage I	-0.33	0.266	1.109	5.103
2-stroke	SN1	S<66	Stage II	-0.33	0	1.109	5.103
2-stroke	SN2	66<=S<100	<1981	-0.6	0.201	0.9	1.1
2-stroke	SN2	66<=S<100	1981-1990	-0.6	0.201	0.9	1.1
2-stroke	SN2	66<=S<100	1991-Stage I	-0.6	0.201	0.9	1.1
2-stroke	SN2	66<=S<100	Stage I	-0.33	0.266	1.109	5.103
2-stroke	SN2	66<=S<100	Stage II	-0.33	0	1.109	5.103
2-stroke	SN3	100<=S<225	<1981	-0.6	0.201	0.9	1.1
2-stroke	SN3	100<=S<225	1981-1990	-0.6	0.201	0.9	1.1
2-stroke	SN3	100<=S<225	1991-Stage I	-0.6	0.201	0.9	1.1
2-stroke	SN3	100<=S<225	Stage I	-0.33	0.266	1.109	5.103
2-stroke	SN3	100<=S<225	Stage II	-0.33	0	1.109	5.103
2-stroke	SN4	S>=225	<1981	-0.6	0.201	0.9	1.1
2-stroke	SN4	S>=225	1981-1990	-0.6	0.201	0.9	1.1
2-stroke	SN4	S>=225	1991-Stage I	-0.6	0.201	0.9	1.1
2-stroke	SN4	S>=225	Stage I	-0.274	0	0.887	1.935
2-stroke	SN4	S>=225	Stage II	-0.274	0	0.887	1.935

Deterioration factors for gasoline 4-stroke machinery

Engine	Size code	Size classe	Emission Level	NO_x	VOC	CO	TSP
4-stroke	SN1	S<66	<1981	-0.6	1.1	0.9	1.1
4-stroke	SN1	S<66	1981-1990	-0.6	1.1	0.9	1.1
4-stroke	SN1	S<66	1991-Stage I	-0.6	1.1	0.9	1.1
4-stroke	SN1	S<66	Stage I	-0.3	1.753	1.051	1.753

4-stroke	SN1	S<66	Stage II	-0.3	1.753	1.051	1.753
4-stroke	SN2	66<=S<100	<1981	-0.6	1.1	0.9	1.1
4-stroke	SN2	66<=S<100	1981-1990	-0.6	1.1	0.9	1.1
4-stroke	SN2	66<=S<100	1991-Stage I	-0.6	1.1	0.9	1.1
4-stroke	SN2	66<=S<100	Stage I	-0.3	1.753	1.051	1.753
4-stroke	SN2	66<=S<100	Stage II	-0.3	1.753	1.051	1.753
4-stroke	SN3	100<=S<225	<1981	-0.6	1.1	0.9	1.1
4-stroke	SN3	100<=S<225	1981-1990	-0.6	1.1	0.9	1.1
4-stroke	SN3	100<=S<225	1991-Stage I	-0.6	1.1	0.9	1.1
4-stroke	SN3	100<=S<225	Stage I	-0.3	1.753	1.051	1.753
4-stroke	SN3	100<=S<225	Stage II	-0.3	1.753	1.051	1.753
4-stroke	SN4	S>=225	<1981	-0.6	1.1	0.9	1.1
4-stroke	SN4	S>=225	1981-1990	-0.6	1.1	0.9	1.1
4-stroke	SN4	S>=225	1991-Stage I	-0.6	1.1	0.9	1.1
4-stroke	SN4	S>=225	Stage I	-0.599	1.095	1.307	1.095
4-stroke	SN4	S>=225	Stage II	-0.599	1.095	1.307	1.095
4-stroke	SH2	20<=S<50	<1981	0	0	0	0
4-stroke	SH2	20<=S<50	1981-1990	0	0	0	0
4-stroke	SH2	20<=S<50	1991-Stage I	0	0	0	0
4-stroke	SH2	20<=S<50	Stage I	0	0	0	0
4-stroke	SH2	20<=S<50	Stage II	0	0	0	0
4-stroke	SH3	S>=50	<1981	0	0	0	0
4-stroke	SH3	S>=50	1981-1990	0	0	0	0
4-stroke	SH3	S>=50	1991-Stage I	0	0	0	0
4-stroke	SH3	S>=50	Stage I	0	0	0	0
4-stroke	SH3	S>=50	Stage II	0	0	0	0

Transient factors for diesel machinery

Emission Level	Load	NO_x	VOC	CO	TSP	Fuel
<1981	High	0.95	1.05	1.53	1.23	1.01
1981-1990	High	0.95	1.05	1.53	1.23	1.01
1991-Stage I	High	0.95	1.05	1.53	1.23	1.01
Stage I	High	0.95	1.05	1.53	1.23	1.01
Stage II	High	0.95	1.05	1.53	1.23	1.01
Stage IIIA	High	0.95	1.05	1.53	1.23	1.01
Stage IIIB	High	1	1	1	1	1
Stage IV	High	1	1	1	1	1
<1981	Low	1.1	2.29	2.57	1.97	1.18
1981-1990	Low	1.1	2.29	2.57	1.97	1.18
1991-Stage I	Low	1.1	2.29	2.57	1.97	1.18
Stage I	Low	1.1	2.29	2.57	1.97	1.18
Stage II	Low	1.1	2.29	2.57	1.97	1.18
Stage IIIA	Low	1.1	2.29	2.57	1.97	1.18
Stage IIIB	Low	1	1	1	1	1
Stage IV	Low	1	1	1	1	1

Annex 2B-10: Stock and activity data for non-road working machinery and equipment

Stock data for diesel tractors 1985-2004

Size (kW)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
37	<1981	3882	3792	3542	3543	3403	3234	3106	2922	2861	2610	2605	2273	2193	1918	1796	1601	1442	1282	1121	961
37	1981-1990	635	731	760	835	855	879	889	883	915	887	945	883	918	869	888	871	871	871	871	871
37	1991-Stage I							25	107	153	201	278	354	445	496	554	568	569	569	569	569
37	Stage I																	33	55	81	81
37	Stage II																				26
45	<1981	25988	25387	23709	23718	22781	21650	20796	19563	19154	17475	17441	15219	14684	12840	12025	10715	9652	8580	7507	6435
45	1981-1990	5740	6808	7263	8075	8476	8770	8867	8805	9128	8848	9419	8807	9151	8668	8856	8681	8688	8688	8688	8688
45	1991-Stage I							203	202	209	203	216	202	210	199	203	199	199	199	199	199
49	1991-Stage I								154	281	485	602	618	702	749	765	750	750	750	750	750
52	1991-Stage I															247	358	359	359	359	359
52	Stage I																	132	239	368	368
52	Stage II																				129
56	1991-Stage I								201	338	428	747	943	1181	1280	1307	1281	1282	1282	1282	1282
60	<1981	54651	53387	49857	49877	47907	45529	43732	41140	40278	36747	36676	32004	30879	27001	25287	22533	20297	18042	15787	13532
60	1981-1990	11751	14613	15795	17797	19395	20542	20770	20624	21380	20725	22063	20628	21434	20304	20744	20333	20351	20351	20351	20351
60	1991-Stage I							863	857	888	861	917	857	891	844	862	845	846	846	846	846
63	1991-Stage I								468	855	1325	2014	2384	2837	3011	3076	3015	3018	3018	3018	3018
67	1991-Stage I															671	1343	1344	1344	1344	1344
67	Stage I																	530	824	1088	1088
67	Stage II																				263
71	1991-Stage I								411	715	1179	1949	2507	3344	3594	3672	3600	3603	3603	3603	3603
78	<1981	14558	14221	13281	13286	12761	12128	11649	10959	10729	9789	9770	8525	8226	7192	6736	6002	5407	4806	4205	3605
78	1981-1990	4592	6152	7196	8559	10026	11323	11448	11368	11785	11424	12162	11371	11815	11192	11434	11208	11218	11218	11218	11218
78	1991-Stage I							1233	1503	1713	1945	2429	2561	2946	2994	3287	3436	3709	3709	3709	3709
78	Stage I																		321	321	321
78	Stage II																			222	443
86	1991-Stage I								108	193	333	589	880	1364	1532	1718	1876	2013	2013	2013	2013
86	Stage I																		133	133	133
86	Stage II																			89	178
93	1991-Stage I															149	245	323	323	323	323

93	Stage I																		112	112	112
93	Stage II																			104	208
97	1991-Stage I								71	175	443	962	1556	2327	2638	2695	2642	2644	2644	2644	2644
101	<1981	4659	4551	4250	4252	4084	3881	3728	3507	3433	3132	3126	2728	2632	2302	2156	1921	1730	1538	1346	1153
101	1981-1990	1158	1434	1618	1921	2156	2377	2403	2387	2474	2398	2553	2387	2480	2350	2400	2353	2355	2355	2355	2355
101	1991-Stage I							266	264	274	266	283	264	275	260	696	1116	1559	1559	1559	1559
101	Stage I																		229	229	229
101	Stage II																			133	265
112	1991-Stage I								63	114	166	252	422	690	790	978	1265	1618	1618	1618	1618
112	Stage I																		459	459	459
112	Stage II																			329	659
127	1991-Stage I								12	36	81	193	279	408	457	590	707	843	843	843	843
127	Stage I																		150	150	150
127	Stage II																			77	153
131	<1981	798	780	728	728	700	665	639	601	588	537	536	467	451	394	369	329	296	263	231	198
131	1981-1990	288	421	500	651	753	887	897	890	923	895	952	890	925	876	895	878	878	878	878	878
131	1991-Stage I							97	97	100	97	103	97	100	95	97	95	95	95	95	95
157	1981-1990		2	3	6	11	15	15	15	16	15	16	15	16	15	15	15	15	15	15	15
157	1991-Stage I							9	23	39	102	232	357	545	648	784	900	901	901	901	901
157	Stage I																	88	88	88	88
157	Stage II																		147	406	665
186	1991-Stage I															23	53	53	53	53	53
186	Stage I																	47	47	47	47
186	Stage II																		67	202	337

Stock data for gasoline tractors 1985-2004

Size (kW)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Certified	<1981	13176	12541	11906	11270	10635	10000	9053	8148	7285	6465	5687	4951	4258	3607	2998	2432	1908	1427	987	591
Non certified	<1981	26352	25082	23811	22541	21270	20000	19042	18041	16998	15913	14785	13616	12403	11149	9852	8512	7131	5707	4240	2732

Stock data for harvesters 1985-2004

Size Group	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
0<S<=50	<1981	26601	24394	22599	22144	19842	18915	17241	15607	14575	12673	10700	9491	6966	5446	3589	2873	1743	1169	659	217
0<S<=50	1981-1990	519	534	550	582	566	591	594	601	635	636	633	683	641	686	672	715	713	713	713	713
50<S<=60	<1981	2703	2648	2634	2785	2711	2828	2847	2876	3040	3044	3029	3271	3068	2930	2235	1999	1477	1155	784	316
50<S<=60	1981-1990	853	1102	1164	1275	1258	1333	1341	1355	1432	1434	1427	1541	1446	1548	1516	1612	1609	1609	1609	1609
50<S<=60	1991-Stage I							8	8	8	8	8	9	9	9	9	10	10	10	10	10
60<S<=70	<1981	1786	1750	1741	1841	1792	1869	1881	1901	2009	2012	2002	2162	2028	2171	2127	2073	1550	1228	857	390
60<S<=70	1981-1990	1138	1679	1943	2237	2213	2348	2363	2388	2524	2527	2515	2716	2547	2727	2671	2841	2834	2834	2834	2834
60<S<=70	1991-Stage I							8	16	18	21	22	24	23	24	24	25	25	25	25	25
70<S<=80	<1981	929	910	905	958	932	972	979	989	1045	1046	1041	1125	1055	1129	1106	1176	1174	1013	642	174
70<S<=80	1981-1990	383	699	1026	1165	1318	1493	1502	1518	1604	1606	1598	1726	1619	1733	1698	1806	1802	1802	1802	1802
70<S<=80	1991-Stage I							72	77	83	86	87	96	91	98	96	102	102	102	102	102
70<S<=80	Stage I															1	1	1	1	1	1
80<S<=90	<1981	323	317	315	333	324	338	340	344	363	364	362	391	367	393	385	409	408	408	408	174
80<S<=90	1981-1990	383	562	645	967	1107	1466	1475	1491	1575	1577	1570	1695	1590	1702	1667	1773	1769	1769	1769	1769
80<S<=90	1991-Stage I							61	158	181	200	200	217	207	222	217	231	231	231	231	231
80<S<=90	Stage I															1	1	1	1	1	1
90<S<=100	1981-1990	89	175	235	387	515	670	674	681	720	721	717	775	726	778	762	810	808	808	808	808
90<S<=100	1991-Stage I							180	257	320	329	351	382	367	393	385	410	409	409	409	409
90<S<=100	Stage I															1	1	1	1	1	1
100<S<=120	1981-1990		54	106	219	334	589	592	599	633	634	630	681	639	684	670	712	711	711	711	711
100<S<=120	1991-Stage I							129	253	316	375	440	567	586	673	660	702	700	700	700	700
100<S<=120	Stage I															2	2	2	2	2	2
120<S<=140	1981-1990				4	69	183	184	186	197	197	196	212	199	213	208	222	221	221	221	221
120<S<=140	1991-Stage I							70	148	189	215	319	484	626	804	860	918	920	920	920	920
120<S<=140	Stage I															21	26	30	30	30	30
120<S<=140	Stage II																		5	8	10
140<S<=160	1991-Stage I								8	36	69	112	271	354	554	632	715	747	747	747	747
140<S<=160	Stage II																		24	41	55
160<S<=180	1991-Stage I											26	69	200	374	440	534	566	566	566	566
160<S<=180	Stage II																		39	66	89
180<S<=200	1991-Stage I												20	67	117	193	249	282	282	282	282
180<S<=200	Stage II																		59	86	109
200<S<=220	1991-Stage I														45	92	143	175	175	175	175

200<S<=220	Stage II																39	66	89
220<S<=240	1991-Stage I													3	48	142	142	142	142
220<S<=240	Stage II																74	113	146
240<S<=260	1991-Stage I													3	71	133	133	133	133
240<S<=260	Stage II																74	125	168
260<S<=280	1991-Stage I													14	61	123	123	123	123
260<S<=280	Stage II																74	125	168
280<S<=300	1991-Stage I															31	31	31	31
280<S<=300	Stage II																74	125	168
300<S<=320	Stage II																	26	47

Stock data for fork lifts 1985-2004

Fuel type	Size (kW)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Diesel	35	<1981	387	361	336	311	285	260	234	209	183	158	133	107	84	58	30					
Diesel	35	1981-1990	120	162	202	239	270	297	297	297	297	297	297	297	297	297	297	297	277	249	232	198
Diesel	35	1991-Stage I							26	49	65	93	131	168	218	247	275	304	304	304	304	304
Diesel	35	Stage II																	23	53	75	89
Diesel	45	<1981	1612	1506	1400	1294	1188	1082	976	870	764	658	552	446	349	243	126					
Diesel	45	1981-1990	499	674	839	994	1122	1233	1233	1233	1233	1233	1233	1233	1233	1233	1233	1233	1151	1036	964	820
Diesel	45	1991-Stage I							108	203	270	386	544	699	905	1063	1063	1063	1063	1063	1063	1063
Diesel	45	Stage I															151	303	422	524	664	664
Diesel	45	Stage II																				104
Diesel	50	<1981	2173	2031	1888	1745	1602	1459	1316	1174	1031	888	745	602	471	328	170					
Diesel	50	1981-1990	673	909	1131	1340	1512	1662	1662	1662	1662	1662	1662	1662	1662	1662	1662	1662	1551	1396	1299	1105
Diesel	50	1991-Stage I							145	273	363	519	732	940	1217	1469	1469	1469	1469	1469	1469	1469
Diesel	50	Stage I															240	461	682	897	1135	1135
Diesel	50	Stage II																				187
Diesel	75	<1981	497	465	432	399	367	334	301	269	236	203	170	138	108	75	39					
Diesel	75	1981-1990	154	208	259	307	347	382	382	382	382	382	382	382	382	382	382	382	357	321	299	255
Diesel	75	1991-Stage I							33	63	84	120	169	217	281	354	354	354	354	354	354	354
Diesel	75	Stage I															70	162	234	311	311	311
Diesel	75	Stage II																			58	129
Diesel	120	<1981	111	103	96	89	81	74	67	60	52	45	38	31	24	17	9					
Diesel	120	1981-1990	34	46	57	68	77	85	85	85	85	85	85	85	85	85	85	85	80	72	67	57
Diesel	120	1991-Stage I							7	14	19	27	38	49	63	97	97	97	97	97	97	97
Diesel	120	Stage I															32	71	89	118	118	118
Diesel	120	Stage II																			16	38
LPG	33		5420	5427	5390	5323	5265	5215	5156	5068	4947	4863	4835	4792	4732	4765	4712	4718	4677	4655	4595	4494
LPG	40		4917	4923	4889	4828	4775	4730	4676	4596	4486	4410	4384	4344	4289	4295	4223	4218	4214	4244	4224	4166
LPG	50		2149	2151	2137	2110	2087	2067	2044	2008	1960	1926	1915	1897	1874	1926	1941	1897	1938	2003	2020	2018
LPG	78		97	97	96	95	94	93	92	91	89	88	88	87	86	90	92	88	95	98	99	104
LPG	120															1	2	2	2	3	3	3

Stock data for construction machinery 1985-2004

EquipmentName (Eng)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Track type dozers	<1981	125	100	75	50	25															
Track type dozers	1981-1990	125	150	175	200	225	250	221	193	166	139	114	89	66	43	21					
Track type dozers	1991-Stage I							25	48	71	93	114	134	153	172	189	206	201	177	154	132
Track type dozers	Stage II																		20	38	56
Track type loaders	<1981	50	40	30	20	10															
Track type loaders	1981-1990	50	60	70	80	90	100	89	79	68	58	48	38	28	19	9					
Track type loaders	1991-Stage I							10	20	29	39	48	57	66	75	83	91	91	81	71	62
Track type loaders	Stage II																		9	18	26
Wheel loaders (0-5 tons)	1981-1990							186	331	434	496	517	496	434	331	186					
Wheel loaders (0-5 tons)	1991-Stage I							21	83	186	331	517	744	1013	1323	1674	2067	2046	1984	1881	1736
Wheel loaders (0-5 tons)	Stage II																	227	496	806	1158
Wheel loaders (> 5,1 tons)	<1981	1250	1000	750	500	250															
Wheel loaders (> 5,1 tons)	1981-1990	1250	1500	1750	2000	2250	2500	2228	1960	1698	1441	1188	941	698	460	228					
Wheel loaders (> 5,1 tons)	1991-Stage I							248	490	728	960	1188	1411	1629	1841	1822	1802	1559	1322	1089	861
Wheel loaders (> 5,1 tons)	Stage I															228	450	668	881	871	861
Wheel loaders (> 5,1 tons)	Stage II																			218	431
Wheel type excavators	<1981	500	400	300	200	100															
Wheel type excavators	1981-1990	500	600	700	800	900	1000	862	732	611	498	394	298	211	132	62					
Wheel type excavators	1991-Stage I							96	183	262	332	394	447	491	528	493	459	372	293	223	162
Wheel type excavators	Stage I															62	115	160	196	179	162
Wheel type excavators	Stage II																			45	81
Track type excavators (0-5 t)	1981-1990							459	816	1071	1224	1275	1224	1071	816	459					
Track type excavators (0-5 t)	1991-Stage I							51	204	459	816	1275	1837	2500	3265	4132	5101	5050	4897	4642	4285
Track type excavators (0-5 t)	Stage II																	561	1224	1990	2857
Track type excavators (> 5,1 t)	<1981	1000	800	600	400	200															
Track type excavators (> 5,1 t)	1981-1990	1000	1200	1400	1600	1800	2000	1798	1596	1394	1194	993	794	594	396	198					
Track type excavators (> 5,1 t)	1991-Stage I							200	399	598	796	993	1190	1387	1583	1581	1579	1380	1181	983	785
Track type excavators (> 5,1 t)	Stage I															198	395	591	787	786	785
Track type excavators (> 5,1 t)	Stage II																			197	393
Excavators/Loaders	<1981	2100	1680	1260	840	420															
Excavators/Loaders	1981-1990	2100	2520	2940	3360	3780	4200	3807	3408	3003	2592	2175	1752	1323	888	447					
Excavators/Loaders	1991-Stage I							423	852	1287	1728	2175	2628	3087	3552	3575	3599	3170	2735	2295	1848
Excavators/Loaders	Stage I															447	900	1359	1824	2295	2310
Excavators/Loaders	Stage II																				462

Dump trucks	<1981	250	200	150	100	50															
Dump trucks	1981-1990	250	300	350	400	450	500	489	469	441	404	358	304	241	169	89					
Dump trucks	1991-Stage I							54	117	189	269	358	455	561	676	711	745	682	611	530	442
Dump trucks	Stage I															89	186	292	407	530	552
Dump trucks	Stage II																				110
Mini loaders	<1981	1800	1600	1400	1200	1000	800	635	447	235											
Mini loaders	1981-1990	1000	1200	1400	1600	1800	2000	2118	2237	2355	2473	2332	2168	1980	1768	1532	1273	990	684	354	
Mini loaders	1991-Stage I							212	447	706	989	1296	1626	1980	2357	2758	3183	3301	3419	3537	3656
Mini loaders	Stage II																	330	684	1061	1462
Telescopic loaders	1981-1990											149	265	348	398	414	398	348	265	149	
Telescopic loaders	1991-Stage I											83	199	348	530	746	994	1160	1326	1491	1657
Telescopic loaders	Stage II																	116	265	447	663

Stock data for machine pools 1985-2004

Name	FuelCode	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Tractors	205B	<1981	1236	627																		
Tractors	205B	1981-1990	3091	3763	4575	4515	4370	4100	3643	2808	2368	1786	1214	604								
Tractors	205B	1991-Stage I							607	1123	1776	2382	3035	3624	4324	4210	4336	3956	4069	3323	2566	2053
Tractors	205B	Stage I																		554	513	513
Tractors	205B	Stage II																			513	1027
Harvesters	205B	<1981	969	776	661	472	287	139														
Harvesters	205B	1981-1990	807	932	1157	1257	1294	1385	1385	1197	927	794	712	512	421	282	162	78				
Harvesters	205B	1991-Stage I							139	266	348	454	593	615	737	751	729	778	779	651	531	472
Harvesters	205B	Stage II																		65	118	177
Self-propelled vehicles	205B	1981-1990									72	61	38									
Self-propelled vehicles	205B	1991-Stage I									72	122	190	263	278	277	295	289	314	237	203	153
Self-propelled vehicles	205B	Stage II																		47	102	153

