

## Annex 1 - Key category analysis

### Description of the methodology used for identifying key categories

Key Category Analysis (KCA) tier 1 and 2 for year 1990 and 2012 for Denmark (excluding Greenland and Faroe Islands) has been carried out in accordance with the IPCC Good Practice Guidance / IPCC Guidelines (2006). The KCA has been carried out excluding and including the LULUCF sector. A tier 1 KCA has also been worked out for Greenland and for Denmark and Greenland; refer to Chapter 16 and Chapter 17, respectively.

The base year in the analysis is the year 1990 for the greenhouse gases CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and 1995 for the F-gases HFC, PFC and SF<sub>6</sub>. The KCA approaches are

- a tier 1 quantitative analysis and
- a tier 2 approach using tier 1 uncertainties.

The level assessment of the tier 1 KCA is a ranking of the source categories in accordance to their relative contribution to the national total of greenhouse gases calculated in CO<sub>2</sub> equivalent units. The level key categories are found from the list of source categories ranked according to their contribution in descending order. Level key categories are those from the top of the list and of which the sum constitutes 95 % of the national total.

The trend assessment of the tier 1 KCA is a ranking of the source categories according to their contribution to the trend of the national total of greenhouse gases, calculated in CO<sub>2</sub> equivalents, from the base year to the year under consideration. The trend of the source category is calculated relative to that of the national totals and the trend is then weighted with the contribution, according to the level assessment. The ranking is in descending order. As for the level assessment, the cut-off point for the sum of contribution to the trend is 95 % and the source categories from the top of the list to the cut-off line are trend key categories.

In addition, a tier 2 KCA has been carried out to provide additional insight into categories being key sources. The categorisation used is as for the tier 1 analysis and the uncertainties used are tier 1 uncertainties as listed in Annex 7.

The level tier 2 KCA is a ranking of the categories according to their relative contribution to the national total multiplied by the uncertainty of the emission of the category as the combined uncertainty on activity data and on emission factor. Chosen for cut of for key categories in the analysis is 90 %.

The trend tier 2 KCA is a ranking of the categories according to their relative contribution to the trend 1990-2012 of the national total multiplied by the uncertainty of the emission of the category. Chosen for cut of for key categories in the analysis is 90 %.

Since the level KCA is carried out for 1990 and 2012 (exclusive and inclusive LULUCF) and for tier 1 and 2 a total 12 KCA tables for Denmark (excluding Greenland and Faroe Islands) has been worked out following the sugges-

tions in the GPG Tables 7.A1-2. Further, two overview tables based on the GPG Table 7.A3 (exclusive and inclusive LULUCF) are shown. The overview table shows summary results of the KCA for 1990, for 2012, and for the trend 1990-2012.

The inclusion of the LULUCF sector in the level analysis implies that the emissions in this sector are all calculated positive, i.e. the absolute value of removals are included. Note also that according to the GPG, the analysis implies that contributions to the trend are all calculated as mathematically positive to be able to perform the ranking. The LULUCF activities are in the table included with their sign, i.e. emissions: +, removals: -.

### The level of disaggregation

The starting-point for source categories is GPG Table 7.1. This table constitutes a suggested list of source categories for the KCA. It is mentioned in the GPG that categories for the KCA should be chosen in a way so that emissions from a single category are estimated with the same method and the same emission factor. Therefore, for categories in Table 7.1, which in our Corinair database are composed of activities with different emission factors or estimated with different methods, splits were made accordingly.

The categorisation has been somewhat revised compared to the 2011 submission. The categories follow the categorisation used for the uncertainty analyses, cf. Annex 7.

The source categories in the KCA for stationary combustion are defined according to the greenhouse gas and fuel. For CH<sub>4</sub> and N<sub>2</sub>O fuels are aggregated to the fuel categories solid, liquid, gas, waste and biomass.

Table A1.1 KCA source categories for stationary combustion.

CRF, part of category	KCA category	GHG
1A1, 1A2 and 1A4	Stationary Combustion, Coal	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, BKB	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Coke	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Fossil waste	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Petroleum coke	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Residual oil	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Gas oil	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Kerosene	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, LPG	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Refinery gas	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, Natural gas	CO <sub>2</sub>
1A1, 1A2 and 1A4	Stationary Combustion, SOLID	CH <sub>4</sub>
1A1, 1A2 and 1A4	Stationary Combustion, LIQUID	CH <sub>4</sub>
1A1, 1A2 and 1A4	Stationary Combustion, GAS	CH <sub>4</sub>
1A1, 1A2 and 1A4	Natural gas fuelled engines, GAS	CH <sub>4</sub>
1A1, 1A2 and 1A4	Stationary Combustion, WASTE	CH <sub>4</sub>
1A1, 1A2 and 1A4	Stationary Combustion, BIOMASS	CH <sub>4</sub>
1A1, 1A2 and 1A4	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>
1A1, 1A2 and 1A4	Stationary Combustion, SOLID	N <sub>2</sub> O
1A1, 1A2 and 1A4	Stationary Combustion, LIQUID	N <sub>2</sub> O
1A1, 1A2 and 1A4	Stationary Combustion, GAS	N <sub>2</sub> O
1A1, 1A2 and 1A4	Stationary Combustion, WASTE	N <sub>2</sub> O
1A1, 1A2 and 1A4	Stationary Combustion, BIOMASS	N <sub>2</sub> O

KCA source categories for mobile combustion are shown in Table A1-2. The categorisation is used for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O.

Table A1.2 KCA source categories for mobile combustion.

CRF, part of category	KCA category	GHG
1.A.3.b	Transport, Road transport	CO <sub>2</sub>
1.A.5.b	Transport, Military	CO <sub>2</sub>
1.A.3.c	Transport, Railways	CO <sub>2</sub>
1.A.3.d (part)	Transport, Navigation (small boats)	CO <sub>2</sub>
1.A.3.d (part)	Transport, Navigation (large vessels)	CO <sub>2</sub>
1.A.4.c (part)	Transport, Fisheries	CO <sub>2</sub>
1.A.4.c (part)	Transport, Agriculture	CO <sub>2</sub>
1.A.4.c (part)	Transport, Forestry	CO <sub>2</sub>
1.A.2.f (part)	Transport, Industry (mobile)	CO <sub>2</sub>
1.A.4.b (part)	Transport, Residential	CO <sub>2</sub>
1.A.4.a (part)	Transport, Commercial/institutional	CO <sub>2</sub>
1.A.3.a	Transport, Civil aviation	CO <sub>2</sub>
1.A.3.b	Transport, Road transport	CH <sub>4</sub>
1.A.5.b	Transport, Military	CH <sub>4</sub>
1.A.3.c	Transport, Railways	CH <sub>4</sub>
1.A.3.d (part)	Transport, Navigation (small boats)	CH <sub>4</sub>
1.A.3.d (part)	Transport, Navigation (large vessels)	CH <sub>4</sub>
1.A.4.c (part)	Transport, Fisheries	CH <sub>4</sub>
1.A.4.c (part)	Transport, Agriculture	CH <sub>4</sub>
1.A.4.c (part)	Transport, Forestry	CH <sub>4</sub>
1.A.2.f (part)	Transport, Industry (mobile)	CH <sub>4</sub>
1.A.4.b (part)	Transport, Residential	CH <sub>4</sub>
1.A.4.a (part)	Transport, Commercial/institutional	CH <sub>4</sub>
1.A.3.a	Transport, Civil aviation	CH <sub>4</sub>
1.A.3.b	Transport, Road transport	N <sub>2</sub> O
1.A.5.b	Transport, Military	N <sub>2</sub> O
1.A.3.c	Transport, Railways	N <sub>2</sub> O
1.A.3.d (part)	Transport, Navigation (small boats)	N <sub>2</sub> O
1.A.3.d (part)	Transport, Navigation (large vessels)	N <sub>2</sub> O
1.A.4.c (part)	Transport, Fisheries	N <sub>2</sub> O
1.A.4.c (part)	Transport, Agriculture	N <sub>2</sub> O
1.A.4.c (part)	Transport, Forestry	N <sub>2</sub> O
1.A.2.f (part)	Transport, Industry (mobile)	N <sub>2</sub> O
1.A.4.b (part)	Transport, Residential	N <sub>2</sub> O
1.A.4.a (part)	Transport, Commercial/institutional	N <sub>2</sub> O
1.A.3.a	Transport, Civil aviation	N <sub>2</sub> O

For fugitive emissions, the categorisation used in the KCA is shown in Table A1-3.

Table A1-3 KCA source categories for fugitive emissions.

CRF and KCA category	GHG
1.B.2 Flaring in refinery	CO <sub>2</sub>
1.B.2 Flaring off-shore	CO <sub>2</sub>
1.B.2 Land based activities	CO <sub>2</sub>
1.B.2 Off-shore activities	CO <sub>2</sub>
1.B.2 Transmission of natural gas	CO <sub>2</sub>
1.B.2 Distribution of natural gas	CO <sub>2</sub>
1.B.2 Venting in gas storage	CO <sub>2</sub>
1.B.2. Flaring in refinery	CH <sub>4</sub>
1.B.2. Flaring off-shore	CH <sub>4</sub>
1.B.2 Refinery processes	CH <sub>4</sub>
1.B.2 Land based activities	CH <sub>4</sub>
1.B.2 Off-shore activities	CH <sub>4</sub>
1.B.2 Transmission of natural gas	CH <sub>4</sub>
1.B.2 Distribution of natural gas	CH <sub>4</sub>
1.B.2 Venting in gas storage	CH <sub>4</sub>
1.B.2 Flaring in refinery	N <sub>2</sub> O
1.B.2 Flaring off-shore	N <sub>2</sub> O

KCA categories for industry are shown in Table A1-4. All data can be found in CRF. Base year for the consumption of HFC, PFC and SF<sub>6</sub> is 1995.

Table A1-4 KCA source categories for industry.

CRF and KCA category	GHG
2A1 Cement production	CO <sub>2</sub>
2A2 Lime production	CO <sub>2</sub>
2A3 Limestone and dolomite use	CO <sub>2</sub>
2A5 Asphalt roofing	CO <sub>2</sub>
2A6 Road paving with asphalt	CO <sub>2</sub>
2A7a Glass and Glass wool	CO <sub>2</sub>
2A7b Yellow bricks	CO <sub>2</sub>
2A7c Expanded clay	CO <sub>2</sub>
2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>
2C1 Iron and steel production	CO <sub>2</sub>
2D2 Food and Drink	CO <sub>2</sub>
2G Lubricants	CO <sub>2</sub>
2B2 Nitric acid production	N <sub>2</sub> O
2F Consumption of HFC	HFC
2F Consumption of PFC	PFC
2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>

KCA categories for solvents are shown in Table A1-5. All data can be found in CRF.

Table A1-5 KCA source categories for solvents.

CRF and KCA category	GHG
3A Paint application	CO <sub>2</sub>
3B Degreasing and dry cleaning	CO <sub>2</sub>
3C Chemical products, manufacturing and processing	CO <sub>2</sub>
3D5 Other	CO <sub>2</sub>
3D5 Consumption of fireworks	CO <sub>2</sub>
3D5 Use of candles	CO <sub>2</sub>
3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O
3D5 Use of tobacco	N <sub>2</sub> O
3D5 Use of charcoal for BBQ	N <sub>2</sub> O
3D5 Consumption of fireworks	N <sub>2</sub> O
3D5 Use of candles	N <sub>2</sub> O

KCA categories for agriculture are shown in Table A1-6. All data can be found in CRF.

Table A1-6 KCA source categories for agriculture.

CRF and KCA category	GHG
4A Enteric Fermentation	CH <sub>4</sub>
4B Manure Management	CH <sub>4</sub>
4F Field burning of agricultural residues	CH <sub>4</sub>
4.B Manure Management	N <sub>2</sub> O
4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O
4.D1.2 Animal waste applied to soils	N <sub>2</sub> O
4.D1.3 N-fixing crops	N <sub>2</sub> O
4.D1.4 Crop Residue	N <sub>2</sub> O
4.D1.5 Cultivation of histosols	N <sub>2</sub> O
4.D.2 Grassing animals	N <sub>2</sub> O
4.D3 Atmospheric deposition	N <sub>2</sub> O
4.D3 Leaching	N <sub>2</sub> O
4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O
4.F Field Burning of Agricultural Residues	N <sub>2</sub> O

For LULUCF the categorisation used for this KCA is according to Table A1-7. KCA have been estimated both including and excluding LULUCF.

Table A1-7 KCA source categories for LULUCF.

CRF and KCA category	GHG
5.A.1 Forest remaining forest	CO <sub>2</sub>
5.A.2 Land converted to forest	CO <sub>2</sub>
5(II) Forest Land.	N <sub>2</sub> O
5.B Cropland, Living biomass	CO <sub>2</sub>
5.B Cropland, Dead organic matter	CO <sub>2</sub>
5.B Cropland, Mineral soils	CO <sub>2</sub>
5.B Cropland, Organic soils	CO <sub>2</sub>
5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O
5.C Grassland, Living biomass	CO <sub>2</sub>
5.C Grassland, Dead organic matter	CO <sub>2</sub>
5.C Grassland, Mineral soils	CO <sub>2</sub>
5.C Grassland, Organic soils	CO <sub>2</sub>
5.D Wetlands, Living biomass	CO <sub>2</sub>
5.D Wetlands, Dead organic matter	CO <sub>2</sub>
5.D Wetlands, Soils	CO <sub>2</sub>
5(II) Wetlands	N <sub>2</sub> O
5.E Settlements, Living biomass	CO <sub>2</sub>
5.E Settlements, Dead organic matter	CO <sub>2</sub>
5.E Settlements, Soils	CO <sub>2</sub>
5(IV) Cropland Limestone	CO <sub>2</sub>
5(V) Biomass Burning	CH <sub>4</sub>
5(V) Biomass Burning	N <sub>2</sub> O

KCA categories for the waste sector are shown in Table A1-8.

Table A1-8 KCA source categories for the waste sector.

CRF and KCA category	GHG
6 A. Solid Waste Disposal on Land	CH <sub>4</sub>
6 B. Wastewater Handling	CH <sub>4</sub>
6 B. Wastewater Handling - Direct	N <sub>2</sub> O
6 B. Wastewater Handling - Indirect	N <sub>2</sub> O
6.D Accidental fires, buildings	CO <sub>2</sub>
6.D Accidental fires, vehicles	CO <sub>2</sub>
6.C Incineration of corpses	CH <sub>4</sub>
6.C Incineration of carcasses	CH <sub>4</sub>
6.D Compost production	CH <sub>4</sub>
6.D Accidental fires, buildings	CH <sub>4</sub>
6.D Accidental fires, vehicles	CH <sub>4</sub>
6.C Incineration of corpses	N <sub>2</sub> O
6.C Incineration of carcasses	N <sub>2</sub> O
6.D Compost production	N <sub>2</sub> O

The choice of categories identifies 131 categories for the analysis excluding LULUCF and 153 categories for the analysis including LULUCF.

### **The result of the Key Category Analysis for Denmark for the year 1990 and 2012**

The entries for the KCA are composed from the databases producing the CRF inventory and from CRFs.

An overview of results of the KCA excluding LULUCF are shown in Table A1-9 and results of the KCA including LULUCF in Table A1-10. The number of key source categories for each of the KCA are shown in Table A1-11. The 12 different KCA for Denmark point out 25-35 key source categories. Ten source categories are key in all 12 KCA:

- Stationary combustion, Coal, CO<sub>2</sub>
- Transport, Road transport, CO<sub>2</sub>
- Transport, Agriculture, CO<sub>2</sub>
- Transport, Transport industry (mobile), CO<sub>2</sub>
- 4A Enteric Fermentation, CH<sub>4</sub>
- 4B Manure Management, CH<sub>4</sub>
- 4D1.1 Synthetic Fertilizer, N<sub>2</sub>O
- 4D1.2 Animal waste applied to soils, N<sub>2</sub>O
- 4D3 Leaching, N<sub>2</sub>O
- 6A Solid waste disposal on land, CH<sub>4</sub>

The 12 different KCA point out a total of 52 different key source categories (out of the total 153 source categories), see Table A1-9 and Table A1-10.

The tier 1 approach point out mainly the large emission sources as key categories and thus CO<sub>2</sub> emission from stationary and mobile combustion are important key categories. The tier 2 approach point out some of the sources with larger uncertainty rates.

The list below gives an overview of the different KCA for Denmark (not including Greenland) that are presented in Table A1-12 – Table A1-23.

Table A1-12 KCA for Denmark, level assessment base year excl. LULUCF, tier 1.

Table A1-13 KCA for Denmark, level assessment base year incl. LULUCF, tier 1.

Table A1-14 KCA for Denmark, level assessment 2012 excl. LULUCF, tier 1.

Table A1-15 KCA for Denmark, level assessment 2012 incl. LULUCF, tier 1.

Table A1-16 KCA for Denmark, trend assessment 1990-2012 excl. LULUCF, tier 1.

Table A1-17 KCA for Denmark, trend assessment 1990-2012 incl. LULUCF, tier 1.

Table A1-18 KCA for Denmark, level assessment base year excl. LULUCF, tier 2.

Table A1-19 KCA for Denmark, level assessment base year incl. LULUCF, tier 2.

Table A1-20 KCA for Denmark, level assessment 2012 excl. LULUCF, tier 2.

Table A1-21 KCA for Denmark, level assessment 2012 incl. LULUCF, tier 2.

Table A1-22 KCA for Denmark, trend assessment 1990-2012 excl. LULUCF, tier 2.

Table A1-23 KCA for Denmark, trend assessment 1990-2012 incl. LULUCF, tier 2.

Table A1-9 Summary of KCA for Denmark, level and trend for 1990-2012, excl. LULUCF, tier 1 and tier 2.

IPCC Source Categories (LULUCF excluded)			Key categories with number according to ranking in analysis					
GHG			Identification criteria					
			Level Tier 1	Level Tier 1	Trend Tier 1	Level Tier 2	Level Tier 2	Trend Tier 2
			1990	2012	1990-2012	1990	2012	1990-2012
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	1	2	1	19	26	19
Energy	Stationary Combustion, BKB	CO <sub>2</sub>						
Energy	Stationary Combustion, Coke	CO <sub>2</sub>						
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	20	6	6		20	14
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	22	17	17			
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	6	18	5			
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	3	14	4	20		12
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	23		19			
Energy	Stationary Combustion, LPG	CO <sub>2</sub>						
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	16	12	18			
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4	3	2			26
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>						
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>						
Energy	Stationary Combustion, GAS	CH <sub>4</sub>						
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>			23			
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>						
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>					22	24
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>						
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O				17	25	17
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O				9	24	8
Energy	Stationary Combustion, GAS	N <sub>2</sub> O				24	18	18
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O						29
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O				10	4	2
Energy	Transport, Road transport	CO <sub>2</sub>	2	1	3	8	6	7
Energy	Transport, Military	CO <sub>2</sub>						
Energy	Transport, Railways	CO <sub>2</sub>		25				
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>						
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	17	20	21			
Energy	Transport, Fisheries	CO <sub>2</sub>	19	19				
Energy	Transport, Agriculture	CO <sub>2</sub>	10	7	14	14	11	15
Energy	Transport, Forestry	CO <sub>2</sub>						
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	15	11	13	12	8	10
Energy	Transport, Residential	CO <sub>2</sub>						
Energy	Transport, Commercial/institutional	CO <sub>2</sub>			24			
Energy	Transport, Civil aviation	CO <sub>2</sub>						
Energy	Transport, Road transport	CH <sub>4</sub>						
Energy	Transport, Military	CH <sub>4</sub>						

IPCC Source Categories (LULUCF excluded)			Key categories with number according to ranking in analysis					
		GHG	Identification criteria					
			Level Tier 1 1990	Level Tier 1 2012	Trend Tier 1 1990-2012	Level Tier 2 1990	Level Tier 2 2012	Trend Tier 2 1990-2012
Energy	Transport, Railways	CH <sub>4</sub>						
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>						
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>						
Energy	Transport, Fisheries	CH <sub>4</sub>						
Energy	Transport, Agriculture	CH <sub>4</sub>						
Energy	Transport, Forestry	CH <sub>4</sub>						
Energy	Transport, Industry (mobile)	CH <sub>4</sub>						
Energy	Transport, Residential	CH <sub>4</sub>						
Energy	Transport, Commercial/institutional	CH <sub>4</sub>						
Energy	Transport, Civil aviation	CH <sub>4</sub>						
Energy	Transport, Road transport	N <sub>2</sub> O						
Energy	Transport, Military	N <sub>2</sub> O						
Energy	Transport, Railways	N <sub>2</sub> O						
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O						
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O				23		
Energy	Transport, Fisheries	N <sub>2</sub> O					28	
Energy	Transport, Agriculture	N <sub>2</sub> O				22	19	22
Energy	Transport, Forestry	N <sub>2</sub> O						
Energy	Transport, Industry (mobile)	N <sub>2</sub> O					23	28
Energy	Transport, Residential	N <sub>2</sub> O						
Energy	Transport, Commercial/institutional	N <sub>2</sub> O						
Energy	Transport, Civil aviation	N <sub>2</sub> O						
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>						
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	26	28				
Energy	1.B.2 Land based activities	CO <sub>2</sub>						
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>						
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>						
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>						
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>						
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>						
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>						
Energy	1.B.2 Refinery processes	CH <sub>4</sub>						25
Energy	1.B.2 Land based activities	CH <sub>4</sub>						
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>						
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>						
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>						
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>						
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O						



IPCC Source Categories (LULUCF excluded)			Key categories with number according to ranking in analysis					
			Identification criteria					
			Level Tier 1	Level Tier 1	Trend Tier 1	Level Tier 2	Level Tier 2	Trend Tier 2
			1990	2012	1990-2012	1990	2012	1990-2012
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O						
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	14	13	20			
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>						
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>						
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>						
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>						
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>						
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>						
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>						
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>						
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>						
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>						
Industrial Proc.	2G Lubricants	CO <sub>2</sub>						
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	12		7	18		9
Industrial Proc.	2F Consumption of HFC	HFC		16	10		10	6
Industrial Proc.	2F Consumption of PFC	PFC						
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>						
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>						
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>						
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>						
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>						
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>						
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>						
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O						
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O						
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O						
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O						
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O						
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	5	4	11	5	7	16
Agriculture	4B Manure Management	CH <sub>4</sub>	13	8	9	21	14	13
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>						
Agriculture	4.B Manure Management	N <sub>2</sub> O	18	21		6	9	23
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	8	10	8	2	3	1
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	11	9	15	4	2	5
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O		24		16	15	27
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	24	22		11	12	
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O		27		15	17	
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	25	26		13	16	

IPCC Source Categories (LULUCF excluded)			Key categories with number according to ranking in analysis					
			Identification criteria					
			Level Tier 1	Level Tier 1	Trend Tier 1	Level Tier 2	Level Tier 2	Trend Tier 2
			1990	2012	1990-2012	1990	2012	1990-2012
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	21	23		7	13	20
Agriculture	4.D3 Leaching	N <sub>2</sub> O	7	5	12	1	1	3
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O						
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O						
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	9	15	16	3	5	4
Waste	6 B. Wastewater Handling	CH <sub>4</sub>						
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O						
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O						
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>						
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>						
Waste	6.C Incineration of corpses	CH <sub>4</sub>						
Waste	6.C Incineration of carcasses	CH <sub>4</sub>						
Waste	6.D Compost production	CH <sub>4</sub>					27	21
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>						
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>						
Waste	6.C Incineration of corpses	N <sub>2</sub> O						
Waste	6.C Incineration of carcasses	N <sub>2</sub> O						
Waste	6.D Compost production	N <sub>2</sub> O			22		21	11

Table A1-10 Summary of KCA for Denmark, level and trend for 1990-2012, incl. LULUCF, tier 1 and tier 2.