Stock data for household and gardening 1985-2004

Name	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
.wn movers (private)	<1981	253125	168750	84375																	
.wn movers (private)	1981-1990	421875	506250	590625	675000	675000	675000	590625	506250	421875	337500	253125	168750	84375							
.wn movers (private)	1991-Stage I							84375	168750	253125	337500	421875	506250	590625	675000	675000	675000	675000	675000	675000	675000
.wn movers (professional)	1981-1990	25000	25000	25000	25000	25000	25000	18750	12500	6250											
.wn movers (professional)	1991-Stage I							6250	12500	18750	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000
ıltivators (private-large)	1981-1990	110000	110000	110000	110000	110000	110000	88000	66000	44000	22000										
ıltivators (private-large)	1991-Stage I							22000	44000	66000	88000	110000	110000	110000	110000	110000	110000	110000	110000	110000	110000
ıltivators (private-small)	<1981	6667	6000	5333	4667	4000	3333	2667	2000	1333	667										
ıltivators (private-small)	1981-1990	3333	4000	4667	5333	6000	6667	6667	6667	6667	6667	6667	6000	5333	4667	4000	3333	2667	2000	1333	667
ıltivators (private-small)	1991-Stage I							667	1333	2000	2667	3333	4000	4667	5333	6000	6667	7333	8000	8667	9333
ıltivators (professional)	<1981	3750	2500	1250																	
ıltivators (professional)	1981-1990	6250	7500	8750	10000	10000	10000	8750	7500	6250	5000	3750	2500	1250							
ıltivators (professional)	1991-Stage I							1250	2500	3750	5000	6250	7500	8750	10000	10000	10000	10000	10000	10000	10000
ıain saws (private)	<1981	125000	100000	75000	50000	25000															
ıain saws (private)	1981-1990	125000	150000	175000	200000	225000	250000	227250	204000	180250	156000	131250	106000	80250	54000	27250					
ıain saws (private)	1991-Stage I							25250	51000	77250	104000	131250	159000	187250	216000	245250	275000	277003	279006	281009	298000
ıain saws (professional)	1981-1990	10000	10000	10000	10000	10000	10000	7333	4000												
ıain saws (professional)	1991-Stage I							3667	8000	13000	14000	15000	16000	17000	18000	19000	20000	27500	35000	42500	50000
ıain saws (forestry)	1981-1990	8000	8000	8000	8000	8000	8000	5048	2381												
ıain saws (forestry)	1991-Stage I							2524	4762	6714	6286	5857	5429	5000	4571	4143	3714	3286	2857	2429	2000
ders (private)	<1981	40950	35100	29250	23400	17550	11700	6205													
ders (private)	1981-1990	29250	35100	40950	46800	52650	58500	62050	65600	62235	58160	53375	47880	41675	34760	27135	18800	10696			
ders (private)	1991-Stage I							6205	13120	20745	29080	38125	47880	58345	69520	81405	94000	117654	143900	159450	175000
ders (professional)	1981-1990	4800	4800	4800	4800	4800	4800	4032	3168	2208	1152										
ders (professional)	1991-Stage I							1008	2112	3312	4608	6000	6240	6480	6720	6960	7200	11650	16100	20550	25000
ırub clearers (private)	<1981	24000	19200	14400	9600	4800															
ırub clearers (private)	1981-1990	24000	28800	33600	38400	43200	48000	47520	46080	43680	40320	36000	30720	24480	17280	9120					
ırub clearers (private)	1991-Stage I							5280	11520	18720	26880	36000	46080	57120	69120	82080	96000	107000	118000	129000	140000
ırub clearers (profes- ɔnal)	1981-1990	2000	2000	2000	2000	2000	2000	1650	1200	650											
ırub clearers (profes- ɔnal)	1991-Stage I							550	1200	1950	2800	3000	3200	3400	3600	3800	4000	5500	7000	8500	10000
ədge cutters (private)	<1981	6850	5480	4110	2740	1370															
ədge cutters (private)	1981-1990	6850	8220	9590	10960	12330	13700	15237	16128	16373	15972	14925	13232	10893	7908	4277					
ədge cutters (private)	1991-Stage I							1693	4032	7017	10648	14925	19848	25417	31632	38493	46000	52900	59800	66700	73600

edge cutters (profes- onal)	1981-1990	1300	1300	1300	1300	1300	1300	1178	920	528											
edge cutters (profes- onal)	1991-Stage I							393	920	1583	2380	2650	2920	3190	3460	3730	4000	4600	5200	5800	6400
immers (private)	<1981	25500	20400	15300	10200	5100															
immers (private)	1981-1990	25500	30600	35700	40800	45900	51000	48086	44686	40800	36429	31571	26229	20400	14086	7286					
immers (private)	1991-Stage I							5343	11171	17486	24286	31571	39343	47600	56343	65571	75286	77714	80143	82571	85000
immers (professional)	1981-1990	9000	9000	9000	9000	9000	9000	7071	4929	2571											
immers (professional)	1991-Stage I							2357	4929	7714	10714	11143	11571	12000	12429	12857	13286	13714	14143	14571	15000

Stock data for small boats and pleasure crafts 1985-2004

Motortype	Boat type	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Diesel	Motor boats (27-34 ft)	1550	1550	1719	1889	2058	2228	2397	2567	2736	2906	3075	3244	3414	3583	3753	3922	4092	4261	4431	4600
Diesel	Motor boats (> 34 ft)	450	450	503	556	608	661	714	767	819	872	925	978	1031	1083	1136	1189	1242	1294	1347	1400
Diesel	Motor boats <(27 ft)	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Diesel	Motor sailors	3500	3500	3583	3667	3750	3833	3917	4000	4083	4167	4250	4333	4417	4500	4583	4667	4750	4833	4917	5000
Diesel	Sailing boats (> 26 ft)	7500	7500	7917	8333	8750	9167	9583	10000	10417	10833	11250	11667	12083	12500	12917	13333	13750	14167	14583	15000
2-takt	Other boats (< 20 ft)	4000	4000	4056	4111	4167	4222	4278	4333	4389	4444	4500	4556	4564,89	4526,99	4438,68	4300,2	4108,05	3862,31	3559,68	3200
2-takt	Yawls and cabin boats	4000	4000	4056	4111	4167	4222	4278	4333	4389	4444	4500	4556	4564,89	4526,99	4438,68	4300,2	4108,05	3862,31	3559,68	3200
2-takt	Sailing boats (< 26 ft)	19000	19000	18778	18556	18333	18111	17889	17667	17444	17222	17000	16778	16390,44	15843,01	15144,34	14300,1	13316,95	12200,76	10959,84	9600
2-takt	Speed boats	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	2970	2910	2820	2700	2550	2370	2160	1920
2-takt	Water scooters	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	990	970	940	900	850	790	720	640
4-takt	Other boats (< 20 ft)													46,11	140,01	283,32	477,8	724,95	1026,69	1384,32	1800
4-takt	Yawls and cabin boats													46,11	140,01	283,32	477,8	724,95	1026,69	1384,32	1800
4-takt	Sailing boats (< 26 ft)													165,56	489,99	966,66	1588,9	2350,05	3243,24	4262,16	5400
4-takt	Speed boats (in board eng.)	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
4-takt	Speed boats (out board eng.)													30	90	180	300	450	630	840	1080
4-takt	Water scooters													10	30	60	100	150	210	280	360
4-takt	Speed boats (out board eng.)													30	90	180	300	450	630	840	1080
4-takt	Water scooters													10	30	60	100	150	210	280	360

Engine sizes (kW) for small boats and pleasure crafts 1985-2004

Motor-type	Boat type	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Diesel	Motor boats (27-34 ft)	70	70	74	79	83	88	92	97	101	106	110	114	119	123	128	132	137	141	146	8
Diesel	Motor boats (> 34 ft)	120	120	127	134	142	149	156	163	171	178	185	192	199	207	214	221	228	236	243	20
Diesel	Motor boats <(27 ft)	20	20	21,1	22,2	23,3	24,4	25,6	26,7	27,8	28,9	30	31,1	32,2	33,3	34,4	35,6	36,7	37,8	38,9	10
Diesel	Motor sailors	20	20	21	21	22	22	23	23	24	24	25	26	26	27	27	28	28	29	29	50
Diesel	Sailing boats (> 26 ft)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	45
4-takt	Other boats (< 20 ft)													8	8	8	8	8	8	8	8
4-takt	Yawls and cabin boats													20	20	20	20	20	20	20	20
4-takt	Sailing boats (< 26 ft)													10	10	10	10	10	10	10	10
4-takt	Speed boats (in board eng.)	45	45	47,5	50	52,5	55	57,5	60	62,5	65	67,5	70	72,5	75	77,5	80	82,5	85	87,5	90
4-takt	Speed boats (out board eng.)													40,3	41,7	43,1	44,4	45,8	47,2	48,6	50
4-takt	Water scooters													45	45	45	45	45	45	45	45

Annex 2B-11: Fuel use and emission factors, and fuel use and emissions for non-road working machinery and equipment

Fuel use and emissions (tons) for diesel tractors 1985-2004

Year	FC (TJ)	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
1985	12345	2891	8760	2048	33	8078	914	36	2	1907
1986	12842	1805	9267	2100	34	8322	950	37	2	1937
1987	12479	1754	9138	2018	33	8034	923	36	2	1851
1988	12892	1811	9576	2062	34	8248	954	38	2	1883
1989	12898	1208	9723	2041	33	8198	954	38	2	1854
1990	12739	1193	9742	1995	32	8048	943	37	2	1806
1991	12614	1182	9881	1942	32	7892	933	37	2	1737
1992	12050	1129	9592	1834	30	7502	892	36	2	1629
1993	11862	1111	9571	1789	29	7359	878	35	2	1582
1994	11063	1036	9096	1645	27	6812	819	33	2	1438
1995	11519	1079	9695	1680	27	7012	852	34	2	1443
1996	10660	250	9205	1522	25	6400	789	32	2	1277
1997	10999	258	9748	1533	25	6505	814	33	2	1252
1998	10106	237	9134	1382	22	5912	748	31	2	1104
1999	10066	236	9275	1350	22	5821	745	31	2	1052
2000	9712	227	9122	1276	21	5547	719	30	2	967
2001	9628	225	9140	1231	20	5392	713	30	2	910
2002	9596	225	8988	1165	19	5164	710	30	2	853
2003	9538	223	8714	1098	18	4940	706	30	2	799
2004	9467	222	8398	1031	17	4713	701	29	2	748

Emission factors (g/GJ) for diesel tractors 1985-2004

Year	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
1985	234	710	166	2,7	654	74	2,9	0,2	154
1986	141	722	164	2,7	648	74	2,9	0,2	151
1987	141	732	162	2,6	644	74	2,9	0,2	148
1988	141	743	160	2,6	640	74	2,9	0,2	146
1989	94	754	158	2,6	636	74	2,9	0,2	144
1990	94	765	157	2,5	632	74	2,9	0,2	142
1991	94	783	154	2,5	626	74	2,9	0,2	138
1992	94	796	152	2,5	623	74	3,0	0,2	135
1993	94	807	151	2,5	620	74	3,0	0,2	133
1994	94	822	149	2,4	616	74	3,0	0,2	130
1995	94	842	146	2,4	609	74	3,0	0,2	125
1996	23	864	143	2,3	600	74	3,0	0,2	120
1997	23	886	139	2,3	591	74	3,0	0,2	114
1998	23	904	137	2,2	585	74	3,0	0,2	109
1999	23	921	134	2,2	578	74	3,0	0,2	105
2000	23	939	131	2,1	571	74	3,1	0,2	100
2001	23	949	128	2,1	560	74	3,1	0,2	95
2002	23	937	121	2,0	538	74	3,1	0,2	89
2003	23	914	115	1,9	518	74	3,1	0,2	84
2004	23	887	109	1,8	498	74	3,1	0,2	79

Fuel use and emissions (tons) for gasoline tractors 1985-2004

EquipmentName (Eng)	Year	Emission Level	FC (TJ)	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
Tractors (gasoline-certified)	1985	<1981	373	1	11	356	33	17999	27	0	0	2
Tractors (gasoline-certified)	1986	<1981	355	1	10	340	32	17228	26	0	0	2
Tractors (gasoline-certified)	1987	<1981	337	1	9	325	30	16446	25	0	0	2
Tractors (gasoline-certified)	1988	<1981	319	1	9	309	29	15652	23	0	0	2
Tractors (gasoline-certified)	1989	<1981	301	1	8	293	28	14847	22	0	0	2
Tractors (gasoline-certified)	1990	<1981	283	1	7	277	26	14032	21	0	0	2
Tractors (gasoline-certified)	1991	<1981	256	1	7	252	24	12766	19	0	0	2
Tractors (gasoline-certified)	1992	<1981	231	1	6	228	21	11545	17	0	0	2
Tractors (gasoline-certified)	1993	<1981	206	0	5	204	19	10372	15	0	0	1
Tractors (gasoline-certified)	1994	<1981	183	0	5	182	17	9247	13	0	0	1
Tractors (gasoline-certified)	1995	<1981	161	0	4	161	15	8172	12	0	0	1
Tractors (gasoline-certified)	1996	<1981	140	0	3	141	13	7147	10	0	0	1
Tractors (gasoline-certified)	1997	<1981	121	0	3	122	11	6173	9	0	0	1
Tractors (gasoline-certified)	1998	<1981	102	0	2	103	10	5252	7	0	0	1
Tractors (gasoline-certified)	1999	<1981	85	0	2	86	8	4385	6	0	0	1
Tractors (gasoline-certified)	2000	<1981	69	0	2	70	7	3571	5	0	0	0
Tractors (gasoline-certified)	2001	<1981	54	0	1	55	5	2814	4	0	0	0
Tractors (gasoline-certified)	2002	<1981	40	0	1	42	4	2112	3	0	0	0
Tractors (gasoline-certified)	2003	<1981	28	0	1	29	3	1468	2	0	0	0
Tractors (gasoline-certified)	2004	<1981	17	0	0	17	2	881	1	0	0	0
Tractors (gasoline-non certified)	1985	<1981	373	1	11	357	33	17999	27	0	0	2
Tractors (gasoline-non certified)	1986	<1981	355	1	10	342	32	17228	26	0	0	2
Tractors (gasoline-non certified)	1987	<1981	337	1	9	326	30	16446	25	0	0	2
Tractors (gasoline-non certified)	1988	<1981	319	1	9	310	29	15652	23	0	0	2
Tractors (gasoline-non certified)	1989	<1981	301	1	8	294	28	14847	22	0	0	2
Tractors (gasoline-non certified)	1990	<1981	283	1	7	278	26	14032	21	0	0	2
Tractors (gasoline-non certified)	1991	<1981	270	1	7	266	25	13426	20	0	0	2
Tractors (gasoline-non certified)	1992	<1981	256	1	7	253	24	12782	19	0	0	2
Tractors (gasoline-non certified)	1993	<1981	241	1	6	240	22	12101	18	0	0	2
Tractors (gasoline-non certified)	1994	<1981	225	1	6	225	21	11381	16	0	0	2
Tractors (gasoline-non certified)	1995	<1981	209	0	5	210	20	10623	15	0	0	1
Tractors (gasoline-non certified)	1996	<1981	193	0	5	194	18	9827	14	0	0	1
Tractors (gasoline-non certified)	1997	<1981	176	0	4	178	17	8991	13	0	0	1
Tractors (gasoline-non certified)	1998	<1981	158	0	4	160	15	8117	12	0	0	1
Tractors (gasoline-non certified)	1999	<1981	140	0	3	142	13	7203	10	0	0	1
Tractors (gasoline-non certified)	2000	<1981	121	0	3	123	12	6250	9	0	0	1
Tractors (gasoline-non certified)	2001	<1981	101	0	2	104	10	5257	7	0	0	1
Tractors (gasoline-non certified)	2002	<1981	81	0	2	83	8	4224	6	0	0	1
Tractors (gasoline-non certified)	2003	<1981	60	0	1	62	6	3151	4	0	0	0
Tractors (gasoline-non certified)	2004	<1981	39	0	1	40	4	2038	3	0	0	0

Emission factors (g/GJ) for gasoline tractors 1985-2004

EquipmentName (Eng)	Year	Emission Level	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
Tractors (gasoline-certified)	1985	<1981	2,3	28	953	89	48219	73	1,3	0,1	6,4
Tractors (gasoline-certified)	1986	<1981	2,3	28	958	90	48492	73	1,3	0,1	6,5
Tractors (gasoline-certified)	1987	<1981	2,3	27	963	90	48759	73	1,3	0,1	6,5
Tractors (gasoline-certified)	1988	<1981	2,3	27	967	91	49021	73	1,3	0,1	6,5
Tractors (gasoline-certified)	1989	<1981	2,3	27	972	91	49278	73	1,3	0,1	6,6
Tractors (gasoline-certified)	1990	<1981	2,3	26	977	92	49529	73	1,3	0,1	6,6
Tractors (gasoline-certified)	1991	<1981	2,3	26	982	92	49776	73	1,3	0,1	6,7
Tractors (gasoline-certified)	1992	<1981	2,3	26	986	93	50019	73	1,3	0,1	6,7
Tractors (gasoline-certified)	1993	<1981	2,3	25	990	93	50258	73	1,3	0,1	6,7
Tractors (gasoline-certified)	1994	<1981	2,3	25	995	94	50493	73	1,3	0,1	6,8
Tractors (gasoline-certified)	1995	<1981	2,3	25	999	94	50724	73	1,3	0,1	6,8
Tractors (gasoline-certified)	1996	<1981	2,3	25	1003	95	50952	73	1,3	0,1	6,8
Tractors (gasoline-certified)	1997	<1981	2,3	24	1008	95	51177	73	1,3	0,1	6,9
Tractors (gasoline-certified)	1998	<1981	2,3	24	1012	96	51399	73	1,3	0,1	6,9
Tractors (gasoline-certified)	1999	<1981	2,3	24	1016	96	51618	73	1,3	0,1	6,9
Tractors (gasoline-certified)	2000	<1981	2,3	23	1020	97	51834	73	1,3	0,1	7,0
Tractors (gasoline-certified)	2001	<1981	2,3	23	1024	97	52047	73	1,3	0,1	7,0
Tractors (gasoline-certified)	2002	<1981	2,3	23	1028	97	52258	73	1,3	0,1	7,0
Tractors (gasoline-certified)	2003	<1981	2,3	23	1032	98	52466	73	1,3	0,1	7,1
Tractors (gasoline-certified)	2004	<1981	2,3	22	1035	98	52672	73	1,3	0,1	7,1
Tractors (gasoline-non certified)	1985	<1981	2,3	28	957	89	48219	73	1,3	0,1	6,4
Tractors (gasoline-non certified)	1986	<1981	2,3	28	962	90	48492	73	1,3	0,1	6,5
Tractors (gasoline-non certified)	1987	<1981	2,3	27	967	90	48759	73	1,3	0,1	6,5
Tractors (gasoline-non certified)	1988	<1981	2,3	27	972	91	49021	73	1,3	0,1	6,5
Tractors (gasoline-non certified)	1989	<1981	2,3	27	977	91	49278	73	1,3	0,1	6,6
Tractors (gasoline-non certified)	1990	<1981	2,3	26	981	92	49529	73	1,3	0,1	6,6
Tractors (gasoline-non certified)	1991	<1981	2,3	26	986	92	49776	73	1,3	0,1	6,7
Tractors (gasoline-non certified)	1992	<1981	2,3	26	990	93	50019	73	1,3	0,1	6,7
Tractors (gasoline-non certified)	1993	<1981	2,3	25	995	93	50258	73	1,3	0,1	6,7
Tractors (gasoline-non certified)	1994	<1981	2,3	25	999	94	50493	73	1,3	0,1	6,8
Tractors (gasoline-non certified)	1995	<1981	2,3	25	1004	94	50724	73	1,3	0,1	6,8
Tractors (gasoline-non certified)	1996	<1981	2,3	25	1008	95	50952	73	1,3	0,1	6,8
Tractors (gasoline-non certified)	1997	<1981	2,3	24	1012	95	51177	73	1,3	0,1	6,9
Tractors (gasoline-non certified)	1998	<1981	2,3	24	1016	96	51399	73	1,3	0,1	6,9
Tractors (gasoline-non certified)	1999	<1981	2,3	24	1020	96	51618	73	1,3	0,1	6,9
Tractors (gasoline-non certified)	2000	<1981	2,3	23	1024	97	51834	73	1,3	0,1	7,0
Tractors (gasoline-non certified)	2001	<1981	2,3	23	1028	97	52047	73	1,3	0,1	7,0
Tractors (gasoline-non certified)	2002	<1981	2,3	23	1032	97	52258	73	1,3	0,1	7,0
Tractors (gasoline-non certified)	2003	<1981	2,3	23	1036	98	52466	73	1,3	0,1	7,1
Tractors (gasoline-non certified)	2004	<1981	2,3	22	1040	98	52672	73	1,3	0,1	7,1

Fuel use and emissions (tons) for harvesters 1985-2004

Year	FC (TJ)	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
1985	2134	500	1376	398	6	1584	158	6	0	412
1986	2152	302	1424	392	6	1565	159	6	0	400
1987	2121	298	1430	380	6	1525	157	6	0	386
1988	2222	312	1536	393	6	1580	164	6	0	396
1989	2137	200	1512	372	6	1503	158	6	0	373
1990	2249	211	1642	385	6	1558	166	7	0	381
1991	2203	206	1655	369	6	1505	163	6	0	362
1992	2145	201	1651	352	6	1448	159	6	0	343
1993	2144	201	1676	348	6	1437	159	6	0	337
1994	2025	190	1606	324	5	1347	150	6	0	313
1995	1927	180	1561	301	5	1263	143	6	0	289
1996	2033	48	1688	305	5	1300	150	6	0	291
1997	1894	44	1614	269	4	1170	140	6	0	255
1998	2030	48	1776	270	4	1204	150	6	0	253
1999	1949	46	1740	244	4	1116	144	6	0	228
2000	2059	48	1868	244	4	1144	152	6	0	228
2001	2046	48	1892	227	4	1094	151	6	0	210
2002	2090	49	1863	212	3	1050	155	7	0	194
2003	2070	48	1803	195	3	990	153	6	0	176
2004	2019	47	1724	176	3	917	149	6	0	155

Emission factors (g/GJ) for harvesters 1985-2004

Year	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
1985	234	645	186	3,0	742	74	2,8	0,2	193
1986	141	662	182	3,0	727	74	2,9	0,2	186
1987	141	674	179	2,9	719	74	2,9	0,2	182
1988	141	691	177	2,9	711	74	2,9	0,2	178
1989	94	707	174	2,8	703	74	2,9	0,2	174
1990	94	730	171	2,8	693	74	2,9	0,2	169
1991	94	751	167	2,7	683	74	2,9	0,2	164
1992	94	769	164	2,7	675	74	2,9	0,2	160
1993	94	782	162	2,6	670	74	2,9	0,2	157
1994	94	793	160	2,6	665	74	2,9	0,2	155
1995	94	810	156	2,5	656	74	3,0	0,2	150
1996	23	830	150	2,4	639	74	3,0	0,2	143
1997	23	852	142	2,3	618	74	3,0	0,2	135
1998	23	875	133	2,2	593	74	3,0	0,2	125
1999	23	893	125	2,0	573	74	3,1	0,2	117
2000	23	907	119	1,9	555	74	3,1	0,2	111
2001	23	925	111	1,8	535	74	3,1	0,2	103
2002	23	892	101	1,6	502	74	3,1	0,2	93
2003	23	871	94	1,5	478	74	3,1	0,2	85
2004	23	854	87	1,4	454	74	3,1	0,2	77