IPCC Source Categories (LULUCF included)			Key categories with number according to ranking in analysis					
			Identification criteria					
GHG			Level Tier 1	Level Tier 1	Trend Tier 1	Level Tier 2	Level Tier 2	Trend Tier 2
			1990	2012	1990-2012	1990	2012	1990-2012
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	1	2	1	22	31	27
Energy	Stationary Combustion, BKB	CO <sub>2</sub>						
Energy	Stationary Combustion, Coke	CO <sub>2</sub>						
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	23	8	7		25	20
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	25	19	19			
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	7	21	6			
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	3	16	5	23		21
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	26		22			
Energy	Stationary Combustion, LPG	CO <sub>2</sub>						
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	18	14	18			
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4	3	2			31
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>						
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>						
Energy	Stationary Combustion, GAS	CH <sub>4</sub>						
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>			28			
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>						
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>					27	28
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>						
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O				20	30	23
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O				11	29	12
Energy	Stationary Combustion, GAS	N <sub>2</sub> O					23	22
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O						
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O				12	5	2
Energy	Transport, Road transport	CO <sub>2</sub>	2	1	3	10	8	9
Energy	Transport, Military	CO <sub>2</sub>						
Energy	Transport, Railways	CO <sub>2</sub>	30	29				
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>						
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	19	24				
Energy	Transport, Fisheries	CO <sub>2</sub>	22	22				
Energy	Transport, Agriculture	CO <sub>2</sub>	12	9	13	17	15	19
Energy	Transport, Forestry	CO <sub>2</sub>						

IPCC Source Categories (LULUCF included)			Key categories with number according to ranking in analysis					
			Identification criteria					
			Level Tier 1	Level Tier 1	Trend Tier 1	Level Tier 2	Level Tier 2	Trend Tier 2
			1990	2012	1990-2012	1990	2012	1990-2012
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	17	13	14	14	11	13
Energy	Transport, Residential	CO <sub>2</sub>						
Energy	Transport, Commercial/institutional	CO <sub>2</sub>			26			
Energy	Transport, Civil aviation	CO <sub>2</sub>						
Energy	Transport, Road transport	CH <sub>4</sub>						
Energy	Transport, Military	CH <sub>4</sub>						
Energy	Transport, Railways	CH <sub>4</sub>						
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>						
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>						
Energy	Transport, Fisheries	CH <sub>4</sub>						
Energy	Transport, Agriculture	CH <sub>4</sub>						
Energy	Transport, Forestry	CH <sub>4</sub>						
Energy	Transport, Industry (mobile)	CH <sub>4</sub>						
Energy	Transport, Residential	CH <sub>4</sub>						
Energy	Transport, Commercial/institutional	CH <sub>4</sub>						
Energy	Transport, Civil aviation	CH <sub>4</sub>						
Energy	Transport, Road transport	N <sub>2</sub> O						
Energy	Transport, Military	N <sub>2</sub> O						
Energy	Transport, Railways	N <sub>2</sub> O						
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O						
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O				26		
Energy	Transport, Fisheries	N <sub>2</sub> O						
Energy	Transport, Agriculture	N <sub>2</sub> O				25	24	25
Energy	Transport, Forestry	N <sub>2</sub> O						
Energy	Transport, Industry (mobile)	N <sub>2</sub> O					28	30
Energy	Transport, Residential	N <sub>2</sub> O						
Energy	Transport, Commercial/institutional	N <sub>2</sub> O						
Energy	Transport, Civil aviation	N <sub>2</sub> O						
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>						
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	29	32				
Energy	1.B.2 Land based activities	CO <sub>2</sub>						
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>						

IPCC Source Categories (LULUCF included)			Key categories with number according to ranking in analysis					
		GHG	Identification criteria					
			Level Tier 1 1990	Level Tier 1 2012	Trend Tier 1 1990-2012	Level Tier 2 1990	Level Tier 2 2012	Trend Tier 2 1990-2012
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>						
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>						
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>						
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>						
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>						
Energy	1.B.2 Refinery processes	CH <sub>4</sub>						32
Energy	1.B.2 Land based activities	CH <sub>4</sub>						
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>						
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>						
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>						
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>						
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O						
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O						
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	16	15	21			
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>						
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>						
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>						
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>						
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>						
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>						
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>						
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>						
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>						
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>						
Industrial Proc.	2G Lubricants	CO <sub>2</sub>						
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	14		8	21		14
Industrial Proc.	2F Consumption of HFC	HFC		18	11		14	10
Industrial Proc.	2F Consumption of PFC	PFC						
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>						
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>						
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>						
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>						

IPCC Source Categories (LULUCF included)		GHG	Key categories with number according to ranking in analysis						
			Identification criteria						
			Level Tier 1 1990	Level Tier 1 2012	Trend Tier 1 1990-2012	Level Tier 2 1990	Level Tier 2 2012	Trend Tier 2 1990-2012	
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>							
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>							
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>							
Solvent and Other Prod. Use	3D1 Other - Use of N2O for Anaesthesia	N <sub>2</sub> O							
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O							
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O							
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O							
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O							
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	5	5	9	7	9	15	
Agriculture	4B Manure Management	CH <sub>4</sub>	15	10	10	24	18	17	
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>							
Agriculture	4.B Manure Management	N <sub>2</sub> O	21	25		8	12		
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	9	12	12	3	4	3	
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	13	11	16	5	3	4	
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O		28		19	19	26	
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	27	26		13	16	29	
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O		31		18	22		
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	28	30		15	21		
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	24	27		9	17	33	
Agriculture	4.D3 Leaching	N <sub>2</sub> O	8	7	23	2	2	8	
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O							
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O							
LULUCF	5.A.1 Forest remaining forest	CO <sub>2</sub>		4	4		7	1	
LULUCF	5.A.2 Land converted to forest	CO <sub>2</sub>							
LULUCF	5(II) Forest Land.	N <sub>2</sub> O							
LULUCF	5.B Cropland, Living biomass	CO <sub>2</sub>		33	20		13	5	
LULUCF	5.B Cropland, Dead organic matter	CO <sub>2</sub>							
LULUCF	5.B Cropland, Mineral soils	CO <sub>2</sub>	10	20	17	6	10	6	
LULUCF	5.B Cropland, Organic soils	CO <sub>2</sub>	6	6		1	1		
LULUCF	5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O							
LULUCF	5.C Grassland, Living biomass	CO <sub>2</sub>		23	15		20	11	

IPCC Source Categories (LULUCF included)		GHG	Key categories with number according to ranking in analysis					
			Identification criteria					
			Level Tier 1 1990	Level Tier 1 2012	Trend Tier 1 1990-2012	Level Tier 2 1990	Level Tier 2 2012	Trend Tier 2 1990-2012
LULUCF	5.C Grassland, Dead organic matter	CO <sub>2</sub>						
LULUCF	5.C Grassland, Mineral soils	CO <sub>2</sub>						
LULUCF	5.C Grassland, Organic soils	CO <sub>2</sub>						
LULUCF	5.D Wetlands, Living biomass	CO <sub>2</sub>						
LULUCF	5.D Wetlands, Dead organic matter	CO <sub>2</sub>						
LULUCF	5.D Wetlands, Soils	CO <sub>2</sub>						34
LULUCF	5(II) Wetlands	N <sub>2</sub> O						
LULUCF	5.E Settlements, Living biomass	CO <sub>2</sub>						
LULUCF	5.E Settlements, Dead organic matter	CO <sub>2</sub>						
LULUCF	5.E Settlements, Soils	CO <sub>2</sub>						
LULUCF	5(IV) Cropland Limestone	CO <sub>2</sub>	20		25	16		18
LULUCF	5(V) Biomass Burning	CH <sub>4</sub>						
LULUCF	5(V) Biomass Burning	N <sub>2</sub> O						
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	11	17	24	4	6	7
Waste	6 B. Wastewater Handling	CH <sub>4</sub>						
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O						
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O						
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>						
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>						
Waste	6.C Incineration of corpses	CH <sub>4</sub>						
Waste	6.C Incineration of carcasses	CH <sub>4</sub>						
Waste	6.D Compost production	CH <sub>4</sub>					32	24
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>						
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>						
Waste	6.C Incineration of corpses	N <sub>2</sub> O						
Waste	6.C Incineration of carcasses	N <sub>2</sub> O						
Waste	6.D Compost production	N <sub>2</sub> O			27		26	16

Table A1-11 Summary of KCA for Denmark, number of key source categories in each of the KCA.

	Level Tier 1 1990	Level Tier 1 2012	Trend Tier 1 1990-2012	Level Tier 2 1990	Level Tier 2 2012	Trend Tier 2 1990-2012
Excluding LULUCF	28	30	25	26	30	30
Including LULUCF	32	35	29	28	34	35

Table A1-12 KCA for Denmark, level assessment base year excl. LULUCF, tier 1.

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate  Ex,o Mt CO <sub>2</sub> eq	Base Year Level Assessment Lx,o	Base Year Cumulative Total of Lx,o
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	23.834	0.346	0.346
Energy	Transport, Road transport	CO <sub>2</sub>	9.284	0.135	0.480
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	4.547	0.066	0.546
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4.335	0.063	0.609
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	3.247	0.047	0.656
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	2.496	0.036	0.692
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.447	0.035	0.728
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.354	0.034	0.762
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.366	0.020	0.782
Energy	Transport, Agriculture	CO <sub>2</sub>	1.272	0.018	0.800
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.112	0.016	0.817
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	1.043	0.015	0.832
Agriculture	4B Manure Management	CH <sub>4</sub>	0.985	0.014	0.846
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.882	0.013	0.859
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.839	0.012	0.871
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.816	0.012	0.883
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.748	0.011	0.894
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.600	0.009	0.902
Energy	Transport, Fisheries	CO <sub>2</sub>	0.591	0.009	0.911
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.573	0.008	0.919
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.496	0.007	0.926
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.415	0.006	0.932
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.366	0.005	0.938
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.361	0.005	0.943
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.334	0.005	0.948
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.302	0.004	0.952
Energy	Transport, Railways	CO <sub>2</sub>	0.297	0.004	0.956
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.290	0.004	0.961
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.269	0.004	0.965
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.243	0.004	0.968
Industrial Proc.	2F Consumption of HFC	HFC	0.218	0.003	0.971
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.184	0.003	0.974
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.138	0.002	0.976
Energy	Transport, Military	CO <sub>2</sub>	0.119	0.002	0.978
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.116	0.002	0.979
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.107	0.002	0.981
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.102	0.001	0.982
Energy	Transport, Road transport	N <sub>2</sub> O	0.091	0.001	0.984
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.082	0.001	0.985
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.074	0.001	0.986
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.068	0.001	0.987
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.065	0.001	0.988
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.061	0.001	0.989
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.050	0.001	0.989
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.048	0.001	0.990
Energy	Transport, Road transport	CH <sub>4</sub>	0.047	0.001	0.991
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.044	0.001	0.991
Energy	Transport, Residential	CO <sub>2</sub>	0.039	0.001	0.992
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.038	0.001	0.993
Energy	Transport, Forestry	CO <sub>2</sub>	0.036	0.001	0.993
Waste	6.D Compost production	CH <sub>4</sub>	0.029	0.000	0.994
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.028	0.000	0.994
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.000	0.994



Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Base Year Level Asses- ment Lx,o	Base Year Cumulative Total of Lx,o
			Ex,o Mt CO <sub>2</sub> eq		
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.023	0.000	0.995
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.023	0.000	0.995
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.023	0.000	0.995
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.022	0.000	0.996
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.019	0.000	0.996
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.017	0.000	0.996
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.017	0.000	0.996
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.016	0.000	0.997
Energy	Transport, Agriculture	N <sub>2</sub> O	0.015	0.000	0.997
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.015	0.000	0.997
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.015	0.000	0.997
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.015	0.000	0.998
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.014	0.000	0.998
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.013	0.000	0.998
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.000	0.998
Waste	6.D Compost production	N <sub>2</sub> O	0.013	0.000	0.998
Energy	Transport, Fisheries	N <sub>2</sub> O	0.011	0.000	0.998
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.000	0.999
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.011	0.000	0.999
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.011	0.000	0.999
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.007	0.000	0.999
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.005	0.000	0.999
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.005	0.000	0.999
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.004	0.000	0.999
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.004	0.000	0.999
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.003	0.000	0.999
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.000	1.000
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.000	1.000
Energy	Transport, Railways	N <sub>2</sub> O	0.003	0.000	1.000
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	1.000
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.000	1.000
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.001	0.000	1.000
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.000	1.000
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.001	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.000	1.000
Industrial Proc.	2F Consumption of PFC	PFC	0.001	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Base Year Level Asses- sment Lx,o	Base Year Cumulative Total of Lx,o
			Ex,o Mt CO <sub>2</sub> eq		
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D1 Other - Use of N2O for Anaesthesia	N <sub>2</sub> O	0.000	0.000	1.000
<b>Total</b>			<b>68.943</b>	<b>1.000</b>	

Table A1-13 KCA for Denmark, level assessment base year incl. LULUCF, tier 1.

Tier 1 Analysis		DK			
IPCC Source Categories (LULUCF included)		GHG	Base Year Estimate	Base Year Level Assessment	Base Year Cumulative Total of Lx,o
			Ex,o	Lx,o	
			Mt CO <sub>2</sub> eq		
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	23.834	0.320	0.320
Energy	Transport, Road transport	CO <sub>2</sub>	9.284	0.125	0.445
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	4.547	0.061	0.506
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4.335	0.058	0.565
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	3.247	0.044	0.608
LULUCF	5.B Cropland, Organic soils	CO <sub>2</sub>	2.887	0.039	0.647
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	2.496	0.034	0.681
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.447	0.033	0.714
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.354	0.032	0.745
LULUCF	5.B Cropland, Mineral soils	CO <sub>2</sub>	1.415	0.019	0.764
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.366	0.018	0.783
Energy	Transport, Agriculture	CO <sub>2</sub>	1.272	0.017	0.800
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.112	0.015	0.815
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	1.043	0.014	0.829
Agriculture	4B Manure Management	CH <sub>4</sub>	0.985	0.013	0.842
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.882	0.012	0.854
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.839	0.011	0.865
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.816	0.011	0.876
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.748	0.010	0.886
LULUCF	5(IV) Cropland Limestone	CO <sub>2</sub>	0.623	0.008	0.895
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.600	0.008	0.903
Energy	Transport, Fisheries	CO <sub>2</sub>	0.591	0.008	0.911
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.573	0.008	0.918
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.496	0.007	0.925
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.415	0.006	0.931
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.366	0.005	0.935
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.361	0.005	0.940
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.334	0.004	0.945
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.302	0.004	0.949
Energy	Transport, Railways	CO <sub>2</sub>	0.297	0.004	0.953
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.290	0.004	0.957
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.269	0.004	0.960
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.243	0.003	0.964
Industrial Proc.	2F Consumption of HFC	HFC	0.218	0.003	0.967
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.184	0.002	0.969
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.138	0.002	0.971
Energy	Transport, Military	CO <sub>2</sub>	0.119	0.002	0.973
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.116	0.002	0.974
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.107	0.001	0.976
LULUCF	5.C Grassland, Organic soils	CO <sub>2</sub>	0.107	0.001	0.977
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.102	0.001	0.978
Energy	Transport, Road transport	N <sub>2</sub> O	0.091	0.001	0.980
LULUCF	5.D Wetlands, Soils	CO <sub>2</sub>	0.085	0.001	0.981
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.082	0.001	0.982
LULUCF	5.A.2 Land converted to forest	CO <sub>2</sub>	0.077	0.001	0.983
LULUCF	5.C Grassland, Living biomass	CO <sub>2</sub>	0.075	0.001	0.984
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.074	0.001	0.985
LULUCF	5.B Cropland, Living biomass	CO <sub>2</sub>	0.074	0.001	0.986
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.068	0.001	0.987
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.065	0.001	0.988
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.061	0.001	0.988
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.050	0.001	0.989
LULUCF	5.A.1 Forest remaining forest	CO <sub>2</sub>	0.050	0.001	0.990
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.048	0.001	0.990
Energy	Transport, Road transport	CH <sub>4</sub>	0.047	0.001	0.991
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.044	0.001	0.992
Energy	Transport, Residential	CO <sub>2</sub>	0.039	0.001	0.992
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.038	0.001	0.993
Energy	Transport, Forestry	CO <sub>2</sub>	0.036	0.000	0.993
Waste	6.D Compost production	CH <sub>4</sub>	0.029	0.000	0.994
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.028	0.000	0.994

Tier 1 Analysis		DK			
IPCC Source Categories (LULUCF included)		GHG	Base Year Estimate	Base Year Level Assessment	Base Year Cumulative Total of Lx,o
			Ex,o Mt CO <sub>2</sub> eq	Lx,o	
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.000	0.994
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.023	0.000	0.995
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.023	0.000	0.995
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.023	0.000	0.995
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.022	0.000	0.995
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.019	0.000	0.996
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.017	0.000	0.996
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.017	0.000	0.996
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.016	0.000	0.996
LULUCF	5(II) Forest Land.	N <sub>2</sub> O	0.016	0.000	0.997
Energy	Transport, Agriculture	N <sub>2</sub> O	0.015	0.000	0.997
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.015	0.000	0.997
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.015	0.000	0.997
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.015	0.000	0.997
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.014	0.000	0.998
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.013	0.000	0.998
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.000	0.998
Waste	6.D Compost production	N <sub>2</sub> O	0.013	0.000	0.998
Energy	Transport, Fisheries	N <sub>2</sub> O	0.011	0.000	0.998
LULUCF	5.E Settlements, Living biomass	CO <sub>2</sub>	0.011	0.000	0.998
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.000	0.999
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.011	0.000	0.999
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.011	0.000	0.999
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.007	0.000	0.999
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.005	0.000	0.999
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.005	0.000	0.999
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.004	0.000	0.999
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.004	0.000	0.999
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.003	0.000	0.999
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.000	0.999
LULUCF	5.B Cropland, Dead organic matter	CO <sub>2</sub>	0.003	0.000	0.999
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.000	0.999
LULUCF	5.D Wetlands, Living biomass	CO <sub>2</sub>	0.003	0.000	1.000
Energy	Transport, Railways	N <sub>2</sub> O	0.003	0.000	1.000
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	1.000
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.000	1.000
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.000	1.000
LULUCF	5.C Grassland, Dead organic matter	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.001	0.000	1.000
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	1.000
LULUCF	5.E Settlements, Soils	CO <sub>2</sub>	0.001	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.000	1.000
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.001	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.000	1.000
LULUCF	5.E Settlements, Dead organic matter	CO <sub>2</sub>	0.001	0.000	1.000
LULUCF	5(V) Biomass Burning	CH <sub>4</sub>	0.001	0.000	1.000
LULUCF	5.D Wetlands, Dead organic matter	CO <sub>2</sub>	0.001	0.000	1.000

Tier 1 Analysis		DK			
IPCC Source Categories (LULUCF included)		GHG	Base Year Estimate	Base Year Level Assessment	Base Year Cumulative Total of Lx,o
			Ex,o	Lx,o	
			Mt CO <sub>2</sub> eq		
Industrial Proc.	2F Consumption of PFC	PFC	0.001	0.000	1.000
LULUCF	5(V) Biomass Burning	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
LULUCF	5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000
LULUCF	5.C Grassland, Mineral soils	CO <sub>2</sub>	0.000	0.000	1.000
LULUCF	5(II) Wetlands	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0.000	0.000	1.000
<b>Total</b>			<b>74.372</b>	<b>1.000</b>	

<sup>1)</sup> The Estimates include signs, where + : emission - : removal, although in the level analyses only the absolute values are used.

Table A1-14 KCA for Denmark, level assessment 2012 excl. LULUCF, tier 1.

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Latest Year Estimate  Ex,t Mt CO <sub>2</sub> eq	Latest Year Level Assessment  Lx,t	Latest Year Cumulative Total of Lx,t
Energy	Transport, Road transport	CO <sub>2</sub>	11.224	0.217	0.217
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	10.005	0.194	0.411
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	8.293	0.161	0.572
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	2.904	0.056	0.628
Agriculture	4.D3 Leaching	N <sub>2</sub> O	1.430	0.028	0.656
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	1.397	0.027	0.683
Energy	Transport, Agriculture	CO <sub>2</sub>	1.343	0.026	0.709
Agriculture	4B Manure Management	CH <sub>4</sub>	1.297	0.025	0.734
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.161	0.022	0.756
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	1.103	0.021	0.778
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	1.021	0.020	0.797
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.906	0.018	0.815
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.871	0.017	0.832
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	0.742	0.014	0.846
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	0.698	0.014	0.860
Industrial Proc.	2F Consumption of HFC	HFC	0.657	0.013	0.872
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.628	0.012	0.885
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	0.571	0.011	0.896
Energy	Transport, Fisheries	CO <sub>2</sub>	0.479	0.009	0.905
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.399	0.008	0.913
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.391	0.008	0.920
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.311	0.006	0.926
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.295	0.006	0.932
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.256	0.005	0.937
Energy	Transport, Railways	CO <sub>2</sub>	0.249	0.005	0.942
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.211	0.004	0.946
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.198	0.004	0.950
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.195	0.004	0.953
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.171	0.003	0.957
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.135	0.003	0.959
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.133	0.003	0.962
Waste	6.D Compost production	N <sub>2</sub> O	0.127	0.002	0.964
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.120	0.002	0.967
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.118	0.002	0.969
Energy	Transport, Road transport	N <sub>2</sub> O	0.116	0.002	0.971
Energy	Transport, Military	CO <sub>2</sub>	0.116	0.002	0.974
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.099	0.002	0.975
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.091	0.002	0.977
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.091	0.002	0.979
Waste	6.D Compost production	CH <sub>4</sub>	0.090	0.002	0.981
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.081	0.002	0.982
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.074	0.001	0.984
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.074	0.001	0.985
Energy	Transport, Residential	CO <sub>2</sub>	0.062	0.001	0.986
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.047	0.001	0.987
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.044	0.001	0.988
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.041	0.001	0.989
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.040	0.001	0.990
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.039	0.001	0.990
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.037	0.001	0.991
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.032	0.001	0.992
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.032	0.001	0.992
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.031	0.001	0.993
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.027	0.001	0.994
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.026	0.000	0.994
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.024	0.000	0.995
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.022	0.000	0.995
Energy	Transport, Agriculture	N <sub>2</sub> O	0.018	0.000	0.995
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.018	0.000	0.996
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.017	0.000	0.996
Energy	Transport, Forestry	CO <sub>2</sub>	0.017	0.000	0.996
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.016	0.000	0.997

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Latest Year Estimate	Latest Year Level Assessment	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq	Lx,t	
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.013	0.000	0.997
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.012	0.000	0.997
Energy	Transport, Road transport	CH <sub>4</sub>	0.011	0.000	0.997
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.011	0.000	0.998
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.000	0.998
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.010	0.000	0.998
Energy	Transport, Fisheries	N <sub>2</sub> O	0.009	0.000	0.998
Solvent and Other Prod. Use	3D1 Other - Use of N2O for Anaesthesia	N <sub>2</sub> O	0.009	0.000	0.998
Industrial Proc.	2F Consumption of PFC	PFC	0.009	0.000	0.998
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.008	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.007	0.000	0.999
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.006	0.000	0.999
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.006	0.000	0.999
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.004	0.000	0.999
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.003	0.000	0.999
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.003	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.003	0.000	0.999
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.000	0.999
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.002	0.000	0.999
Energy	Transport, Railways	N <sub>2</sub> O	0.002	0.000	0.999
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.002	0.000	0.999
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.002	0.000	1.000
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.002	0.000	1.000
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.001	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.000	1.000
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	1.000
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.001	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Latest Year Estimate	Latest Year Level Assessment	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq	Lx,t	
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	0.000	0.000	1.000
<b>Total</b>			<b>51.637</b>	<b>1.000</b>	



Table A1-15 KCA for Denmark, level assessment 2012 incl. LULUCF, tier 1.

Tier 1 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Latest Year Estimate	Latest Year Level Assessment	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq	Lx,t	
Energy	Transport, Road transport	CO <sub>2</sub>	11.224	0.188	0.188
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	10.005	0.167	0.355
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	8.293	0.139	0.494
LULUCF	5.A.1 Forest remaining forest	CO <sub>2</sub>	4.491	0.075	0.569
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	2.904	0.049	0.618
LULUCF	5.B Cropland, Organic soils	CO <sub>2</sub>	1.981	0.033	0.651
Agriculture	4.D3 Leaching	N <sub>2</sub> O	1.430	0.024	0.675
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	1.397	0.023	0.698
Energy	Transport, Agriculture	CO <sub>2</sub>	1.343	0.022	0.720
Agriculture	4B Manure Management	CH <sub>4</sub>	1.297	0.022	0.742
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.161	0.019	0.762
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	1.103	0.018	0.780
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	1.021	0.017	0.797
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.906	0.015	0.812
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.871	0.015	0.827
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	0.742	0.012	0.839
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	0.698	0.012	0.851
Industrial Proc.	2F Consumption of HFC	HFC	0.657	0.011	0.862
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.628	0.010	0.872
LULUCF	5.B Cropland, Mineral soils	CO <sub>2</sub>	0.577	0.010	0.882
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	0.571	0.010	0.892
Energy	Transport, Fisheries	CO <sub>2</sub>	0.479	0.008	0.900
LULUCF	5.C Grassland, Living biomass	CO <sub>2</sub>	0.463	0.008	0.907
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.399	0.007	0.914
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.391	0.007	0.921
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.311	0.005	0.926
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.295	0.005	0.931
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.256	0.004	0.935
Energy	Transport, Railways	CO <sub>2</sub>	0.249	0.004	0.939
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.211	0.004	0.943
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.198	0.003	0.946
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.195	0.003	0.949
LULUCF	5.B Cropland, Living biomass	CO <sub>2</sub>	0.193	0.003	0.952
LULUCF	5(IV) Cropland Limestone	CO <sub>2</sub>	0.192	0.003	0.956
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.171	0.003	0.959
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.135	0.002	0.961
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.133	0.002	0.963
Waste	6.D Compost production	N <sub>2</sub> O	0.127	0.002	0.965
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.120	0.002	0.967
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.118	0.002	0.969
Energy	Transport, Road transport	N <sub>2</sub> O	0.116	0.002	0.971
Energy	Transport, Military	CO <sub>2</sub>	0.116	0.002	0.973
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.099	0.002	0.975
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.091	0.002	0.976
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.091	0.002	0.978
Waste	6.D Compost production	CH <sub>4</sub>	0.090	0.002	0.979
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.081	0.001	0.981
LULUCF	5.C Grassland, Organic soils	CO <sub>2</sub>	0.079	0.001	0.982
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.074	0.001	0.983
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.074	0.001	0.984
Energy	Transport, Residential	CO <sub>2</sub>	0.062	0.001	0.985
LULUCF	5.E Settlements, Living biomass	CO <sub>2</sub>	0.056	0.001	0.986
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.047	0.001	0.987
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.044	0.001	0.988
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.041	0.001	0.989
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.040	0.001	0.989
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.039	0.001	0.990
LULUCF	5.A.2 Land converted to forest	CO <sub>2</sub>	0.038	0.001	0.991
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.037	0.001	0.991
LULUCF	5.E Settlements, Soils	CO <sub>2</sub>	0.035	0.001	0.992

Tier 1 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Latest Year Estimate	Latest Year Level Assessment Lx,t	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq		
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.032	0.001	0.992
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.032	0.001	0.993
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.031	0.001	0.993
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.027	0.000	0.994
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.026	0.000	0.994
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.024	0.000	0.995
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.022	0.000	0.995
Energy	Transport, Agriculture	N <sub>2</sub> O	0.018	0.000	0.995
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.018	0.000	0.996
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.017	0.000	0.996
Energy	Transport, Forestry	CO <sub>2</sub>	0.017	0.000	0.996
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.016	0.000	0.996
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.013	0.000	0.997
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.012	0.000	0.997
LULUCF	5.B Cropland, Dead organic matter	CO <sub>2</sub>	0.012	0.000	0.997
LULUCF	5(II) Forest Land.	N <sub>2</sub> O	0.012	0.000	0.997
Energy	Transport, Road transport	CH <sub>4</sub>	0.011	0.000	0.997
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.011	0.000	0.998
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.000	0.998
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.010	0.000	0.998
Energy	Transport, Fisheries	N <sub>2</sub> O	0.009	0.000	0.998
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0.009	0.000	0.998
Industrial Proc.	2F Consumption of PFC	PFC	0.009	0.000	0.998
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.008	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.007	0.000	0.999
LULUCF	5.C Grassland, Dead organic matter	CO <sub>2</sub>	0.007	0.000	0.999
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.006	0.000	0.999
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.006	0.000	0.999
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.000	0.999
LULUCF	5.C Grassland, Mineral soils	CO <sub>2</sub>	0.005	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.004	0.000	0.999
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.003	0.000	0.999
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.003	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.003	0.000	0.999
LULUCF	5.D Wetlands, Soils	CO <sub>2</sub>	0.002	0.000	0.999
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.000	0.999
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.002	0.000	0.999
Energy	Transport, Railways	N <sub>2</sub> O	0.002	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.002	0.000	1.000
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.002	0.000	1.000
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.002	0.000	1.000
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.002	0.000	1.000
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.001	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.000	1.000
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	1.000
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.001	0.000	1.000
LULUCF	5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O	0.001	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	1.000

Tier 1 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Latest Year Estimate  Ex,t Mt CO <sub>2</sub> eq	Latest Year Level Asses- ment Lx,t	Latest Year Cumulative Total of Lx,t
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	1.000
LULUCF	5.D Wetlands, Living biomass	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
LULUCF	5(II) Wetlands	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
LULUCF	5(V) Biomass Burning	N <sub>2</sub> O	0.000	0.000	1.000
LULUCF	5.E Settlements, Dead organic matter	CO <sub>2</sub>	0.000	0.000	1.000
LULUCF	5(V) Biomass Burning	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	0.000	0.000	1.000
LULUCF	5.D Wetlands, Dead organic matter	CO <sub>2</sub>	0.000	0.000	1.000
<b>Total</b>			<b>59.782</b>	<b>1.000</b>	

<sup>1)</sup> The Estimates include signs, where + : emission - : removal, although in the level analyses only the absolute values are used.

Table A1-16 KCA for Denmark, trend assessment 1990-2012 excl. LULUCF, tier 1.

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Latest Year Estimate	Trend Assessment	Contribution to Trend	Cumulative
			Ex,o Mt CO <sub>2</sub> eq	Ex,t Mt CO <sub>2</sub> eq	Tx,t		
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	23.834	10.005	0.1138	0.262	0.262
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4.335	8.293	0.0732	0.168	0.430
Energy	Transport, Road transport	CO <sub>2</sub>	9.284	11.224	0.0619	0.143	0.573
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	4.547	0.742	0.0386	0.089	0.662
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	2.496	0.571	0.0188	0.043	0.705
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.573	1.397	0.0140	0.032	0.737
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	1.043	0.000	0.0113	0.026	0.763
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.354	1.103	0.0096	0.022	0.785
Agriculture	4B Manure Management	CH <sub>4</sub>	0.985	1.297	0.0081	0.019	0.804
Industrial Proc.	2F Consumption of HFC	HFC	0.218	0.657	0.0072	0.016	0.821
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	3.247	2.904	0.0068	0.016	0.836
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.447	1.430	0.0059	0.013	0.850
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.839	1.021	0.0057	0.013	0.863
Energy	Transport, Agriculture	CO <sub>2</sub>	1.272	1.343	0.0057	0.013	0.876
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.112	1.161	0.0048	0.011	0.887
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.366	0.698	0.0047	0.011	0.898
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.415	0.628	0.0046	0.011	0.908
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.816	0.906	0.0043	0.010	0.918
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.366	0.002	0.0039	0.009	0.927
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.882	0.871	0.0030	0.007	0.934
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.748	0.399	0.0023	0.005	0.940
Waste	6.D Compost production	N <sub>2</sub> O	0.013	0.127	0.0017	0.004	0.943
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.005	0.120	0.0017	0.004	0.947
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.074	0.171	0.0017	0.004	0.951
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.496	0.295	0.0011	0.003	0.954
Waste	6.D Compost production	CH <sub>4</sub>	0.029	0.090	0.0010	0.002	0.956
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.022	0.081	0.0009	0.002	0.958
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.048	0.099	0.0009	0.002	0.960
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.038	0.091	0.0009	0.002	0.962
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.102	0.135	0.0008	0.002	0.964
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.600	0.391	0.0008	0.002	0.966
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.269	0.256	0.0008	0.002	0.968
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.243	0.133	0.0007	0.002	0.970
Energy	Transport, Road transport	N <sub>2</sub> O	0.091	0.116	0.0007	0.002	0.971
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.184	0.091	0.0007	0.002	0.973
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.116	0.040	0.0007	0.002	0.975
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.047	0.0007	0.002	0.976
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.361	0.311	0.0006	0.001	0.977
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.334	0.211	0.0006	0.001	0.979
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.107	0.118	0.0005	0.001	0.980
Energy	Transport, Fisheries	CO <sub>2</sub>	0.591	0.479	0.0005	0.001	0.981
Energy	Transport, Residential	CO <sub>2</sub>	0.039	0.062	0.0005	0.001	0.982
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.302	0.195	0.0005	0.001	0.983
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.001	0.031	0.0004	0.001	0.984
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.082	0.032	0.0004	0.001	0.985
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.138	0.074	0.0004	0.001	0.986
Energy	Transport, Railways	CO <sub>2</sub>	0.297	0.249	0.0004	0.001	0.987
Energy	Transport, Military	CO <sub>2</sub>	0.119	0.116	0.0004	0.001	0.988
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.015	0.037	0.0004	0.001	0.989
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.065	0.074	0.0004	0.001	0.990
Energy	Transport, Road transport	CH <sub>4</sub>	0.047	0.011	0.0003	0.001	0.991
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.023	0.041	0.0003	0.001	0.991
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.068	0.027	0.0003	0.001	0.992
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.044	0.011	0.0003	0.001	0.993
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.028	0.000	0.0003	0.001	0.994
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.290	0.198	0.0003	0.001	0.994
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.039	0.0003	0.001	0.995
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.014	0.026	0.0002	0.001	0.995
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.016	0.024	0.0002	0.000	0.996
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.007	0.016	0.0002	0.000	0.996

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Latest Year Estimate	Trend Assessment	Contribution to Trend	Cumulative
			Ex,o Mt CO <sub>2</sub> eq	Ex,t Mt CO <sub>2</sub> eq	Tx,t		
Energy	Transport, Forestry	CO <sub>2</sub>	0.036	0.017	0.0001	0.000	0.997
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0.000	0.009	0.0001	0.000	0.997
Industrial Proc.	2F Consumption of PFC	PFC	0.001	0.009	0.0001	0.000	0.997
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.011	0.001	0.0001	0.000	0.997
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.003	0.0001	0.000	0.998
Energy	Transport, Agriculture	N <sub>2</sub> O	0.015	0.018	0.0001	0.000	0.998
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.050	0.032	0.0001	0.000	0.998
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.011	0.013	0.0001	0.000	0.998
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.015	0.006	0.0001	0.000	0.998
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.023	0.022	0.0001	0.000	0.998
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.017	0.018	0.0001	0.000	0.999
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.017	0.010	0.0000	0.000	0.999
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.006	0.0000	0.000	0.999
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.015	0.008	0.0000	0.000	0.999
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.004	0.000	0.0000	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.013	0.007	0.0000	0.000	0.999
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.019	0.012	0.0000	0.000	0.999
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.011	0.0000	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.002	0.004	0.0000	0.000	0.999
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.061	0.044	0.0000	0.000	0.999
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.003	0.0000	0.000	0.999
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.002	0.0000	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.004	0.002	0.0000	0.000	1.000
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.002	0.0000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.005	0.003	0.0000	0.000	1.000
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.006	0.0000	0.000	1.000
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.002	0.0000	0.000	1.000
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.001	0.0000	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.001	0.0000	0.000	1.000
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.000	0.001	0.0000	0.000	1.000
Energy	Transport, Fisheries	N <sub>2</sub> O	0.011	0.009	0.0000	0.000	1.000
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.000	0.001	0.0000	0.000	1.000
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.002	0.0000	0.000	1.000
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.001	0.0000	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.001	0.0000	0.000	1.000
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.002	0.0000	0.000	1.000
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.003	0.002	0.0000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.001	0.0000	0.000	1.000
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.023	0.017	0.0000	0.000	1.000
Energy	Transport, Railways	N <sub>2</sub> O	0.003	0.002	0.0000	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	0.0000	0.000	1.000
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.001	0.000	0.0000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000

Tier 1 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Latest Year Estimate	Trend Assessment	Contribution to Trend	Cumulative
			Ex,o Mt CO <sub>2</sub> eq	Ex,t Mt CO <sub>2</sub> eq	Tx,t		
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
<b>Total</b>			<b>68.943</b>	<b>51.637</b>			

Table A1-17 KCA for Denmark, trend assessment 1990-2012 incl. LULUCF, tier 1.

Tier 1 Analysis IPCC Source Categories (LULUCF included)		DK GHG	Base Year Estimate Ex,o Mt CO <sub>2</sub> eq	Latest Year Estimate Ex,t Mt CO <sub>2</sub> eq	Trend Asses- ment Tx,t	Contri- bution to Trend	Cumula- tive
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	23.834	10.005	0.0848	0.180	0.180
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4.335	8.293	0.0716	0.152	0.333
Energy	Transport, Road transport	CO <sub>2</sub>	9.284	11.224	0.0655	0.139	0.472
LULUCF	5.A.1 Forest remaining forest	CO <sub>2</sub>	0.050	-4.491	0.0608	0.129	0.601
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	4.547	0.742	0.0319	0.068	0.669
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	2.496	0.571	0.0153	0.033	0.701
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.573	1.397	0.0135	0.029	0.730
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	1.043	0.000	0.0096	0.020	0.751
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	3.247	2.904	0.0092	0.019	0.770
Agriculture	4B Manure Management	CH <sub>4</sub>	0.985	1.297	0.0084	0.018	0.788
Industrial Proc.	2F Consumption of HFC	HFC	0.218	0.657	0.0068	0.015	0.802
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.354	1.103	0.0068	0.015	0.817
Energy	Transport, Agriculture	CO <sub>2</sub>	1.272	1.343	0.0064	0.014	0.830
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.839	1.021	0.0060	0.013	0.843
LULUCF	5.C Grassland, Living biomass	CO <sub>2</sub>	0.075	0.463	0.0055	0.012	0.855
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.112	1.161	0.0054	0.011	0.866
LULUCF	5.B Cropland, Mineral soils	CO <sub>2</sub>	1.415	0.577	0.0053	0.011	0.878
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.816	0.906	0.0047	0.010	0.888
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.415	0.628	0.0046	0.010	0.897
LULUCF	5.B Cropland, Living biomass	CO <sub>2</sub>	-0.074	0.193	0.0039	0.008	0.906
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.882	0.871	0.0036	0.008	0.913
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.366	0.002	0.0033	0.007	0.920
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.447	1.430	0.0033	0.007	0.927
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.366	0.698	0.0032	0.007	0.934
LULUCF	5(IV) Cropland Limestone	CO <sub>2</sub>	0.623	0.192	0.0031	0.007	0.941
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.074	0.171	0.0016	0.003	0.944
Waste	6.D Compost production	N <sub>2</sub> O	0.013	0.127	0.0016	0.003	0.948
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.005	0.120	0.0016	0.003	0.951
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.748	0.399	0.0015	0.003	0.954
Energy	Transport, Fisheries	CO <sub>2</sub>	0.591	0.479	0.0010	0.002	0.956
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.269	0.256	0.0010	0.002	0.958
Waste	6.D Compost production	CH <sub>4</sub>	0.029	0.090	0.0009	0.002	0.960
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.022	0.081	0.0009	0.002	0.962
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.048	0.099	0.0009	0.002	0.964
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.102	0.135	0.0009	0.002	0.966
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.038	0.091	0.0009	0.002	0.968
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.361	0.311	0.0009	0.002	0.970
LULUCF	5.D Wetlands, Soils	CO <sub>2</sub>	0.085	0.002	0.0007	0.002	0.971
Energy	Transport, Road transport	N <sub>2</sub> O	0.091	0.116	0.0007	0.002	0.973
LULUCF	5.E Settlements, Living biomass	CO <sub>2</sub>	0.011	0.056	0.0006	0.001	0.974
Energy	Transport, Railways	CO <sub>2</sub>	0.297	0.249	0.0006	0.001	0.976
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.047	0.0006	0.001	0.977
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.496	0.295	0.0006	0.001	0.978
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.107	0.118	0.0006	0.001	0.979
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.116	0.040	0.0005	0.001	0.981
Energy	Transport, Residential	CO <sub>2</sub>	0.039	0.062	0.0005	0.001	0.982
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.184	0.091	0.0005	0.001	0.983
Energy	Transport, Military	CO <sub>2</sub>	0.119	0.116	0.0005	0.001	0.984
LULUCF	5.E Settlements, Soils	CO <sub>2</sub>	0.001	0.035	0.0005	0.001	0.985
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.243	0.133	0.0005	0.001	0.986
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.001	0.031	0.0004	0.001	0.986
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.065	0.074	0.0004	0.001	0.987
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.015	0.037	0.0004	0.001	0.988
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.023	0.041	0.0003	0.001	0.989
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.082	0.032	0.0003	0.001	0.989
Energy	Transport, Road transport	CH <sub>4</sub>	0.047	0.011	0.0003	0.001	0.990
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.138	0.074	0.0003	0.001	0.991
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.600	0.391	0.0003	0.001	0.991
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.039	0.0003	0.001	0.992
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.028	0.000	0.0003	0.001	0.992
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.068	0.027	0.0003	0.001	0.993

Tier 1 Analysis IPCC Source Categories (LULUCF included)		DK GHG	Base Year Estimate Ex,o Mt CO <sub>2</sub> eq	Latest Year Estimate Ex,t Mt CO <sub>2</sub> eq	Trend Asses- ment Tx,t	Contri- bution to Trend	Cumula- tive
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.044	0.011	0.0003	0.001	0.993
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.334	0.211	0.0002	0.001	0.994
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.014	0.026	0.0002	0.000	0.994
LULUCF	5.A.2 Land converted to forest	CO <sub>2</sub>	0.077	0.038	0.0002	0.000	0.995
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.016	0.024	0.0002	0.000	0.995
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.302	0.195	0.0002	0.000	0.995
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.007	0.016	0.0002	0.000	0.996
LULUCF	5.B Cropland, Dead organic matter	CO <sub>2</sub>	0.003	0.012	0.0001	0.000	0.996
Solvent and Other Prod. Use	3D1 Other - Use of N2O for Anaesthesia	N <sub>2</sub> O	0.000	0.009	0.0001	0.000	0.996
Industrial Proc.	2F Consumption of PFC	PFC	0.001	0.009	0.0001	0.000	0.997
Energy	Transport, Forestry	CO <sub>2</sub>	0.036	0.017	0.0001	0.000	0.997
Energy	Transport, Agriculture	N <sub>2</sub> O	0.015	0.018	0.0001	0.000	0.997
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.023	0.022	0.0001	0.000	0.997
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.011	0.013	0.0001	0.000	0.997
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.011	0.001	0.0001	0.000	0.998
LULUCF	5.C Grassland, Dead organic matter	CO <sub>2</sub>	0.002	0.007	0.0001	0.000	0.998
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.017	0.018	0.0001	0.000	0.998
LULUCF	5.C Grassland, Organic soils	CO <sub>2</sub>	0.107	0.079	0.0001	0.000	0.998
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.003	0.0001	0.000	0.998
LULUCF	5.B Cropland, Organic soils	CO <sub>2</sub>	2.887	1.981	0.0001	0.000	0.998
LULUCF	5.C Grassland, Mineral soils	CO <sub>2</sub>	0.000	0.005	0.0001	0.000	0.998
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.015	0.006	0.0001	0.000	0.999
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.006	0.0000	0.000	0.999
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.011	0.0000	0.000	0.999
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.004	0.000	0.0000	0.000	0.999
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.050	0.032	0.0000	0.000	0.999
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.061	0.044	0.0000	0.000	0.999
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.017	0.010	0.0000	0.000	0.999
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.015	0.008	0.0000	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.002	0.004	0.0000	0.000	0.999
LULUCF	5.D Wetlands, Living biomass	CO <sub>2</sub>	0.003	0.000	0.0000	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.013	0.007	0.0000	0.000	0.999
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.003	0.0000	0.000	0.999
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.023	0.017	0.0000	0.000	0.999
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.002	0.0000	0.000	0.999
Energy	Transport, Fisheries	N <sub>2</sub> O	0.011	0.009	0.0000	0.000	0.999
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.006	0.0000	0.000	1.000
LULUCF	5(II) Forest Land.	N <sub>2</sub> O	0.016	0.012	0.0000	0.000	1.000
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.002	0.0000	0.000	1.000
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.019	0.012	0.0000	0.000	1.000
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.002	0.0000	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.001	0.0000	0.000	1.000
LULUCF	5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O	0.000	0.001	0.0000	0.000	1.000
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.000	0.001	0.0000	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.004	0.002	0.0000	0.000	1.000
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.001	0.0000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.005	0.003	0.0000	0.000	1.000
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.000	0.001	0.0000	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.002	0.0000	0.000	1.000
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.002	0.0000	0.000	1.000
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.001	0.0000	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.001	0.0000	0.000	1.000
Energy	Transport, Railways	N <sub>2</sub> O	0.003	0.002	0.0000	0.000	1.000
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000
LULUCF	5.D Wetlands, Dead organic matter	CO <sub>2</sub>	0.001	0.000	0.0000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000



Tier 1 Analysis IPCC Source Categories (LULUCF included)		DK GHG	Base Year Estimate Ex,o Mt CO <sub>2</sub> eq	Latest Year Estimate Ex,t Mt CO <sub>2</sub> eq	Trend Asses- sment Tx,t	Contri- bution to Trend	Cumula- tive
LULUCF	5(V) Biomass Burning	CH <sub>4</sub>	0.001	0.000	0.0000	0.000	1.000
LULUCF	5.E Settlements, Dead organic matter	CO <sub>2</sub>	0.001	0.000	0.0000	0.000	1.000
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.290	0.198	0.0000	0.000	1.000
LULUCF	5(V) Biomass Burning	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.001	0.0000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.003	0.002	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.001	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
LULUCF	5(II) Wetlands	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.001	0.000	0.0000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
<b>Total</b>			<b>74.225</b>	<b>50.799</b>			

Table A1-18 KCA for Denmark, level assessment base year excl. LULUCF, tier 2.