Fuel use and emissions (tons) for machine pool machinery 1985-2004

Name	Year	FC (TJ)	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
Harvesters	1985	188	44	170	31	0	126	14	1	0	30
Harvesters	1986	192	27	176	31	1	127	14	1	0	30
Harvesters	1987	217	30	201	34	1	142	16	1	0	33
Harvesters	1988	211	30	249	22	0	78	16	1	0	24
Harvesters	1989	204	19	233	21	0	76	15	1	0	23
Harvesters	1990	207	19	228	20	0	78	15	1	0	23
Harvesters	1991	217	20	230	20	0	82	16	1	0	23
Harvesters	1992	219	21	231	19	0	83	16	1	0	23
Harvesters	1993	201	19	210	17	0	76	15	1	0	20
Harvesters	1994	206	19	214	16	0	78	15	1	0	19
Harvesters	1995	225	21	233	17	0	86	17	1	0	20
Harvesters	1996	203	5	210	14	0	78	15	1	0	17
Harvesters	1997	218	5	224	14	0	84	16	1	0	17
Harvesters	1998	203	5	207	13	0	78	15	1	0	15
Harvesters	1999	183	4	185	11	0	71	14	1	0	13
Harvesters	2000	183	4	184	10	0	71	14	1	0	12
Harvesters	2001	173	4	173	8	0	67	13	1	0	10
Harvesters	2002	166	4	158	8	0	63	12	1	0	9
Harvesters	2003	157	4	141	7	0	57	12	1	0	8
Harvesters	2004	157	4	134	7	0	55	12	1	0	7
Self-propelled vehicles	1993	154	14	160	11	0	59	11	0	0	14
Self-propelled vehicles	1994	195	18	199	13	0	76	14	1	0	15
Self-propelled vehicles	1995	241	23	244	14	0	94	18	1	0	17
Self-propelled vehicles	1996	276	6	277	14	0	109	20	1	0	16
Self-propelled vehicles	1997	292	7	292	14	0	115	22	1	0	17
Self-propelled vehicles	1998	291	7	291	14	0	114	22	1	0	17
Self-propelled vehicles	1999	310	7	310	15	0	122	23	1	0	18
Self-propelled vehicles	2000	304	7	304	15	0	119	22	1	0	18
Self-propelled vehicles	2001	330	8	330	16	0	130	24	1	0	19
Self-propelled vehicles	2002	299	7	272	14	0	110	22	1	0	16
Self-propelled vehicles	2003	321	8	264	14	0	110	24	1	0	15
Self-propelled vehicles	2004	321	8	235	13	0	101	24	1	0	12
Tractors	1985	1201	281	801	181	3	761	89	3	0	176
Tractors	1986	1224	172	835	180	3	764	91	4	0	171
Tractors	1987	1282	180	895	184	3	786	95	4	0	169
Tractors	1988	1285	181	897	184	3	788	95	4	0	169
Tractors	1989	1266	119	884	181	3	777	94	4	0	167
Tractors	1990	1212	114	846	173	3	743	90	4	0	160
Tractors	1991	1271	119	937	177	3	766	94	4	0	157
Tractors	1992	1185	111	921	160	3	702	88	4	0	135
Tractors	1993	1262	118	1032	165	3	732	93	4	0	131
Tractors	1994	1283	120	1102	163	3	729	95	4	0	119
Tractors	1995	1327	124	1196	163	3	737	98	4	0	108
Tractors	1996	1325	31	1507	160	3	733	98	4	0	93
Tractors	1997	1390	33	1619	161	3	749	103	4	0	79
Tractors	1998	1377	32	1604	159	3	741	102	4	0	78
Tractors	1999	1455	34	1695	168	3	784	108	5	0	83
Tractors	2000	1360	32	1584	157	3	732	101	4	0	77
Tractors	2001	1433	34	1669	166	3	772	106	5	0	81
Tractors	2002	1407	33	1548	148	2	700	104	4	0	75
Tractors	2003	1348	32	1348	125	2	613	100	4	0	67
Tractors	2004	1392	33	1251	112	2	572	103	4	0	64

Emission factors (g/GJ) for machine pool machinery 1985-2004

Name	Year	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
Harvesters	1985	234	901	163	2,6	668	74	3,0	0,2	162
Harvesters	1986	141	914	160	2,6	662	74	3,0	0,2	158
Harvesters	1987	141	928	158	2,6	655	74	3,0	0,2	153
Harvesters	1988	141	1179	106	1,7	372	74	3,1	0,2	113
Harvesters	1989	94	1141	103	1,7	373	74	3,1	0,2	113
Harvesters	1990	94	1103	99	1,6	374	74	3,1	0,2	111
Harvesters	1991	94	1059	91	1,5	377	74	3,1	0,2	107
Harvesters	1992	94	1053	87	1,4	378	74	3,1	0,2	103
Harvesters	1993	94	1047	83	1,3	380	74	3,2	0,2	98
Harvesters	1994	94	1042	79	1,3	381	74	3,2	0,2	94
Harvesters	1995	94	1036	75	1,2	382	74	3,2	0,2	89
Harvesters	1996	23	1030	70	1,1	384	74	3,2	0,2	85
Harvesters	1997	23	1024	66	1,1	385	74	3,2	0,2	80
Harvesters	1998	23	1018	62	1,0	386	74	3,2	0,2	74
Harvesters	1999	23	1012	58	0,9	388	74	3,2	0,2	69
Harvesters	2000	23	1006	54	0,9	389	74	3,2	0,2	63
Harvesters	2001	23	1000	49	0,8	391	74	3,2	0,2	57
Harvesters	2002	23	952	47	0,8	377	74	3,2	0,2	54
Harvesters	2003	23	903	46	0,7	364	74	3,2	0,2	51
Harvesters	2004	23	855	44	0,7	350	74	3,2	0,2	47
Self-propelled vehicles	1993	94	1034	73	1,2	385	74	3,2	0,2	88
Self-propelled vehicles	1994	94	1023	65	1,1	388	74	3,2	0,2	79
Self-propelled vehicles	1995	94	1012	57	0,9	390	74	3,2	0,2	69
Self-propelled vehicles	1996	23	1001	49	0,8	393	74	3,2	0,2	58
Self-propelled vehicles	1997	23	1001	49	0,8	393	74	3,2	0,2	58
Self-propelled vehicles	1998	23	1001	49	0,8	393	74	3,2	0,2	58
Self-propelled vehicles	1999	23	1001	49	0,8	393	74	3,2	0,2	58
Self-propelled vehicles	2000	23	1001	49	0,8	393	74	3,2	0,2	58
Self-propelled vehicles	2001	23	1001	49	0,8	393	74	3,2	0,2	58
Self-propelled vehicles	2002	23	912	46	0,7	368	74	3,2	0,2	52
Self-propelled vehicles	2003	23	823	43	0,7	342	74	3,2	0,2	45
Self-propelled vehicles	2004	23	733	39	0,6	315	74	3,2	0,2	38
Tractors	1985	234	667	151	2,5	634	74	2,9	0,2	147
Tractors	1986	141	682	147	2,4	624	74	2,9	0,2	139
Tractors	1987	141	698	143	2,3	613	74	3,0	0,2	132
Tractors	1988	141	698	143	2,3	613	74	3,0	0,2	132
Tractors	1989	94	698	143	2,3	613	74	3,0	0,2	132
Tractors	1990	94	698	143	2,3	613	74	3,0	0,2	132
Tractors	1991	94	737	139	2,3	603	74	3,0	0,2	123
Tractors	1992	94	777	135	2,2	592	74	3,0	0,2	114
Tractors	1993	94	818	131	2,1	580	74	3,0	0,2	104
Tractors	1994	94	859	127	2,1	568	74	3,0	0,2	93
Tractors	1995	94	901	123	2,0	555	74	3,1	0,2	81
Tractors	1996	23	1137	121	2,0	553	74	3,2	0,2	70
Tractors	1997	23	1165	116	1,9	538	74	3,2	0,2	57
Tractors	1998	23	1165	116	1,9	538	74	3,2	0,2	57
Tractors	1999	23	1165	116	1,9	538	74	3,2	0,2	57
Tractors	2000	23	1165	116	1,9	538	74	3,2	0,2	57
Tractors	2001	23	1165	116	1,9	538	74	3,2	0,2	57
Tractors	2002	23	1100	105	1,7	497	74	3,2	0,2	53
Tractors	2003	23	1000	93	1,5	455	74	3,2	0,2	50
Tractors	2004	23	898	80	1,3	411	74	3,2	0,2	46

Fuel use and emissions (tons) for other machinery in agriculture 1985-2004

Fuel type	Year	FC (TJ)	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP

Diesel	1985	91	21	57	15	0	60	7	0	0	15
Diesel	1986	91	13	58	14	0	59	7	0	0	14
Diesel	1987	91	13	58	14	0	59	7	0	0	14
Diesel	1988	90	13	58	14	0	58	7	0	0	14
Diesel	1989	90	8	59	14	0	57	7	0	0	13
Diesel	1990	90	8	59	14	0	57	7	0	0	13
Diesel	1991	89	8	61	13	0	56	7	0	0	12
Diesel	1992	88	8	63	13	0	54	7	0	0	12
Diesel	1993	88	8	65	12	0	53	6	0	0	11
Diesel	1994	87	8	66	12	0	52	6	0	0	10
Diesel	1995	86	8	68	12	0	51	6	0	0	9
Diesel	1996	86	2	70	11	0	50	6	0	0	9
Diesel	1997	86	2	71	11	0	49	6	0	0	9
Diesel	1998	85	2	72	11	0	49	6	0	0	8
Diesel	1999	85	2	72	10	0	46	6	0	0	8
Diesel	2000	85	2	72	10	0	44	6	0	0	7
Diesel	2001	85	2	71	9	0	42	6	0	0	6
Diesel	2002	84	2	71	8	0	40	6	0	0	6
Diesel	2003	84	2	70	8	0	37	6	0	0	5
Diesel	2004	84	2	69	7	0	35	6	0	0	4
Gasoline	1985	168	0	7	149	14	7180	12	0	0	1
Gasoline	1986	162	0	7	142	13	6862	12	0	0	1
Gasoline	1987	157	0	7	136	12	6547	11	0	0	1
Gasoline	1988	152	0	7	130	12	6236	11	0	0	1
Gasoline	1989	147	0	7	124	11	5928	11	0	0	1
Gasoline	1990	142	0	7	118	11	5625	10	0	0	1
Gasoline	1991	137	0	8	113	10	5370	10	0	0	1
Gasoline	1992	132	0	8	108	10	5112	10	0	0	1
Gasoline	1993	128	0	8	103	9	4855	9	0	0	1
Gasoline	1994	123	0	8	98	9	4599	9	0	0	1
Gasoline	1995	118	0	7	93	8	4346	9	0	0	1
Gasoline	1996	113	0	7	88	8	4096	8	0	0	1
Gasoline	1997	109	0	7	83	7	3850	8	0	0	1
Gasoline	1998	104	0	7	78	7	3608	8	0	0	1
Gasoline	1999	99	0	7	73	6	3372	7	0	0	1
Gasoline	2000	95	0	7	69	6	3141	7	0	0	1
Gasoline	2001	91	0	6	66	6	3006	7	0	0	1
Gasoline	2002	87	0	6	63	5	2870	6	0	0	1
Gasoline	2003	83	0	6	60	5	2735	6	0	0	1
Gasoline	2004	79	0	6	57	5	2599	6	0	0	1

Emission factors (g/GJ) for other machinery in agriculture 1985-2004

Fuel type	Year	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
Diesel	1985	234	626	161	3	654	74	2,8	0,2	161
Diesel	1986	141	633	159	3	650	74	2,9	0,2	158
Diesel	1987	141	640	158	3	646	74	2,9	0,2	155
Diesel	1988	141	647	156	3	642	74	2,9	0,2	153
Diesel	1989	94	654	154	3	637	74	2,9	0,2	150
Diesel	1990	94	661	152	2	633	74	2,9	0,2	147
Diesel	1991	94	686	149	2	624	74	2,9	0,2	140
Diesel	1992	94	711	145	2	614	74	2,9	0,2	133
Diesel	1993	94	737	141	2	605	74	3,0	0,2	125
Diesel	1994	94	763	137	2	595	74	3,0	0,2	117
Diesel	1995	94	790	134	2	584	74	3,0	0,2	109
Diesel	1996	23	809	132	2	579	74	3,0	0,2	105
Diesel	1997	23	828	130	2	574	74	3,0	0,2	100
Diesel	1998	23	847	128	2	568	74	3,0	0,2	95
Diesel	1999	23	846	121	2	544	74	3,1	0,2	88
Diesel	2000	23	844	114	2	520	74	3,1	0,2	81
Diesel	2001	23	842	107	2	495	74	3,1	0,2	74
Diesel	2002	23	841	100	2	469	74	3,1	0,2	67
Diesel	2003	23	839	93	2	443	74	3,1	0,2	59
Diesel	2004	23	825	85	1	416	74	3,1	0,2	51
Gasoline	1985	2	44	886	81	42831	73	1,3	0,1	6
Gasoline	1986	2	46	876	80	42235	73	1,3	0,1	6
Gasoline	1987	2	47	866	79	41606	73	1,3	0,1	6
Gasoline	1988	2	49	855	77	40946	73	1,3	0,1	6
Gasoline	1989	2	51	844	76	40257	73	1,3	0,1	6
Gasoline	1990	2	52	832	75	39539	73	1,3	0,1	6
Gasoline	1991	2	55	825	74	39097	73	1,3	0,1	6
Gasoline	1992	2	57	816	73	38593	73	1,3	0,1	6
Gasoline	1993	2	59	807	72	38040	73	1,3	0,1	6
Gasoline	1994	2	61	797	71	37444	73	1,4	0,1	6
Gasoline	1995	2	63	786	70	36809	73	1,4	0,1	6
Gasoline	1996	2	65	775	68	36138	73	1,4	0,1	6
Gasoline	1997	2	67	762	67	35432	73	1,4	0,1	7
Gasoline	1998	2	68	750	66	34693	73	1,4	0,1	7
Gasoline	1999	2	70	736	64	33922	73	1,4	0,1	7
Gasoline	2000	2	71	722	63	33120	73	1,4	0,1	7
Gasoline	2001	2	71	722	63	33115	73	1,4	0,1	7
Gasoline	2002	2	71	723	63	33110	73	1,4	0,1	7
Gasoline	2003	2	71	723	63	33105	73	1,4	0,1	7
Gasoline	2004	2	72	723	63	33099	73	1,4	0,1	7

Fuel use and emissions (tons) for ATV's 1985-2004

FuelType	Year	Emission Level	FC (TJ)	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
Gasoline	1992	Conv. MC urban	5	0	0	5	1	74	0	0	0	0
Gasoline	1993	Conv. MC urban	10	0	1	10	2	159	1	0	0	0
Gasoline	1994	Conv. MC urban	16	0	2	17	3	262	1	0	0	1
Gasoline	1995	Conv. MC urban	24	0	3	25	4	387	2	0	0	1
Gasoline	1996	Conv. MC urban	32	0	4	35	5	530	2	0	0	1
Gasoline	1997	Conv. MC urban	42	0	5	45	7	691	3	0	0	1
Gasoline	1998	Conv. MC urban	54	0	6	58	9	887	4	0	0	2
Gasoline	1999	Conv. MC urban	70	0	8	75	11	1148	5	0	0	2
Gasoline	2000	Conv. MC urban	94	0	10	104	15	1576	7	0	0	3
Gasoline	2001	Conv. MC urban	116	0	13	132	19	1993	9	0	0	4
Gasoline	2002	Conv. MC urban	138	0	15	158	23	2393	10	0	0	5
Gasoline	2003	Conv. MC urban	158	0	18	183	26	2771	12	0	0	5
Gasoline	2004	Conv. MC urban	178	0	20	207	30	3130	13	0	0	6

Emission factors (g/GJ) for ATV's 1985-2004

FuelType	Year	Emission Level	SO_2	NO_x	NMVOC	CH_4	CO	CO_2	N_2O	NH_3	TSP
Gasoline	1992	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	1993	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	1994	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	1995	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	1996	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	1997	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	1998	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	1999	Conv. MC urban	2,3	108	1070	160	16306	73	1,6	1,6	32
Gasoline	2000	Conv. MC urban	2,3	110	1107	163	16808	73	1,6	1,6	33
Gasoline	2001	Conv. MC urban	2,3	111	1129	165	17115	73	1,6	1,6	33
Gasoline	2002	Conv. MC urban	2,3	112	1145	166	17329	73	1,7	1,7	33
Gasoline	2003	Conv. MC urban	2,3	113	1157	167	17496	73	1,7	1,7	33
Gasoline	2004	Conv. MC urban	2,3	113	1167	168	17633	73	1,7	1,7	34

Annex 2B-12: Emission factors and total emissions for 1990 and 2004 in CollectER format

Year	SNAP ID	Category	Fuel type	Mode	Fuel	SO2	NOx	NMVOC	CH4	CO	CO2	N2O	NH3	TSP
					[GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[kg/GJ]	[g/GJ]	[g/GJ]	[g/GJ]
1990	070101	Passenger cars	Diesel	Highway driving	1026361.98	93.68	254.03	24.51	4.30	179.70	74	12.62	0.47	79.48
1990	070101	Passenger cars	Gasoline 2-stroke	Highway driving	42228.54	2.28	288.90	2357.34	10.03	3490.86	73	2.01	0.80	48.15
1990	070101	Passenger cars	Gasoline conventional	Highway driving	10933475.43	2.28	1317.10	364.60	11.09	3459.93	73	2.13	0.85	12.09
1990	070101	Passenger cars	LPG	Highway driving	2222.18	0.00	1151.70	187.09	10.06	3914.25	65	6.04	0.00	10.06
1990	070102	Passenger cars	Diesel	Rural driving	2044346.39	93.68	253.60	46.16	2.75	268.08	74	15.34	0.57	75.13
1990	070102	Passenger cars	Gasoline 2-stroke	Rural driving	118588.34	2.28	352.84	2476.82	13.84	2594.44	73	1.73	0.69	41.51
1990	070102	Passenger cars	Gasoline conventional	Rural driving	23583528.44	2.28	1140.07	483.50	13.92	3992.26	73	2.39	0.96	13.93
1990	070102	Passenger cars	LPG	Rural driving	4483.34	0.00	1248.46	305.18	16.91	1146.38	65	7.25	0.00	14.49
1990	070103	Passenger cars	Diesel	Urban driving	2553249.62	93.68	207.02	90.62	2.50	318.49	74	9.35	0.35	123.32
1990	070103	Passenger cars	Gasoline 2-stroke	Urban driving	191303.14	2.28	51.72	4548.72	44.74	7572.79	73	0.82	0.33	19.58
1990	070103	Passenger cars	Gasoline conventional	Urban driving	27472979.47	2.28	618.14	929.13	52.43	9975.92	73	1.56	0.63	13.25
1990	070103	Passenger cars	LPG	Urban driving	5612.94	0.00	615.87	430.04	34.34	1329.22	65	4.40	0.00	11.74
1990	070201	Light duty vehicles	Diesel	Highway driving	2923030.83	93.68	270.67	31.16	1.62	344.14	74	5.52	0.32	104.48
1990	070201	Light duty vehicles	Gasoline conventional	Highway driving	319077.58	2.28	1369.26	170.29	10.11	2987.40	73	2.43	0.81	16.17
1990	070202	Light duty vehicles	Diesel	Rural driving	8905022.64	93.68	299.25	35.71	1.78	358.42	74	6.04	0.36	107.73
1990	070202	Light duty vehicles	Gasoline conventional	Rural driving	1127865.12	2.28	1188.86	262.59	15.25	2316.18	73	2.29	0.76	15.25
1990	070203	Light duty vehicles	Diesel	Urban driving	8528115.24	93.68	486.72	60.32	2.40	412.68	74	4.41	0.26	132.54
1990	070203	Light duty vehicles	Gasoline conventional	Urban driving	1361243.26	2.28	624.03	697.98	60.64	7400.03	73	1.33	0.44	8.85
1990	070301	Heavy duty vehicles	Diesel	Highway driving	8796092.68	93.68	826.66	78.10	6.08	178.52	74	2.98	0.30	45.35
1990	070301	Heavy duty vehicles	Gasoline	Highway driving	9310.17	2.28	1037.78	474.61	9.69	7610.35	73	0.83	0.28	55.35
1990	070302	Heavy duty vehicles	Diesel	Rural driving	14205820.64	93.68	946.46	102.84	6.87	237.23	74	3.09	0.31	54.49
1990	070302	Heavy duty vehicles	Gasoline	Rural driving	18942.77	2.28	1141.55	820.40	16.74	8371.39	73	0.91	0.30	60.88
1990	070303	Heavy duty vehicles	Diesel	Urban driving	10964874.28	93.68	1038.79	125.29	12.66	299.01	74	2.50	0.25	60.95
1990	070303	Heavy duty vehicles	Gasoline	Urban driving	19345.80	2.28	456.62	696.09	14.21	7102.99	73	0.61	0.20	40.59
1990	0704	Mopeds	Gasoline	Mopeds and Motorcycles < 50 cm3	270914.31	2.28	27.40	8019.18	200.00	13698.63	73	0.91	0.91	109.59
1990	070501	Motorcycles	Gasoline	Highway driving	56842.05	2.28	215.21	1274.28	121.98	17689.89	73	1.27	1.27	32.95
1990	070502	Motorcycles	Gasoline	Rural driving	132229.46	2.28	173.17	1528.62	146.07	16834.36	73	1.52	1.52	39.46
1990	070503	Motorcycles	Gasoline	Urban driving	158064.73	2.28	93.28	2018.58	147.26	15322.43	73	1.53	1.53	39.78

Year	SNAP ID	Category	Fuel type	Mode	Fuel	SO2	NOx	NMVOC	CH4	CO	CO2	N2O	NH3	TSP
					[GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[kg/GJ]	[g/GJ]	[g/GJ]	[g/GJ]
1990	0801	Military	Diesel		146162.10	93.68	684.30	80.01	5.79	291.62	74	4.56	0.31	79.84
1990	0801	Military	Jet fuel	< 3000 ft	149678.28	22.99	250.57	24.94	2.65	229.89	72	2.30		
1990	0801	Military	Jet fuel	> 3000 ft	1347104.52	22.99	250.57	24.94	2.65	229.89	72	2.30		
1990	0801	Military	Gasoline		985.50	2.28	927.71	1135.23	32.03	6553.48	73	1.96	0.79	
1990	0801	Military	Aviation gasoline		4913.48	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	
1990	0802	Railways	Diesel		4010006.53	93.68	1225.13	79.94	3.07	223.21	74	2.04	0.20	50.26
1990	0802	Railways	Kerosene		69.60	5.00	50.00	3.00	7.00	20.00	72	2.00		
1990	0802	Railways	Gasoline		0.00	2.28	871.06	1129.29	33.78	6687.29	73	2.24	1.63	
1990	0803	Inland waterways	Diesel		538329.24	93.68	942.01	171.10	2.78	453.27	74	2.96	0.17	106.15
1990	0803	Inland waterways	Gasoline		433014.39	2.28	327.19	3235.89	50.26	14293.02	73	0.86	0.08	
1990	080402	Maritime activities	Residual oil		3559805.60	1466.99	1393.64	56.92	1.76	180.93	78	4.89		139.36
1990	080402	Maritime activities	Diesel		2782388.36	93.68	1334.89	54.52	1.69	173.30	74	4.68		42.15
1990	080402	Maritime activities	Kerosene		452.40	4.60	50.00	3.00	7.00	20.00	72	2.00		
1990	080402	Maritime activities	LPG		1794.00		1249.00	384.90	20.30	443.00	65	2.00		
1990	080403	Maritime activities	Residual oil		285426.00	1466.99	1393.64	56.92	1.76	180.93	78	4.89		139.36
1990	080403	Maritime activities	Diesel		10051142.58	93.68	1334.89	54.52	1.69	173.30	74	4.68		42.15
1990	080403	Maritime activities	Kerosene		25786.80	4.60	50.00	3.00	7.00	20.00	72	2.00		
1990	080403	Maritime activities	Gasoline		0.00	2.28	64.34	10809.58	108.10	18485.08	73	0.52	0.10	
1990	080403	Maritime activities	LPG		42320.00		1249.00	384.90	20.30	443.00	65	2.00		
1990	080404	Maritime activities	Residual oil		28543367.60	1711.49	2127.14	56.92	1.76	180.93	78	4.89		200.49
1990	080404	Maritime activities	Diesel		11632673.89	468.38	2037.47	54.52	1.69	173.30	74	4.68		42.15
1990	080501	Air traffic	Jet fuel	Dom. < 3000 ft	422173.05	22.99	314.51	14.93	1.59	90.41	72	5.70		
1990	080501	Air traffic	Aviation gasoline		104947.19	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	
1990	080502	Air traffic	Jet fuel	Int. < 3000 ft	132339.29	22.99	309.25	16.47	1.75	168.98	72	7.10		
1990	080502	Air traffic	Aviation gasoline		30659.59	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	
1990	080503	Air traffic	Jet fuel	Dom. > 3000 ft	1026021.25	22.99	330.11	12.36	1.31	90.75	72	2.30		
1990	080504	Air traffic	Jet fuel	Int. > 3000 ft	1611914.81	22.99	244.20	6.48	0.69	54.10	72	2.30		
1990	0806	Agriculture	Diesel		16496272.63	93.68	758.87	156.85	2.55	635.53	74	2.93	0.17	144.45
1990	0806	Agriculture	Gasoline		708864.21	2.28	31.60	949.55	88.42	47524.17	73	1.28	0.09	
1990	0807	Forestry	Diesel		145345.57	93.68	857.48	156.47	2.54	645.65	74	2.97	0.17	149.05
1990	0807	Forestry	Gasoline		341429.76	2.28	40.39	7206.91	60.42	18057.40	73	0.37	0.07	
1990	0808	Industry	Diesel		10158405.86	93.68	933.58	178.23	2.90	655.80	74	2.94	0.17	154.50
1990	0808	Industry	Gasoline		175227.11	2.28	136.27	1610.77	120.61	14797.46	73	1.33	0.09	