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Base Year Level Assessment	Base Year Cumulative Total of Lx,o
			Ex,o Mt CO <sub>2</sub> eq	Lx,o	
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.496	0.157	0.157
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.427	0.153	0.310
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.616	0.102	0.412
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.161	0.073	0.485
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	0.653	0.041	0.526
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.615	0.039	0.564
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.505	0.032	0.596
Energy	Transport, Road transport	CO <sub>2</sub>	0.500	0.031	0.628
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.440	0.028	0.655
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.379	0.024	0.679
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.368	0.023	0.702
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.347	0.022	0.724
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.345	0.022	0.746
Energy	Transport, Agriculture	CO <sub>2</sub>	0.312	0.020	0.766
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.296	0.019	0.784
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.275	0.017	0.802
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.272	0.017	0.819
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	0.262	0.016	0.835
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	0.245	0.015	0.851
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	0.209	0.013	0.864
Agriculture	4B Manure Management	CH <sub>4</sub>	0.203	0.013	0.877
Energy	Transport, Agriculture	N <sub>2</sub> O	0.153	0.010	0.886
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.146	0.009	0.895
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.123	0.008	0.903
Energy	Transport, Fisheries	N <sub>2</sub> O	0.115	0.007	0.910
Industrial Proc.	2F Consumption of HFC	HFC	0.111	0.007	0.917
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.106	0.007	0.924
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.103	0.006	0.930
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.090	0.006	0.936
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.064	0.004	0.940
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.060	0.004	0.944
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	0.058	0.004	0.948
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.055	0.003	0.951
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	0.048	0.003	0.954
Energy	Transport, Road transport	N <sub>2</sub> O	0.045	0.003	0.957
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.034	0.002	0.959
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.032	0.002	0.961
Energy	Transport, Fisheries	CO <sub>2</sub>	0.032	0.002	0.963
Waste	6.D Compost production	CH <sub>4</sub>	0.031	0.002	0.965
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.031	0.002	0.967
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.002	0.969
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.027	0.002	0.971
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.026	0.002	0.972
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.026	0.002	0.974
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.026	0.002	0.975
Energy	Transport, Railways	N <sub>2</sub> O	0.025	0.002	0.977
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.023	0.001	0.979
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.022	0.001	0.980
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.020	0.001	0.981
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.020	0.001	0.982
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.020	0.001	0.984
Energy	Transport, Road transport	CH <sub>4</sub>	0.019	0.001	0.985
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.018	0.001	0.986
Energy	Transport, Railways	CO <sub>2</sub>	0.016	0.001	0.987
Waste	6.D Compost production	N <sub>2</sub> O	0.014	0.001	0.988
Energy	Transport, Residential	CO <sub>2</sub>	0.014	0.001	0.989
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.014	0.001	0.990
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.001	0.990
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.012	0.001	0.991
Energy	Transport, Military	N <sub>2</sub> O	0.011	0.001	0.992
Energy	Transport, Forestry	CO <sub>2</sub>	0.011	0.001	0.993

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Base Year Level Assessment	Base Year Cumulative Total of Lx,o
			Ex,o Mt CO <sub>2</sub> eq	Lx,o	
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.010	0.001	0.993
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.008	0.001	0.994
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.007	0.000	0.994
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.007	0.000	0.995
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.007	0.000	0.995
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.007	0.000	0.996
Energy	Transport, Military	CO <sub>2</sub>	0.006	0.000	0.996
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.005	0.000	0.996
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.004	0.000	0.996
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.004	0.000	0.997
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.004	0.000	0.997
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.003	0.000	0.997
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.000	0.997
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.000	0.998
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.003	0.000	0.998
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.003	0.000	0.998
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.002	0.000	0.998
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	0.998
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.000	0.998
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.002	0.000	0.998
Energy	Transport, Residential	N <sub>2</sub> O	0.002	0.000	0.999
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.002	0.000	0.999
Energy	Transport, Forestry	N <sub>2</sub> O	0.002	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.001	0.000	0.999
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	0.999
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.001	0.000	0.999
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	0.999
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.001	0.000	0.999
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.000	0.999
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.001	0.000	0.999
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.001	0.000	0.999
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	0.999
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.001	0.000	0.999
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.001	0.000	1.000
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.001	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.000	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2F Consumption of PFC	PFC	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Base Year Level Assessment	Base Year Cumulative Total of Lx,o
			Ex,o Mt CO <sub>2</sub> eq	Lx,o	
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0.000	0.000	1.000
<b>Total</b>			<b>15.886</b>	<b>1.000</b>	

Table A1-19 KCA for Denmark, level assessment base year incl. LULUCF, tier 2.

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Base Year Estimate  Ex,o Mt CO <sub>2</sub> eq	Base Year Level Assessment Lx,o	Base Year Cumulative Total of Lx,o
LULUCF	5.B Cropland, Organic soils	CO <sub>2</sub>	2.615	0.130	0.130
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.496	0.124	0.253
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.427	0.120	0.374
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.616	0.080	0.454
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.161	0.058	0.511
LULUCF	5.B Cropland, Mineral soils	CO <sub>2</sub>	1.071	0.053	0.564
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	0.653	0.032	0.597
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.615	0.030	0.627
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.505	0.025	0.652
Energy	Transport, Road transport	CO <sub>2</sub>	0.500	0.025	0.677
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.440	0.022	0.699
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.379	0.019	0.717
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.368	0.018	0.736
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.347	0.017	0.753
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.345	0.017	0.770
LULUCF	5(IV) Cropland Limestone	CO <sub>2</sub>	0.313	0.016	0.785
Energy	Transport, Agriculture	CO <sub>2</sub>	0.312	0.015	0.801
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.296	0.015	0.816
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.275	0.014	0.829
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.272	0.014	0.843
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	0.262	0.013	0.856
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	0.245	0.012	0.868
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	0.209	0.010	0.878
Agriculture	4B Manure Management	CH <sub>4</sub>	0.203	0.010	0.888
Energy	Transport, Agriculture	N <sub>2</sub> O	0.153	0.008	0.896
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.146	0.007	0.903
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.123	0.006	0.909
Energy	Transport, Fisheries	N <sub>2</sub> O	0.115	0.006	0.915
Industrial Proc.	2F Consumption of HFC	HFC	0.111	0.006	0.920
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.106	0.005	0.926
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.103	0.005	0.931
LULUCF	5.C Grassland, Organic soils	CO <sub>2</sub>	0.097	0.005	0.935
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.090	0.004	0.940
LULUCF	5.D Wetlands, Soils	CO <sub>2</sub>	0.085	0.004	0.944
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.064	0.003	0.947
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.060	0.003	0.950
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	0.058	0.003	0.953
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.055	0.003	0.956
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	0.048	0.002	0.958
Energy	Transport, Road transport	N <sub>2</sub> O	0.045	0.002	0.961
LULUCF	5.C Grassland, Living biomass	CO <sub>2</sub>	0.038	0.002	0.962
LULUCF	5.B Cropland, Living biomass	CO <sub>2</sub>	0.037	0.002	0.964
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.034	0.002	0.966
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.032	0.002	0.968
Energy	Transport, Fisheries	CO <sub>2</sub>	0.032	0.002	0.969
Waste	6.D Compost production	CH <sub>4</sub>	0.031	0.002	0.971
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.031	0.002	0.972
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.001	0.974
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.027	0.001	0.975
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.026	0.001	0.976
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.026	0.001	0.978
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.026	0.001	0.979
Energy	Transport, Railways	N <sub>2</sub> O	0.025	0.001	0.980
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.023	0.001	0.981
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.022	0.001	0.982
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.020	0.001	0.983
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.020	0.001	0.984
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.020	0.001	0.985
Energy	Transport, Road transport	CH <sub>4</sub>	0.019	0.001	0.986
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.018	0.001	0.987
Energy	Transport, Railways	CO <sub>2</sub>	0.016	0.001	0.988
Waste	6.D Compost production	N <sub>2</sub> O	0.014	0.001	0.989

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Base Year Estimate	Base Year Level Assessment Lx,o	Base Year Cumulative Total of Lx,o
			Ex,o Mt CO <sub>2</sub> eq		
Energy	Transport, Residential	CO <sub>2</sub>	0.014	0.001	0.989
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.014	0.001	0.990
LULUCF	5.A.2 Land converted to forest	CO <sub>2</sub>	0.013	0.001	0.991
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.001	0.991
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.012	0.001	0.992
Energy	Transport, Military	N <sub>2</sub> O	0.011	0.001	0.992
Energy	Transport, Forestry	CO <sub>2</sub>	0.011	0.001	0.993
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.010	0.000	0.993
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.008	0.000	0.994
LULUCF	5.A.1 Forest remaining forest	CO <sub>2</sub>	0.008	0.000	0.994
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.007	0.000	0.995
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.007	0.000	0.995
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.007	0.000	0.995
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.007	0.000	0.996
Energy	Transport, Military	CO <sub>2</sub>	0.006	0.000	0.996
LULUCF	5.E Settlements, Living biomass	CO <sub>2</sub>	0.006	0.000	0.996
LULUCF	5(II) Forest Land.	N <sub>2</sub> O	0.005	0.000	0.996
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.005	0.000	0.997
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.004	0.000	0.997
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.004	0.000	0.997
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.004	0.000	0.997
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.003	0.000	0.997
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.000	0.998
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.000	0.998
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.003	0.000	0.998
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.003	0.000	0.998
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.002	0.000	0.998
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	0.998
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.000	0.998
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.002	0.000	0.998
Energy	Transport, Residential	N <sub>2</sub> O	0.002	0.000	0.999
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.002	0.000	0.999
Energy	Transport, Forestry	N <sub>2</sub> O	0.002	0.000	0.999
LULUCF	5.B Cropland, Dead organic matter	CO <sub>2</sub>	0.001	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.001	0.000	0.999
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	0.999
LULUCF	5.D Wetlands, Living biomass	CO <sub>2</sub>	0.001	0.000	0.999
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.001	0.000	0.999
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	0.999
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.001	0.000	0.999
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.000	0.999
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.001	0.000	0.999
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.001	0.000	0.999
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	0.999
LULUCF	5.C Grassland, Dead organic matter	CO <sub>2</sub>	0.001	0.000	0.999
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.001	0.000	0.999
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.000	0.999
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.001	0.000	1.000
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.001	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.001	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.001	0.000	1.000
LULUCF	5.D Wetlands, Dead organic matter	CO <sub>2</sub>	0.001	0.000	1.000
LULUCF	5.E Settlements, Soils	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.000	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Base Year Estimate  Ex,o Mt CO <sub>2</sub> eq	Base Year Level Asses- sment Lx,o	Base Year Cumulative Total of Lx,o
LULUCF	5(V) Biomass Burning	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.000	0.000	1.000
LULUCF	5.E Settlements, Dead organic matter	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000
LULUCF	5(V) Biomass Burning	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2F Consumption of PFC	PFC	0.000	0.000	1.000
LULUCF	5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.000	0.000	1.000
LULUCF	5(II) Wetlands	N <sub>2</sub> O	0.000	0.000	1.000
LULUCF	5.C Grassland, Mineral soils	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0.000	0.000	1.000
<b>Total</b>			<b>20.179</b>	<b>1.000</b>	

<sup>1)</sup> The Estimates include signs, where + : emission - : removal, although in the level analyses only the absolute values are used.

Table A1-20 KCA for Denmark, level assessment 2012 excl. LULUCF, tier 2.

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Latest Year Estimate	Latest Year Level Assessment	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq	Lx,t	
Agriculture	4.D3 Leaching	N <sub>2</sub> O	1.458	0.118	0.118
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.212	0.098	0.216
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	1.138	0.092	0.307
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.909	0.073	0.381
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	0.826	0.067	0.448
Energy	Transport, Road transport	CO <sub>2</sub>	0.604	0.049	0.496
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	0.584	0.047	0.543
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.422	0.034	0.578
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.400	0.032	0.610
Industrial Proc.	2F Consumption of HFC	HFC	0.335	0.027	0.637
Energy	Transport, Agriculture	CO <sub>2</sub>	0.329	0.027	0.663
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.317	0.026	0.689
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.300	0.024	0.713
Agriculture	4B Manure Management	CH <sub>4</sub>	0.267	0.022	0.735
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.261	0.021	0.756
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.218	0.018	0.774
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.202	0.016	0.790
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.183	0.015	0.805
Energy	Transport, Agriculture	N <sub>2</sub> O	0.177	0.014	0.819
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.156	0.013	0.832
Waste	6.D Compost production	N <sub>2</sub> O	0.137	0.011	0.843
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.136	0.011	0.854
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.134	0.011	0.865
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.111	0.009	0.873
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.110	0.009	0.882
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	0.103	0.008	0.891
Waste	6.D Compost production	CH <sub>4</sub>	0.097	0.008	0.899
Energy	Transport, Fisheries	N <sub>2</sub> O	0.094	0.008	0.906
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	0.093	0.007	0.914
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.078	0.006	0.920
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.063	0.005	0.925
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.061	0.005	0.930
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.060	0.005	0.935
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.058	0.005	0.939
Energy	Transport, Road transport	N <sub>2</sub> O	0.058	0.005	0.944
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.048	0.004	0.948
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.041	0.003	0.951
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.040	0.003	0.954
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	0.034	0.003	0.957
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.034	0.003	0.960
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.032	0.003	0.963
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.029	0.002	0.965
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.028	0.002	0.967
Energy	Transport, Fisheries	CO <sub>2</sub>	0.026	0.002	0.969
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.023	0.002	0.971
Energy	Transport, Residential	CO <sub>2</sub>	0.022	0.002	0.973
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.022	0.002	0.975
Energy	Transport, Railways	N <sub>2</sub> O	0.021	0.002	0.976
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.021	0.002	0.978
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.020	0.002	0.980
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.019	0.002	0.981
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.018	0.001	0.983
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.015	0.001	0.984
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.015	0.001	0.985
Energy	Transport, Railways	CO <sub>2</sub>	0.013	0.001	0.986
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	0.013	0.001	0.987
Energy	Transport, Military	N <sub>2</sub> O	0.013	0.001	0.988
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.011	0.001	0.989
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.011	0.001	0.990
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.010	0.001	0.991
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.008	0.001	0.992
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.007	0.001	0.992



Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Latest Year Estimate	Latest Year Level Assessment	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq	Lx,t	
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.006	0.001	0.993
Energy	Transport, Military	CO <sub>2</sub>	0.006	0.001	0.993
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.006	0.000	0.994
Energy	Transport, Forestry	CO <sub>2</sub>	0.005	0.000	0.994
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.005	0.000	0.994
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.005	0.000	0.995
Energy	Transport, Road transport	CH <sub>4</sub>	0.005	0.000	0.995
Industrial Proc.	2F Consumption of PFC	PFC	0.004	0.000	0.996
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.004	0.000	0.996
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.003	0.000	0.996
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.003	0.000	0.996
Energy	Transport, Residential	N <sub>2</sub> O	0.003	0.000	0.997
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.003	0.000	0.997
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.003	0.000	0.997
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.003	0.000	0.997
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.002	0.000	0.998
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.002	0.000	0.998
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.002	0.000	0.998
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	0.998
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.002	0.000	0.998
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.002	0.000	0.998
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.002	0.000	0.999
Energy	Transport, Forestry	N <sub>2</sub> O	0.002	0.000	0.999
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.002	0.000	0.999
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	0.999
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.001	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.001	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.001	0.000	0.999
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.001	0.000	0.999
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.001	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.001	0.000	0.999
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	0.999
Solvent and Other Prod. Use	3D1 Other - Use of N2O for Anaesthesia	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.001	0.000	1.000
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.001	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Latest Year Estimate	Latest Year Level Assessment	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq	Lx,t	
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	0.000	0.000	1.000
<b>Total</b>			<b>12.386</b>	<b>1.000</b>	

Table A1-21 KCA for Denmark, level assessment 2012 incl. LULUCF, tier 2.

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Latest Year Estimate  Ex,t Mt CO <sub>2</sub> eq	Latest Year Level Assessment Lx,t	Latest Year Cumulative Total of Lx,t
LULUCF	5.B Cropland, Organic soils	CO <sub>2</sub>	1.794	0.113	0.113
Agriculture	4.D3 Leaching	N <sub>2</sub> O	1.458	0.092	0.205
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.212	0.076	0.281
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	1.138	0.072	0.353
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.909	0.057	0.410
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	0.826	0.052	0.462
LULUCF	5.A.1 Forest remaining forest	CO <sub>2</sub>	0.680	0.043	0.505
Energy	Transport, Road transport	CO <sub>2</sub>	0.604	0.038	0.543
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	0.584	0.037	0.580
LULUCF	5.B Cropland, Mineral soils	CO <sub>2</sub>	0.437	0.028	0.607
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.422	0.027	0.634
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.400	0.025	0.659
Industrial Proc.	2F Consumption of HFC	HFC	0.335	0.021	0.680
Energy	Transport, Agriculture	CO <sub>2</sub>	0.329	0.021	0.701
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.317	0.020	0.721
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.300	0.019	0.740
Agriculture	4B Manure Management	CH <sub>4</sub>	0.267	0.017	0.757
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.261	0.016	0.773
LULUCF	5.C Grassland, Living biomass	CO <sub>2</sub>	0.236	0.015	0.788
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.218	0.014	0.802
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.202	0.013	0.815
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.183	0.012	0.826
Energy	Transport, Agriculture	N <sub>2</sub> O	0.177	0.011	0.837
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.156	0.010	0.847
Waste	6.D Compost production	N <sub>2</sub> O	0.137	0.009	0.856
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.136	0.009	0.864
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.134	0.008	0.873
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.111	0.007	0.880
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.110	0.007	0.887
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	0.103	0.006	0.893
LULUCF	5.B Cropland, Living biomass	CO <sub>2</sub>	0.098	0.006	0.899
Waste	6.D Compost production	CH <sub>4</sub>	0.097	0.006	0.906
LULUCF	5(IV) Cropland Limestone	CO <sub>2</sub>	0.097	0.006	0.912
Energy	Transport, Fisheries	N <sub>2</sub> O	0.094	0.006	0.918
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	0.093	0.006	0.923
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.078	0.005	0.928
LULUCF	5.C Grassland, Organic soils	CO <sub>2</sub>	0.071	0.004	0.933
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.063	0.004	0.937
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.061	0.004	0.941
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.060	0.004	0.944
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.058	0.004	0.948
Energy	Transport, Road transport	N <sub>2</sub> O	0.058	0.004	0.952
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.048	0.003	0.955
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.041	0.003	0.957
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.040	0.002	0.960
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	0.034	0.002	0.962
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.034	0.002	0.964
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.032	0.002	0.966
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.029	0.002	0.968
LULUCF	5.E Settlements, Living biomass	CO <sub>2</sub>	0.029	0.002	0.970
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.028	0.002	0.972
Energy	Transport, Fisheries	CO <sub>2</sub>	0.026	0.002	0.973
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.023	0.001	0.975
Energy	Transport, Residential	CO <sub>2</sub>	0.022	0.001	0.976
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.022	0.001	0.977
Energy	Transport, Railways	N <sub>2</sub> O	0.021	0.001	0.979
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.021	0.001	0.980
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.020	0.001	0.981
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.019	0.001	0.983
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.018	0.001	0.984
LULUCF	5.E Settlements, Soils	CO <sub>2</sub>	0.018	0.001	0.985

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Latest Year Estimate	Latest Year Level Asses- ment Lx,t	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq		
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.015	0.001	0.986
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.015	0.001	0.987
Energy	Transport, Railways	CO <sub>2</sub>	0.013	0.001	0.988
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	0.013	0.001	0.988
Energy	Transport, Military	N <sub>2</sub> O	0.013	0.001	0.989
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.011	0.001	0.990
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.011	0.001	0.991
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.010	0.001	0.991
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.008	0.001	0.992
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.007	0.000	0.992
LULUCF	5.A.2 Land converted to forest	CO <sub>2</sub>	0.007	0.000	0.993
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.006	0.000	0.993
Energy	Transport, Military	CO <sub>2</sub>	0.006	0.000	0.993
LULUCF	5.B Cropland, Dead organic matter	CO <sub>2</sub>	0.006	0.000	0.994
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.006	0.000	0.994
Energy	Transport, Forestry	CO <sub>2</sub>	0.005	0.000	0.994
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.005	0.000	0.995
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.005	0.000	0.995
Energy	Transport, Road transport	CH <sub>4</sub>	0.005	0.000	0.995
Industrial Proc.	2F Consumption of PFC	PFC	0.004	0.000	0.996
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.004	0.000	0.996
LULUCF	5(II) Forest Land.	N <sub>2</sub> O	0.004	0.000	0.996
LULUCF	5.C Grassland, Dead organic matter	CO <sub>2</sub>	0.004	0.000	0.996
LULUCF	5.C Grassland, Mineral soils	CO <sub>2</sub>	0.003	0.000	0.997
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.003	0.000	0.997
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.003	0.000	0.997
Energy	Transport, Residential	N <sub>2</sub> O	0.003	0.000	0.997
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.003	0.000	0.997
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.003	0.000	0.998
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.003	0.000	0.998
LULUCF	5.D Wetlands, Soils	CO <sub>2</sub>	0.003	0.000	0.998
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.002	0.000	0.998
Solvent and Other Prod. Use	3C Chemical products, manufacturing and pro- cessing	CO <sub>2</sub>	0.002	0.000	0.998
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.002	0.000	0.998
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.000	0.998
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.002	0.000	0.999
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.002	0.000	0.999
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.002	0.000	0.999
Energy	Transport, Forestry	N <sub>2</sub> O	0.002	0.000	0.999
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.002	0.000	0.999
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.000	0.999
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.001	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.001	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.001	0.000	0.999
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.001	0.000	0.999
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.001	0.000	0.999
LULUCF	5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O	0.001	0.000	0.999
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.001	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.000	1.000
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0.001	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.001	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.001	0.000	1.000
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.001	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	1.000

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Latest Year Estimate	Latest Year Level Assessment Lx,t	Latest Year Cumulative Total of Lx,t
			Ex,t Mt CO <sub>2</sub> eq		
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	1.000
LULUCF	5(II) Wetlands	N <sub>2</sub> O	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	1.000
LULUCF	5.D Wetlands, Living biomass	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	1.000
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	1.000
LULUCF	5(V) Biomass Burning	N <sub>2</sub> O	0.000	0.000	1.000
LULUCF	5.E Settlements, Dead organic matter	CO <sub>2</sub>	0.000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	1.000
LULUCF	5(V) Biomass Burning	CH <sub>4</sub>	0.000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.000	0.000	1.000
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	0.000	0.000	1.000
LULUCF	5.D Wetlands, Dead organic matter	CO <sub>2</sub>	0.000	0.000	1.000
<b>Total</b>			<b>15.872</b>	<b>1.000</b>	

<sup>1)</sup> The Estimates include signs, where + : emission - : removal, although in the level analyses only the absolute values are used.

Table A1-22 KCA for Denmark, trend assessment 1990-2012 excl. LULUCF, tier 2.

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Latest Year Estimate	Trend Assessment	Contribution to Trend	Cumulative
			Ex,o Mt CO <sub>2</sub> eq	Ex,t Mt CO <sub>2</sub> eq	Tx,t		
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.354	1.103	0.9862	0.122	0.122
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.038	0.091	0.9064	0.112	0.234
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.447	1.430	0.5966	0.074	0.307
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.366	0.698	0.5576	0.069	0.376
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.112	1.161	0.4977	0.061	0.438
Industrial Proc.	2F Consumption of HFC	HFC	0.218	0.657	0.3655	0.045	0.483
Energy	Transport, Road transport	CO <sub>2</sub>	9.284	11.224	0.3336	0.041	0.524
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.044	0.011	0.3175	0.039	0.563
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	1.043	0.000	0.2842	0.035	0.598
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.839	1.021	0.2353	0.029	0.627
Waste	6.D Compost production	N <sub>2</sub> O	0.013	0.127	0.1831	0.023	0.650
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	4.547	0.742	0.1772	0.022	0.672
Agriculture	4B Manure Management	CH <sub>4</sub>	0.985	1.297	0.1672	0.021	0.692
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.573	1.397	0.1569	0.019	0.712
Energy	Transport, Agriculture	CO <sub>2</sub>	1.272	1.343	0.1388	0.017	0.729
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	3.247	2.904	0.1376	0.017	0.746
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.068	0.027	0.1367	0.017	0.763
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.016	0.024	0.1325	0.016	0.779
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	23.834	10.005	0.1172	0.014	0.794
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.496	0.295	0.1139	0.014	0.808
Waste	6.D Compost production	CH <sub>4</sub>	0.029	0.090	0.1072	0.013	0.821
Energy	Transport, Agriculture	N <sub>2</sub> O	0.015	0.018	0.0909	0.011	0.832
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.600	0.391	0.0869	0.011	0.843
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.102	0.135	0.0860	0.011	0.853
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.047	0.0837	0.010	0.864
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4.335	8.293	0.0818	0.010	0.874
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.269	0.256	0.0804	0.010	0.884
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.011	0.013	0.0796	0.010	0.894
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.007	0.016	0.0626	0.008	0.901
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.361	0.311	0.0601	0.007	0.909
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.074	0.171	0.0596	0.007	0.916
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.334	0.211	0.0591	0.007	0.923
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.015	0.008	0.0458	0.006	0.929
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	2.496	0.571	0.0440	0.005	0.935
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.048	0.099	0.0376	0.005	0.939
Energy	Transport, Road transport	N <sub>2</sub> O	0.091	0.116	0.0352	0.004	0.944
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.082	0.032	0.0310	0.004	0.947
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.748	0.399	0.0282	0.003	0.951
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.290	0.198	0.0282	0.003	0.954
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.107	0.118	0.0277	0.003	0.958
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.039	0.0264	0.003	0.961
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.415	0.628	0.0248	0.003	0.964
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.366	0.002	0.0213	0.003	0.967
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.022	0.081	0.0210	0.003	0.969
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.023	0.041	0.0186	0.002	0.972
Energy	Transport, Residential	CO <sub>2</sub>	0.039	0.062	0.0170	0.002	0.974
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.065	0.074	0.0144	0.002	0.975
Energy	Transport, Road transport	CH <sub>4</sub>	0.047	0.011	0.0138	0.002	0.977
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.000	0.001	0.0115	0.001	0.979
Energy	Transport, Fisheries	N <sub>2</sub> O	0.011	0.009	0.0112	0.001	0.980
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.015	0.037	0.0111	0.001	0.981
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.011	0.0098	0.001	0.983
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.816	0.906	0.0096	0.001	0.984
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.003	0.0095	0.001	0.985
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.000	0.001	0.0082	0.001	0.986
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.243	0.133	0.0080	0.001	0.987
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.006	0.0071	0.001	0.988
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.882	0.871	0.0068	0.001	0.989
Industrial Proc.	2F Consumption of PFC	PFC	0.001	0.009	0.0060	0.001	0.989
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.001	0.0059	0.001	0.990

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Latest Year Estimate	Trend Assessment	Contribution to Trend	Cumulative
			Ex,o Mt CO <sub>2</sub> eq	Ex,t Mt CO <sub>2</sub> eq	Tx,t		
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.116	0.040	0.0048	0.001	0.991
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.001	0.031	0.0047	0.001	0.991
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.006	0.0047	0.001	0.992
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.003	0.002	0.0046	0.001	0.992
Energy	Transport, Forestry	CO <sub>2</sub>	0.036	0.017	0.0043	0.001	0.993
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.005	0.120	0.0038	0.000	0.993
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.184	0.091	0.0036	0.000	0.994
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.302	0.195	0.0035	0.000	0.994
Energy	Transport, Railways	N <sub>2</sub> O	0.003	0.002	0.0034	0.000	0.995
Energy	Transport, Fisheries	CO <sub>2</sub>	0.591	0.479	0.0029	0.000	0.995
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	0.0028	0.000	0.995
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.017	0.018	0.0027	0.000	0.996
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.003	0.0025	0.000	0.996
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.138	0.074	0.0023	0.000	0.996
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.002	0.0022	0.000	0.997
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.028	0.000	0.0022	0.000	0.997
Energy	Transport, Railways	CO <sub>2</sub>	0.297	0.249	0.0021	0.000	0.997
Energy	Transport, Military	CO <sub>2</sub>	0.119	0.116	0.0021	0.000	0.997
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.001	0.0021	0.000	0.998
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.014	0.026	0.0016	0.000	0.998
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.002	0.0014	0.000	0.998
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.001	0.0014	0.000	0.998
Solvent and Other Prod. Use	3D1 Other - Use of N2O for Anaesthesia	N <sub>2</sub> O	0.000	0.009	0.0010	0.000	0.998
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.001	0.000	0.0009	0.000	0.998
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.002	0.0009	0.000	0.999
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.001	0.0009	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.002	0.004	0.0008	0.000	0.999
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.023	0.022	0.0008	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.013	0.007	0.0007	0.000	0.999
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.019	0.012	0.0006	0.000	0.999
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.004	0.000	0.0006	0.000	0.999
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.011	0.001	0.0006	0.000	0.999
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.002	0.0006	0.000	0.999
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	0.0006	0.000	0.999
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.061	0.044	0.0005	0.000	0.999
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.050	0.032	0.0004	0.000	0.999
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	0.0004	0.000	0.999
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	0.0004	0.000	1.000
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.015	0.006	0.0004	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	0.0004	0.000	1.000
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.001	0.0004	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.005	0.003	0.0004	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.001	0.0003	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.001	0.0003	0.000	1.000
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.017	0.010	0.0003	0.000	1.000
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	0.0002	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	0.0002	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.002	0.0002	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	0.0002	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	0.0001	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.004	0.002	0.0001	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	0.0001	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.001	0.0001	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	0.0001	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.001	0.0001	0.000	1.000

Tier 2 Analysis IPCC Source Categories (LULUCF excluded)		DK GHG	Base Year Estimate	Latest Year Estimate	Trend Assessment	Contribution to Trend	Cumulative
			Ex,o Mt CO <sub>2</sub> eq	Ex,t Mt CO <sub>2</sub> eq	Tx,t		
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	0.0001	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	0.0001	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	0.0001	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.023	0.017	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
<b>Total</b>			<b>68.943</b>	<b>51.637</b>			



Table A1-23 KCA for Denmark, trend assessment 1990-2012 incl. LULUCF, tier 2.

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Base Year Estimate Ex,o Mt CO <sub>2</sub> eq	Latest Year Estimate Ex,t Mt CO <sub>2</sub> eq	Trend Asses- ment Tx,t	Contri- bution to Trend	Cumula- tive
LULUCF	5.A.1 Forest remaining forest	CO <sub>2</sub>	0.050	-4.491	0.9208	0.100	0.100
Energy	Stationary Combustion, BIOMASS	N <sub>2</sub> O	0.038	0.091	0.8731	0.095	0.194
Agriculture	4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2.354	1.103	0.7034	0.076	0.271
Agriculture	4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1.112	1.161	0.5622	0.061	0.332
LULUCF	5.B Cropland, Mineral soils	CO <sub>2</sub>	1.415	0.577	0.3983	0.043	0.375
Waste	6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1.366	0.698	0.3765	0.041	0.416
Energy	Transport, Road transport	CO <sub>2</sub>	9.284	11.224	0.3526	0.038	0.454
Industrial Proc.	2F Consumption of HFC	HFC	0.218	0.657	0.3484	0.038	0.492
Agriculture	4.D3 Leaching	N <sub>2</sub> O	2.447	1.430	0.3363	0.036	0.528
LULUCF	5.C Grassland, Living biomass	CO <sub>2</sub>	0.075	0.463	0.2823	0.031	0.559
Energy	Stationary Combustion, LIQUID	N <sub>2</sub> O	0.044	0.011	0.2561	0.028	0.586
Energy	Transport, Industry (mobile)	CO <sub>2</sub>	0.839	1.021	0.2482	0.027	0.613
Industrial Proc.	2B2 Nitric acid production	N <sub>2</sub> O	1.043	0.000	0.2407	0.026	0.639
LULUCF	5.B Cropland, Living biomass	CO <sub>2</sub>	-0.074	0.193	0.1986	0.022	0.661
Agriculture	4A Enteric Fermentation	CH <sub>4</sub>	3.247	2.904	0.1842	0.020	0.681
Agriculture	4B Manure Management	CH <sub>4</sub>	0.985	1.297	0.1727	0.019	0.700
Waste	6.D Compost production	N <sub>2</sub> O	0.013	0.127	0.1709	0.019	0.718
LULUCF	5(IV) Cropland Limestone	CO <sub>2</sub>	0.623	0.192	0.1581	0.017	0.735
Energy	Transport, Agriculture	CO <sub>2</sub>	1.272	1.343	0.1558	0.017	0.752
Energy	Stationary Combustion, Fossil waste	CO <sub>2</sub>	0.573	1.397	0.1510	0.016	0.768
Energy	Stationary Combustion, Gas oil	CO <sub>2</sub>	4.547	0.742	0.1461	0.016	0.784
Energy	Stationary Combustion, GAS	N <sub>2</sub> O	0.016	0.024	0.1335	0.014	0.799
Energy	Stationary Combustion, SOLID	N <sub>2</sub> O	0.068	0.027	0.1031	0.011	0.810
Waste	6.D Compost production	CH <sub>4</sub>	0.029	0.090	0.1021	0.011	0.821
Agriculture	4.D1.3 N-fixing crops	N <sub>2</sub> O	0.269	0.256	0.0984	0.011	0.832
Energy	Transport, Agriculture	N <sub>2</sub> O	0.015	0.018	0.0975	0.011	0.842
Energy	Stationary Combustion, BIOMASS	CH <sub>4</sub>	0.102	0.135	0.0887	0.010	0.852
Agriculture	4.D1.4 Crop Residue	N <sub>2</sub> O	0.361	0.311	0.0877	0.010	0.861
Energy	Stationary Combustion, Coal	CO <sub>2</sub>	23.834	10.005	0.0873	0.009	0.871
Energy	Transport, Industry (mobile)	N <sub>2</sub> O	0.011	0.013	0.0830	0.009	0.880
Energy	Stationary Combustion, Natural gas	CO <sub>2</sub>	4.335	8.293	0.0801	0.009	0.889
Energy	1.B.2 Refinery processes	CH <sub>4</sub>	0.001	0.047	0.0777	0.008	0.897
LULUCF	5.D Wetlands, Soils	CO <sub>2</sub>	0.085	0.002	0.0749	0.008	0.905
Agriculture	4.D3 Atmospheric deposition	N <sub>2</sub> O	0.496	0.295	0.0617	0.007	0.912
Energy	Stationary Combustion, WASTE	N <sub>2</sub> O	0.007	0.016	0.0603	0.007	0.918
Energy	Transport, Commercial/institutional	CO <sub>2</sub>	0.074	0.171	0.0575	0.006	0.925
Energy	Transport, Road transport	N <sub>2</sub> O	0.091	0.116	0.0366	0.004	0.928
Energy	Transport, Navigation (small boats)	CO <sub>2</sub>	0.048	0.099	0.0366	0.004	0.932
Energy	Stationary Combustion, Residual oil	CO <sub>2</sub>	2.496	0.571	0.0357	0.004	0.936
LULUCF	5.E Settlements, Living biomass	CO <sub>2</sub>	0.011	0.056	0.0330	0.004	0.940
Industrial Proc.	2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	0.107	0.118	0.0304	0.003	0.943
Energy	Transport, Navigation (large vessels)	N <sub>2</sub> O	0.015	0.008	0.0297	0.003	0.946
Agriculture	4.B Manure Management	N <sub>2</sub> O	0.600	0.391	0.0272	0.003	0.949
Agriculture	4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	0.028	0.039	0.0269	0.003	0.952
Energy	Stationary Combustion, Petroleum coke	CO <sub>2</sub>	0.415	0.628	0.0249	0.003	0.955
Agriculture	4.D.2 Grassing animals	N <sub>2</sub> O	0.334	0.211	0.0248	0.003	0.958
Waste	6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	0.082	0.032	0.0236	0.003	0.960
LULUCF	5.E Settlements, Soils	CO <sub>2</sub>	0.001	0.035	0.0234	0.003	0.963
Energy	Transport, Fisheries	N <sub>2</sub> O	0.011	0.009	0.0204	0.002	0.965
Solvent and Other Prod. Use	3D5 Use of candles	CO <sub>2</sub>	0.022	0.081	0.0199	0.002	0.967
Energy	Transport, Navigation (large vessels)	CO <sub>2</sub>	0.748	0.399	0.0183	0.002	0.969
Waste	6 B. Wastewater Handling - Direct	N <sub>2</sub> O	0.023	0.041	0.0183	0.002	0.971
Energy	Stationary Combustion, Kerosene	CO <sub>2</sub>	0.366	0.002	0.0180	0.002	0.973
Energy	Transport, Residential	CO <sub>2</sub>	0.039	0.062	0.0170	0.002	0.975
Waste	6 B. Wastewater Handling	CH <sub>4</sub>	0.065	0.074	0.0156	0.002	0.977
Waste	6.D Accidental fires, buildings	CO <sub>2</sub>	0.011	0.011	0.0120	0.001	0.978
Energy	Transport, Road transport	CH <sub>4</sub>	0.047	0.011	0.0112	0.001	0.979
Energy	Transport, Navigation (small boats)	N <sub>2</sub> O	0.000	0.001	0.0110	0.001	0.980
Energy	1.B.2 Off-shore activities	CH <sub>4</sub>	0.015	0.037	0.0107	0.001	0.981
Energy	Stationary Combustion, Refinery gas	CO <sub>2</sub>	0.816	0.906	0.0104	0.001	0.983
Waste	6.D Accidental fires, vehicles	CO <sub>2</sub>	0.006	0.006	0.0092	0.001	0.984

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Base Year Estimate Ex,o Mt CO <sub>2</sub> eq	Latest Year Estimate Ex,t Mt CO <sub>2</sub> eq	Trend Asses- ment Tx,t	Contribu- tion to Trend	Cumula- tive
Industrial Proc.	2A1 Cement production	CO <sub>2</sub>	0.882	0.871	0.0080	0.001	0.984
Energy	Transport, Commercial/institutional	N <sub>2</sub> O	0.000	0.001	0.0079	0.001	0.985
Energy	Stationary Combustion, SOLID	CH <sub>4</sub>	0.013	0.003	0.0077	0.001	0.986
LULUCF	5.C Grassland, Organic soils	CO <sub>2</sub>	0.107	0.079	0.0070	0.001	0.987
LULUCF	5.B Cropland, Dead organic matter	CO <sub>2</sub>	0.003	0.012	0.0070	0.001	0.988
Energy	Transport, Military	N <sub>2</sub> O	0.001	0.001	0.0065	0.001	0.988
LULUCF	5.B Cropland, Organic soils	CO <sub>2</sub>	2.887	1.981	0.0057	0.001	0.989
Industrial Proc.	2F Consumption of PFC	PFC	0.001	0.009	0.0056	0.001	0.990
Energy	Transport, Fisheries	CO <sub>2</sub>	0.591	0.479	0.0054	0.001	0.990
Energy	Transport, Railways	N <sub>2</sub> O	0.003	0.002	0.0053	0.001	0.991
Energy	Transport, Civil aviation	CO <sub>2</sub>	0.243	0.133	0.0050	0.001	0.991
Energy	Stationary Combustion, GAS	CH <sub>4</sub>	0.003	0.006	0.0046	0.001	0.992
LULUCF	5.C Grassland, Mineral soils	CO <sub>2</sub>	0.000	0.005	0.0045	0.000	0.992
Energy	Biogas fuelled engines, BIOMASS	CH <sub>4</sub>	0.001	0.031	0.0044	0.000	0.993
LULUCF	5.C Grassland, Dead organic matter	CO <sub>2</sub>	0.002	0.007	0.0041	0.000	0.993
Industrial Proc.	2A2 Lime production	CO <sub>2</sub>	0.116	0.040	0.0037	0.000	0.994
Energy	Natural gas fuelled engines, GAS	CH <sub>4</sub>	0.005	0.120	0.0035	0.000	0.994
LULUCF	5.A.2 Land converted to forest	CO <sub>2</sub>	0.077	0.038	0.0034	0.000	0.994
Energy	Transport, Railways	CO <sub>2</sub>	0.297	0.249	0.0033	0.000	0.995
Energy	1.B.2 Land based activities	CH <sub>4</sub>	0.017	0.018	0.0031	0.000	0.995
Energy	Transport, Forestry	CO <sub>2</sub>	0.036	0.017	0.0031	0.000	0.995
Energy	Transport, Residential	N <sub>2</sub> O	0.000	0.000	0.0027	0.000	0.996
Waste	6.D Accidental fires, buildings	CH <sub>4</sub>	0.001	0.001	0.0025	0.000	0.996
Energy	Transport, Commercial/institutional	CH <sub>4</sub>	0.002	0.003	0.0025	0.000	0.996
Energy	Stationary Combustion, LPG	CO <sub>2</sub>	0.184	0.091	0.0025	0.000	0.996
Energy	Transport, Military	CO <sub>2</sub>	0.119	0.116	0.0025	0.000	0.997
Solvent and Other Prod. Use	3D5 Consumption of fireworks	N <sub>2</sub> O	0.001	0.002	0.0021	0.000	0.997
Industrial Proc.	2C1 Iron and steel production	CO <sub>2</sub>	0.028	0.000	0.0019	0.000	0.997
Industrial Proc.	2A3 Limestone and dolomite use	CO <sub>2</sub>	0.014	0.026	0.0015	0.000	0.997
Energy	Transport, Civil aviation	N <sub>2</sub> O	0.003	0.002	0.0015	0.000	0.998
Energy	Stationary Combustion, Coke	CO <sub>2</sub>	0.138	0.074	0.0015	0.000	0.998
Energy	Stationary Combustion, WASTE	CH <sub>4</sub>	0.001	0.002	0.0014	0.000	0.998
LULUCF	5.D Wetlands, Living biomass	CO <sub>2</sub>	0.003	0.000	0.0014	0.000	0.998
Energy	1.B.2 Flaring off-shore	CO <sub>2</sub>	0.302	0.195	0.0013	0.000	0.998
Energy	Stationary Combustion, LIQUID	CH <sub>4</sub>	0.003	0.001	0.0010	0.000	0.998
LULUCF	5(III) Disturbance, Land converted to cropland	N <sub>2</sub> O	0.000	0.001	0.0010	0.000	0.998
Energy	1.B.2 Flaring in refinery	CO <sub>2</sub>	0.023	0.022	0.0010	0.000	0.998
Solvent and Other Prod. Use	3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0.000	0.009	0.0009	0.000	0.999
Agriculture	4F Field burning of agricultural residues	CH <sub>4</sub>	0.002	0.002	0.0009	0.000	0.999
Energy	Transport, Residential	CH <sub>4</sub>	0.001	0.001	0.0009	0.000	0.999
Energy	1.B.2 Off-shore activities	CO <sub>2</sub>	0.002	0.004	0.0008	0.000	0.999
Energy	Transport, Agriculture	CH <sub>4</sub>	0.002	0.002	0.0007	0.000	0.999
Solvent and Other Prod. Use	3D5 Other	CO <sub>2</sub>	0.061	0.044	0.0007	0.000	0.999
Energy	Transport, Forestry	N <sub>2</sub> O	0.000	0.000	0.0007	0.000	0.999
LULUCF	5(II) Forest Land.	N <sub>2</sub> O	0.016	0.012	0.0006	0.000	0.999
Waste	6.D Accidental fires, vehicles	CH <sub>4</sub>	0.000	0.000	0.0006	0.000	0.999
LULUCF	5.D Wetlands, Dead organic matter	CO <sub>2</sub>	0.001	0.000	0.0005	0.000	0.999
Energy	1.B.2 Transmission of natural gas	CH <sub>4</sub>	0.004	0.000	0.0005	0.000	0.999
Energy	Stationary Combustion, BKB	CO <sub>2</sub>	0.011	0.001	0.0005	0.000	0.999
Agriculture	4.D1.5 Cultivation of histosols	N <sub>2</sub> O	0.290	0.198	0.0004	0.000	0.999
Solvent and Other Prod. Use	3A Paint application	CO <sub>2</sub>	0.013	0.007	0.0004	0.000	0.999
Energy	Transport, Navigation (small boats)	CH <sub>4</sub>	0.000	0.001	0.0004	0.000	0.999
Energy	Transport, Forestry	CH <sub>4</sub>	0.000	0.000	0.0004	0.000	1.000
Agriculture	4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	0.001	0.001	0.0003	0.000	1.000
Industrial Proc.	2A7c Expanded clay	CO <sub>2</sub>	0.015	0.006	0.0003	0.000	1.000
Energy	1.B.2. Flaring off-shore	CH <sub>4</sub>	0.001	0.000	0.0003	0.000	1.000
LULUCF	5(V) Biomass Burning	CH <sub>4</sub>	0.001	0.000	0.0003	0.000	1.000
Solvent and Other Prod. Use	3C Chemical products, manufacturing and processing	CO <sub>2</sub>	0.019	0.012	0.0003	0.000	1.000

Tier 2 Analysis IPCC Source Categories (LU- LUCF included)		DK GHG	Base Year Estimate Ex,o Mt CO <sub>2</sub> eq	Latest Year Estimate Ex,t Mt CO <sub>2</sub> eq	Trend Asses- sment Tx,t	Contribu- tion to Trend	Cumula- tive
Energy	1.B.2 Flaring in refinery	N <sub>2</sub> O	0.000	0.000	0.0003	0.000	1.000
LULUCF	5.E Settlements, Dead organic matter	CO <sub>2</sub>	0.001	0.000	0.0002	0.000	1.000
Energy	1.B.2 Flaring off-shore	N <sub>2</sub> O	0.001	0.000	0.0002	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CH <sub>4</sub>	0.005	0.003	0.0002	0.000	1.000
LULUCF	5(V) Biomass Burning	N <sub>2</sub> O	0.000	0.000	0.0002	0.000	1.000
Industrial Proc.	2A6 Road paving with asphalt	CO <sub>2</sub>	0.002	0.002	0.0002	0.000	1.000
Industrial Proc.	2G Lubricants	CO <sub>2</sub>	0.050	0.032	0.0002	0.000	1.000
Waste	6.C Incineration of carcasses	N <sub>2</sub> O	0.000	0.000	0.0002	0.000	1.000
Industrial Proc.	2A7a Glass and Glass wool	CO <sub>2</sub>	0.017	0.010	0.0002	0.000	1.000
Energy	Transport, Industry (mobile)	CH <sub>4</sub>	0.001	0.001	0.0002	0.000	1.000
Solvent and Other Prod. Use	3D5 Consumption of fireworks	CO <sub>2</sub>	0.000	0.000	0.0002	0.000	1.000
Industrial Proc.	2A7b Yellow bricks	CO <sub>2</sub>	0.023	0.017	0.0001	0.000	1.000
Waste	6.C Incineration of corpses	N <sub>2</sub> O	0.000	0.000	0.0001	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.000	0.000	0.0001	0.000	1.000
Industrial Proc.	2B5 Catalysts/Fertilizers, Pesticides and Sulphuric acid	CO <sub>2</sub>	0.001	0.001	0.0001	0.000	1.000
Energy	Transport, Fisheries	CH <sub>4</sub>	0.000	0.000	0.0001	0.000	1.000
Industrial Proc.	2D2 Food and Drink	CO <sub>2</sub>	0.004	0.002	0.0001	0.000	1.000
Energy	1.B.2 Venting in gas storage	CH <sub>4</sub>	0.001	0.001	0.0001	0.000	1.000
LULUCF	5(II) Wetlands	N <sub>2</sub> O	0.000	0.000	0.0001	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of candles	N <sub>2</sub> O	0.000	0.000	0.0001	0.000	1.000
Energy	Transport, Navigation (large vessels)	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Railways	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Civil aviation	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	Transport, Military	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2. Flaring in refinery	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of carcasses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Waste	6.C Incineration of corpses	CH <sub>4</sub>	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3D5 Use of tobacco	N <sub>2</sub> O	0.000	0.000	0.0000	0.000	1.000
Industrial Proc.	2A5 Asphalt roofing	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Land based activities	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Energy	1.B.2 Venting in gas storage	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
Solvent and Other Prod. Use	3B Degreasing and dry cleaning	CO <sub>2</sub>	0.000	0.000	0.0000	0.000	1.000
<b>Total</b>			<b>74.225</b>	<b>50.799</b>			

<sup>1)</sup> The Estimates include signs, where + : emission - : removal, although in the level analyses only the absolute values are used.

## **Annex 2 - Detailed discussion of methodology and data for estimation of CO<sub>2</sub> emission from fossil fuel combustion**

Please refer to Annex 3A and 3B.

## **Annex 3 - Other detailed methodological descriptions for individual source or sink categories (where relevant)**

Annex 3A – Stationary Combustion

Annex 3B – Transport

Annex 3C – Industrial Processes

Annex 3D – Solvents and Other Product Use

Annex 3E – Agriculture

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## Annex 3A - Stationary combustion

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## Annex 3A-1 Correspondence list between SNAP and CRF source categories

Table 3A-1.1 Correspondence list between SNAP and CRF source categories for stationary combustion.