1990	0808	Industry	LPG		1184855.79	0.00	1328.11	146.09	7.69	104.85	65	3.50	0.21	4.89
1990	0809	Household and gardening	Gasoline		1883802.80	2.28	65.27	2420.87	96.45	32167.96	73	1.14	0.08	
1990	80501.00	Air traffic, Copenhagen airport	Jet fuel	Dom. < 3000 ft	502153.07	22.99	283.87	20.73	2.20	129.70	72	4.58		
1990	80501.00	Air traffic, Copenhagen airport	Aviation gasoline		8642.20	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	
1990	80502.00	Air traffic, Copenhagen airport	Jet fuel	Int. < 3000 ft	2001203.83	22.99	324.87	34.25	3.64	157.15	72	3.79		
1990	80502.00	Air traffic, Copenhagen airport	Aviation gasoline		5612.28	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	
1990	80503.00	Air traffic, Copenhagen airport	Jet fuel	Dom. > 3000 ft	1305208.09	22.99	314.86	11.78	1.25	84.05	72	2.30		
1990	80504.00	Air traffic, Copenhagen airport	Jet fuel	Int. > 3000 ft	20330315.02	22.99	290.20	10.08	1.07	37.65	72	2.30		

Year	SNAP ID	Category	Fuel type	Mode	Fuel	SO2	NOx	NMVOC	CH4	CO	CO2	N2O	NH3	TSP
					[GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[kg/GJ]	[g/GJ]	[g/GJ]	[g/GJ]
2004	70101	Passenger cars	Diesel	Highway driving	2367692.82	2.34	278.56	11.59	4.31	95.36	74	13.24	0.49	38.99
2004	70101	Passenger cars	Gasoline 2-stroke	Highway driving	560.94	2.28	288.90	2357.34	10.03	3490.86	73	2.01	0.80	48.15
2004	70101	Passenger cars	Gasoline conventional	Highway driving	2431463.24	2.28	1362.36	333.59	11.45	2637.78	73	2.20	0.88	10.38
2004	70101	Passenger cars	Gasoline catalyst	Highway driving	10334217.85	2.28	243.63	27.94	3.58	1613.44	73	16.92	48.33	0.34
2004	70101	Passenger cars	LPG	Highway driving	83.86	0.00	1151.70	187.09	10.06	3914.25	65	6.04	0.00	10.06
2004	70102	Passenger cars	Diesel	Rural driving	5033891.32	2.34	250.86	18.93	2.58	88.15	74	15.02	0.56	25.07
2004	70102	Passenger cars	Gasoline 2-stroke	Rural driving	1575.25	2.28	352.84	2476.82	13.84	2594.44	73	1.73	0.69	41.51
2004	70102	Passenger cars	Gasoline conventional	Rural driving	5327550.38	2.28	1163.16	452.60	14.16	3155.17	73	2.43	0.97	11.59
2004	70102	Passenger cars	Gasoline catalyst	Rural driving	22410272.74	2.28	175.60	29.93	4.14	541.79	73	8.58	53.60	0.38
2004	70102	Passenger cars	LPG	Rural driving	169.20	0.00	1248.46	305.18	16.91	1146.38	65	7.25	0.00	14.49
2004	70103	Passenger cars	Diesel	Urban driving	5771889.77	2.34	256.86	53.08	2.52	241.10	74	10.14	0.38	46.58
2004	70103	Passenger cars	Gasoline 2-stroke	Urban driving	2024.84	2.28	51.89	4470.04	43.97	7400.54	73	0.82	0.33	19.72
2004	70103	Passenger cars	Gasoline conventional	Urban driving	6225773.06	2.28	635.44	858.78	52.55	8038.06	73	1.61	0.64	11.28
2004	70103	Passenger cars	Gasoline catalyst	Urban driving	31280010.90	2.28	169.53	213.29	48.77	3546.92	73	15.33	20.25	0.32
2004	70103	Passenger cars	LPG	Urban driving	213.26	0.00	618.83	421.82	33.68	1298.79	65	4.44	0.00	11.83
2004	70201	Light duty vehicles	Diesel	Highway driving	3535197.72	2.34	312.66	30.60	1.59	198.22	74	6.06	0.36	49.23
2004	70201	Light duty vehicles	Gasoline conventional	Highway driving	122385.19	2.28	1369.26	170.29	10.11	2987.40	73	2.43	0.81	16.17
2004	70201	Light duty vehicles	Gasoline catalyst	Highway driving	294121.96	2.28	140.96	16.71	2.51	666.52	73	12.03	34.36	0.24
2004	70202	Light duty vehicles	Diesel	Rural driving	10770333.75	2.34	330.79	35.07	1.74	185.83	74	6.63	0.39	45.72
2004	70202	Light duty vehicles	Gasoline conventional	Rural driving	432603.23	2.28	1188.86	262.59	15.25	2316.18	73	2.29	0.76	15.25
2004	70202	Light duty vehicles	Gasoline catalyst	Rural driving	1038500.57	2.28	124.02	22.63	2.87	498.99	73	5.19	32.44	0.23
2004	70203	Light duty vehicles	Diesel	Urban driving	10489915.52	2.34	364.26	56.95	2.27	216.85	74	4.81	0.28	56.50
2004	70203	Light duty vehicles	Gasoline conventional	Urban driving	525645.81	2.28	626.11	685.91	59.59	7231.71	73	1.34	0.45	8.91
2004	70203	Light duty vehicles	Gasoline catalyst	Urban driving	1258563.91	2.28	132.44	124.38	22.88	3250.80	73	10.07	13.30	0.17

2004	70301	Heavy duty vehicles	Diesel	Highway driving	11307971.46	2.34	472.55	51.41	4.31	112.12	74	2.85	0.28	20.16
2004	70301	Heavy duty vehicles	Gasoline	Highway driving	9556.80	2.28	1037.78	474.61	9.69	7610.35	73	0.83	0.28	55.35
2004	70302	Heavy duty vehicles	Diesel	Rural driving	17202120.67	2.34	559.70	64.29	4.71	132.98	74	2.89	0.29	24.82
2004	70302	Heavy duty vehicles	Gasoline	Rural driving	19444.56	2.28	1141.55	820.40	16.74	8371.39	73	0.91	0.30	60.88
2004	70303	Heavy duty vehicles	Diesel	Urban driving	12286671.47	2.34	606.35	73.07	7.93	158.40	74	2.35	0.23	29.34
2004	70303	Heavy duty vehicles	Gasoline	Urban driving	19858.28	2.28	456.62	696.09	14.21	7102.99	73	0.61	0.20	40.59
2004	704	Mopeds	Gasoline		211381.41	2.28	25.40	6338.24	158.08	10804.39	73	0.91	0.91	109.59
2004	70501	Motorcycles	Gasoline	Highway driving	119292.56	2.28	218.43	1170.15	119.98	17378.93	73	1.27	1.27	31.96
2004	70502	Motorcycles	Gasoline	Rural driving	277434.16	2.28	175.99	1404.95	143.85	16502.09	73	1.52	1.52	38.31
2004	70503	Motorcycles	Gasoline	Urban driving	330690.34	2.28	94.93	1877.22	144.82	14993.66	73	1.53	1.53	38.57

Year	SNAP ID	Category	Fuel type	Mode	Fuel	SO2	NOx	NMVOC	CH4	CO	CO2	N2O	NH3	TSP
					[GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[g/GJ]	[kg/GJ]	[g/GJ]	[g/GJ]	[g/GJ]
2004	801	Military	Diesel		585796.00	2.34	429.41	51.37	3.88	160.78	74	5.45	0.33	35.73
2004	801	Military	Jet fuel	< 3000 ft	66524.00	22.99	250.57	24.94	2.65	229.89	72	2.30	0.00	1.16
2004	801	Military	Jet fuel	> 3000 ft	598713.00	22.99	250.57	24.94	2.65	229.89	72	2.30	0.00	1.16
2004	801	Military	Gasoline		3975.00	2.28	288.90	279.15	27.72	2761.31	73	11.32	30.44	2.60
2004	801	Military	Aviation gasoline		6095.00	22.99	859.00	1242.60	21.90	6972.00	73	2.00	1.60	10.00
2004	802	Railways	Diesel		2950035.40	2.34	1190.53	74.44	2.86	204.95	74	2.04	0.20	39.28
2004	803	Inland waterways	Diesel		902453.33	93.68	877.17	170.01	2.76	452.68	74	2.97	0.17	104.92
2004	803	Inland waterways	Gasoline		1001571.20	2.28	398.23	2524.24	54.65	15863.15	73	1.07	0.09	120.51
2004	80402	National sea traffic	Residual oil		1822827.30	1101.71	1393.60	56.90	1.76	180.90	78	4.90		139.40
2004	80402	National sea traffic	Diesel		3827868.83	93.68	1334.90	54.50	1.69	173.30	74	4.70	0.00	42.15
2004	80402	National sea traffic	Kerosene		1078.80	4.60	50.00	3.00	7.00	20.00	72	2.00	2.00	97.56
2004	80402	National sea traffic	LPG		230.00	0.00	1249.00	384.90	20.30	443.00	65	2.00	0.00	12.44
2004	80403	Fishing	Residual oil		84023.55	1101.71	1393.60	56.90	1.76	180.90	78	4.90		139.40
2004	80403	Fishing	Diesel		8428083.30	93.68	1334.90	54.50	1.69	173.30	74	4.70	0.00	42.15
2004	80403	Fishing	Kerosene		730.80	4.60	50.00	3.00	7.00	20.00	72	2.00		97.56
2004	80403	Fishing	Gasoline		0.00	2.28	64.34	10809.60	108.10	18485.10	73	0.52	0.10	23.25
2004	80403	Fishing	LPG		20332.00	0.00	1249.00	384.90	20.30	443.00	65	2.00	0.00	12.44
2004	80404	International sea traffic	Residual oil		20461868.55	1575.67	2127.10	56.90	1.76	180.90	78	4.90		200.50
2004	80404	International sea traffic	Diesel		20729767.13	468.38	2037.50	54.50	1.69	173.30	74	4.70		42.15
2004	80501	Air traffic, other airports	Jet fuel	Dom. < 3000 ft	184147.19	22.99	252.17	29.42	3.12	163.42	72	21.05		1.16
2004	80501	Air traffic, other airports	Aviation gasoline		75380.00	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	10.00

2004	80502	Air traffic, other airports	Jet fuel	Int. < 3000 ft	239381.32	22.99	299.33	14.63	1.55	162.38	72	8.47		1.16
2004	80502	Air traffic, other airports	Aviation gasoline		5565.00	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	10.00
2004	80503	Air traffic, other airports	Jet fuel	Dom. > 3000 ft	531959.09	22.99	280.06	21.04	2.23	133.41	72	2.30		1.16
2004	80504	Air traffic, other airports	Jet fuel	Int. > 3000 ft	2378028.80	22.99	242.26	5.87	0.62	50.37	72	2.30		1.16
2004	806	Agriculture	Diesel		########	23.42	878.84	100.12	1.63	475.69	74	3.12	0.18	73.73
2004	806	Agriculture	Gasoline		489193.78	2.28	86.41	1032.34	129.17	27766.67	73	1.54	1.00	22.10
2004	807	Forestry	Diesel		4625.38	23.42	822.93	65.33	1.06	362.42	74	3.20	0.18	45.59
2004	807	Forestry	Gasoline		56785.69	2.28	48.43	6386.40	52.96	15880.08	73	0.41	0.08	74.18
2004	808	Industry	Diesel		8581033.78	23.42	827.97	113.65	1.85	478.43	74	3.08	0.18	91.66
2004	808	Industry	Gasoline		134440.46	2.28	191.31	1458.32	101.67	12652.23	73	1.39	0.10	12.99
2004	808	Industry	LPG		1498954.83	0.00	1328.11	146.09	7.69	104.85	65	3.50	0.21	4.89
2004	809	Household and gardening	Gasoline		1116969.62	2.28	77.77	2141.22	71.19	27974.82	73	1.17	0.09	21.37
2004	80501	Air traffic, Copenhagen airport	Jet fuel	Dom. < 3000 ft	229614.67	22.99	255.88	39.13	4.16	202.97	72	11.22		1.16
2004	80501	Air traffic, Copenhagen airport	Aviation gasoline		611.00	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	10.00
2004	80502	Air traffic, Copenhagen airport	Jet fuel	Int. < 3000 ft	2587577.02	22.99	335.05	38.17	4.05	214.71	72	4.13	0.00	1.16
2004	80502	Air traffic, Copenhagen airport	Aviation gasoline		885.00	22.83	859.00	1242.60	21.90	6972.00	73	2.00	1.60	10.00
2004	80503	Air traffic, Copenhagen airport	Jet fuel	Dom. > 3000 ft	890213.23	22.99	286.55	18.99	2.02	69.59	72	2.30	0.00	1.16
2004	80504	Air traffic, Copenhagen airport	Jet fuel	Int. > 3000 ft	25170689.68	22.99	310.56	11.03	1.17	35.96	72	2.30	0.00	1.16

Year	Category	Mode	Code	SO2 [tons]	NOx [tons]	NMVOC [tons]	CH4 [tons]	CO [tons]	CO2 [ktons]	N2O [tons]	NH3 [tons]	TSP [tons]
1990	Passenger cars	Highway driving	70101	121	14676	4111	126	38170	877	36		
1990	Passenger cars	Rural driving	70102	246	27453	11792	336	95013	1882	88	10	216
1990	Passenger cars	Urban driving	70103	302	17524	26630	1456	276338	2209	67	24	487
1990	Light duty vehicles	Highway driving	70201	275	1228	145	8	1959	240	17	18	683
1990	Light duty vehicles	Rural driving	70202	837	4006	614	33	5804	741	56	1	311
1990	Light duty vehicles	Urban driving	70203	802	5000	1465	103	13593	730	39	4	977
1990	Heavy duty vehicles	Highway driving	70301	824	7281	691	54	1641	652	26	3	1142
1990	Heavy duty vehicles	Rural driving	70302	1331	13467	1476	98	3529	1053	44	3	399
1990	Heavy duty vehicles	Urban driving	70303	1027	11399	1387	139	3416	813	27	4	775
1990	Mopeds		704	1	7	2173	54	3711	20	0	3	669
1990	Motorcycles	Highway driving	70501	0	12	72	7	1006	4	0	0	30
1990	Motorcycles	Rural driving	70502	0	23	202	19	2226	10	0	0	2
1990	Motorcycles	Urban driving	70503	0	15	319	23	2422	12	0	0	5
1990	Evaporation		706	0	0	28438	0	0	0	0	0	6
1990	Military		801	48	480	56	5	427	119	4	0	0
1990	Railways		802	376	4913	321	12	895	297	8	0	1117
1990	Inland waterways		803	51	649	1493	23	6433	71	2	0	766
1990	National sea traffic		80402	5483	8678	355	11	1127	484	30	0	13
1990	Fishing		80403	1360	13869	581	18	1813	771	49	1	202
1990	International sea traffic		80404	54300	84417	2259	70	7180	3087	194	0	128
1990	Air traffic, Dom. < 3000 ft.		80501	24	373	158	4	895	75	5	0	614
1990	Air traffic, Int. < 3000 ft.		80502	50	722	116	8	590	156	9	0	466
1990	Air traffic, Dom. > 3000 ft.		80503	54	750	28	3	203	168	5	0	6213
1990	Air traffic, Int. > 3000 ft.		80504	504	6293	215	23	853	1580	50	0	2
1990	Agriculture		806	1547	12541	3260	105	44172	1272	49	0	3
1990	Forestry		807	14	138	2483	21	6259	36	1	0	3
1990	Industry		808	952	11081	2266	60	9379	842	34	0	25
1990	Household and gardening		809	4	123	4560	182	60598	138	2	3	2388

Year	Category	Mode	Code	SO2 [tons]	NOx [tons]	NMVOC [tons]	CH4 [tons]	CO [tons]	CO2 [ktons]	N2O [tons]	NH3 [tons]	TSP [tons]
2004	Passenger cars	Highway driving	70101	34	5644	910	68	21463	1071	212		
2004	Passenger cars	Rural driving	70102	73	9851	2537	162	24881	2329	285	498	124
2004	Passenger cars	Urban driving	70103	97	9813	10918	1790	149436	3095	554	1206	193

2004	Light duty vehicles	Highway driving	70201	11	1459	147	8	1336	335	29	644	354
2004	Light duty vehicles	Rural driving	70202	33	4677	554	31	3731	1037	90	14	203
2004	Light duty vehicles	Urban driving	70203	32	4823	1151	86	10449	1027	73	46	574
2004	Heavy duty vehicles	Highway driving	70301	27	5382	589	49	1340	842	32	24	681
2004	Heavy duty vehicles	Rural driving	70302	41	9741	1131	82	2456	1287	50	3	230
2004	Heavy duty vehicles	Urban driving	70303	29	7572	924	99	2103	924	29	5	432
2004	Mopeds		704	1	6	1529	38	2607	18	0	3	367
2004	Motorcycles	Highway driving	70501	0	29	154	16	2292	10	0	0	26
2004	Motorcycles	Rural driving	70502	1	54	431	44	5057	22	0	0	4
2004	Motorcycles	Urban driving	70503	1	35	689	53	5500	27	1	0	12
2004	Evaporation		706	0	0	4814	0	0	0	0	1	14
2004	Military		801	46	1079	129	11	718	239	12	0	0
2004	Railways		802	7	3478	217	8	599	216	6	0	1454
2004	Inland waterways		803	95	1040	1191	25	6865	104	3	0	1004
2004	National sea traffic		80402	2164	6950	284	9	902	387	24	1	53
2004	Fishing		80403	632	8528	354	11	1112	473	30	1	115
2004	International sea traffic		80404	34821	69705	1865	58	5928	2545	161	0	154
2004	Air traffic, Dom. < 3000 ft.		80501	9	159	131	3	729	29	5	0	379
2004	Air traffic, Int. < 3000 ft.		80502	70	1015	120	12	696	219	14	0	272
2004	Air traffic, Dom. > 3000 ft.		80503	32	393	27	3	128	99	3	0	4149
2004	Air traffic, Int. > 3000 ft.		80504	711	9424	327	35	1152	2228	71	0	1
2004	Agriculture		806	315	11837	1667	62	15042	1017	42	0	4
2004	Forestry		807	4	135	506	4	1291	17	1	0	2
2004	Industry		808	263	10744	1676	46	7600	912	39	0	36
2004	Household and gardening		809	9	317	8731	290	114073	298	5	3	998

Annex 2B-13: Non-exhaust emission factors and total non-exhaust emissions of TSP, PM_{10} and $PM_{2.5}$ in 2004

Year	Source	Category	Mileage [kmkveh]	TSP [mg/km]	PM_{10} [mg/km]	$PM_{2.5}$ [mg/km]	TSP [tons]	PM_{10} [tons]	$PM_{2.5}$ [tons]
2004	Brake wear	Passenger cars	36923001	7.6	7.5	7.5	281	276	110
2004	Brake wear	Light duty vehicles	10776935	13.7	13.4	13.4	148	145	58
2004	Brake wear	Heavy duty vehicles	2826388	34.8	34.1	34.1	98	96	38
2004	Brake wear	Buses	909872	47.1	46.2	46.2	43	42	17
2004	Brake wear	Mopeds	220331	6.2	6.1	6.1	1	1	1
2004	Brake wear	Motorcycles	597325	4.2	4.2	4.2	3	2	1

2004	Road abrasion	Passenger cars	36923001	15.0	7.5	7.5	554	277	150
2004	Road abrasion	Light duty vehicles	10776935	15.0	7.5	7.5	162	81	44
2004	Road abrasion	Heavy duty vehicles	2826388	76.0	38.0	38.0	215	107	58
2004	Road abrasion	Buses	909872	76.0	38.0	38.0	69	35	19
2004	Road abrasion	Mopeds	220331	6.0	3.0	3.0	1	1	0
2004	Road abrasion	Motorcycles	597325	6.0	3.0	3.0	4	2	1
2004	Tyre wear	Passenger cars	36923001	12.4	7.5	7.5	460	276	193
2004	Tyre wear	Light duty vehicles	10776935	20.5	12.3	12.3	220	132	93
2004	Tyre wear	Heavy duty vehicles	2826388	59.8	35.9	35.9	169	101	71
2004	Tyre wear	Buses	909872	29.4	17.6	17.6	27	16	11
2004	Tyre wear	Mopeds	220331	6.4	3.8	3.8	1	1	1
2004	Tyre wear	Motorcycles	597325	5.6	3.3	3.3	3	2	1
2004	Total	Passenger cars					1295	828	452
2004	Total	Light duty vehicles					530	358	194
2004	Total	Heavy duty vehicles					482	305	167
2004	Total	Buses					139	93	47
2004	Total	Mopeds					4	3	1
2004	Total	Motorcycles					9	6	3

Annex 2B-14: Heavy metal emission factors and total emissions for 1990 and 2004 in CollectER format

SNAP ID	Category	Fuel type	Mode	Arsenic [g/GJ]	Cadmium [g/GJ]	Chromium [g/GJ]	Copper [g/GJ]	Mercury [g/GJ]	Nickel [g/GJ]	Lead [g/GJ]	Selenium [g/GJ]	Zinc [g/GJ]
070101	Passenger cars	Diesel	Highway driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070101	Passenger cars	Gasoline 2-stroke	Highway driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070101	Passenger cars	Gasoline conventional	Highway driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070101	Passenger cars	Gasoline catalyst	Highway driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070101	Passenger cars	LPG	Highway driving		0,000000	0,000000	0,000000		0,000000	0,000000	0,000000	0,000000
070102	Passenger cars	Diesel	Rural driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070102	Passenger cars	Gasoline 2-stroke	Rural driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070102	Passenger cars	Gasoline conventional	Rural driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070102	Passenger cars	Gasoline catalyst	Rural driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070102	Passenger cars	LPG	Rural driving		0,000000	0,000000	0,000000		0,000000	0,000000	0,000000	0,000000
070103	Passenger cars	Diesel	Urban driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070103	Passenger cars	Gasoline 2-stroke	Urban driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070103	Passenger cars	Gasoline conventional	Urban driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070103	Passenger cars	Gasoline catalyst	Urban driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070103	Passenger cars	LPG	Urban driving		0,000000	0,000000	0,000000		0,000000	0,000000	0,000000	0,000000
070201	Light duty vehicles	Diesel	Highway driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070201	Light duty vehicles	Gasoline conventional	Highway driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070201	Light duty vehicles	Gasoline catalyst	Highway driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070202	Light duty vehicles	Diesel	Rural driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070202	Light duty vehicles	Gasoline conventional	Rural driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070202	Light duty vehicles	Gasoline catalyst	Rural driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070203	Light duty vehicles	Diesel	Urban driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070203	Light duty vehicles	Gasoline conventional	Urban driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070203	Light duty vehicles	Gasoline catalyst	Urban driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070301	Heavy duty vehicles	Diesel	Highway driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070301	Heavy duty vehicles	Gasoline	Highway driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070302	Heavy duty vehicles	Diesel	Rural driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070302	Heavy duty vehicles	Gasoline	Rural driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070303	Heavy duty vehicles	Diesel	Urban driving		0,000234	0,001171	0,039812		0,001639	0,000000	0,000234	0,023419
070303	Heavy duty vehicles	Gasoline	Urban driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
0704	Mopeds	Gasoline			0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070501	Motorcycles	Gasoline	Highway driving		0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831