<b>SNAP_id</b>	<b>SNAP</b>	<b>CRF_id</b>	<b>CRF_name</b>
010100	Public power	1A1a	Electricity and heat production
010101	Combustion plants >= 300 MW (boilers)	1A1a	Electricity and heat production
010102	Combustion plants >= 50 and < 300 MW (boilers)	1A1a	Electricity and heat production
010103	Combustion plants < 50 MW (boilers)	1A1a	Electricity and heat production
010104	Gas turbines	1A1a	Electricity and heat production
010105	Stationary engines	1A1a	Electricity and heat production
010200	District heating plants	1A1a	Electricity and heat production
010201	Combustion plants >= 300 MW (boilers)	1A1a	Electricity and heat production
010202	Combustion plants >= 50 and < 300 MW (boilers)	1A1a	Electricity and heat production
010203	Combustion plants < 50 MW (boilers)	1A1a	Electricity and heat production
010204	Gas turbines	1A1a	Electricity and heat production
010205	Stationary engines	1A1a	Electricity and heat production
010300	Petroleum refining plants	1A1b	Petroleum refining
010301	Combustion plants >= 300 MW (boilers)	1A1b	Petroleum refining
010302	Combustion plants >= 50 and < 300 MW (boilers)	1A1b	Petroleum refining
010303	Combustion plants < 50 MW (boilers)	1A1b	Petroleum refining
010304	Gas turbines	1A1b	Petroleum refining
010305	Stationary engines	1A1b	Petroleum refining
010306	Process furnaces	1A1b	Petroleum refining
010400	Solid fuel transformation plants	1A1c	Manufacture of solid fuels and other energy industries
010401	Combustion plants >= 300 MW (boilers)	1A1c	Manufacture of solid fuels and other energy industries
010402	Combustion plants >= 50 and < 300 MW (boilers)	1A1c	Manufacture of solid fuels and other energy industries
010403	Combustion plants < 50 MW (boilers)	1A1c	Manufacture of solid fuels and other energy industries
010404	Gas turbines	1A1c	Manufacture of solid fuels and other energy industries
010405	Stationary engines	1A1c	Manufacture of solid fuels and other energy industries
010406	Coke oven furnaces	1A1c	Manufacture of solid fuels and other energy industries
010407	Other (coal gasification, liquefaction, ...)	1A1c	Manufacture of solid fuels and other energy industries
010500	Coal mining, oil/gas extraction, pipeline compressors	1A1c	Manufacture of solid fuels and other energy industries
010501	Combustion plants >= 300 MW (boilers)	1A1c	Manufacture of solid fuels and other energy industries
010502	Combustion plants >= 50 and < 300 MW (boilers)	1A1c	Manufacture of solid fuels and other energy industries
010503	Combustion plants < 50 MW (boilers)	1A1c	Manufacture of solid fuels and other energy industries
010504	Gas turbines	1A1c	Manufacture of solid fuels and other energy industries
010505	Stationary engines	1A1c	Manufacture of solid fuels and other energy industries
020100	Commercial and institutional plants (t)	1A4a i	Commercial/Institutional plants
020101	Combustion plants >= 300 MW (boilers)	1A4a i	Commercial/Institutional plants
020102	Combustion plants >= 50 and < 300 MW (boilers)	1A4a i	Commercial/Institutional plants
020103	Combustion plants < 50 MW (boilers)	1A4a i	Commercial/Institutional plants
020104	Stationary gas turbines	1A4a i	Commercial/Institutional plants
020105	Stationary engines	1A4a i	Commercial/Institutional plants
020106	Other stationary equipments (n)	1A4a i	Commercial/Institutional plants
020200	Residential plants	1A4b i	Residential plants
020201	Combustion plants >= 50 MW (boilers)	1A4b i	Residential plants
020202	Combustion plants < 50 MW (boilers)	1A4b i	Residential plants
020203	Gas turbines	1A4b i	Residential plants
020204	Stationary engines	1A4b i	Residential plants
020205	Other equipments (stoves, fireplaces, cooking,...) <sup>1)</sup>	1A4b i	Residential plants
020300	Plants in agriculture, forestry and aquaculture	1A4c i	Agriculture/Forestry/Fishing, Stationary
020301	Combustion plants >= 50 MW (boilers)	1A4c i	Agriculture/Forestry/Fishing, Stationary
020302	Combustion plants < 50 MW (boilers)	1A4c i	Agriculture/Forestry/Fishing, Stationary
020303	Stationary gas turbines	1A4c i	Agriculture/Forestry/Fishing, Stationary
020304	Stationary engines	1A4c i	Agriculture/Forestry/Fishing, Stationary
020305	Other stationary equipments (n)	1A4c i	Agriculture/Forestry/Fishing, Stationary
030100	Comb. in boilers, gas turbines and stationary	1A2f i	Industry-Other
030101	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
030102	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
030103	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
030104	Gas turbines	1A2f i	Industry-Other
030105	Stationary engines	1A2f i	Industry-Other
030106	Other stationary equipments (n)	1A2f i	Industry-Other
030200	Process furnaces without contact	1A2f i	Industry-Other
030203	Blast furnace cowpers	1A2a	Industry-Iron and steel
030204	Plaster furnaces	1A2f i	Industry-Other
030205	Other furnaces	1A2f i	Industry-Other
030400	Iron and steel	1A2a	Iron and steel
030401	Combustion plants >= 300 MW (boilers)	1A2a	Iron and steel
030402	Combustion plants >= 50 and < 300 MW (boilers)	1A2a	Iron and steel
030403	Combustion plants < 50 MW (boilers)	1A2a	Iron and steel
030404	Gas turbines	1A2a	Iron and steel
030405	Stationary engines	1A2a	Iron and steel

<b>SNAP_id</b>	<b>SNAP</b>	<b>CRF_id</b>	<b>CRF_name</b>
030406	Other stationary equipments (n)	1A2a	Iron and steel
030500	Non-ferrous metals	1A2b	Non-ferrous metals
030501	Combustion plants >= 300 MW (boilers)	1A2b	Non-ferrous metals
030502	Combustion plants >= 50 and < 300 MW (boilers)	1A2b	Non-ferrous metals
030503	Combustion plants < 50 MW (boilers)	1A2b	Non-ferrous metals
030504	Gas turbines	1A2b	Non-ferrous metals
030505	Stationary engines	1A2b	Non-ferrous metals
030506	Other stationary equipments (n)	1A2b	Non-ferrous metals
030600	Chemical and petrochemical	1A2c	Chemicals
030601	Combustion plants >= 300 MW (boilers)	1A2c	Chemicals
030602	Combustion plants >= 50 and < 300 MW (boilers)	1A2c	Chemicals
030603	Combustion plants < 50 MW (boilers)	1A2c	Chemicals
030604	Gas turbines	1A2c	Chemicals
030605	Stationary engines	1A2c	Chemicals
030606	Other stationary equipments (n)	1A2c	Chemicals
030700	Non-metallic minerals	1A2f i	Industry-Other
030701	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
030702	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
030703	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
030704	Gas turbines	1A2f i	Industry-Other
030705	Stationary engines	1A2f i	Industry-Other
030706	Other stationary equipments (n)	1A2f i	Industry-Other
030800	Mining and Quarrying	1A2f i	Industry-Other
030801	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
030802	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
030803	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
030804	Gas turbines	1A2f i	Industry-Other
030805	Stationary engines	1A2f i	Industry-Other
030806	Other stationary equipments (n)	1A2f i	Industry-Other
030900	Food and tobacco	1A2e	Food processing, beverages and tobacco
030901	Combustion plants >= 300 MW (boilers)	1A2e	Food processing, beverages and tobacco
030902	Combustion plants >= 50 and < 300 MW (boilers)	1A2e	Food processing, beverages and tobacco
030903	Combustion plants < 50 MW (boilers)	1A2e	Food processing, beverages and tobacco
030904	Gas turbines	1A2e	Food processing, beverages and tobacco
030905	Stationary engines	1A2e	Food processing, beverages and tobacco
030906	Other stationary equipments (n)	1A2e	Food processing, beverages and tobacco
031000	Textile and leather	1A2f i	Industry-Other
031001	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
031002	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
031003	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
031004	Gas turbines	1A2f i	Industry-Other
031005	Stationary engines	1A2f i	Industry-Other
031006	Other stationary equipments (n)	1A2f i	Industry-Other
031100	Paper, pulp and print	1A2d	Pulp, Paper and Print
031101	Combustion plants >= 300 MW (boilers)	1A2d	Pulp, Paper and Print
031102	Combustion plants >= 50 and < 300 MW (boilers)	1A2d	Pulp, Paper and Print
031103	Combustion plants < 50 MW (boilers)	1A2d	Pulp, Paper and Print
031104	Gas turbines	1A2d	Pulp, Paper and Print
031105	Stationary engines	1A2d	Pulp, Paper and Print
031106	Other stationary equipments (n)	1A2d	Pulp, Paper and Print
031200	Transport equipment	1A2f i	Industry-Other
031201	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
031202	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
031203	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
031204	Gas turbines	1A2f i	Industry-Other
031205	Stationary engines	1A2f i	Industry-Other
031206	Other stationary equipments (n)	1A2f i	Industry-Other
031300	Machinery	1A2f i	Industry-Other
031301	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
031302	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
031303	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
031304	Gas turbines	1A2f i	Industry-Other
031305	Stationary engines	1A2f i	Industry-Other
031306	Other stationary equipments (n)	1A2f i	Industry-Other
031400	Wood and wood products	1A2f i	Industry-Other
031401	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
031402	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
031403	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
031404	Gas turbines	1A2f i	Industry-Other
031405	Stationary engines	1A2f i	Industry-Other
031406	Other stationary equipments (n)	1A2f i	Industry-Other
031500	Construction	1A2f i	Industry-Other
031501	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other



SNAP_id	SNAP	CRF_id	CRF_name
031502	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
031503	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
031504	Gas turbines	1A2f i	Industry-Other
031505	Stationary engines	1A2f i	Industry-Other
031506	Other stationary equipments (n)	1A2f i	Industry-Other
031600	Cement production	1A2f i	Industry-Other
031601	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
031602	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
031603	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
031604	Gas turbines	1A2f i	Industry-Other
031605	Stationary engines	1A2f i	Industry-Other
031606	Other stationary equipments (n)	1A2f i	Industry-Other
032000	Non-specified (industry)	1A2f i	Industry-Other
032001	Combustion plants >= 300 MW (boilers)	1A2f i	Industry-Other
032002	Combustion plants >= 50 and < 300 MW (boilers)	1A2f i	Industry-Other
032003	Combustion plants < 50 MW (boilers)	1A2f i	Industry-Other
032004	Gas turbines	1A2f i	Industry-Other
032005	Stationary engines	1A2f i	Industry-Other
032006	Other stationary equipments (n)	1A2f i	Industry-Other

<sup>1)</sup> Stoves, fireplaces and cooking is included in the sector 020200 or 020202 in the Danish inventory.

## Annex 3A-2 Fuel rate

Table 3A-2.1 Fuel consumption rate for stationary combustion plants 1990-2012, PJ.

Sum of Fuel_rate_PJ			Year									
fuel_type	fuel_id	fuel_gr_abbr	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
SOLID	102A	COAL	253.4	344.3	286.8	300.8	323.4	270.3	371.9	276.3	234.3	196.5
	106A	BROWN COAL BRI.	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
	107A	COKE OVEN COKE	1.3	1.4	1.2	1.2	1.2	1.3	1.2	1.3	1.3	1.4
LIQUID	110A	PETROLEUM COKE	4.5	4.4	4.3	5.7	7.5	5.3	5.9	6.0	5.3	6.8
	203A	RESIDUAL OIL	32.1	38.3	38.5	32.8	46.2	33.0	37.8	26.6	30.0	23.7
	204A	GAS OIL	61.4	65.0	56.1	62.0	53.9	53.7	58.0	51.1	48.4	47.5
	206A	KEROSENE	5.1	0.9	0.8	0.8	0.6	0.6	0.5	0.4	0.4	0.3
	225A	ORIMULSION						19.9	36.8	40.5	32.6	34.2
	303A	LPG	2.9	2.7	2.4	2.5	2.5	2.7	3.0	2.6	2.8	2.5
	308A	REFINERY GAS	14.2	14.5	14.9	15.4	16.4	20.8	21.4	16.9	15.2	15.7
GAS	301A	NATURAL GAS	76.1	86.1	90.5	102.5	114.6	132.7	156.3	164.5	178.7	187.9
WASTE	114A	WASTE	15.5	16.7	17.8	19.4	20.3	22.9	25.0	26.8	26.6	29.1
BIOMASS	111A	WOOD	18.2	20.0	21.0	22.2	21.9	21.8	23.4	23.4	22.9	24.4
	117A	STRAW	12.5	13.3	13.9	13.4	12.7	13.1	13.5	13.9	13.9	13.7
	215A	BIO OIL	0.7	0.7	0.7	0.8	0.2	0.3	0.1	0.0	0.0	0.0
	309A	BIOGAS	0.8	0.9	0.9	1.1	1.3	1.8	2.0	2.4	2.6	2.6
	310A	BIO PROD GAS					0.1	0.0	0.0	0.0	0.0	0.0
Grand Total			498.8	609.6	549.9	580.6	623.0	600.2	756.8	652.7	615.2	586.4
Sum of Fuel_rate_PJ			Year									
fuel_type	fuel_id	fuel_gr_abbr	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SOLID	101A	ANODE CARBON										0.0
	102A	COAL	164.7	174.3	174.7	239.0	182.5	154.0	232.0	194.1	170.5	167.7
	106A	BROWN COAL BRI.	0.0	0.0	0.0	0.0					0.0	0.0
	107A	COKE OVEN COKE	1.2	1.1	1.1	1.0	1.1	1.0	1.0	1.1	1.0	0.8
LIQUID	110A	PETROLEUM COKE	6.8	7.8	7.8	8.0	8.4	8.1	8.5	9.2	6.9	5.9
	203A	RESIDUAL OIL	18.8	21.1	26.2	28.6	24.5	21.9	26.1	19.8	15.8	14.7
	204A	GAS OIL	41.3	43.6	38.6	38.9	35.8	31.6	26.5	21.3	20.4	23.3
	206A	KEROSENE	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.1
	225A	ORIMULSION	34.1	30.2	23.8	1.9	0.0					
	303A	LPG	2.4	2.1	2.0	2.1	2.1	2.2	2.2	1.9	1.7	1.5
	308A	REFINERY GAS	15.6	15.8	15.2	16.6	15.9	15.3	16.1	15.9	14.8	15.4
GAS	301A	NATURAL GAS	186.1	193.8	193.6	195.9	195.1	187.4	191.1	171.0	171.9	164.9
WASTE	114A	WASTE	29.8	31.3	33.3	35.1	35.3	35.8	36.9	38.1	39.6	37.6
	115A	INDUSTR. WASTES	0.5	1.4	1.9	1.5	2.0	2.0	1.5	1.6	2.0	1.7
BIOMASS	111A	WOOD	27.5	30.8	31.6	38.9	43.9	49.7	52.1	60.3	63.6	66.0
	117A	STRAW	12.2	13.7	15.7	16.9	17.9	18.5	18.5	18.8	15.9	17.4
	215A	BIO OIL	0.0	0.2	0.1	0.4	0.6	0.8	1.1	1.2	1.8	1.7
	309A	BIOGAS	2.9	3.0	3.3	3.5	3.7	3.8	3.9	3.9	3.9	4.2
	310A	BIO PROD GAS	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
Grand Total			544.3	570.7	569.1	628.6	569.2	532.5	618.0	558.4	530.1	523.2
Sum of Fuel_rate_PJ			Year									
fuel_type	fuel_id	fuel_gr_abbr	2010	2011	2012							
SOLID	101A	ANODE CARBON	0.0	0.0	0.0							
	102A	COAL	163.0	135.5	106.2							
	103A	SUB-BITUMINOUS		0.0	0.1							
	106A	BROWN COAL BRI.	0.0	0.0	0.0							
	107A	COKE OVEN COKE	0.7	0.7	0.6							
LIQUID	110A	PETROLEUM COKE	5.1	6.5	6.7							
	203A	RESIDUAL OIL	13.0	8.0	7.3							
	204A	GAS OIL	21.5	14.6	10.0							
	206A	KEROSENE	0.1	0.0	0.0							
	303A	LPG	1.4	1.3	1.4							
	308A	REFINERY GAS	14.3	15.0	15.6							
GAS	301A	NATURAL GAS	184.9	157.7	145.2							
WASTE	114A	WASTE	36.4	36.9	36.0							
	115A	INDUSTR. WASTES	1.4	1.7	1.5							
BIOMASS	111A	WOOD	81.3	79.3	84.7							
	117A	STRAW	23.3	19.4	17.5							
	215A	BIO OIL	2.0	0.8	1.1							
	309A	BIOGAS	4.4	4.2	4.4							
	310A	BIO PROD GAS	0.2	0.3	0.4							
Grand Total			553.0	481.9	438.8							

Table 3A-2.2 Detailed fuel consumption data for stationary combustion plants, 1990-2012, PJ.

Sum of				Year												
Fuel_rate_PJ																
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
SOLID	COAL	1A1a	Electricity and heat production	010100	8.5	12.9	10.2	8.2								
				010101	207.9	294.7	241.8	256.3	284.7	233.2	333.6	244.3	206.2	172.0		
				010102	14.0	11.0	13.2	15.4	18.9	19.4	22.6	17.1	14.2	12.8		
				010103					0.5	0.4	0.1					
				010104					0.3	0.3	0.3	0.1				
				010105					0.0							
				010200	6.0	6.6	5.2	3.6								
				010202					1.1	0.7						
				010203					1.4	1.0	0.7	0.2	0.1	0.0		
		1A2c	Chemicals	030600	0.1	0.1	0.1	0.7	0.7	0.6	0.6	0.5	0.5			
		1A2d	Pulp, Paper and Print	031100	1.3	1.7	1.1	0.7	0.7	0.0						
				031102						0.1	0.0					
		1A2e	Food processing, beverages and tobacco	030900	4.0	4.0	3.1	3.4	2.5	2.3	1.6	1.4	1.8	1.0		
				030902					0.5	1.0	1.4	1.5	1.4	1.4		
				030903					0.3	0.4	0.4	0.5	0.3	0.2		
		1A2f i	Industry-Other	030700	0.2			0.2	0.3	0.3	0.8	0.6	0.7	1.1		
				030800	1.6	1.9	1.7	1.9	1.6	1.3	1.3	1.5	1.4	0.9		
				031200	0.0	0.0	0.0	0.0								
				031300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
				031600	5.0	6.0	6.6	6.6	6.9	7.2	7.1	7.2	6.6	5.6		
				032000	1.6	1.2	0.7	0.8								
				1A4a i	Commercial/Institutional plants	020100	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	
		1A4b i	Residential plants	020200	0.6	1.1	0.9	0.8	0.6	0.4	0.1	0.1	0.1	0.1		
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	2.5	2.9	2.2	2.1	2.3	1.8	1.4	1.2	0.9	0.7		
		BROWN COAL BRI.	1A2f i	Industry-Other	030800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			1A4a i	Commercial/Institutional plants	020100	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
			1A4b i	Residential plants	020200	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	
			1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
		COKE OVEN COKE	1A2a	Iron and steel	030400	0.0	0.0									0.0
			1A2e	Food processing, beverages and tobacco	030900	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2
			1A2f i	Industry-Other	030700	0.8	1.0	0.9	0.8	0.9	0.1	0.1	0.1	0.1	0.1	0.1
					030800	0.0									0.0	0.0
					031200	0.0	0.0				0.0	0.0	0.0	0.0		
					031300	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
					031400	0.0	0.0	0.0	0.0	0.0	0.0					
					032000	0.0	0.0	0.0	0.0		0.9	0.9	0.9	1.0	1.0	
	1A4b i				Residential plants	020200	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	
	LIQUID		PETROLEUM COKE	1A1a	Electricity and heat production	010100				1.2						
						010102					3.7	0.9				
				1A2a	Iron and steel	030400										0.0
		1A2c		Chemicals	030600				0.0							
	1A2d	Pulp, Paper and Print	031100	0.0	0.0	0.0										

Sum of Fuel_rate_PJ					Year										
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
RESIDUAL OIL		1A2e	Food processing, beverages and tobacco	030900				0.1							
		1A2f i	Industry-Other	030700	0.2						0.1	0.0	0.0	0.0	
				030800	0.1	0.1	0.1	0.0		0.2				0.0	
				031000	0.0	0.0	0.0			0.0					
				031300	0.0	0.0	0.0			0.0	0.0		0.0	0.0	
				031400	0.0	0.0	0.0	0.0		0.0					
				031600	2.5	3.0	3.2	3.2	3.5	3.7	5.0	5.2	4.8	6.4	
				032000						0.0					
		1A4a i	Commercial/Institutional plants	020100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		1A4b i	Residential plants	020200	0.8	0.7	0.5	0.5	0.2	0.2	0.4	0.3	0.2	0.2	0.2
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.8	0.5	0.4	0.4		0.1	0.3	0.3	0.2	0.1	
		1A1a	Electricity and heat production	010100	0.8	0.4	1.8	0.8							
				010101	6.5	9.6	8.3	7.8	21.5	8.5	11.6	5.2	8.9	6.0	
				010102	0.7	0.4	0.5	0.7	0.7	2.5	4.5	2.7	2.8	1.6	
				010103					0.3	0.3	0.0	0.2	0.2	0.0	
				010104					0.0	0.0	0.0	0.0	0.0	0.0	
				010105					0.0	0.0	0.0	0.0	0.0	0.0	
				010200	2.0	2.2	1.1	0.9							
				010202						0.1	0.5	0.5	0.4	0.2	0.1
				010203						1.1	1.1	1.6	1.3	1.5	1.6
		1A1b	Petroleum refining	010306	1.3	2.0	3.6	3.5	3.3	2.3	2.2	1.6	1.1	1.1	1.1
		1A2a	Iron and steel	030400	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		1A2b	Non-ferrous metals	030500	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
		1A2c	Chemicals	030600	2.4	2.6	2.7	2.0	1.9	1.7	1.7	1.6	1.5	0.8	
		1A2d	Pulp, Paper and Print	031100	1.0	1.0	0.7	0.8	0.7	0.6	0.2	0.2	0.2	0.2	0.1
				031102						0.0	0.1				
		1A2e	Food processing, beverages and tobacco	030900	7.4	7.7	7.6	7.0	7.1	5.7	5.8	5.0	5.5	5.5	
				030902					0.8	0.8	0.7	0.7	0.6	0.6	
				030903					0.1	0.2	0.1	0.1	0.1	0.2	
				030904									0.1		
		1A2f i	Industry-Other	030700	1.0	2.8	2.4	0.8	0.9	0.4	0.8	0.5			0.9
				030800	0.4	0.4	0.4	0.4	0.5	0.7	0.6	0.7	0.7	0.7	0.6
				031000	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0
				031200	0.2	0.2	0.2	0.2	0.1	0.1	0.0			0.0	0.0
				031300	0.8	0.6	0.7	0.6	0.4	0.2	0.2	0.1	0.2	0.2	0.1
				031400	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.6	0.5	0.5	
				031403					0.0	0.0					
				031500	1.0	1.5	1.6	0.5	0.2	0.2	0.4	0.2	0.2	0.2	0.1
				031503						0.0					
				031600	1.8	2.2	2.4	2.4	2.6	2.8	1.8	1.9	2.5	2.5	0.9
				032000	1.5	1.5	1.5	1.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1
		1A4a i	Commercial/Institutional plants	020100	1.1	0.9	0.6	0.5	0.7	0.7	0.7	0.7	0.7	0.4	0.5
				020103					0.1	0.1					