070502	Motorcycles	Gasoline	Rural driving	0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831
070503	Motorcycles	Gasoline	Urban driving	0,000228	0,001141	0,038813		0,001598	0,000685	0,000228	0,022831

SNAP ID	Category	Fuel type	Mode	Arsenic [mg/GJ]	Cadmium [mg/GJ]	Chromium [mg/GJ]	Copper [mg/GJ]	Mercury [mg/GJ]	Nickel [mg/GJ]	Lead [mg/GJ]	Selenium [mg/GJ]	Zinc [mg/GJ]
0801	Military	Diesel			0,23	1,17	39,81		1,64		0,23	23,42
0801	Military	Jet fuel	< 3000 ft	0,00	0,23	1,14	38,81	0,00	1,60	0,00	0,23	22,83
0801	Military	Jet fuel	> 3000 ft	0,00	0,23	1,14	38,81	0,00	1,60	0,00	0,23	22,83
0801	Military	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
0801	Military	Aviation gasoline		0,00	0,23	1,14	38,81	0,00	1,60	12785,39	0,23	22,83
0802	Railways	Diesel			0,23	1,17	39,81		1,64		0,23	23,42
0802	Railways	Kerosene										
0802	Railways	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
0803	Inland waterways	Diesel			0,23	1,17	39,81		1,64		0,23	23,42
0803	Inland waterways	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
080402	National sea traffic	Residual oil		12,22	0,73	4,89	12,22	0,49	733,50	4,89	9,78	22,00
080402	National sea traffic	Diesel		1,17	0,23	0,94	1,17	1,17	1,64	2,34	4,68	11,71
080402	National sea traffic	Kerosene										
080402	National sea traffic	LPG										
080403	Fishing	Residual oil		12,22	0,73	4,89	12,22	0,49	733,50	4,89	9,78	22,00
080403	Fishing	Diesel		1,17	0,23	0,94	1,17	1,17	1,64	2,34	4,68	11,71
080403	Fishing	Kerosene										
080403	Fishing	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
080403	Fishing	LPG										
080404	International sea traffic	Residual oil		12,22	0,73	4,89	12,22	0,49	733,50	4,89	9,78	22,00
080404	International sea traffic	Diesel		1,17	0,23	0,94	1,17	1,17	1,64	2,34	4,68	11,71
080501	Air traffic, other airports	Jet fuel	Dom. < 3000 ft		0,23	1,14	38,81		1,60	0,00	0,23	22,83
080501	Air traffic, other airports	Aviation gasoline			0,23	1,14	38,81		1,60	13505,69	0,23	22,83
080502	Air traffic, other airports	Jet fuel	Int. < 3000 ft		0,23	1,14	38,81		1,60	0,00	0,23	22,83
080502	Air traffic, other airports	Aviation gasoline			0,23	1,14	38,81		1,60	13505,69	0,23	22,83
080503	Air traffic, other airports	Jet fuel	Dom. > 3000 ft		0,23	1,14	38,81		1,60	0,00	0,23	22,83
080504	Air traffic, other airports	Jet fuel	Int. > 3000 ft		0,23	1,14	38,81		1,60	0,00	0,23	22,83
0806	Agriculture	Diesel			0,23	1,17	39,81		1,64		0,23	23,42
0806	Agriculture	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
0807	Forestry	Diesel			0,23	1,17	39,81		1,64		0,23	23,42
0807	Forestry	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
0808	Industry	Diesel			0,23	1,17	39,81		1,64		0,23	23,42
0808	Industry	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
0808	Industry	LPG										
0809	Household and gardening	Gasoline			0,23	1,14	38,81		1,60	0,68	0,23	22,83
080501	Air traffic, CPH. airport	Jet fuel	Dom. < 3000 ft		0,23	1,14	38,81		1,60		0,23	22,83
080501	Air traffic, CPH. airport	Aviation gasoline			0,23	1,14	38,81		1,60	13505,69	0,23	22,83
080502	Air traffic, CPH. airport	Jet fuel	Int. < 3000 ft	0,00	0,23	1,14	38,81	0,00	1,60	0,00	0,23	22,83

080502	Air traffic, CPH. airport	Aviation gasoline		0,00	0,23	1,14	38,81	0,00	1,60	13505,69	0,23	22,83
080503	Air traffic, CPH. airport	Jet fuel	Dom. > 3000 ft	0,00	0,23	1,14	38,81	0,00	1,60	0,00	0,23	22,83
080504	Air traffic, CPH. airport	Jet fuel	Int. > 3000 ft	0,00	0,23	1,14	38,81	0,00	1,60	0,00	0,23	22,83

Year	Category	Mode	SNAP ID	Arsenic [kg]	Cadmium [kg]	Chromium [kg]	Copper [kg]	Mercury [kg]	Nickel [kg]	Lead [kg]	Selenium [kg]	Zinc [kg]
1990	Passenger cars	Highway driving	70101	0	3	14	461	0	19	16147	3	271
1990	Passenger cars	Rural driving	70102	0	6	29	987	0	41	34871	6	581
1990	Passenger cars	Urban driving	70103	0	7	34	1164	0	48	40700	7	685
1990	Light duty vehicles	Highway driving	70201	0	1	4	133	0	5	469	1	78
1990	Light duty vehicles	Rural driving	70202	0	2	12	412	0	17	1659	2	242
1990	Light duty vehicles	Urban driving	70203	0	2	12	408	0	17	2003	2	240
1990	Heavy duty vehicles	Highway driving	70301	0	2	10	351	0	14	14	2	206
1990	Heavy duty vehicles	Rural driving	70302	0	3	17	567	0	23	28	3	333
1990	Heavy duty vehicles	Urban driving	70303	0	3	13	438	0	18	28	3	257
1990	Mopeds		704	0	0	0	14	0	1	399	0	8
1990	Motorcycles	Highway driving	70501	0	0	0	3	0	0	84	0	2
1990	Motorcycles	Rural driving	70502	0	0	0	7	0	0	195	0	4
1990	Motorcycles	Urban driving	70503	0	0	0	8	0	0	233	0	5
1990	Evaporation		706	0	0	0	0	0	0	0	0	0
1990	Military		801	0	0	0	0	0	0	0	0	0
1990	Railways		802	0	0	0	0	0	0	0	0	0
1990	Inland waterways		803	0	0	2	64	0	3	64	0	38
1990	National sea traffic		80402	0	1	5	160	0	7	0	1	94
1990	Fishing		80403	0	0	1	38	0	2	637	0	22
1990	International sea traffic		80404	47	3	20	47	5	2616	24	48	111
1990	Air traffic, Dom. < 3000 ft.		80501	15	3	11	15	12	226	25	50	124
1990	Air traffic, Int. < 3000 ft.		80502	363	24	150	363	28	20956	167	334	764
1990	Air traffic, Dom. > 3000 ft.		80503	0	0	1	40	0	2	1534	0	24
1990	Air traffic, Int. > 3000 ft.		80504	0	1	2	84	0	3	490	1	50
1990	Agriculture		806	0	1	3	90	0	4	0	1	53
1990	Forestry		807	0	5	25	852	0	35	0	5	501
1990	Industry		808	0	4	20	684	0	28	1043	4	403
1990	Household and gardening		809	0	0	1	19	0	1	502	0	11

Year	Category	Mode	SNAP ID	Arsenic [kg]	Cadmium [kg]	Chromium [kg]	Copper [kg]	Mercury [kg]	Nickel [kg]	Lead [kg]	Selenium [kg]	Zinc [kg]
2004	Passenger cars	Highway driving	70101	0	3	17	571	0	24	8	3	336
2004	Passenger cars	Rural driving	70102	0	7	37	1241	0	51	18	7	730
2004	Passenger cars	Urban driving	70103	0	10	48	1649	0	68	25	10	970
2004	Light duty vehicles	Highway driving	70201	0	1	5	180	0	7	0	1	106
2004	Light duty vehicles	Rural driving	70202	0	3	16	557	0	23	1	3	328
2004	Light duty vehicles	Urban driving	70203	0	3	16	552	0	23	1	3	324
2004	Heavy duty vehicles	Highway driving	70301	0	3	13	453	0	19	0	3	266
2004	Heavy duty vehicles	Rural driving	70302	0	4	20	692	0	29	0	4	407
2004	Heavy duty vehicles	Urban driving	70303	0	3	15	497	0	20	0	3	293
2004	Mopeds		704	0	0	0	9	0	0	0	0	6
2004	Motorcycles	Highway driving	70501	0	0	0	5	0	0	0	0	3
2004	Motorcycles	Rural driving	70502	0	0	0	12	0	0	0	0	7
2004	Motorcycles	Urban driving	70503	0	0	0	14	0	1	0	0	8
2004	Evaporation		706	0	0	0	0	0	0	0	0	0
2004	Military		801	0	0	0	0	0	0	0	0	0
2004	Railways		802	0	0	0	0	0	0	0	0	0
2004	Inland waterways		803	0	1	4	129	0	5	82	1	76
2004	National sea traffic		80402	0	1	3	116	0	5	0	1	68
2004	Fishing		80403	0	0	2	56	0	2	0	0	33
2004	International sea traffic		80404	24	2	11	24	5	1230	16	33	77
2004	Air traffic, Dom. < 3000 ft.		80501	8	1	6	8	7	36	15	30	75
2004	Air traffic, Int. < 3000 ft.		80502	230	16	100	230	27	12715	122	245	570
2004	Air traffic, Dom. > 3000 ft.		80503	0	0	0	15	0	1	1304	0	9
2004	Air traffic, Int. > 3000 ft.		80504	0	1	3	118	0	5	111	1	69
2004	Agriculture		806	0	0	2	54	0	2	0	0	32
2004	Forestry		807	0	7	35	1201	0	50	0	7	707
2004	Industry		808	0	3	16	547	0	23	0	3	322
2004	Household and gardening		809	0	0	0	9	0	0	0	0	6

Annex 2B-15: PAH emission factors and total emissions for 1990 and 2004 in CollectER format

Year	SNAP ID	Category	Fuel type	Mode	Dioxins/ Furans [g/GJ]	Flouranthene [g/GJ]	Benzo(b) flouranthene [g/GJ]	Benzo(k) flouranthene [g/GJ]	Benzo(a) pyrene [g/GJ]	Benzo(g,h,i) perylene [g/GJ]	indeno(1,2,3-c,d) pyrene [g/GJ]
1990	070101	Passenger cars	Diesel	Highway driving	7.01E-10	1.22E-02	7.48E-04	6.78E-04	8.18E-04	1.59E-03	7.71E-04
1990	070101	Passenger cars	Gasoline 2-stroke	Highway driving							
1990	070101	Passenger cars	Gasoline conventional	Highway driving	1.34E-08	8.54E-03	5.55E-04	4.27E-04	4.69E-04	1.11E-03	4.27E-04
1990	070101	Passenger cars	Gasoline catalyst	Highway driving	0.00E+00	8.62E-04	1.92E-04	2.39E-04	1.92E-04	3.83E-04	2.87E-04
1990	070101	Passenger cars	LPG	Highway driving							
1990	070102	Passenger cars	Diesel	Rural driving	8.52E-10	1.49E-02	9.09E-04	8.24E-04	9.94E-04	1.93E-03	9.37E-04
1990	070102	Passenger cars	Gasoline 2-stroke	Rural driving							
1990	070102	Passenger cars	Gasoline conventional	Rural driving	1.51E-08	9.58E-03	6.23E-04	4.79E-04	5.27E-04	1.25E-03	4.79E-04
1990	070102	Passenger cars	Gasoline catalyst	Rural driving	0.00E+00	9.60E-04	2.13E-04	2.67E-04	2.13E-04	4.26E-04	3.20E-04
1990	070102	Passenger cars	LPG	Rural driving							
1990	070103	Passenger cars	Diesel	Urban driving	5.33E-10	9.30E-03	5.68E-04	5.15E-04	6.21E-04	1.21E-03	5.86E-04
1990	070103	Passenger cars	Gasoline 2-stroke	Urban driving							
1990	070103	Passenger cars	Gasoline conventional	Urban driving	1.02E-08	6.47E-03	4.20E-04	3.23E-04	3.56E-04	8.41E-04	3.23E-04
1990	070103	Passenger cars	Gasoline catalyst	Urban driving	0.00E+00	5.18E-04	1.15E-04	1.44E-04	1.15E-04	2.30E-04	1.72E-04
1990	070103	Passenger cars	LPG	Urban driving							
1990	070201	Light duty vehicles	Diesel	Highway driving	4.87E-10	8.51E-03	5.19E-04	4.70E-04	5.68E-04	1.10E-03	5.36E-04
1990	070201	Light duty vehicles	Gasoline conventional	Highway driving	1.27E-08	8.09E-03	5.26E-04	4.04E-04	4.45E-04	1.05E-03	4.04E-04
1990	070201	Light duty vehicles	Gasoline catalyst	Highway driving	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1990	070202	Light duty vehicles	Diesel	Rural driving	5.33E-10	9.31E-03	5.68E-04	5.15E-04	6.22E-04	1.21E-03	5.86E-04
1990	070202	Light duty vehicles	Gasoline conventional	Rural driving	1.20E-08	7.63E-03	4.95E-04	3.81E-04	4.19E-04	9.91E-04	3.81E-04
1990	070202	Light duty vehicles	Gasoline catalyst	Rural driving	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1990	070203	Light duty vehicles	Diesel	Urban driving	3.98E-10	6.95E-03	4.25E-04	3.85E-04	4.64E-04	9.02E-04	4.38E-04
1990	070203	Light duty vehicles	Gasoline conventional	Urban driving	7.18E-09	4.56E-03	2.96E-04	2.28E-04	2.51E-04	5.92E-04	2.28E-04
1990	070203	Light duty vehicles	Gasoline catalyst	Urban driving	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1990	070301	Heavy duty vehicles	Diesel	Highway driving	1.06E-09	2.09E-03	5.26E-04	7.80E-04	9.74E-05	7.78E-05	1.36E-04
1990	070301	Heavy duty vehicles	Gasoline	Highway driving							
1990	070302	Heavy duty vehicles	Diesel	Rural driving	1.12E-09	2.21E-03	5.57E-04	8.25E-04	1.03E-04	8.24E-05	1.44E-04
1990	070302	Heavy duty vehicles	Gasoline	Rural driving							
1990	070303	Heavy duty vehicles	Diesel	Urban driving	9.11E-10	1.79E-03	4.51E-04	6.68E-04	8.34E-05	6.67E-05	1.17E-04
1990	070303	Heavy duty vehicles	Gasoline	Urban driving							
1990	0704	Mopeds	Gasoline								
1990	070501	Motorcycles	Gasoline	Highway driving	2.00E-08	1.27E-02	8.24E-04	6.34E-04	6.97E-04	1.65E-03	6.34E-04

1990	070502	Motorcycles	Gasoline	Rural driving	2.39E-08	1.52E-02	9.86E-04	7.59E-04	8.34E-04	1.97E-03	7.59E-04
1990	070503	Motorcycles	Gasoline	Urban driving	2.41E-08	1.53E-02	9.94E-04	7.65E-04	8.41E-04	1.99E-03	7.65E-04

Year	SNAP ID	Category	Fuel type	Mode	Dioxins/ Furans [g/GJ]	Flouranthene [g/GJ]	Benzo(b) flouranthene [g/GJ]	Benzo(k) flouranthene [g/GJ]	Benzo(a) pyrene [g/GJ]	Benzo(g,h,i) perylene [g/GJ]	indeno(1,2,3-c,d) pyrene [g/GJ]
2004	070101	Passenger cars	Diesel	Highway driving	7.34E-10	1.28E-02	7.82E-04	7.09E-04	8.56E-04	1.66E-03	8.07E-04
2004	070101	Passenger cars	Gasoline 2-stroke	Highway driving							
2004	070101	Passenger cars	Gasoline conventional	Highway driving	1.39E-08	8.82E-03	5.73E-04	4.41E-04	4.85E-04	1.15E-03	4.41E-04
2004	070101	Passenger cars	Gasoline catalyst	Highway driving	0.00E+00	8.84E-04	1.96E-04	2.45E-04	1.96E-04	3.93E-04	2.95E-04
2004	070101	Passenger cars	LPG	Highway driving							
2004	070102	Passenger cars	Diesel	Rural driving	8.35E-10	1.46E-02	8.91E-04	8.07E-04	9.75E-04	1.89E-03	9.19E-04
2004	070102	Passenger cars	Gasoline 2-stroke	Rural driving							
2004	070102	Passenger cars	Gasoline conventional	Rural driving	1.53E-08	9.74E-03	6.33E-04	4.87E-04	5.36E-04	1.27E-03	4.87E-04
2004	070102	Passenger cars	Gasoline catalyst	Rural driving	0.00E+00	9.87E-04	2.19E-04	2.74E-04	2.19E-04	4.39E-04	3.29E-04
2004	070102	Passenger cars	LPG	Rural driving							
2004	070103	Passenger cars	Diesel	Urban driving	5.54E-10	9.68E-03	5.91E-04	5.36E-04	6.47E-04	1.26E-03	6.10E-04
2004	070103	Passenger cars	Gasoline 2-stroke	Urban driving							
2004	070103	Passenger cars	Gasoline conventional	Urban driving	9.99E-09	6.34E-03	4.12E-04	3.17E-04	3.49E-04	8.25E-04	3.17E-04
2004	070103	Passenger cars	Gasoline catalyst	Urban driving	0.00E+00	5.38E-04	1.19E-04	1.49E-04	1.19E-04	2.39E-04	1.79E-04
2004	070103	Passenger cars	LPG	Urban driving							
2004	070201	Light duty vehicles	Diesel	Highway driving	5.29E-10	9.23E-03	5.64E-04	5.11E-04	6.17E-04	1.20E-03	5.81E-04
2004	070201	Light duty vehicles	Gasoline conventional	Highway driving	1.27E-08	8.09E-03	5.26E-04	4.04E-04	4.45E-04	1.05E-03	4.04E-04
2004	070201	Light duty vehicles	Gasoline catalyst	Highway driving	0.00E+00	6.18E-04	1.37E-04	1.72E-04	1.37E-04	2.75E-04	2.06E-04
2004	070202	Light duty vehicles	Diesel	Rural driving	5.78E-10	1.01E-02	6.17E-04	5.59E-04	6.75E-04	1.31E-03	6.36E-04
2004	070202	Light duty vehicles	Gasoline conventional	Rural driving	1.20E-08	7.63E-03	4.95E-04	3.81E-04	4.19E-04	9.91E-04	3.81E-04
2004	070202	Light duty vehicles	Gasoline catalyst	Rural driving	0.00E+00	5.84E-04	1.30E-04	1.62E-04	1.30E-04	2.59E-04	1.95E-04
2004	070203	Light duty vehicles	Diesel	Urban driving	4.16E-10	7.26E-03	4.43E-04	4.02E-04	4.85E-04	9.42E-04	4.57E-04
2004	070203	Light duty vehicles	Gasoline conventional	Urban driving	6.92E-09	4.39E-03	2.85E-04	2.20E-04	2.42E-04	5.71E-04	2.20E-04
2004	070203	Light duty vehicles	Gasoline catalyst	Urban driving	0.00E+00	3.37E-04	7.49E-05	9.36E-05	7.49E-05	1.50E-04	1.12E-04
2004	070301	Heavy duty vehicles	Diesel	Highway driving	1.03E-09	2.03E-03	5.12E-04	7.59E-04	9.48E-05	7.59E-05	1.33E-04
2004	070301	Heavy duty vehicles	Gasoline	Highway driving							
2004	070302	Heavy duty vehicles	Diesel	Rural driving	1.05E-09	2.07E-03	5.21E-04	7.72E-04	9.65E-05	7.70E-05	1.35E-04
2004	070302	Heavy duty vehicles	Gasoline	Rural driving							
2004	070303	Heavy duty vehicles	Diesel	Urban driving	8.54E-10	1.68E-03	4.23E-04	6.26E-04	7.82E-05	6.25E-05	1.10E-04
2004	070303	Heavy duty vehicles	Gasoline	Urban driving							
2004	0704	Mopeds	Gasoline								
2004	070501	Motorcycles	Gasoline	Highway driving	2.02E-08	1.28E-02	8.32E-04	6.40E-04	7.04E-04	1.66E-03	6.40E-04

2003	070502	Motorcycles	Gasoline	Rural driving	2.41E-08	1.53E-02	9.96E-04	7.66E-04	8.43E-04	1.99E-03	7.66E-04
2003	070503	Motorcycles	Gasoline	Urban driving	2.44E-08	1.55E-02	1.01E-03	7.75E-04	8.52E-04	2.01E-03	7.75E-04

Year	SNAP ID	Category	Fuel type	Mode	Dioxins/ Furans [ng/GJ]	Flouranthene [microg/GJ]	Benzo(b) flouranthene [microg/GJ]	Benzo(k) flouranthene [microg/GJ]	Benzo(a) pyrene [microg/GJ]	Benzo(g,h,i) perylene [microg/GJ]	indeno(1,2,3-c,d) pyrene [microg/GJ]
1990	0801	Military	Diesel		0.71	4391.42	570.64	568.31	289.75	550.01	290.13
1990	0801	Military	Jet fuel	< 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	0801	Military	Jet fuel	> 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	0801	Military	Gasoline		6.27	5257.47	277.33	116.39	141.99	824.70	299.87
1990	0801	Military	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	0802	Railways	Diesel		0.70	1365.92	348.03	388.90	57.47	49.17	89.40
1990	0802	Railways	Kerosene								
1990	0802	Railways	Gasoline		6.27	5257.47	277.33	116.39	141.99	824.70	299.87
1990	0803	Inland waterways	Diesel		0.71	4391.42	570.64	568.31	289.75	550.01	290.13
1990	0803	Inland waterways	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	080402	National sea traffic	Residual oil		13.42	5190.00	270.00	50.00	20.00	70.00	30.00
1990	080402	National sea traffic	Diesel		12.01	7420.00	640.00	300.00	150.00	1430.00	1180.00
1990	080402	National sea traffic	Kerosene								
1990	080402	National sea traffic	LPG								
1990	080403	Fishing	Residual oil		13.42	5190.00	270.00	50.00	20.00	70.00	30.00
1990	080403	Fishing	Diesel		12.01	7420.00	640.00	300.00	150.00	1430.00	1180.00
1990	080403	Fishing	Kerosene								
1990	080403	Fishing	Gasoline		11.42	3420.09	342.47	146.12	244.29	488.58	244.29
1990	080403	Fishing	LPG								
1990	080404	International sea traffic	Residual oil		13.42	4120.00	200.00	90.00	70.00	260.00	200.00
1990	080404	International sea traffic	Diesel		12.01	7420.00	640.00	300.00	150.00	1430.00	1180.00
1990	080501	Air traffic. other airports	Jet fuel	Dom. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	080501	Air traffic. other airports	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	080502	Air traffic. other airports	Jet fuel	Int. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	080502	Air traffic. other airports	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	080503	Air traffic. other airports	Jet fuel	Dom. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	080504	Air traffic. other airports	Jet fuel	Int. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	0806	Agriculture	Diesel		0.71	4391.42	570.64	568.31	289.75	550.01	290.13
1990	0806	Agriculture	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	0807	Forestry	Diesel		0.71	4391.42	570.64	568.31	289.75	550.01	290.13
1990	0807	Forestry	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	0808	Industry	Diesel		0.71	4391.42	570.64	568.31	289.75	550.01	290.13
1990	0808	Industry	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	0808	Industry	LPG								
1990	0809	Household and gardening	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	080501	Air traffic. CPH. airport	Jet fuel	Dom. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	080501	Air traffic. Copenhagen airport	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70

1990	080502	Air traffic. Copenhagen airport	Jet fuel	Int. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	080502	Air traffic. Copenhagen airport	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
1990	080503	Air traffic. Copenhagen airport	Jet fuel	Dom. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990	080504	Air traffic. Copenhagen airport	Jet fuel	Int. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Year	SNAP ID	Category	Fuel type	Mode	Dioxins/ Furans [g/GJ]	Flouranthene [g/GJ]	Benzo(b) flouranthene [g/GJ]	Benzo(k) flouranthene [g/GJ]	Benzo(a) pyrene [g/GJ]	Benzo(g,h,i) perylene [g/GJ]	indeno(1,2,3-c,d) pyrene [g/GJ]
2004	801	Military	Diesel		0.71	4349.86	510.47	495.91	255.72	464.46	264.30
2004	801	Military	Jet fuel	< 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	801	Military	Jet fuel	> 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	801	Military	Gasoline		6.89	2151.74	179.80	115.04	118.07	357.51	178.80
2004	801	Military	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	802	Railways	Diesel		0.72	1411.28	359.58	401.81	59.38	50.80	92.37
2004	803	Inland waterways	Diesel		0.71	4349.86	510.47	495.91	255.72	464.46	264.30
2004	803	Inland waterways	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	80402	National sea traffic	Residual oil		13.42	5190.00	270.00	50.00	20.00	70.00	30.00
2004	80402	National sea traffic	Diesel		12.01	7420.00	640.00	300.00	150.00	1430.00	1180.00
2004	80402	National sea traffic	Kerosene								
2004	80402	National sea traffic	LPG								
2004	80403	Fishing	Residual oil		13.42	5190.00	270.00	50.00	20.00	70.00	30.00
2004	80403	Fishing	Diesel		12.01	7420.00	640.00	300.00	150.00	1430.00	1180.00
2004	80403	Fishing	Kerosene								
2004	80403	Fishing	Gasoline		11.42	3420.00	342.00	146.00	244.00	489.00	244.00
2004	80403	Fishing	LPG								
2004	80404	International sea traffic	Residual oil		13.42	4120.00	200.00	90.00	70.00	260.00	200.00
2004	80404	International sea traffic	Diesel		12.01	7420.00	640.00	300.00	150.00	1430.00	1180.00
2004	80501	Air traffic. other airports	Jet fuel	Dom. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	80501	Air traffic. other airports	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	80502	Air traffic. other airports	Jet fuel	Int. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	80502	Air traffic. other airports	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	80503	Air traffic. other airports	Jet fuel	Dom. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	80504	Air traffic. other airports	Jet fuel	Int. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	806	Agriculture	Diesel		0.71	4349.86	510.47	495.91	255.72	464.46	264.30
2004	806	Agriculture	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70

2004	807	Forestry	Diesel		0.71	4349.86	510.47	495.91	255.72	464.46	264.30
2004	807	Forestry	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	808	Industry	Diesel		0.71	4349.86	510.47	495.91	255.72	464.46	264.30
2004	808	Industry	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	808	Industry	LPG								
2004	809	Household and gardening	Gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	80501	Air traffic. Copenhagen airport	Jet fuel	Dom. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	80501	Air traffic. Copenhagen airport	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	80502	Air traffic. Copenhagen airport	Jet fuel	Int. < 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	80502	Air traffic. Copenhagen airport	Aviation gasoline		5.11	4328.53	209.06	71.27	114.03	688.95	244.70
2004	80503	Air traffic. Copenhagen airport	Jet fuel	Dom. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	80504	Air traffic. Copenhagen airport	Jet fuel	Int. > 3000 ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Year	Category	Mode	SNAP ID	Dioxins/ Furans [kg]	Flouranthene [kg]	Benzo(b) flouranthene [kg]	Benzo(k) flouranthene [kg]	Benzo(a) pyrene [kg]	Benzo(g,h,i) perylene [kg]	indeno(1,2,3-c,d) pyrene [kg]
1990	Passenger cars	Highway driving	70101	0.2	105.9	6.8	5.4	6.0	13.8	5.5
1990	Passenger cars	Rural driving	70102	0.4	256.5	16.6	13.0	14.5	33.3	13.2
1990	Passenger cars	Urban driving	70103	0.3	201.4	13.0	10.2	11.4	26.2	10.4
1990	Light duty vehicles	Highway driving	70201	0.0	27.4	1.7	1.5	1.8	3.6	1.7
1990	Light duty vehicles	Rural driving	70202	0.0	91.5	5.6	5.0	6.0	11.9	5.7
1990	Light duty vehicles	Urban driving	70203	0.0	65.5	4.0	3.6	4.3	8.5	4.0
1990	Heavy duty vehicles	Highway driving	70301	0.0	18.4	4.6	6.9	0.9	0.7	1.2
1990	Heavy duty vehicles	Rural driving	70302	0.0	31.4	7.9	11.7	1.5	1.2	2.1
1990	Heavy duty vehicles	Urban driving	70303	0.0	19.6	5.0	7.3	0.9	0.7	1.3
1990	Mopeds		704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	Motorcycles	Highway driving	70501	0.0	0.7	0.1	0.0	0.0	0.1	0.0
1990	Motorcycles	Rural driving	70502	0.0	2.0	0.1	0.1	0.1	0.3	0.1
1990	Motorcycles	Urban driving	70503	0.0	2.4	0.2	0.1	0.1	0.3	0.1
1990	Evaporation		706	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	Military		801	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	Railways		802	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	Inland waterways		803	0.0	0.7	0.1	0.1	0.0	0.1	0.0
1990	National sea traffic		80402	0.0	5.5	1.4	1.6	0.2	0.2	0.4
1990	Fishing		80403	0.0	4.2	0.4	0.3	0.2	0.6	0.3
1990	International sea traffic		80404	0.1	39.1	2.7	1.0	0.5	4.2	3.4

1990	Air traffic. Dom. < 3000 ft.		80501	0.1	76.1	6.5	3.0	1.5	14.4	11.9
1990	Air traffic. Int. < 3000 ft.		80502	0.5	203.9	13.2	6.1	3.7	24.1	19.4
1990	Air traffic. Dom. > 3000 ft.		80503	0.0	0.5	0.0	0.0	0.0	0.1	0.0
1990	Air traffic. Int. > 3000 ft.		80504	0.0	0.2	0.0	0.0	0.0	0.0	0.0
1990	Agriculture		806	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	Forestry		807	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	Industry		808	0.0	75.5	9.6	9.4	4.9	9.6	5.0
1990	Household and gardening		809	0.0	2.1	0.2	0.1	0.1	0.3	0.1

Year	Category	Mode	SNAP ID	Dioxins/ Furans [kg]	Flouranthene [kg]	Benzo(b) flouranthene [kg]	Benzo(k) flouranthene [kg]	Benzo(a) pyrene [kg]	Benzo(g,h,i) perylene [kg]	indeno(1,2,3-c,d) pyrene [kg]
2004	Passenger cars	Highway driving	70101	0.0	58.2	5.1	5.2	5.1	10.4	5.9
2004	Passenger cars	Rural driving	70102	0.1	141.4	12.3	12.5	12.4	25.3	14.4
2004	Passenger cars	Urban driving	70103	0.1	106.4	9.3	9.5	9.4	19.1	10.9
2004	Light duty vehicles	Highway driving	70201	0.0	38.7	2.4	2.2	2.6	5.1	2.5
2004	Light duty vehicles	Rural driving	70202	0.0	129.0	8.0	7.3	8.7	17.0	8.3
2004	Light duty vehicles	Urban driving	70203	0.0	89.4	5.5	5.1	6.0	11.8	5.7
2004	Heavy duty vehicles	Highway driving	70301	0.0	23.1	5.8	8.6	1.1	0.9	1.5
2004	Heavy duty vehicles	Rural driving	70302	0.0	35.9	9.1	13.4	1.7	1.3	2.4
2004	Heavy duty vehicles	Urban driving	70303	0.0	20.9	5.3	7.8	1.0	0.8	1.4
2004	Mopeds		704	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	Motorcycles	Highway driving	70501	0.0	1.7	0.1	0.1	0.1	0.2	0.1
2004	Motorcycles	Rural driving	70502	0.0	4.7	0.3	0.2	0.3	0.6	0.2
2004	Motorcycles	Urban driving	70503	0.0	5.7	0.4	0.3	0.3	0.7	0.3
2004	Evaporation		706	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	Military		801	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	Railways		802	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	Inland waterways		803	0.0	6.2	0.7	0.7	0.4	0.7	0.4
2004	National sea traffic		80402	0.0	4.1	1.1	1.2	0.2	0.2	0.3
2004	Fishing		80403	0.0	6.1	0.6	0.5	0.3	0.7	0.4
2004	International sea traffic		80404	0.1	34.4	2.7	1.1	0.6	5.1	4.1
2004	Air traffic. Dom. < 3000 ft.		80501	0.1	47.2	4.1	1.9	1.0	9.1	7.5
2004	Air traffic. Int. < 3000 ft.		80502	0.4	191.1	13.8	6.4	3.6	27.6	22.5
2004	Air traffic. Dom. > 3000 ft.		80503	0.0	0.4	0.0	0.0	0.0	0.1	0.0
2004	Air traffic. Int. > 3000 ft.		80504	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	Agriculture		806	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2004	Forestry	807	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	Industry	808	0.0	59.8	6.9	6.7	3.5	6.5	3.6
2004	Household and gardening	809	0.0	1.0	0.1	0.1	0.1	0.1	0.1

Annex 2B-16: Fuel use and emissions in NFR format

Fuel

IPCC ID	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Industry-Other (1A2f)	11.7	11.7	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Civil Aviation (1A3a)	3.6	3.3	4	4	4	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2
Road (1A3b)	110.6	116.9	117	118	119	126	131	134	133	138	143	146	149	151	153	152	152	154	159	164
Railways (1A3c)	4.9	4.9	4	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3
Navigation (1A3d)	6.4	7.3	8	7	8	7	9	8	9	8	9	9	8	7	6	6	6	7	7	7
Residential (1A4b)	1.9	1.9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	4
Ag./for./fish. (1A4c)	26.2	27.7	26	27	28	28	28	27	25	24	24	24	24	23	23	23	22	22	22	20
Military (1A5)	5.5	4.3	5	3	2	2	4	2	3	3	3	2	2	3	3	2	1	1	1	3
Navigation int. (1A3d)	17.3	20.1	29	37	38	40	36	38	56	63	66	63	58	58	55	56	47	39	41	33
Civil Aviation int. (1A3a)	19.3	20.9	22	24	25	24	23	24	23	25	26	27	28	30	32	33	33	29	30	34

pol_name	IPCC ID	Unit	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
SO2	Industry-Other (1A2f)	[tons]	2402	1441	1440	1438	956	952	955	957	957	959
SO2	Civil Aviation (1A3a)	[tons]	82	77	85	86	83	77	64	62	61	63
SO2	Road (1A3b)	[tons]	11620	7861	7846	7856	5486	5766	5902	3819	1562	1658
SO2	Railways (1A3c)	[tons]	1152	695	618	641	393	376	382	263	105	95
SO2	Navigation (1A3d)	[tons]	4178	5502	6122	4349	6133	5534	6698	3392	3664	3272
SO2	Residential (1A4b)	[tons]	4	4	4	4	4	4	4	4	5	5
SO2	Ag./for./fish. (1A4c)	[tons]	5047	3736	3545	3324	2844	2922	2689	2660	2436	2183
SO2	Military (1A5)	[tons]	408	260	193	72	70	48	206	82	76	80
SO2	Navigation int. (1A3d)	[tons]	20684	24627	39745	51685	52277	54300	46066	37478	65384	69311
SO2	Civil Aviation int. (1A3a)	[tons]	444	480	515	551	578	554	521	541	530	580
NOx	Industry-Other (1A2f)	[tons]	10903	10964	11011	11044	11065	11081	11282	11440	11558	11677
NOx	Civil Aviation (1A3a)	[tons]	1203	1132	1237	1252	1208	1123	920	902	900	940
NOx	Road (1A3b)	[tons]	89618	94432	94420	95431	96389	102091	103297	102403	99004	96332
NOx	Railways (1A3c)	[tons]	6025	6063	5391	5589	5145	4913	4995	5284	5485	4971
NOx	Navigation (1A3d)	[tons]	8153	9373	9972	8708	9731	9326	11117	10140	11079	10478
NOx	Residential (1A4b)	[tons]	114	117	119	122	122	123	134	143	152	161
NOx	Ag./for./fish. (1A4c)	[tons]	23067	25098	22736	24785	25885	26548	26979	26830	24161	23404
NOx	Military (1A5)	[tons]	2221	1884	1557	979	848	480	1698	915	1213	1200
NOx	Navigation int. (1A3d)	[tons]	36143	42057	61836	78416	80275	84417	75576	79058	117623	132160
NOx	Civil Aviation int. (1A3a)	[tons]	5663	6129	6569	7035	7313	7016	6586	6846	6702	7317
NMVOC	Industry-Other (1A2f)	[tons]	2422	2395	2368	2339	2304	2266	2231	2191	2147	2107
NMVOC	Civil Aviation (1A3a)	[tons]	216	213	190	198	193	186	168	164	161	191
NMVOC	Road (1A3b)	[tons]	77938	77903	77406	77098	75603	79517	80422	79811	75378	69511
NMVOC	Railways (1A3c)	[tons]	393	396	352	365	336	321	326	345	358	324
NMVOC	Navigation (1A3d)	[tons]	1763	1812	1847	1804	1855	1848	1931	1901	1953	1933
NMVOC	Residential (1A4b)	[tons]	4667	4637	4606	4574	4567	4560	4600	4609	4592	4606
NMVOC	Ag./for./fish. (1A4c)	[tons]	6500	6566	6358	6421	6385	6324	5945	5504	5049	4725
NMVOC	Military (1A5)	[tons]	608	481	185	477	311	56	197	109	143	137
NMVOC	Navigation int. (1A3d)	[tons]	967	1126	1655	2098	2148	2259	2022	2116	3149	3536
NMVOC	Civil Aviation int. (1A3a)	[tons]	261	288	313	342	361	331	309	316	309	308
CH4	Industry-Other (1A2f)	[tons]	63	63	62	61	61	60	58	57	56	54
CH4	Civil Aviation (1A3a)	[tons]	8	8	8	8	8	7	6	6	6	7
CH4	Road (1A3b)	[tons]	2341	2371	2398	2361	2322	2456	2739	2904	3076	3181

CH4	Railways (1A3c)	[tons]	15	15	14	14	13	12	13	13	14	12
CH4	Navigation (1A3d)	[tons]	32	34	35	33	35	34	37	36	37	36
CH4	Residential (1A4b)	[tons]	192	189	186	183	182	182	181	178	176	174
CH4	Ag./for./fish. (1A4c)	[tons]	160	159	151	150	148	144	137	129	119	112
CH4	Military (1A5)	[tons]	29	24	16	18	13	5	16	8	12	12
CH4	Navigation int. (1A3d)	[tons]	30	35	51	65	66	70	63	65	97	109
CH4	Civil Aviation int. (1A3a)	[tons]	25	27	30	32	33	31	29	30	29	31
CO	Industry-Other (1A2f)	[tons]	9863	9784	9702	9611	9502	9379	9294	9188	9070	8956
CO	Civil Aviation (1A3a)	[tons]	1256	1241	1118	1167	1140	1098	989	955	930	1098
CO	Road (1A3b)	[tons]	550715	530183	511392	465749	438153	448826	467522	462370	454463	418376
CO	Railways (1A3c)	[tons]	1098	1105	982	1018	937	895	910	963	999	906
CO	Navigation (1A3d)	[tons]	7319	7477	7577	7435	7590	7560	7815	7711	7859	7799
CO	Residential (1A4b)	[tons]	64155	63226	62266	61278	60942	60598	60675	60462	60379	60245
CO	Ag./for./fish. (1A4c)	[tons]	61580	60133	57669	56160	54237	52244	49256	46037	42898	39968
CO	Military (1A5)	[tons]	4153	3093	1325	3085	1927	427	1056	541	872	889
CO	Navigation int. (1A3d)	[tons]	3074	3578	5260	6670	6828	7180	6428	6725	10007	11241
CO	Civil Aviation int. (1A3a)	[tons]	1103	1207	1289	1416	1564	1442	1357	1399	1388	1342
CO2	Industry-Other (1A2f)	[ktons]	852	852	851	849	845	842	843	843	842	841
CO2	Civil Aviation (1A3a)	[ktons]	256	241	268	271	262	243	199	193	190	196
CO2	Road (1A3b)	[ktons]	8123	8588	8600	8658	8754	9241	9654	9825	9785	10135
CO2	Railways (1A3c)	[ktons]	364	366	326	338	311	297	302	319	331	300
CO2	Navigation (1A3d)	[ktons]	485	553	588	518	577	555	656	602	655	622
CO2	Residential (1A4b)	[ktons]	139	139	138	138	138	138	140	143	146	149
CO2	Ag./for./fish. (1A4c)	[ktons]	1936	2052	1897	2012	2057	2079	2075	2026	1861	1775
CO2	Military (1A5)	[ktons]	402	316	361	196	165	119	287	141	237	252
CO2	Navigation int. (1A3d)	[ktons]	1320	1537	2261	2869	2936	3087	2762	2887	4300	4829
CO2	Civil Aviation int. (1A3a)	[ktons]	1391	1503	1613	1725	1809	1736	1632	1693	1659	1818
N2O	Industry-Other (1A2f)	[tons]	34	34	34	34	34	34	34	35	35	35
N2O	Civil Aviation (1A3a)	[tons]	10	10	11	11	11	10	9	9	9	9
N2O	Road (1A3b)	[tons]	339	366	369	374	382	402	471	532	579	686
N2O	Railways (1A3c)	[tons]	10	10	9	9	9	8	8	9	9	8
N2O	Navigation (1A3d)	[tons]	28	33	35	30	34	32	39	35	39	36
N2O	Residential (1A4b)	[tons]	2	2	2	2	2	2	2	2	2	2
N2O	Ag./for./fish. (1A4c)	[tons]	89	96	87	93	97	98	99	98	87	84
N2O	Military (1A5)	[tons]	16	13	13	6	6	4	13	7	10	10

N2O	Navigation int. (1A3d)	[tons]	83	97	142	180	185	194	174	182	270	304
N2O	Civil Aviation int. (1A3a)	[tons]	47	50	54	58	61	59	56	58	57	63

pol_name	IPCC ID	Unit	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
SO2	Industry-Other (1A2f)	[tons]	968	244	246	249	251	253	256	258	261	263
SO2	Civil Aviation (1A3a)	[tons]	63	65	68	62	56	49	52	45	44	41
SO2	Road (1A3b)	[tons]	1679	1720	1743	1766	1087	351	351	355	369	378
SO2	Railways (1A3c)	[tons]	96	95	93	78	40	7	7	7	7	7
SO2	Navigation (1A3d)	[tons]	2780	2144	1905	1738	1780	1712	1452	2115	1927	2259
SO2	Residential (1A4b)	[tons]	5	5	5	5	5	5	6	7	8	9
SO2	Ag./for./fish. (1A4c)	[tons]	2189	1368	1447	1139	1115	1108	1066	1072	1088	951
SO2	Military (1A5)	[tons]	80	56	54	65	47	27	12	19	17	46
SO2	Navigation int. (1A3d)	[tons]	76281	71536	65585	59858	60339	65168	54366	39610	44114	34821
SO2	Civil Aviation int. (1A3a)	[tons]	596	629	642	689	731	750	761	658	684	781
NOx	Industry-Other (1A2f)	[tons]	11882	12080	12248	12425	12262	12096	11869	11617	11214	10744
NOx	Civil Aviation (1A3a)	[tons]	958	971	998	911	815	723	747	636	590	552
NOx	Road (1A3b)	[tons]	94690	91590	86967	82353	77984	72515	68785	64205	62574	59085
NOx	Railways (1A3c)	[tons]	5015	4977	4846	4089	3730	3727	3396	3396	3540	3478
NOx	Navigation (1A3d)	[tons]	11052	11456	10037	8225	7443	7518	7384	8902	8660	7990
NOx	Residential (1A4b)	[tons]	168	174	180	186	190	194	225	256	287	317
NOx	Ag./for./fish. (1A4c)	[tons]	23357	24170	24716	24407	24624	24482	24044	23730	22612	20501
NOx	Military (1A5)	[tons]	1586	888	1061	1221	956	497	580	416	447	1079
NOx	Navigation int. (1A3d)	[tons]	138528	131504	120575	120988	113827	117148	98722	81292	85761	69705
NOx	Civil Aviation int. (1A3a)	[tons]	7517	7904	8058	8662	9204	9446	9611	8738	9097	10439
NMVOC	Industry-Other (1A2f)	[tons]	2088	2095	2083	2074	1997	1926	1873	1815	1754	1676
NMVOC	Civil Aviation (1A3a)	[tons]	206	194	186	169	162	156	155	151	143	158
NMVOC	Road (1A3b)	[tons]	67664	63777	57320	51865	46118	39042	35617	32150	29871	26477
NMVOC	Railways (1A3c)	[tons]	327	325	316	267	276	253	248	243	223	217
NMVOC	Navigation (1A3d)	[tons]	1966	1992	1931	1843	1782	1745	1687	1683	1594	1474
NMVOC	Residential (1A4b)	[tons]	4699	4798	4894	4985	5099	5209	6083	6955	7837	8731
NMVOC	Ag./for./fish. (1A4c)	[tons]	4567	4309	4137	3854	3680	3474	3280	3063	2814	2528
NMVOC	Military (1A5)	[tons]	190	107	132	149	127	64	75	55	58	129
NMVOC	Navigation int. (1A3d)	[tons]	3707	3519	3226	3237	3045	3134	2641	2174	2294	1865
NMVOC	Civil Aviation int. (1A3a)	[tons]	343	360	365	386	395	407	406	391	399	448
CH4	Industry-Other (1A2f)	[tons]	53	53	53	53	51	50	49	48	47	46