Sum of Fuel_rate_PJ		Year												
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
GAS OIL	1A4b i Residential plants	020200	1A4b i Residential plants	020200	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1
			1A4c i Agriculture/Forestry/Fishing, Stationary	020300	1.2	1.3	1.6	1.7	1.9	2.6	3.1	2.5	2.6	2.4
				020304									0.0	0.0
	1A1a Electricity and heat production	010100	1A1a Electricity and heat production	010100	0.3	0.5	0.7	0.3						
				010101					0.0	0.1	0.0	0.1	0.1	0.3
				010102					0.0	0.0	0.0	0.0	0.0	0.1
				010103						0.0	0.0	0.0	0.0	0.0
				010104		0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0
				010105					0.1	0.1	0.1	0.1	0.1	0.1
				010200	1.9	0.8	0.7	0.9						
				010202					0.1	0.2	0.8	0.5	0.4	0.3
				010203					1.0	0.7	0.8	0.7	0.8	0.4
			1A1b Petroleum refining	010306		0.0	0.0	0.0	0.0	0.0	0.0	0.1		
			1A2a Iron and steel	030400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			1A2b Non-ferrous metals	030500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			1A2c Chemicals	030600	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
			1A2d Pulp, Paper and Print	031100	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
				031103							0.0	0.0	0.0	
			1A2e Food processing, beverages and tobacco	030900	0.1	0.4	0.4	0.3	0.2	0.4	0.5	0.4	0.3	0.6
				030902					0.0	0.0	0.0	0.0	0.0	0.0
				030903					0.0	0.0				0.0
				030904								0.0	0.0	0.0
			1A2f i Industry-Other	030700	0.1	0.2	0.2	0.1	0.1	0.2	0.4	0.5	0.5	0.2
				030800	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
				031000	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
				031200	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
				031300	0.1	0.3	0.3	0.2	0.2	0.4	0.5	0.4	0.4	0.6
				031305									0.0	0.0
				031400	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1
				031403					0.0	0.0		0.0	0.0	0.0
				031505					0.0					
				032000	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
				032005					0.0					
	1A4a i Commercial/Institutional plants	020100	1A4a i Commercial/Institutional plants	020100	11.8	10.6	9.1	9.0	7.2	6.6	6.6	6.1	5.4	5.8
				020103					0.2		0.1	0.1	0.1	0.0
				020105					0.0	0.0	0.0	0.0	0.0	0.0
	1A4b i Residential plants	020200	1A4b i Residential plants	020200	46.5	50.6	42.9	50.0	43.7	43.3	45.3	39.6	37.8	35.7
	1A4c i Agriculture/Forestry/Fishing, Stationary	020300	1A4c i Agriculture/Forestry/Fishing, Stationary	020300	0.4	1.0	1.2	0.8	0.7	1.2	1.9	1.8	1.7	2.3
				020302								0.0		
				020304							0.0	0.0		
KEROSENE	1A2f i Industry-Other	031500	1A2f i Industry-Other	031500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				032000	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1A4a i Commercial/Institutional plants	020100	1A4a i Commercial/Institutional plants	020100	0.6	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1

Sum of Fuel_rate_PJ					Year											
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
	ORIMULSION LPG	1A4b i	Residential plants	020200	4.4	0.7	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.1		
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		1A1a	Electricity and heat production	010101						19.9	36.8	40.5	32.6	34.2		
		1A1a	Electricity and heat production	010100		0.0	0.0	0.0								
				010200	0.0	0.0	0.0									
				010203				0.0	0.0					0.0		
		1A1b	Petroleum refining	010306			0.0		0.0	0.0	0.0	0.0				
		1A2a	Iron and steel	030400	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0		
		1A2b	Non-ferrous metals	030500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		1A2c	Chemicals	030600	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	
				030602						0.0	0.0	0.0	0.0			
		1A2d	Pulp, Paper and Print	031100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		1A2e	Food processing, beverages and tobacco	030900	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1		
		1A2f i	Industry-Other	030700	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.4	0.4	0.4		
				030800	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0		
				031000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				031200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				031300	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2		
				031400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				031500	0.5	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.6	0.4		
				032000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1		
				1A4a i	Commercial/Institutional plants	020100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
						020105										0.0
				1A4b i	Residential plants	020200	1.0	0.7	0.5	0.8	0.7	0.7	0.8	0.7	0.9	1.0
				1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		REFINERY GAS		1A1a	Electricity and heat production	010203						0.0	0.0			
				1A1b	Petroleum refining	010300	0.5	0.9	1.5	0.0						
						010304			2.1	2.4	2.3	2.7	2.3	2.5	2.7	
						010306	13.5	13.5	13.2	13.2	14.0	18.5	18.7	14.5	12.7	13.1
		1A2f i	Industry-Other	032000	0.2	0.1	0.1	0.1		0.0	0.1	0.0				
GAS	NATURAL GAS	1A1a	Electricity and heat production	010101	4.0	4.4	3.3	4.4	6.4	7.8	9.5	8.4	17.5	17.3		
				010102				2.0	2.8	4.1	8.1	9.3	6.5			
				010103				0.0	0.1	0.1	0.1	0.1	0.1			
				010104	2.5	3.9	5.7	7.5	7.6	8.2	15.1	17.7	12.6	23.6		
				010105	0.7	1.3	2.2	4.2	8.6	16.9	22.2	23.6	26.5	26.8		
				010200	10.0	11.8	11.1	10.9								
				010202				0.3	0.4	0.4	0.5	0.5	0.2			
				010203				9.3	7.9	5.0	2.0	3.1	0.4			
		1A1c	Manufacture of solid fuels and other energy industries	010504	9.5	9.7	11.1	11.2	12.3	13.0	15.3	20.0	22.1	24.1		
		1A2a	Iron and steel	030400	1.7	1.5	1.5	1.5	1.6	0.1	0.1					
				030402						1.6	1.6	1.9	1.9	2.1		
		1A2b	Non-ferrous metals	030500	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1		

Sum of		Year												
Fuel_rate_PJ														
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	1A2c	Chemicals		030600	1.0	1.3	1.5	1.2	1.4	1.2	1.1	1.4	2.8	3.3
				030602	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
				030603					0.2	0.3	0.5	0.6	0.5	0.3
				030604	0.5	0.6	0.7	0.7	0.8	0.9	1.3	1.3	1.2	1.3
				030605								0.0	0.1	0.1
	1A2d	Pulp, Paper and Print		031100	2.3	1.8	1.6	1.2	1.3	1.3	1.5	1.4	1.6	1.8
				031102					0.7	1.1	0.9	1.1	1.1	1.0
				031103					0.0	0.1	0.1	0.1	0.1	0.1
				031104						0.1	0.9	1.0	1.0	1.0
	1A2e	Food processing, beverages and tobacco		030900	8.1	9.2	9.5	11.2	12.7	14.0	12.2	13.4	12.2	11.8
				030902						0.0	0.0	0.0	0.0	0.0
				030903					0.4	0.5	0.4	0.3	0.5	0.4
				030904					0.1	0.3	0.9	1.5	2.3	3.5
				030905					0.0	0.1	0.6	0.6	0.6	0.5
	1A2f i	Industry-Other		030106	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1
				030700	4.2	4.2	4.1	4.5	5.0	5.9	5.2	5.6	5.7	6.4
				030705						0.0	0.0	0.0	0.0	0.0
				030800	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.7
				031000	1.2	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.0	1.3
				031005							0.0	0.0	0.0	0.0
				031200	0.2	0.2	0.3	0.4	0.5	0.7	0.7	0.7	0.7	0.6
				031300	1.4	2.0	2.2	2.5	2.8	2.9	3.5	3.2	3.2	3.8
				031305							0.0	0.0	0.1	0.1
				031400	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.2
				031405						0.0	0.1	0.1	0.1	0.1
				031500	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
				031503						0.0				
				032000	1.9	1.9	2.3	2.4	1.6	1.7	1.9	1.8	2.0	2.1
				032003					0.1		0.0	0.0	0.0	0.0
				032004							0.1	0.2	0.2	0.2
				032005	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
	1A4a i	Commercial/Institutional plants		020100	6.3	6.8	7.1	8.6	7.3	8.4	11.2	9.1	8.7	7.5
				020103					0.0	0.0	0.0	0.0	0.2	0.0
				020104						0.0		0.0		
				020105	0.0	0.1	0.3	0.4	0.6	0.7	0.8	1.0	1.0	1.1
	1A4b i	Residential plants		020200	17.4	20.4	20.9	24.1	24.7	26.9	30.4	28.4	29.1	29.0
				020202					0.0	0.0	0.1	0.0	0.0	0.0
				020204		0.0	0.5	0.8	1.0	1.0	1.4	1.5	1.5	1.5
	1A4c i	Agriculture/Forestry/Fishing, Stationary		020300	2.1	2.6	2.2	2.3	2.5	2.6	2.7	2.6	2.5	2.2
				020304	0.1	0.1	0.1	0.2	0.3	1.2	2.2	3.0	3.7	3.7
WASTE	WASTE	1A1a	Electricity and heat production	010100	1.0	3.6	5.6	8.4						
				010101									1.3	1.3
				010102					5.1	4.4	6.3	7.7	8.1	14.5

Sum of					Year										
Fuel_rate_PJ															
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
BIOMASS	WOOD			010103					4.1	5.3	6.0	5.6	4.7	1.1	
				010104					0.6	0.9	1.9	1.9	1.6	1.5	
				010200	13.6	12.1	11.1	9.8							
				010202						3.3	4.6	4.6	4.6		
				010203					9.3	7.8	4.8	5.7	5.6	9.2	
				1A2a Iron and steel	030400				0.0	0.0					
				1A2c Chemicals	030600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				1A2d Pulp, Paper and Print	031100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				1A2e Food processing, beverages and tobacco	030900	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
				1A2f i Industry-Other	030700	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
				031000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				031200	0.0	0.0			0.0	0.0					
				031300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				031400			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				032000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				1A4a i Commercial/Institutional plants	020100	0.9	1.0	1.1	1.1	1.2	1.3	1.2	1.2	0.7	1.5
				020103					0.0	0.0	0.0	0.0	0.0	0.0	
			1A1a Electricity and heat production	010100			0.2	0.5							
				010101					0.0					0.3	
				010102					1.7	1.6	1.6	1.7	2.0	2.9	
				010103					0.0	0.0	0.0	0.1	0.1	0.3	
				010104						0.0					
				010200	3.2	3.6	4.1	3.8							
				010203					3.3	3.5	3.9	3.9	4.1	4.0	
				1A2a Iron and steel	030400	0.0	0.0	0.0	0.0	0.0					
				1A2b Non-ferrous metals	030500	0.0									
				1A2c Chemicals	030600	0.0									
				1A2d Pulp, Paper and Print	031100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	
				1A2e Food processing, beverages and tobacco	030900	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
				030902										0.0	
				1A2f i Industry-Other	030700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				031000					0.0	0.0				0.0	
				031200	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
				031300	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
				031400	3.2	3.0	3.0	3.0	3.0	3.0	2.7	2.8	2.9	2.9	
				031403					0.4	0.3	0.5	0.4	0.3	0.4	
				032000	2.4	2.5	2.5	2.6	1.3	1.1	1.2	1.2	1.2	0.9	
				032003					0.0	0.0	0.0	0.0	0.0	0.0	
				1A4a i Commercial/Institutional plants	020100	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.5	
				020103					0.0	0.0	0.0	0.0			
				1A4b i Residential plants	020200	9.0	10.4	10.7	11.9	11.6	11.8	12.7	12.6	11.1	
				1A4c i Agriculture/Forestry/Fishing, Stationary	020300	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
				020304									0.0	0.0	



Sum of Fuel_rate_PJ					Year									
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
STRAW		1A1a	Electricity and heat production	010100	0.5	1.0	1.5	1.6						
				010101				0.1	0.1	0.4	0.7	1.0	1.3	
				010102				0.6	1.1	1.5	1.3	1.3	1.3	
				010103				0.7	1.0	1.4	1.5	1.5	1.3	
				010200	3.5	3.8	3.9	3.8						
		010203				3.9	4.0	4.2	3.9	3.9	3.9			
		1A2f i	Industry-Other	031305									0.0	0.0
				032003					0.0					
		1A4b i	Residential plants	020200	5.1	5.1	5.1	4.8	4.4	4.1	3.6	3.9	3.8	3.4
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	3.4	3.4	3.4	3.2	2.9	2.7	2.4	2.6	2.5	2.3
				020302					0.0	0.0	0.0	0.0	0.0	0.0
BIO OIL		1A1a	Electricity and heat production	010200	0.7	0.7	0.7	0.8						
				010203				0.2	0.3	0.1	0.0	0.0	0.0	
BIOGAS		1A1a	Electricity and heat production	010100	0.1	0.2	0.0	0.0						
				010101				0.0	0.0	0.0	0.0			
				010102				0.0		0.1	0.0	0.1	0.0	
				010104				0.0	0.0	0.0				
				010105	0.1	0.2	0.3	0.5	0.5	0.6	0.6	0.8	1.0	1.0
				010200	0.0	0.0	0.1	0.1						
				010203				0.2	0.2	0.2	0.2	0.2	0.2	
		1A2a	Iron and steel	030400	0.0									
		1A2e	Food processing, beverages and tobacco	030900	0.0				0.0	0.1	0.1	0.1	0.1	0.0
				030903					0.0	0.0	0.0	0.0	0.0	0.0
		1A2f i	Industry-Other	032000	0.3	0.3	0.4	0.4						
		1A4a i	Commercial/Institutional plants	020100					0.1	0.2	0.2	0.3	0.2	0.3
				020103						0.0	0.0	0.0	0.1	0.1
				020105	0.2	0.2	0.1	0.1	0.4	0.6	0.5	0.8	0.9	0.8
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300					0.0	0.0	0.1	0.0	0.0	0.0
				020304					0.0	0.0	0.0	0.0	0.0	0.0
BIO PROD GAS		1A1a	Electricity and heat production	010105					0.1	0.0	0.0	0.0	0.0	0.0
		1A4a i	Commercial/Institutional plants	020105									0.0	0.0
Grand Total					498.8	609.6	549.9	580.6	623.0	600.2	756.8	652.7	615.2	586.4

Sum of Fuel_rate_PJ		Year												
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SOLID	ANODE CARBON	1A2f i	Industry-Other	032000										0.0
		1A1a	Electricity and heat production	010101	143.8	156.2	158.3	223.5	167.9	140.0	218.4	180.9	159.4	161.9
	COAL			010102	9.3	7.7	8.0	6.4	4.5	4.0	3.3	3.1	2.8	2.0
				010104										0.0
				010203	0.0	0.0	0.0	0.0	0.0	0.0		0.1	0.1	
	1A2a	Iron and steel		030400									0.0	0.0
	1A2b	Non-ferrous metals		030500									0.0	0.0
	1A2c	Chemicals		030600	0.5	0.5	0.4	0.6	0.6	0.5	0.2			
	1A2e	Food processing, beverages and tobacco		030900	1.5	1.8	1.4	0.4	0.7	0.4	0.6	0.6	1.1	0.1
				030902	1.1	1.0	1.0	1.6	1.5	1.5	1.2	1.2	1.2	1.2
				030903	0.4	0.4	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3
	1A2f i	Industry-Other		030700	0.3	0.3		1.6	1.8	1.6	1.8	1.9	0.0	0.4
				030800	0.8	0.6	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.1
				031300	0.0	0.0	0.0	0.0	0.0				0.0	0.0
				031400	0.1			0.0	0.0					
				031600	5.7	4.5	4.3	3.4	3.8	3.9	4.3	4.0	3.5	1.1
				032000										0.1
				1A4a i	Commercial/Institutional plants				0.0					
				1A4b i	Residential plants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				1A4c i	Agriculture/Forestry/Fishing, Stationary	1.1	1.2	0.9	1.2	1.4	1.8	2.0	2.1	1.8
						0.0			0.0	0.0				0.5
	BROWN COAL BRI.	1A4b i	Residential plants	020304										0.0
	COKE OVEN COKE	1A2a	Iron and steel	020200	0.0	0.0	0.0	0.0					0.0	0.0
		1A2e	Food processing, beverages and tobacco	030400	0.0	0.0	0.0							
				030900	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
				030902									0.1	0.1
				030903								0.0	0.0	0.1
		1A2f i	Industry-Other	030700	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
				030800	0.0									
				031200									0.0	0.0
				031300				0.0	0.0			0.0	0.0	0.0
				032000	0.9	0.9	0.8	0.7	0.8	0.7	0.8	1.0	0.9	0.6
				1A4b i	Residential plants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LIQUID	PETROLEUM COKE	1A1a	Electricity and heat production	010102				0.0	0.0				0.0
			1A2e	Food processing, beverages and tobacco	030900								0.0	
			1A2f i	Industry-Other	030700	0.2	0.1	0.1	0.1	0.1				
					030800	0.0	0.1	0.1	0.1	0.1				
					031300								0.0	
					031600	6.5	7.7	7.5	7.7	8.2	7.8	8.5	9.1	6.8
			1A4a i	Commercial/Institutional plants	020100	0.0	0.0	0.0	0.0		0.1	0.0	0.0	5.9
			1A4b i	Residential plants	020200	0.0	0.0	0.0	0.0		0.1		0.0	
			1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.0	0.0	0.0	0.0					
		RESIDUAL OIL	1A1a	Electricity and heat production	010101	3.4	3.5	3.7	5.8	4.6	4.3	3.3	5.4	2.8
					010102	0.7	2.3	1.2	1.7	1.3	1.5	1.8	0.3	0.9

Sum of Fuel_rate_PJ				Year												
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
GAS OIL				010103	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.6	0.2	0.1		
				010104		1.7	6.6	9.3	7.4	6.3	8.4	4.5	4.5	2.9		
				010105	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
				010202							0.1					
				010203	1.1	1.0	1.0	0.6	0.3	0.5	0.3			0.1	0.1	
				1A1b Petroleum refining	010306	1.3	1.4	1.4	0.9	1.1	0.7	0.6	0.8	0.9	0.7	
				1A2a Iron and steel	030400	0.0	0.0	0.0					0.0	0.0	0.0	
					030403						0.0	0.0				
				1A2b Non-ferrous metals	030500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				1A2c Chemicals	030600	0.9	1.0	1.1	0.8	0.9	0.4	0.6	0.5	0.3	0.2	
				1A2d Pulp, Paper and Print	031100	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	
				1A2e Food processing, beverages and tobacco	030900	5.4	5.1	5.6	4.9	4.5	3.4	5.2	3.3	1.9	1.2	
					030902	0.6	0.6	0.5	0.9	0.9	1.1	0.8	0.6	1.9	2.0	
					030903	0.2	0.3	0.3	0.7	0.8	0.8	0.8	0.8	1.0	1.1	
				1A2f i Industry-Other	030700	0.6	0.6	0.7	0.3	0.1		0.2	0.0			
					030800	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0.1	
					031000	0.0	0.0	0.0					0.0	0.0	0.0	
					031200	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	
					031300	0.1	0.1	0.2	0.1	0.1	0.4	0.6	0.2	0.2	0.1	
					031305		0.0	0.0								
					031400	0.4	0.3	0.3	0.2	0.2	0.4	0.5	0.2	0.2	0.1	
					031500	0.0	0.0	0.0								
					031600	0.9	0.5	0.6	0.6	0.8	0.7	1.0	1.1	0.5	0.2	
					032000	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	
					032003		0.0									
						032005				0.0	0.0	0.0	0.0		0.0	
					1A4a i Commercial/Institutional plants	020100	0.3	0.2	0.5	0.2	0.1	0.1	0.3	0.2	0.1	0.0
					1A4b i Residential plants	020200	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
					1A4c i Agriculture/Forestry/Fishing, Stationary	020300	1.8	1.6	1.4	0.9	0.7	0.8	0.9	0.6		0.1
						020302				0.0	0.0	0.0	0.0	0.0	0.0	0.0
						020304	0.0	0.0	0.0	0.0						
					1A1a Electricity and heat production	010101	0.1	0.1	0.1	1.0	0.2	0.2	0.5	0.5	0.9	2.3
						010102	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1
						010103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
						010104	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
						010105	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
						010202	0.5	0.9	0.2	0.4	0.5	0.2	0.2	0.2	0.3	0.4
						010203	0.6	0.5	0.4	1.0	0.6	0.5	0.4	0.4	0.8	1.0
					1A1b Petroleum refining	010306				0.0	0.0	0.0	0.0	0.0	0.0	0.0
					1A2a Iron and steel	030400	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		030403						0.0								

Sum of Fuel_rate_PJ			Year										
fuel_type	fuel_gr_abbr	nfr_id nfr_name	snap_id	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
KEROSENE	1A2b Non-ferrous metals		030500	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		1A2c Chemicals	030600	0.1	0.2	0.1	0.1	0.1	0.1	0.0			
			030602							0.0	0.0	0.0	0.0
	1A2d Pulp, Paper and Print		030604	0.0					0.0	0.0	0.0	0.0	0.0
			031100	0.1	0.1	0.1	0.1	0.1	0.0	0.0			
			031102							0.0	0.0		
	1A2e Food processing, beverages and tobacco		031103			0.0	0.0	0.0	0.0	0.0	0.0		
			030900	0.5	0.7	0.6	0.5	0.5	0.4	0.1			
			030902				0.0	0.0	0.0	0.0	0.0	0.0	0.0
			030903	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1A2f i Industry-Other		030904			0.0							
			030700	0.2	0.3	0.2	0.3	0.2	0.2	0.1			
			030800	0.3	0.5	0.4	0.5	0.4	0.3	0.1			
			031000	0.0	0.1	0.0	0.1	0.1	0.0	0.0			
			031200	0.1	0.1	0.1	0.1	0.1	0.1	0.0			
			031205									0.0	0.0
			031300	0.6	0.7	0.5	0.6	0.6	0.3	0.1			
			031305	0.0	0.0								
			031400	0.1	0.1	0.1	0.1	0.1	0.0	0.0			
			031403	0.1	0.0	0.0							
			031600							0.0	0.0	0.0	0.0
			032000	0.2	0.3	0.2	0.3	0.3	0.1	0.0	0.0	0.0	0.0
			032003			0.0							
	1A4a i Commercial/Institutional plants		020100	5.0	4.7	4.0	4.3	4.4	3.8	3.0	2.6	2.8	2.8
			020103	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
			020105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1A4b i Residential plants		020200	30.3	31.5	29.0	27.0	25.3	23.9	21.2	17.2	15.2	16.4
			020204									0.0	0.0
	1A4c i Agriculture/Forestry/Fishing, Stationary		020300	2.2	2.6	2.2	2.3	2.0	1.2	0.5			
			020302								0.0	0.0	0.0
			020304	0.0	0.0	0.0	0.0		0.0	0.0			0.0
	1A2f i Industry-Other		031500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			032000	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		1A4a i Commercial/Institutional plants	020100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
		1A4b i Residential plants	020200	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1
	1A4c i Agriculture/Forestry/Fishing, Stationary		020300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORIMULSION	1A1a Electricity and heat production		010101	34.1	30.2	23.8	1.9	0.0					
LPG	1A1a Electricity and heat production		010101							0.0		0.0	0.0
			010102									0.0	0.0
			010202						0.0	0.0	0.0		
			010203	0.0					0.0		0.0	0.0	0.0
		1A2a Iron and steel	030400	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sum of Fuel_rate_PJ				Year											
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
GAS	REFINERY GAS	1A2b	Non-ferrous metals	030500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		1A2c	Chemicals	030600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				030602	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		1A2d	Pulp, Paper and Print	031100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		1A2e	Food processing, beverages and tobacco	030900	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	
		1A2f i	Industry-Other	030700	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0
				030800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				031000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				031200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				031300	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
				031400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				031500	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
				032000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
		1A4a i	Commercial/Institutional plants	020100	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				020105							0.0	0.0	0.0	0.0	0.0
		1A4b i	Residential plants	020200	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.8
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
		NATURAL GAS	1A1b	Petroleum refining	010304	2.4	2.4	2.5	2.7	2.4	2.0	2.2	2.3	1.8	1.9
					010306	13.2	13.3	12.7	13.9	13.4	13.4	13.9	13.6	12.9	13.5
			1A1a	Electricity and heat production	010101	18.4	18.2	16.5	17.9	17.3	17.2	19.0	13.9	10.9	13.4
				010102	6.5	6.4	5.5	3.9	3.3	3.0	2.6	0.9	3.8	2.7	
				010103	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	
				010104	22.8	24.9	30.0	29.7	32.0	27.3	33.5	26.2	27.8	24.6	
				010105	25.7	28.0	27.8	26.9	27.1	24.2	21.6	17.3	18.4	15.4	
				010202	0.1	0.1	0.2	0.2	0.3				0.2	0.3	0.5
				010203	2.3	2.9	2.3	3.1	1.2	2.8	3.1	6.1	6.0	8.1	
	1A1c		Manufacture of solid fuels and other energy industries	010504	25.4	24.9	26.6	26.6	27.5	28.2	28.8	28.6	28.2	26.7	
	1A2a		Iron and steel	030400	0.1	0.0	1.7	0.3	0.1	0.0				0.1	0.0
				030402	1.6	1.8		1.2	1.2	1.2	1.3	1.4	1.4	0.7	
	1A2b		Non-ferrous metals	030500	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
	1A2c		Chemicals	030600	3.0	3.2	2.7	3.1	2.3	2.7	2.5	1.9	2.3	2.7	
				030602	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	
				030603	0.5										
				030604	1.4	1.7	1.8	1.7	1.6	1.3	1.2	1.1	1.1	1.1	
				030605	0.1	0.1	0.1	0.1	0.1	0.0					
	1A2d		Pulp, Paper and Print	031100	1.3	1.8	1.2	1.9	1.5	2.0	2.5	1.9	1.5	1.4	
				031102	1.1	1.1	1.2	1.0	1.0	1.0	1.0	0.2	0.1	0.1	
				031103	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0			
				031104	1.0	0.7	1.0	0.9	0.9	1.0	0.9	0.9	0.9	0.7	
	1A2e		Food processing, beverages and tobacco	030900	11.1	11.7	10.2	9.0	9.9	11.6	11.3	12.3	13.0	12.1	
			030902	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			030903	0.1	0.1	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6		
			030904	3.8	3.5	3.8	3.8	4.2	3.6	2.6	2.4	1.4	1.2		