CH4	Civil Aviation (1A3a)	[tons]	7	7	7	7	6	5	5	5	5	6
CH4	Road (1A3b)	[tons]	3493	3813	3644	3644	3400	3244	3167	2913	2832	2526
CH4	Railways (1A3c)	[tons]	13	12	12	10	11	10	10	9	9	8
CH4	Navigation (1A3d)	[tons]	37	38	36	34	33	33	33	35	34	34
CH4	Residential (1A4b)	[tons]	173	173	173	173	175	177	205	233	261	290
CH4	Ag./for./fish. (1A4c)	[tons]	108	104	99	94	92	90	88	85	82	78
CH4	Military (1A5)	[tons]	15	9	10	11	10	5	5	4	4	11
CH4	Navigation int. (1A3d)	[tons]	115	109	100	100	94	97	82	67	71	58
CH4	Civil Aviation int. (1A3a)	[tons]	35	37	38	40	41	42	42	41	42	47
CO	Industry-Other (1A2f)	[tons]	8910	8963	8939	8907	8647	8395	8227	8030	7842	7600
CO	Civil Aviation (1A3a)	[tons]	1180	1117	1085	973	932	895	888	860	832	857
CO	Road (1A3b)	[tons]	420514	419178	368994	353211	320362	299720	290617	268471	259570	232650
CO	Railways (1A3c)	[tons]	914	907	883	745	717	694	637	627	611	599
CO	Navigation (1A3d)	[tons]	7896	7971	7811	7602	7528	7567	7582	7812	7816	7767
CO	Residential (1A4b)	[tons]	60312	60886	61386	61815	62860	63852	76214	88416	101233	114073
CO	Ag./for./fish. (1A4c)	[tons]	37791	35139	32964	30305	28151	26013	24044	21943	19748	17445
CO	Military (1A5)	[tons]	919	632	620	702	714	405	320	316	309	718
CO	Navigation int. (1A3d)	[tons]	11783	11185	10256	10291	9681	9963	8396	6914	7294	5928
CO	Civil Aviation int. (1A3a)	[tons]	1421	1502	1564	1662	1743	1790	1796	1610	1670	1848
CO2	Industry-Other (1A2f)	[ktons]	848	853	860	867	873	879	888	897	907	912
CO2	Civil Aviation (1A3a)	[ktons]	199	205	212	194	174	154	161	140	137	128
CO2	Road (1A3b)	[ktons]	10483	10723	10936	11124	11270	11159	11163	11279	11722	12024
CO2	Railways (1A3c)	[ktons]	303	301	293	247	232	228	211	210	218	216
CO2	Navigation (1A3d)	[ktons]	655	678	600	501	458	463	456	541	527	490
CO2	Residential (1A4b)	[ktons]	152	155	159	162	166	169	201	233	265	298
CO2	Ag./for./fish. (1A4c)	[ktons]	1764	1752	1767	1715	1710	1684	1647	1645	1603	1507
CO2	Military (1A5)	[ktons]	252	176	171	204	182	111	97	89	92	239
CO2	Navigation int. (1A3d)	[ktons]	5061	4803	4403	4414	4155	4279	3605	2966	3130	2545
CO2	Civil Aviation int. (1A3a)	[ktons]	1867	1971	2010	2159	2290	2350	2385	2059	2142	2447
N2O	Industry-Other (1A2f)	[tons]	35	36	36	36	37	37	38	38	38	39
N2O	Civil Aviation (1A3a)	[tons]	10	11	11	9	9	8	8	8	8	8
N2O	Road (1A3b)	[tons]	782	868	977	1063	1134	1172	1191	1244	1298	1357
N2O	Railways (1A3c)	[tons]	8	8	8	7	6	6	6	6	6	6
N2O	Navigation (1A3d)	[tons]	38	40	35	29	26	26	26	31	30	28
N2O	Residential (1A4b)	[tons]	2	2	3	3	3	3	3	4	4	5

N2O	Ag./for./fish. (1A4c)	[tons]	83	84	85	83	83	83	81	81	79	73
N2O	Military (1A5)	[tons]	12	7	8	10	8	4	5	4	5	12
N2O	Navigation int. (1A3d)	[tons]	318	302	277	278	262	270	228	187	198	161
N2O	Civil Aviation int. (1A3a)	[tons]	64	69	70	75	80	82	82	72	75	85

TSP, PM_{10} and $PM_{2.5}$

pol_name	IPCC ID	Unit	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
TSP	Industry-Other (1A2f)	[tons]	1823	1778	1733	1686	1634	1577	1533	1484	1433	1383	1349	1317	1284	1249	1193	1135	1121	1098	1075	1037
TSP	Civil Aviation (1A3a)	[tons]	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3
TSP	Road (1A3b)	[tons]	4931	5386	5418	5332	5442	5702	5859	5660	5599	5675	5411	5301	4857	4497	4251	3933	3756	3464	3438	3214
TSP	Railways (1A3c)	[tons]	247	249	222	229	211	202	205	217	225	204	206	204	199	168	146	141	125	124	119	115
TSP	Navigation (1A3d)	[tons]	594	719	781	638	792	742	874	760	719	656	621	598	535	516	501	511	506	605	572	533
TSP	Residential (1A4b)	[tons]	40	40	40	39	39	39	39	39	38	39	40	42	43	45	46	47	57	67	77	87
TSP	Ag./for./fish. (1A4c)	[tons]	2980	3034	2868	2944	2936	2910	2799	2659	2506	2300	2245	2104	2030	1858	1780	1689	1596	1512	1418	1283
TSP	Military (1A5)	[tons]	119	120	59	19	30	13	135	80	75	64	135	54	87	92	57	21	44	20	25	53
TSP	Navigation int. (1A3d)	[tons]	2332	2785	4547	5931	5990	6213	5236	4922	8222	8841	9049	8313	7569	6721	6819	7614	6099	4428	4976	4149
TSP	Civil Aviation int. (1A3a)	[tons]	23	24	26	28	30	28	27	28	27	29	30	32	32	35	37	38	38	33	35	40
PM10	Industry-Other (1A2f)	[tons]	1823	1778	1733	1686	1634	1577	1533	1484	1433	1383	1349	1317	1284	1249	1193	1135	1121	1098	1075	1037
PM10	Civil Aviation (1A3a)	[tons]	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3
PM10	Railways (1A3c)	[tons]	4931	5386	5418	5332	5442	5702	5859	5660	5599	5675	5411	5301	4857	4497	4251	3933	3756	3464	3438	3214
PM10	Navigation (1A3d)	[tons]	247	249	222	229	211	202	205	217	225	204	206	204	199	168	146	141	125	124	119	115
PM10	Residential (1A4b)	[tons]	570	688	748	612	758	711	837	728	690	630	598	575	516	498	484	493	489	582	551	514
PM10	Ag./for./fish. (1A4c)	[tons]	40	40	40	39	39	39	39	39	38	39	40	42	43	45	46	47	57	67	77	87
PM10	Military (1A5)	[tons]	2962	3013	2850	2924	2914	2887	2776	2635	2487	2283	2229	2086	2012	1841	1762	1671	1579	1495	1401	1269
PM10	Navigation int. (1A3d)	[tons]	119	120	59	19	30	13	135	80	75	64	135	54	87	92	57	21	44	20	25	53
PM10	Civil Aviation int. (1A3a)	[tons]	2215	2646	4320	5634	5691	5903	4975	4675	7811	8399	8596	7898	7191	6385	6478	7233	5794	4206	4728	3942
PM2.5	Industry-Other (1A2f)	[tons]	23	24	26	28	30	28	27	28	27	29	30	32	32	35	37	38	38	33	35	40
PM2.5	Civil Aviation (1A3a)	[tons]	1823	1778	1733	1686	1634	1577	1533	1484	1433	1383	1349	1317	1284	1249	1193	1135	1121	1098	1075	1037
PM2.5	Railways (1A3c)	[tons]	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3
PM2.5	Navigation (1A3d)	[tons]	4931	5386	5418	5332	5442	5702	5859	5660	5599	5675	5411	5301	4857	4497	4251	3933	3756	3464	3438	3214
PM2.5	Residential (1A4b)	[tons]	247	249	222	229	211	202	205	217	225	204	206	204	199	168	146	141	125	124	119	115
PM2.5	Ag./for./fish. (1A4c)	[tons]	547	660	716	587	727	682	801	699	662	606	575	554	498	481	468	476	472	561	531	496
PM2.5	Military (1A5)	[tons]	40	40	40	39	39	39	39	39	38	39	40	42	43	45	46	47	57	67	77	87
PM2.5	Navigation int. (1A3d)	[tons]	2944	2994	2833	2905	2893	2865	2754	2613	2469	2266	2213	2069	1994	1824	1746	1654	1564	1479	1386	1256
PM2.5	Civil Aviation int. (1A3a)	[tons]	119	120	59	19	30	13	135	80	75	64	135	54	87	92	57	21	44	20	25	53

Heavy metals

pol_name	IPCC ID	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Arsenic	Civil Aviation (1A3a)	[kg]										0	0	0	0	0	0
Arsenic	Navigation (1A3d)	[kg]	47	57	46	38	32	26	22	19	21	22	22	22	30	27	24
Arsenic	Ag./for./fish. (1A4c)	[kg]	15	14	15	11	10	9	12	12	10	10	10	9	9	10	8
Arsenic	Military (1A5)	[kg]					0					0	0	0	0	0	0
Arsenic	Navigation int. (1A3d)	[kg]	363	302	276	475	505	514	332	426	366	379	432	342	240	274	230
Arsenic	Civil Aviation int. (1A3a)	[kg]										0	0	0	0	0	0
Cadmium	Industry-Other (1A2f)	[kg]	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3
Cadmium	Civil Aviation (1A3a)	[kg]	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0
Cadmium	Road (1A3b)	[kg]	29	30	31	31	32	33	34	34	35	35	35	35	35	37	38
Cadmium	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cadmium	Navigation (1A3d)	[kg]	3	4	4	3	3	3	3	2	2	2	2	2	3	3	2
Cadmium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
Cadmium	Ag./for./fish. (1A4c)	[kg]	7	7	7	6	6	6	6	6	5	5	5	5	5	5	5
Cadmium	Military (1A5)	[kg]	0	1	0	1	1	1	1	1	1	1	0	0	0	0	1
Cadmium	Navigation int. (1A3d)	[kg]	24	20	19	32	34	35	20	30	27	27	29	24	18	20	16
Cadmium	Civil Aviation int. (1A3a)	[kg]	6	5	5	5	6	6	6	6	7	7	8	8	7	7	8
Chromium	Industry-Other (1A2f)	[kg]	12	12	12	12	12	12	12	12	13	13	13	13	13	13	13
Chromium	Civil Aviation (1A3a)	[kg]	4	3	3	3	3	3	3	3	3	3	2	3	2	2	2
Chromium	Road (1A3b)	[kg]	146	152	155	154	159	165	169	172	175	177	175	176	177	184	189
Chromium	Railways (1A3c)	[kg]	5	5	5	5	5	5	5	5	4	4	4	3	3	3	3
Chromium	Navigation (1A3d)	[kg]	21	25	21	19	17	15	13	12	12	12	12	12	15	14	13
Chromium	Residential (1A4b)	[kg]	2	2	2	2	2	2	2	2	3	3	3	3	4	4	5
Chromium	Ag./for./fish. (1A4c)	[kg]	31	31	30	28	26	26	27	27	25	25	25	24	24	24	22
Chromium	Military (1A5)	[kg]	2	5	2	4	4	4	3	3	3	3	2	2	1	1	4
Chromium	Navigation int. (1A3d)	[kg]	150	127	118	199	213	218	133	182	161	164	184	147	106	120	100
Chromium	Civil Aviation int. (1A3a)	[kg]	28	26	27	26	29	30	31	32	34	36	37	38	33	34	39
Copper	Industry-Other (1A2f)	[kg]	411	413	413	413	414	418	421	425	429	432	435	440	445	450	454
Copper	Civil Aviation (1A3a)	[kg]	131	107	104	102	106	107	110	114	104	94	83	87	75	74	69
Copper	Road (1A3b)	[kg]	4950	5168	5255	5230	5418	5603	5732	5845	5946	6024	5966	5969	6033	6269	6432
Copper	Railways (1A3c)	[kg]	160	162	172	178	162	163	162	157	133	125	123	114	113	117	116
Copper	Navigation (1A3d)	[kg]	85	96	87	81	76	71	68	66	70	72	74	75	83	81	80
Copper	Residential (1A4b)	[kg]	73	75	76	78	79	81	83	84	86	88	90	107	124	141	158

Copper	Ag./for./fish. (1A4c)	[kg]	719	710	681	676	638	654	627	636	600	597	582	580	576	571	564
Copper	Military (1A5)	[kg]	64	154	76	128	136	136	95	92	110	98	60	52	48	50	129
Copper	Navigation int. (1A3d)	[kg]	363	302	276	475	505	514	332	426	366	379	432	342	240	274	230
Copper	Civil Aviation int. (1A3a)	[kg]	936	880	913	894	980	1006	1063	1084	1164	1234	1267	1286	1110	1155	1319
Mercury	Civil Aviation (1A3a)	[kg]										0	0	0	0	0	0
Mercury	Navigation (1A3d)	[kg]	5	6	6	7	7	8	8	7	5	5	5	5	5	5	5
Mercury	Ag./for./fish. (1A4c)	[kg]	12	12	12	10	10	9	9	9	10	10	10	9	9	9	7
Mercury	Military (1A5)	[kg]					0					0	0	0	0	0	0
Mercury	Navigation int. (1A3d)	[kg]	28	26	30	40	47	51	14	46	50	44	43	38	34	34	27
Mercury	Civil Aviation int. (1A3a)	[kg]										0	0	0	0	0	0
Nickel	Industry-Other (1A2f)	[kg]	17	17	17	17	17	17	17	17	18	18	18	18	18	19	19
Nickel	Civil Aviation (1A3a)	[kg]	5	4	4	4	4	4	5	5	4	4	3	4	3	3	3
Nickel	Road (1A3b)	[kg]	204	213	216	215	223	231	236	241	245	248	246	246	248	258	265
Nickel	Railways (1A3c)	[kg]	7	7	7	7	7	7	7	6	5	5	5	5	5	5	5
Nickel	Navigation (1A3d)	[kg]	2617	3173	2513	1955	1589	1166	864	709	992	1060	1114	1117	1523	1346	1233
Nickel	Residential (1A4b)	[kg]	3	3	3	3	3	3	3	3	4	4	4	4	5	6	7
Nickel	Ag./for./fish. (1A4c)	[kg]	255	128	214	148	45	53	199	229	58	38	37	36	39	97	59
Nickel	Military (1A5)	[kg]	3	6	3	5	6	6	4	4	5	4	2	2	2	2	5
Nickel	Navigation int. (1A3d)	[kg]	20956	17236	15429	27162	28664	29023	19856	23826	19820	20967	24364	19050	12906	15043	12715
Nickel	Civil Aviation int. (1A3a)	[kg]	39	36	38	37	40	41	44	45	48	51	52	53	46	48	54
Lead	Industry-Other (1A2f)	[kg]	258	187	160	67	12	12	12	0	0	0	0	0	0	0	0
Lead	Civil Aviation (1A3a)	[kg]	1534	1423	1378	1328	1639	1788	1640	1559	1399	1387	1369	1343	1328	1252	1304
Lead	Road (1A3b)	[kg]	96828	75333	68305	28741	5096	5390	5507	57	58	57	57	56	55	55	54
Lead	Railways (1A3c)	[kg]	0	0	0	0		0	0	0	0	0	0	0	0		
Lead	Navigation (1A3d)	[kg]	661	495	427	195	52	52	52	19	16	15	16	15	19	18	17
Lead	Residential (1A4b)	[kg]	2771	2066	1814	779	140	143	146	1	2	2	2	2	2	2	3
Lead	Ag./for./fish. (1A4c)	[kg]	1570	1075	867	350	73	69	67	20	20	20	20	19	19	18	15
Lead	Military (1A5)	[kg]	64	80	62	120	86	102	98	123	116	78	114	88	106	78	82
Lead	Navigation int. (1A3d)	[kg]	167	144	142	226	247	256	134	218	205	201	216	177	136	149	122
Lead	Civil Aviation int. (1A3a)	[kg]	490	465	452	456	153	175	126	145	145	124	118	114	113	106	111
Selenium	Industry-Other (1A2f)	[kg]	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3
Selenium	Civil Aviation (1A3a)	[kg]	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0
Selenium	Road (1A3b)	[kg]	29	30	31	31	32	33	34	34	35	35	35	35	35	37	38
Selenium	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Selenium	Navigation (1A3d)	[kg]	48	58	50	49	45	44	43	37	33	30	31	30	38	36	33

Selenium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
Selenium	Ag./for./fish. (1A4c)	[kg]	54	54	55	44	42	40	43	43	43	42	42	40	41	39	33
Selenium	Military (1A5)	[kg]	0	1	0	1	1	1	1	1	1	1	0	0	0	0	1
Selenium	Navigation int. (1A3d)	[kg]	334	289	284	451	495	512	269	436	410	401	431	354	273	297	245
Selenium	Civil Aviation int. (1A3a)	[kg]	6	5	5	5	6	6	6	6	7	7	8	8	7	7	8
Zinc	Industry-Other (1A2f)	[kg]	242	243	243	243	243	246	248	250	252	254	256	259	262	265	267
Zinc	Civil Aviation (1A3a)	[kg]	77	63	61	60	62	63	65	67	61	55	49	51	44	43	41
Zinc	Road (1A3b)	[kg]	2912	3040	3091	3077	3187	3296	3372	3438	3498	3544	3509	3511	3549	3688	3784
Zinc	Railways (1A3c)	[kg]	94	95	101	105	95	96	95	93	78	73	72	67	67	69	68
Zinc	Navigation (1A3d)	[kg]	133	157	140	141	132	132	132	118	106	101	103	102	121	117	110
Zinc	Residential (1A4b)	[kg]	43	44	45	46	47	48	49	50	51	52	53	63	73	83	93
Zinc	Ag./for./fish. (1A4c)	[kg]	538	534	518	491	465	469	460	465	445	443	434	428	427	419	402
Zinc	Military (1A5)	[kg]	38	91	45	75	80	80	56	54	65	58	35	31	28	29	76
Zinc	Navigation int. (1A3d)	[kg]	764	664	660	1038	1141	1183	607	1010	959	933	997	821	639	693	570
Zinc	Civil Aviation int. (1A3a)	[kg]	551	518	537	526	576	592	625	638	685	726	745	756	653	679	776

Dioxins and PAH

pol_name	IPCC ID	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Dioxins/furans	Industry-Other (1A2f)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Civil Aviation (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Road (1A3b)	[g]	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
Dioxins/furans	Railways (1A3c)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Navigation (1A3d)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Residential (1A4b)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Ag./for./fish. (1A4c)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Military (1A5)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Navigation int. (1A3d)	[g]	1	0	0	1	1	1	1	1	1	1	1	1	0	1	0
Dioxins/furans	Civil Aviation int. (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flouranthene	Industry-Other (1A2f)	[kg]	45	44	45	46	45	46	46	46	46	46	48	48	49	49	50
Flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0
Flouranthene	Road (1A3b)	[kg]	823	829	817	781	754	732	702	671	637	618	600	590	597	619	655
Flouranthene	Railways (1A3c)	[kg]	5	5	6	6	6	6	6	6	5	4	4	4	4	4	4
Flouranthene	Navigation (1A3d)	[kg]	43	51	48	55	53	58	61	54	43	38	38	38	45	44	40
Flouranthene	Residential (1A4b)	[kg]	8	8	8	9	9	9	9	9	10	10	10	12	14	16	18
Flouranthene	Ag./for./fish. (1A4c)	[kg]	154	152	151	136	129	127	128	128	125	125	125	121	121	117	108
Flouranthene	Military (1A5)	[kg]	1	7	4	4	3	8	3	6	6	4	2	4	2	3	6
Flouranthene	Navigation int. (1A3d)	[kg]	204	190	212	294	340	361	349	322	343	311	306	266	232	238	191
Flouranthene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(b) flouranthene	Industry-Other (1A2f)	[kg]	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Benzo(b) flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(b) flouranthene	Road (1A3b)	[kg]	66	67	66	64	64	64	63	62	61	60	59	58	59	61	64
Benzo(b) flouranthene	Railways (1A3c)	[kg]	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
Benzo(b) flouranthene	Navigation (1A3d)	[kg]	3	4	4	4	4	5	5	5	4	3	3	3	4	4	3
Benzo(b) flouranthene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Benzo(b) flouranthene	Ag./for./fish. (1A4c)	[kg]	16	16	16	15	14	14	14	14	13	13	13	12	12	12	11
Benzo(b) flouranthene	Military (1A5)	[kg]	0	1	1	1	0	1	0	1	1	1	0	0	0	0	1
Benzo(b) flouranthene	Navigation int. (1A3d)	[kg]	13	13	15	20	23	25	25	23	25	22	21	19	17	17	14
Benzo(b) flouranthene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Industry-Other (1A2f)	[kg]	6	6	6	6	6	6	6	6	6	6	6	5	5	6	6
Benzo(k) flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Benzo(k) flouranthene	Road (1A3b)	[kg]	65	66	66	65	66	67	67	67	67	68	66	66	66	70	72
Benzo(k) flouranthene	Railways (1A3c)	[kg]	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Benzo(k) flouranthene	Navigation (1A3d)	[kg]	1	2	2	2	2	2	3	2	2	2	2	2	2	2	2
Benzo(k) flouranthene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Ag./for./fish. (1A4c)	[kg]	13	12	12	12	11	11	11	11	10	10	10	9	9	9	9
Benzo(k) flouranthene	Military (1A5)	[kg]	0	1	1	1	0	1	0	1	1	1	0	0	0	0	1
Benzo(k) flouranthene	Navigation int. (1A3d)	[kg]	6	6	7	9	11	12	11	11	12	10	10	9	8	8	6
Benzo(k) flouranthene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Industry-Other (1A2f)	[kg]	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Benzo(a) pyrene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Road (1A3b)	[kg]	47	48	48	47	46	46	46	45	44	44	43	43	44	46	49
Benzo(a) pyrene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Navigation (1A3d)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Benzo(a) pyrene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Ag./for./fish. (1A4c)	[kg]	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4
Benzo(a) pyrene	Military (1A5)	[kg]	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Navigation int. (1A3d)	[kg]	4	4	4	5	6	7	7	6	7	6	6	5	4	5	4
Benzo(a) pyrene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Industry-Other (1A2f)	[kg]	6	6	6	6	5	6	5	5	5	5	5	5	5	5	5
Benzo(g,h,i) perylene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Road (1A3b)	[kg]	100	102	102	99	96	95	93	91	88	86	85	84	86	88	93
Benzo(g,h,i) perylene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Navigation (1A3d)	[kg]	5	6	6	8	8	9	10	9	7	6	6	5	6	6	6
Benzo(g,h,i) perylene	Residential (1A4b)	[kg]	1	1	1	1	1	1	1	1	2	2	2	2	2	3	3
Benzo(g,h,i) perylene	Ag./for./fish. (1A4c)	[kg]	24	24	24	21	20	19	20	19	19	19	19	18	18	17	16
Benzo(g,h,i) perylene	Military (1A5)	[kg]	0	1	1	1	0	1	0	1	1	0	0	0	0	0	1
Benzo(g,h,i) perylene	Navigation int. (1A3d)	[kg]	24	24	30	37	45	49	48	45	52	45	41	37	35	35	28
Benzo(g,h,i) perylene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Industry-Other (1A2f)	[kg]	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
indeno(1,2,3-c,d) pyrene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Road (1A3b)	[kg]	45	47	47	46	47	47	47	48	48	48	48	48	49	51	54
indeno(1,2,3-c,d) pyrene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Navigation (1A3d)	[kg]	4	4	5	6	6	7	8	7	5	4	4	4	5	5	5
indeno(1,2,3-c,d) pyrene	Residential (1A4b)	[kg]	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
indeno(1,2,3-c,d) pyrene	Ag./for./fish. (1A4c)	[kg]	17	17	17	15	14	14	14	14	14	14	14	13	13	13	11

indeno(1,2,3-c,d) pyrene	Military (1A5)	[kg]	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Navigation int. (1A3d)	[kg]	19	20	24	30	36	39	39	36	42	36	34	30	29	29	23
indeno(1,2,3-c,d) pyrene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annex 2B-17: Uncertainty estimates

Uncertainty estimation, SO_2

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data Gg SO2	Input data Gg SO2	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	SO2	5766	378	2	50	50,040	4,788	-0,068364163	0,0241	-3,4182081	0,068255932	3,41888954
Other mobile sources	SO2	9914	3576	10	50	50,990	46,111	0,068184454	0,2281	3,40922272	3,225560913	4,69329764
Total	SO2	15679,52	3954,59				2149,184					33,7158484

Total uncertainties	**Overall uncertainty in the year (%):** 46,359	**Trend uncertainty (%):**	**5,807**

Uncertainty estimation, NO_x

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions

		Input data	Input data	Input data	Input data							
		Gg Nox	Gg Nox	%	%	%	%	%	%	%	%	%
Road Transportation	Nox	102091	59085	2	50	50,040	28,499	-0,057091096	0,3795	-2,8545548	1,073426639	3,04970949
Other mobile sources	Nox	53594	44661	10	100	100,499	43,263	0,057268328	0,2869	5,72683279	4,056877395	7,01818124
Total	Nox	155685,74	103745,58				2683,860					58,5555959
Total uncertainties					**Overall uncertainty i the year (%):**		**51,806**			**Trend uncertainty (%):**		**7,652**

Uncertainty estimation, NMVOC

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data Gg NMVOC	Input data Gg NMVOC	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	NMVOC	79517	26477	2	50	50,040	32,010	-0,084888781	0,2785	-4,2444391	0,78765442	4,31690425
Other mobile sources	NMVOC	15562	14913	10	100	100,499	36,210	0,085458855	0,1569	8,54588555	2,218197767	8,82907476
Total	NMVOC	95078,32	41390,27				2335,834					96,5882234
Total uncertainties						**Overall uncertainty i the year (%):**	**48,330**			**Trend uncertainty (%):**		**9,828**

Uncertainty estimation, CO

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data Gg CO	Input data Gg CO	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	CO	448826	232650	2	50	50,040	30,499	-0,106244358	0,4004	-5,3122179	1,132535152	5,43160151
Other mobile sources	CO	132202	149058	10	100	100,499	39,245	0,10682201	0,2565	10,682201	3,628058696	11,2814993
Total	CO	581027,96	381708,72				2470,377					156,774522
Total uncertainties					**Overall uncertainty i the year (%):**		**49,703**			**Trend uncertainty (%):**		**12,521**

Uncertainty estimation, NH_3

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data Gg NH3	Input data Gg NH3	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	NH3	70	2443	2	1000	1000,002	997,165	2,468823893	31,9313	2468,82389	90,31521594	2470,47531
Other mobile sources	NH3	6	7	10	1000	1000,050	2,837	-2,489513577	0,0908	-2489,5136	1,284640473	2489,51391
Total	NH3	76,51	2450,01				994346,626					12300927,8

Total uncertainties	Overall uncertainty i the year (%):	997,169	Trend uncertainty (%):	3507

Uncertainty estimation, TSP

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data Gg TSP	Input data Gg TSP	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	TSP	5255	3214	2	50	50,040	25,434	-0,06344501	0,3652	-3,1722505	1,033028224	3,3362135
Other mobile sources	TSP	3546	3110	10	100	100,499	49,419	0,063567704	0,3534	6,35677044	4,997171271	8,08580554
Total	TSP	8800,85	6324,15				3089,085					76,5105717

Total uncertainties	Overall uncertainty i the year (%):	55,580	Trend uncertainty (%):	8,747

Uncertainty estimation, Arsenic

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Arsenic	0	0	2	1000	1000,002	0,000	0	0,0000	0	0	0
Other mobile sources	Arsenic	62	32	10	1000	1000,050	1000,050	0	0,5205	0	7,36056672	7,36056672
Total	Arsenic	62,04	32,29				1000100,000					54,1779424

Total uncertainties	**Overall uncertainty i the year (%):**	**1000,050**	**Trend uncertainty (%):** **7,361**

Uncertainty estimation, Cadmium

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Cadmium	29	38	2	1000	1000,002	752,837	0,106869182	0,8553	106,869182	2,4191589	106,896559
Other mobile sources	Cadmium	15	12	10	1000	1000,050	247,177	-0,107206059	0,2808	-107,20606	3,971180747	107,279585
Total	Cadmium	44,23	50,25				627860,281					22935,7836

Total uncertainties	**Overall uncertainty i the year (%):**	**792,376**	**Trend uncertainty (%):**	**151,446**

Uncertainty estimation, Chromium

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Chromium	146	189	2	1000	1000,002	750,964	0,1098472	0,8487	109,8472	2,400508233	109,873426
Other mobile sources	Chromium	77	63	10	1000	1000,050	249,050	-0,110182459	0,2815	-110,18246	3,980330975	110,25433
Total	Chromium	222,88	251,89				625973,033					24228,1871

Total uncertainties	**Overall uncertainty i the year (%):**	**791,185**	**Trend uncertainty (%):**	**155,654**

Uncertainty estimation, Copper

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Copper	4950	6432	2	1000	1000,002	803,800	0,063780076	0,9757	63,7800761	2,759671202	63,8397516
Other mobile sources	Copper	1642	1570	10	1000	1000,050	196,211	-0,064099279	0,2382	-64,099279	3,36807917	64,1877052
Total	Copper	6592,65	8002,49				684593,573					8195,57538

Total uncertainties	**Overall uncertainty i the year (%):**	**827,402**	**Trend uncertainty (%):**	**90,529**

Uncertainty estimation, Mercury

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Mercury	0	0	2	1000	1000,002	0,000	0	0,0000	0	0	0
Other mobile sources	Mercury	17	12	10	1000	1000,050	1000,050	0	0,7278	0	10,29279693	10,2927969
Total	Mercury	16,9	12,3				1000100,000					105,941669

Total uncertainties	**Overall uncertainty i the year (%):**	**1000,050**	**Trend uncertainty (%):**	**10,293**

Uncertainty estimation, Nickel

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Nickel	204	265	2	1000	1000,002	166,111	0,051527218	0,0852	51,5272178	0,240840835	51,5277806

Other mobile sources	Nickel	2907	1330	10	1000	1000,050	833,931	-0,051083618	0,4275	-51,083618	6,045209527	51,4400678
Total	Nickel	3110,39	1594,42				723033,963					5301,19275
Total uncertainties					**Overall uncertainty i the year (%):**		**850,314**			**Trend uncertainty (%):**		**72,809**

Uncertainty estimation, Lead

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Lead	96828	54	2	1000	1000,002	36,831	-0,012648062	0,0005	-12,648062	0,001482585	12,6480624
Other mobile sources	Lead	6859	1421	10	1000	1000,050	963,217	0,012757738	0,0137	12,7577375	0,193854412	12,7592102
Total	Lead	103687,18	1475,65				929143,400					322,770928
Total uncertainties					**Overall uncertainty i the year (%):**		**963,921**			**Trend uncertainty (%):**		**17,966**

Uncertainty estimation, Selenium

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Selenium	29	38	2	1000	1000,002	346,176	0,106007035	0,2779	106,007035	0,786008948	106,009949
Other mobile sources	Selenium	107	71	10	1000	1000,050	653,858	-0,105405067	0,5249	-105,40507	7,422725265	105,666101
Total	Selenium	136,13	109,28				547367,512					22403,4342
Total uncertainties					**Overall uncertainty i the year (%):**		**739,843**			**Trend uncertainty (%):**		**149,678**

Uncertainty estimation, Zinc

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Zinc	2912	3784	2	1000	1000,002	781,662	0,079402014	0,9282	79,4020143	2,625370703	79,4454054
Other mobile sources	Zinc	1165	1057	10	1000	1000,050	218,351	-0,079741388	0,2593	-79,741388	3,666707036	79,8256457
Total	Zinc	4076,4	4840,66				658671,854					12683,7062

Total uncertainties	Overall uncertainty i the year (%):	811,586	Trend uncertainty (%):	112,622

Uncertainty estimation, Dioxins

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data g dioxins	Input data g dioxins	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Dioxins	1	0	2	1000	1000,002	538,463	-0,085523979	0,1892	-85,523979	0,535107834	85,5256533
Other mobile sources	Dioxins	0	0	10	1000	1000,050	461,562	0,086008338	0,1622	86,0083384	2,29331929	86,0389074
Total	Dioxins	1,11	0,39				502981,041					14717,331

Total uncertainties	Overall uncertainty i the year (%):	709,212	Trend uncertainty (%):	121,315

Uncertainty estimation, Flouranthene

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Flouranthene	823	655	2	1000	1000,002	743,092	-0,015172032	0,6065	-15,172032	1,715521328	15,2687118
Other mobile sources	Flouranthene	257	226	10	1000	1000,050	256,922	0,01525129	0,2097	15,2512899	2,965539969	15,5369325
Total	Flouranthene	1079,9	881,44				618195,133					474,529832
Total uncertainties					**Overall uncertainty i the year (%):**		**786,254**		**Trend uncertainty (%):**			**21,784**

Uncertainty estimation, Benzo(b) flouranthene

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Benzo(b) flouranthene	66	64	2	1000	1000,002	736,460	0,026710282	0,6870	26,7102818	1,943131267	26,7808684

Other mobile sources	Benzo(b) flouran-thene	27	23	10	1000	1000,050	263,555	-0,026820872	0,2458	-26,820872	3,476748307	27,0452756
Total	Benzo(b) flouran-thene	92,62	86,4				611834,202					1448,66185
Total uncertainties					**Overall uncertainty i the year (%):**		**782,198**			**Trend uncertainty (%):**		**38,061**

Uncertainty estimation, Benzo(k) flouranthene

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Benzo(k) flouran-thene	65	72	2	1000	1000,002	799,736	0,050553323	0,8361	50,5533228	2,364723686	50,6085997
Other mobile sources	Benzo(k) flouran-thene	21	18	10	1000	1000,050	200,276	-0,050806484	0,2094	-50,806484	2,960820191	50,8926839
Total	Benzo(k) flouran-thene	86,31	90,23				679687,526					5151,29564
Total uncertainties					**Overall uncertainty i the year (%):**		**824,432**			**Trend uncertainty (%):**		**71,773**

Uncertainty estimation, Benzo(a) pyrene

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Benzo(a) pyrene	47	49	2	1000	1000,002	840,852	0,023329729	0,8388	23,329729	2,372543766	23,450058
Other mobile sources	Benzo(a) pyrene	11	9	10	1000	1000,050	159,158	-0,023477497	0,1588	-23,477497	2,245286487	23,5846172
Total	Benzo(a) pyrene	58,01	57,87				732363,053					1106,13939
Total uncertainties					**Overall uncertainty i the year (%):**		**855,782**			**Trend uncertainty (%):**		**33,259**

Uncertainty estimation, Benzo(g,h,i) perylene

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	Benzo(g,h,i) perylene	100	93	2	1000	1000,002	753,599	0,017871073	0,6809	17,8710733	1,925974993	17,9745553
Other mobile sources	Benzo(g,h,i) perylene	36	30	10	1000	1000,050	246,415	-0,017954372	0,2226	-17,954372	3,148665404	18,2283722
Total	Benzo(g,h,i) perylene	136,9	123,7				628631,639					655,358192
Total uncertainties					**Overall uncertainty i the year (%):**		**792,863**			**Trend uncertainty (%):**		**25,600**

Uncertainty estimation, indeno(1,2,3-c,d) pyrene

Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total national emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data kg	Input data kg	Input data %	Input data %	%	%	%	%	%	%	%
Road Transportation	indeno(1,2,3-c,d) pyrene	45	54	2	1000	1000,002	724,555	0,079885942	0,7679	79,8859423	2,171936652	79,9154621

Other mobile sources	indeno(1,2,3-c,d) pyrene	24	20	10	1000	1000,050	275,460	-0,080122671	0,2919	-80,122671	4,128424329	80,228962
Total	indeno(1,2,3-c,d) pyrene	69,71	73,88				600858,083					12823,1674

Total uncertainties	**Overall uncertainty i the year (%):**	**775,150**	**Trend uncertainty (%):**	**113,239**

Annex 2C

Agriculture

Annex 2C.1 Background information - NH_3 from Manure Management

1. N-excretion

In Table 2C.1 is given the average N-excretion for each NFR livestock category from 1990 to 2004. Notice that each livestock category is an aggregated average of different subcategories (see table 6.2 in chapter 6). The N-excretion is based on information from the Danish Institute of Agricultural Science.

Table 2C.1 Nitrogen excretion rates in average, 1990 – 2004 (NRF)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
							Kg N/head/year								
Livestock categories:															
Dairy cattle	129.49	128.63	127.76	126.89	126.06	125.22	125.09	124.94	124.82	124.60	125.31	125.31	127.16	127.04	129.49
Non-dairy	36.57	36.68	36.80	36.92	36.64	36.56	36.62	36.74	36.77	37.00	37.15	37.56	37.64	37.56	36.57
Sheep	21.18	21.33	21.47	21.61	21.76	21.90	20.11	18.32	16.53	14.75	16.95	16.95	16.95	16.95	21.18
Goats	21.18	21.33	21.47	21.61	21.76	21.90	20.11	18.32	16.53	14.75	16.95	16.95	16.36	16.36	21.18
Horses	48.89	47.77	46.66	45.54	44.42	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	48.89
Swine	11.62	11.43	11.17	10.40	10.38	9.62	9.89	9.74	9.65	9.83	9.63	9.30	9.72	9.63	11.62
Poultry	0.65	0.66	0.58	0.59	0.66	0.62	0.60	0.62	0.62	0.57	0.55	0.57	0.58	0.64	0.65
Fur farming	4.90	4.83	4.80	4.75	4.70	4.65	4.66	4.65	4.64	4.63	4.63	4.62	4.61	4.61	4.90
							M kg N/year								
N-excretion, total	293	291	293	293	283	274	275	274	279	270	270	275	277	273	273

2. Stable system

A systematic statement of the stabling of husbandry does not exist and the stabling is therefore based on estimate from the Danish Agricultural Advisory Centre (Rasmussen, J.B. and Lundgaard, N.H., pers. comm.). The structural development in the agricultural sector has an influence in change of stable types. The last few year new stables have been build and for most of these new stables tied-up stables are replaced by bigger stables with loose-holding. In 1990 79% of the dairy cattle were kept in tied-up stables and in 2004 the part is reduced to 22%. In loose-holding systems the cattle have more space and this will increase the ammonia emission per animal compared to the tied-up stables. In Table 2C.2 the distribution of stable type for dairy cattle and slaughtering pigs from 1990-2004 is listed.

Table 2C.2 The percentage distribution of stable type – Dairy cattle and slaughtering pigs 1990 - 2003

Distribution of stable type	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
								Percentage							
Dairy cattle															
Tied-up stables	79	78	77	76	74	73	72	66	60	60	46	40	35	26	22
Loose-holdings with beds	18	18	19	20	21	21	22	26	30	30	43	49	54	63	67
Deep litter	3	4	4	5	5	6	6	8	10	10	11	11	11	11	11
Slaughtering pigs															
Full slatted floor	51	56	60	60	60	60	60	60	60	60	58	57	56	55	53
Partly slatted floor	23	21	20	21	23	24	25	26	28	29	31	33	34	35	38
Solid floor	22	19	15	14	12	11	9	8	6	5	5	4	4	4	3
Deep litter	4	4	5	5	5	5	6	6	6	6	6	6	6	6	6

3. Emission of ammonia

3.1 Stable

The emission from stables is thus determined by a number of different conditions, that depends on stable type and the different kinds of manure disposal systems placed in these stables. Danish Institute of Agricultural Sciences has carried out a number of emission surveys and estimated emission coefficients for different types of stables (Poulsen *et al.*, 2001). In Table 2C.3 is shown the emission from Dairy cattle and slaughtering pigs in different stable systems.

Table 2C.3 Ammonia emission from stables – Dairy cattle and slaugthering pigs.

Livestock category	**Manure system**	**Manure type**	**Ammonia emission**
			pct NH_3-N of N ab Animal
Dairy cattle	Tied-up	Solid manure	5,0
		+ Liquid	5,0
	Tied-up	Slurry	3,0
	Loose-holding with beds, slatted floor	Slurry	8,0
	Loose-holding with beds, slatted floor, scrapes	Slurry	6,0
	Loose-holding with beds, solid floor	Slurry	10,0
	Deep litter (all)	Deep litter	6,0
	Deep litter, slatted floor	Deep litter	6,0
		+ Slurry	8,0
	Deep litter, slatted floor, scrapes	Deep litter	6,0
		+ Slurry	6,0
	Deep litter, solid floor, scrapes	Deep litter	6,0
		+ Slurry	10,0
Slaughtering pigs[1]	Partly slatted floor	Slurry	16,0
	Solid floor	Slurry	12,0
	Deep litter	Solid manure	18,0
		+ Liquid	18,0
	Deep litter	Deep litter	15,0
	Partley slatted floor and partley deep litter	Deep litter	15,0
		+ Slurry	12,0

3.2 Storage

Livestock manure is collected either as solid manure or as slurry depending on stable type. In Table 2C.4 is shown the emission factor used for storage. It is assumed that the part of solid manure taken directly from the stable into the field is 80% from cattle, 25% from pigs, 50% sows, 15% from poultry and 5% from hens (Poulsen *et al.*, 2001). The remaining part of the solid manure is deposited in stock piles in the field before field application.

By law all slurry tanks have to be covered by a crust in order to reduce ammonia emission. However, investigations show that that slurry tanks were incompletely covered earlier (COWI 2000), which result in a higher ammonia emission. In 2003 it is assumed that 5% of the tanks with pig slurry and 2% of tanks with cattle slurry are incompletely covered. This information has been incorporated in the emission inventory.

Table 2C.4 Emission factors for storage (Poulsen et al, 2001).

	Liquid manure	**Slurry**	**Solid manure**	**Deep litter**	
Animal category	**Loss of NH_3-N in % of N ab stable**				
Cattle	2.0	2.1	5.0	8.8	
Swine	2.0	2.4	25.0	12.5	Sows
	2.0	2.4	25.0	25.0	Piglets
	2.0	2.4	25.0	18.8	Slaughter pigs
Poultry	-	2.0	5.0	9.5	Hens and pullet
	-	-	-	12.8	Broilers
	-	-	-	15.0	Turkey, geese and ducks
Fur farming	0	2.0	15.0	-	
Sheep/goats	-	-	-	5.0	
Horses	-	-	-	5.0	

3.3 Spreading in fields

There is no statistical information on how the farmer handling the manure in practice. In calculation of emission from application of manure on the fields is used to different weighted emission factors, which distinguish between solid manure and liquid manure. In 2003 the emission factor for solid and liquid manure is estimated to 11% and 5% of N ab storage, respectively.

The weighted emission factor will vary from year to year depending on changes in the practice of spreading. The weighted emission factor is based on background estimates of time of spreading, application methods, spreading in growing crops or on bare soil and the time from spreading to ploughing in soil. In Table 2C.5 background information for 2004 are given.

Table 2C.5 Estimate for application method, time of spreading and time before the manure is incorporated in the soil 2003 (Based on note from the Organisation Danish Agriculture 2002)

Application methods 2003	Time of spreading	Percentage distribution of manure	Time before incorporation in soil 0	< 6 hours	>6 hours	not incorporated
Liquid manure						
Incorporated	winter-spring	26	26	-	-	-
Incorporated	summer-autumn	6	6	-	-	-
Trailing horses	winter-spring	60	-	13	3	44
Trailing horses	spring-summer	5	-	-	-	5
Trailing horses	late summer-autumn	3	-	1	-	2
Broad spreading	winter-spring	-	-	-	-	-
Broad spreading	spring-summer	-	-	-	-	-
Broad spreading	late summer-autumn	-	-	-	-	-
Total		100	32	14	3	51
Solid manure						
Broad spreading	winter-spring	78	-	60	6	12
Broad spreading	spring-summer	2	-	-	-	2
Broad spreading	late summer-autumn	20	-	17	-	3
Total		100	-	77	6	17

Annex 2C.2 Background information - NH_3 from Agricultural Soils

1. Crops

In the Danish emission inventory it is chosen to include NH_3 emission from crops, despite the uncertainties related to this emission source. Literature research shows that the volatilisation from crop types differs considerably (Andersen *et al*. 1999). Recent investigation of four different crop types measured in two seasons shows that the can be a volatilisation between 0-5 kg NH_3-N per hectare (Schjoerring and Mattsson 2001). Until more precisely data are available an average emission of 5 kg NH_3-N for cash crops and 3 kg NH_3-N for grass is used in the Danish inventory. However, as for the emission ceiling given in the Gothenburg-Protocol and the EU NEC Directive the emission from crops is not taken into account.

Table 2C.6 Emission factor used to estimate the emission of ammonia from crops

Emission factor	Crops kg N/ha
Cash crops, beets and silage maize	5
Grass/clover in rotation	3
Permanent grass	3
Set-a side	0

2. Synthetic fertiliser

Since the beginning of the 1990s there has been a significant decrease in use of synthetic fertiliser. This is due to requirements to utilising of nitrogen in manure as outlined for example in the Action Plan on the Aquatic Environment. Further, the use of different fertiliser types has changed. At present, urea constitutes less than 1% of the total nitrogen used as fertiliser (Table 2C.7). It is estimated that 2.2% of the total nitrogen used in synthetic fertiliser is emitted as ammonia in 2004. It means the implied emission factor for 2004 is 2.2% compared to 10% in the EMEP-CLRTAP Guidebook.

Data on the use of synthetic fertiliser is based on the sale estimations collected by the Danish Plant Directorate (2004). Data for emission factors are collected by Danish Institute of Agricultural Sciences (Sommer et al. 1992, 1994 and 1996).

The use of mineral fertiliser includes fertiliser used in parks, golf courses and private gardens. Approximately 1-2 percent of the mineral fertiliser can be related to this use out side the agriculture area.

Table 2C.7 Synthetic fertiliser consumption 2003 and emission factors.

Synthetic fertiliser year 2002	**Emission factor**[1]	**Consumption**[2] **Mio. kg N**
Fertiliser type		
Calcium and boron calcium nitrate	0.02	0.4
Ammonium sulphate	0.05	3.3
Calcium ammonium nitrate and other nitrate types	0.02	86.3
Ammonium nitrate	0.02	12.0
Liquid ammonia	0.01	6.0
Urea	0.15	0.4
Other nitrogen fertiliser	0.05	12.8
NPK-fertiliser	0.02	70.4
Diammonphosphate	0.05	0.5
Other NP fertiliser types	0.02	8.5
NK fertiliser	0.02	6.2
Emission of NH_3-N from synthetic fertiliser	0.02	206.7

[1] Danish Institute of Agricultural Sciences (Sommer *et al*. 1992, 1994 and 1996)
[2] The Danish Plant Directorate

3. Grazing

It is assumed that 15% of the manure from dairy cattle is deposited in the field, which corresponding to 55 days per year. For heifers 54% of the nitrogen in the manure is estimated deposited during grazing, 61% for suckling cows, 50% for horses and 73% for sheep and goats.

An emission factor of 7% of the total nitrogen content is assumed to evaporate as NH_3 (Jarvis *et al*. 1998a, Jarvis *et al*. 1989b and Bussink 1994). The emission factor is used on all animal categories.

4. Ammonia treated straw

Ammonia is used for conservation of straw for feeding. Investigations show that 80-90% of the supplied ammonia (given in NH_3-N) will emit (Andersen *et al*. 1999). However, the emissions can be reduced particularly if the right dose is used. Therefore it is estimated that the emission factor is 65% of the applied ammonia (given in NH_3-N). Information on ammonia used for treatment of straw is collected from ammonia suppliers.

As for the emission ceiling given in the Gothenburg-Protocol and the EU NEC Directive the emission from ammonia treated straw is not taken into account.

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