Sum of Fuel_rate_PJ				Year												
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
		1A2f i	Industry-Other	030905	0.9	1.1	1.0	1.0	1.1	1.0	0.6	0.1	0.3	0.3		
				030106	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1			
				030700	5.8	5.8	5.4	5.5	5.0	3.9	4.1	4.8	4.0	3.7		
				030705	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				030800	0.6	0.9	0.6	0.7	0.8	1.4	1.3	1.1	0.6	0.5		
				031000	1.2	1.2	1.2	1.0	0.9	0.5	0.5	0.3	0.4	0.4		
				031005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
				031200	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.6	0.6	0.6		
				031300	3.6	4.1	3.7	4.1	3.8	2.8	2.9	3.0	3.9	3.4		
				031305	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1		
				031400	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2		
				031405	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
				031500	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.4		
				031503			0.0									
				032000	2.1	2.3	2.2	2.3	2.1	1.5	1.4	1.5	1.2	1.0		
				032003	0.0	0.0	0.0	0.0								
				032004	0.2	0.2	0.2	0.1	0.1	0.1		0.0	0.0	0.0		
				032005	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0		
		1A4a i	Commercial/Institutional plants	020100	7.2	7.3	7.6	9.2	9.2	9.7	10.8	10.1	10.0	10.1		
				020103	0.2	0.2	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0		
				020104	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
				020105	1.1	1.1	1.2	1.1	1.1	1.0	1.0	0.9	0.8	0.8		
		1A4b i	Residential plants	020200	27.6	29.3	28.1	30.0	29.9	29.5	28.6	26.6	26.5	26.7		
				020202	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1		
				020204	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1		
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	2.4	2.7	2.5	2.3	2.3	2.2	2.2	1.9	1.7	1.7		
				020304	3.3	3.1	3.4	3.2	3.3	2.9	2.0	1.4	1.1	0.9		
		WASTE	WASTE	1A1a	Electricity and heat production	010101		0.2	0.9	0.1					0.0	0.0
						010102	12.1	13.0	13.9	14.1	16.6	19.3	20.1	20.3	21.1	21.1
						010103	9.0	9.0	9.2	9.1	9.1	8.8	9.6	9.4	9.6	8.8
						010104	2.2	2.5	2.6	3.0	2.9	2.6	3.1	3.3	3.3	3.2
						010203	6.4	6.6	6.6	7.4	6.5	4.3	3.8	4.7	5.0	4.0
				1A2c	Chemicals	030600	0.0					0.0		0.0		
				1A2d	Pulp, Paper and Print	031100	0.0					0.0		0.0	0.0	0.0
				1A2e	Food processing, beverages and tobacco	030900	0.0					0.0		0.1	0.1	0.1
						030902						0.0		0.0	0.0	
1A2f i	Industry-Other			030800						0.1		0.0	0.1	0.1		
				031000	0.0							0.0				
				031300	0.0					0.0		0.0	0.0	0.0		
				031400	0.0					0.0		0.0				
				032000	0.0					0.1		0.1				
1A4a i	Commercial/Institutional plants			020100				1.3	0.1	0.4	0.2		0.1			
				020103	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.1	0.1		

Sum of		Year												
Fuel_rate_PJ														
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	INDUSTR. WASTES	1A2f i	Industry-Other	031600	0.5	1.4	1.9	1.5	2.0	2.0	1.5	1.6	2.0	1.7
BIOMASS	WOOD	1A1a	Electricity and heat production	010101		0.0	0.1	0.3	0.2	0.2	0.3	0.2	0.3	0.5
				010102	2.7	2.5	3.2	5.3	5.4	6.5	6.5	6.3	5.8	7.1
				010103	0.4	0.5	0.6	0.7	0.7	0.6	0.5	0.6	0.6	0.7
				010104			0.1	1.6	4.5	4.5	2.6	3.8	6.0	6.3
				010203	3.9	4.5	5.0	5.6	6.2	6.6	7.0	7.1	7.9	8.6
		1A2a	Iron and steel	030400				0.0	0.0					
		1A2d	Pulp, Paper and Print	031100	0.0	0.0	0.0	0.0	0.0	0.0			0.7	1.4
				031102							0.0	1.1	1.2	1.2
		1A2e	Food processing, beverages and tobacco	030900	0.1	0.1	0.1	0.0	0.1	0.3	0.3	0.3	0.2	0.0
				030902	0.0	0.0								0.0
				030903					0.0	0.1	0.1	0.1	0.1	0.0
		1A2f i	Industry-Other	030700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				030800								0.1	0.9	0.8
				031000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				031200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				031300	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.2
				031305								0.0	0.0	0.0
				031400	3.0	3.1	2.5	1.8	1.7	2.3	2.6	2.7	2.9	2.4
				031403	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.5
				032000	1.2	1.3	0.7	1.6	1.6	0.9	1.1	0.8	0.8	0.8
				032003	0.0	0.0	0.0							
		1A4a i	Commercial/Institutional plants	020100	0.8	0.7	0.7	0.7	0.7	0.8	1.0	1.0	1.1	1.0
		1A4b i	Residential plants	020200	14.6	17.5	18.1	20.9	22.3	26.4	29.4	35.5	34.5	34.3
				020202						0.0	0.0	0.0	0.0	0.0
				020204									0.0	0.0
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
				020304	0.0	0.0								
STRAW		1A1a	Electricity and heat production	010101	1.1	1.6	2.6	3.2	3.7	3.3	3.7	3.6	2.4	2.8
				010102	1.3	1.3	1.2	1.3	2.1	2.0	1.7	1.9	1.7	1.9
				010103	0.7	2.1	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.2
				010104		0.1	1.2	1.7	1.9	2.4	2.5	2.5	0.8	1.5
				010203	3.8	3.8	3.8	3.8	3.4	3.7	3.7	3.8	3.9	4.1
		1A2f i	Industry-Other	031305	0.0	0.0								
		1A4b i	Residential plants	020200	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
				020302	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BIO OIL		1A1a	Electricity and heat production	010101				0.1				0.0	0.0	
				010105					0.0			0.0	0.0	0.0
				010202				0.0	0.0	0.0	0.0	0.0	0.4	0.2
				010203	0.0	0.2	0.1	0.3	0.6	0.7	1.1	1.1	1.4	1.4
		1A2e	Food processing, beverages and tobacco	030903			0.1							
		1A2f i	Industry-Other	031305			0.0	0.0	0.0	0.0	0.0			

Sum of Fuel_rate_PJ		Year												
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
				032005					0.0	0.0	0.0	0.0	0.0	0.0
		1A4a i	Commercial/Institutional plants	020105								0.0		
		1A4b i	Residential plants	020200								0.0	0.0	0.0
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020304	0.0	0.0	0.0							
	BIOGAS	1A1a	Electricity and heat production	010102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				010105	1.1	1.1	1.3	1.3	1.4	1.6	1.6	1.7	1.6	1.9
				010203	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.1
		1A2e	Food processing, beverages and tobacco	030900	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1
				030902	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
				030903	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1
		1A2f i	Industry-Other	031300									0.0	0.0
				032005		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		1A4a i	Commercial/Institutional plants	020100	0.3	0.4	0.4	0.3	0.4	0.4	0.5	0.4	0.4	0.3
				020103	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
				020105	0.9	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.5	0.6
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.4	0.2
				020304	0.1	0.1	0.2	0.4	0.5	0.6	0.5	0.6	0.5	0.6
	BIO PROD GAS	1A1a	Electricity and heat production	010105	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
		1A4a i	Commercial/Institutional plants	020105		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Grand Total					544.3	570.7	569.1	628.6	569.2	532.5	618.0	558.4	530.1	523.2



Sum of Fuel_rate_PJ					Year		
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2010	2011	2012
SOLID	ANODE CARBON	1A2f i	Industry-Other	032000	0.0	0.0	0.0
		1A1a	Electricity and heat production	010101	155.9	128.1	100.7
	COAL			010102	1.7	1.1	1.0
				010104	0.0	0.7	
				010203	0.1	0.1	0.1
		1A2a	Iron and steel	030400	0.0	0.0	0.0
		1A2b	Non-ferrous metals	030500	0.0	0.0	0.0
		1A2e	Food processing, beverages and tobacco	030900	0.5	0.5	0.0
				030902	1.0	1.2	1.2
				030903	0.2	0.2	0.3
		1A2f i	Industry-Other	030700		0.6	0.3
				030703		0.2	0.3
				030800	0.0	0.1	0.1
				031300	0.0	0.0	0.0
				031600	2.0	1.4	0.9
				032000	0.1	0.1	0.1
		1A4b i	Residential plants	020200	0.0	0.0	0.0
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	1.3	1.2	1.2
	SUB-BITUMINOUS	1A1a	Electricity and heat production	010104		0.0	0.1
	BROWN COAL BRI.	1A4b i	Residential plants	020200	0.0	0.0	0.0
	COKE OVEN COKE	1A2e	Food processing, beverages and tobacco	030900	0.0	0.0	0.0
				030902	0.0	0.0	0.0
				030903	0.1	0.1	0.1
		1A2f i	Industry-Other	030700	0.0	0.0	0.1
				031200	0.0	0.0	0.0
				031300	0.0	0.0	0.0
				032000	0.6	0.5	0.4
		1A4b i	Residential plants	020200	0.0	0.0	0.0
LIQUID	PETROLEUM COKE	1A1a	Electricity and heat production	010102	0.0	0.0	
		1A2e	Food processing, beverages and tobacco	030900	0.0	0.0	0.0
		1A2f i	Industry-Other	030700	0.0	0.1	0.1
				031300	0.0	0.0	0.0
				031600	5.1	6.4	6.6
		1A4a i	Commercial/Institutional plants	020100	0.0	0.0	
		1A4b i	Residential plants	020200	0.0	0.0	
	RESIDUAL OIL	1A1a	Electricity and heat production	010101	4.9	1.8	1.5
				010102	0.2	0.2	0.1
				010103	0.1	0.1	0.1
				010104	0.2	0.1	0.0
				010105	0.0	0.0	
				010202	0.0	0.0	
				010203	0.4	0.1	0.1
		1A1b	Petroleum refining	010306	0.5	0.5	0.8

Sum of Fuel_rate_PJ				Year						
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2010	2011	2012			
		1A2a	Iron and steel	030400	0.0	0.0	0.0			
		1A2b	Non-ferrous metals	030500	0.0	0.0	0.0			
		1A2c	Chemicals	030600	0.3	0.2				
				030603			0.2			
		1A2d	Pulp, Paper and Print	031100	0.0	0.0	0.0			
		1A2e	Food processing, beverages and tobacco	030900	2.0	0.9	0.2			
				030902	1.9	1.9	1.9			
				030903	1.0	1.0	1.2			
		1A2f i	Industry-Other	030800	0.1	0.1	0.1			
				031000	0.0	0.0	0.0			
				031200	0.0	0.0	0.0			
				031300	0.1	0.1	0.1			
				031400	0.2	0.1	0.1			
				031600	0.3	0.3	0.2			
				032000	0.0	0.0	0.0			
				032005		0.0	0.0			
		1A4a i	Commercial/Institutional plants	020100	0.0	0.0	0.2			
		1A4b i	Residential plants	020200	0.0	0.0	0.1			
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.6	0.4	0.2			
				020302	0.0	0.0	0.0			
				020304	0.0	0.0				
		GAS OIL		1A1a	Electricity and heat production	010101	1.3	1.3	1.2	
						010102	0.2	0.1	0.1	
						010103	0.0	0.1	0.0	
						010104	0.1	0.0	0.1	
						010105	0.1	0.1	0.1	
						010202	1.2	0.3	0.2	
						010203	1.4	0.9	0.9	
				1A1b	Petroleum refining	010306	0.0	0.0	0.0	
				1A1c	Manufacture of solid fuels and other energy industries	010504		0.0	0.0	
				1A2a	Iron and steel	030402		0.0	0.0	
				1A2c	Chemicals	030602	0.0	0.0	0.0	
				030604	0.0	0.0	0.0			
1A2d	Pulp, Paper and Print			031102		0.0	0.0			
1A2e	Food processing, beverages and tobacco			030902	0.0	0.0	0.0			
				030903	0.0					
1A2f i	Industry-Other			030703		0.0	0.0			
				031205	0.0	0.0	0.0			
				031600	0.0	0.0	0.0			
				032000	0.0	0.0	0.0			
1A4a i	Commercial/Institutional plants			020100	2.7	2.1	2.4			
				020103	0.1	0.1	0.0			
				020105	0.0	0.0	0.0			

Sum of Fuel_rate_PJ		Year				
fuel_type	fuel_gr_abbr	nfr_id nfr_name	snap_id	2010	2011	2012
KEROSENE		1A4b i Residential plants	020200	14.5	9.6	5.0
			020204	0.0		
		1A4c i Agriculture/Forestry/Fishing, Stationary	020302	0.0	0.0	0.0
		1A2f i Industry-Other	031500	0.0	0.0	0.0
			032000	0.0	0.0	0.0
		1A4a i Commercial/Institutional plants	020100	0.0	0.0	0.0
		1A4b i Residential plants	020200	0.0	0.0	0.0
		1A4c i Agriculture/Forestry/Fishing, Stationary	020300	0.0	0.0	0.0
		1A1a Electricity and heat production	010101	0.0	0.0	0.0
			010102	0.1	0.0	0.0
LPG			010103	0.0	0.0	0.0
			010104			0.0
			010203	0.0	0.0	0.0
		1A1b Petroleum refining	010306		0.4	0.2
		1A2a Iron and steel	030400	0.0		0.0
			030402		0.0	0.0
		1A2b Non-ferrous metals	030500	0.0	0.0	0.0
		1A2c Chemicals	030600	0.0	0.0	0.0
			030602	0.0	0.0	0.0
		1A2d Pulp, Paper and Print	031100	0.0	0.0	0.0
		1A2e Food processing, beverages and tobacco	030900	0.0	0.0	0.0
		1A2f i Industry-Other	030700	0.0	0.0	0.0
			030800	0.0	0.0	0.0
			031000	0.0	0.0	0.0
			031200	0.0	0.0	0.0
			031300	0.1	0.1	0.1
			031400	0.0	0.0	0.0
			031500	0.1	0.1	0.1
			032000	0.0	0.0	0.0
		1A4a i Commercial/Institutional plants	020100	0.3		0.1
REFINERY GAS			020105	0.0	0.0	0.0
		1A4b i Residential plants	020200	0.8	0.7	0.7
		1A4c i Agriculture/Forestry/Fishing, Stationary	020300	0.0	0.0	0.0
		1A1b Petroleum refining	010304	1.5	1.5	1.7
			010306	12.7	13.4	13.9
GAS	NATURAL GAS	1A1a Electricity and heat production	010101	14.4	9.1	8.8
			010102	4.6	3.1	3.4
			010103	0.0	0.0	0.0
			010104	28.6	21.8	15.5
			010105	19.7	16.2	10.1
			010202	1.2	0.9	1.0
			010203	8.9	7.7	11.4
		1A1c Manufacture of solid fuels and other energy industries	010503		0.2	0.2

Sum of Fuel_rate_PJ				Year			
fuel_type	fuel_gr_abbrev	nfr_id	nfr_name	snap_id	2010	2011	2012
				010504	26.0	24.5	24.8
		1A2a	Iron and steel	030402	1.2	1.3	1.0
		1A2b	Non-ferrous metals	030500	0.1	0.1	0.1
		1A2c	Chemicals	030600	2.9	3.0	2.7
				030602	0.6	0.5	0.6
				030603			0.0
				030604	1.0	0.8	0.8
		1A2d	Pulp, Paper and Print	031100	1.5	1.5	1.4
				031102	0.1	0.1	0.0
				031104	0.7	0.6	0.5
		1A2e	Food processing, beverages and tobacco	030900	12.5	12.3	11.8
				030902	0.1	0.0	0.0
				030903	0.6	0.6	0.4
				030904	2.4	1.2	1.3
				030905	0.4	0.3	0.2
		1A2f i	Industry-Other	030106	0.1	0.0	0.0
				030700	4.0	4.0	3.7
				030703		0.0	0.0
				030705	0.0	0.0	0.0
				030800	0.6	0.5	0.5
				031000	0.4	0.4	0.4
				031005	0.0	0.0	0.0
				031200	0.6	0.6	0.6
				031300	3.7	3.6	3.4
				031305	0.1	0.1	0.0
				031400	0.2	0.2	0.2
				031405	0.1	0.0	0.0
				031500	0.4	0.6	0.6
				032000	1.2	1.2	1.2
				032004	0.0	0.0	0.0
				032005	0.0	0.0	0.0
		1A4a i	Commercial/Institutional plants	020100	10.0	9.4	7.4
				020103	0.1	0.1	0.0
				020105	0.8	0.6	0.4
		1A4b i	Residential plants	020200	31.5	27.1	27.7
				020202	0.1	0.1	0.2
				020204	1.1	0.9	0.7
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	1.8	1.7	1.5
				020304	1.0	0.8	0.5
WASTE	WASTE	1A1a	Electricity and heat production	010102	20.0	20.2	19.6
				010103	8.5	8.6	8.3
				010104	3.3	3.2	3.2
				010203	4.2	4.3	4.4

Sum of Fuel_rate_PJ				Year				
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2010	2011	2012	
BIOMASS	WOOD	1A2d	Pulp, Paper and Print	031100	0.0	0.0	0.0	
		1A2e	Food processing, beverages and tobacco	030900	0.1	0.1	0.1	
		1A2f i	Industry-Other	030800	0.1	0.1	0.1	
				031300	0.0	0.0	0.0	
		1A4a i	Commercial/Institutional plants	020100	0.1	0.1	0.2	
				020103	0.1	0.1	0.0	
		INDUSTR. WASTES	1A2f i	Industry-Other	031600	1.4	1.7	1.5
			1A1a	Electricity and heat production	010101	3.3	4.7	5.6
				010102	9.3	8.8	10.3	
				010103	1.3	1.3	1.3	
				010104	11.3	11.8	13.9	
				010203	10.3	10.4	11.8	
			1A2d	Pulp, Paper and Print	031100	1.5	1.9	2.0
				031102	1.2	1.3	1.3	
			1A2e	Food processing, beverages and tobacco	030900	0.0		
				030902	0.0	0.1	0.1	
				030903	0.0	0.0	0.0	
			1A2f i	Industry-Other	030700	0.0	0.0	0.0
				030800	0.8	0.9	0.9	
				031000	0.0	0.0	0.0	
			031200	0.0	0.0	0.0		
			031300	0.2	0.2	0.2		
			031305	0.0				
			031400	2.5	2.6	2.6		
			031403	0.4	0.4	0.3		
			032000	0.8	0.8	0.8		
		1A4a i	Commercial/Institutional plants	020100	1.0	1.0	0.9	
		1A4b i	Residential plants	020200	36.9	33.0	32.6	
				020202	0.0	0.0	0.0	
				020204	0.0			
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.2	0.2	0.2	
				020302	0.0	0.0	0.0	
		STRAW	1A1a	Electricity and heat production	010101	5.5	4.0	2.5
				010102	3.9	3.2	2.9	
				010103	2.2	1.6	1.5	
				010104	2.0	1.3	1.2	
				010203	4.9	4.6	4.5	
			1A4b i	Residential plants	020200	2.9	2.9	2.9
			1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	1.9	1.9	1.9
				020302		0.0	0.0	
		BIO OIL	1A1a	Electricity and heat production	010102	0.1	0.0	0.1
			010105	0.0	0.0	0.0		

Sum of Fuel_rate_PJ				Year			
fuel_type	fuel_gr_abbr	nfr_id	nfr_name	snap_id	2010	2011	2012
BIOGAS				010202	0.0	0.0	0.1
				010203	1.9	0.7	0.8
		1A2f i	Industry-Other	031600		0.0	0.0
				032005	0.0		
		1A4b i	Residential plants	020200	0.0	0.0	0.1
		1A1a	Electricity and heat production	010101	0.0	0.0	0.0
				010102	0.0	0.0	0.0
				010105	2.0	2.0	2.3
				010203	0.1	0.1	0.1
		1A2e	Food processing, beverages and tobacco	030900	0.2	0.1	0.1
				030902	0.0	0.0	0.0
				030903	0.1	0.1	0.1
		1A2f i	Industry-Other	031300	0.0	0.0	0.0
				032005	0.0	0.0	0.0
		1A4a i	Commercial/Institutional plants	020100	0.3	0.4	0.3
				020103	0.1	0.1	0.1
				020105	0.6	0.6	0.6
		1A4c i	Agriculture/Forestry/Fishing, Stationary	020300	0.2	0.2	0.1
				020304	0.7	0.7	0.6
BIO PROD GAS		1A1a	Electricity and heat production	010105	0.2	0.3	0.4
		1A4a i	Commercial/Institutional plants	020105	0.0	0.0	0.0
Grand Total					553.0	481.9	438.8

### Annex 3A-3 Default Lower Calorific Value (LCV) of fuels and fuel correspondence list

Table 3A-3.1a Time-series for calorific values of fuels (DEA 2013a).

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Crude Oil, Average	GJ pr tonne	42.40	42.40	42.40	42.70	42.70	42.70	42.70	43.00	43.00	43.00
Crude Oil, Golf	GJ pr tonne	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 pr tonne	42.70	42.70	42.70	42.70	42.70	42.70	42.70	43.00	43.00	43.00
Refinery Feedstocks	GJ pr tonne	41.60	41.60	41.60	41.60	41.60	41.60	41.60	42.70	42.70	42.70
Refinery Gas	GJ pr tonne	52.00	52.00	52.00	52.00	52.00	52.00	52.00	52.00	52.00	52.00
LPG	GJ pr tonne	46.00	46.00	46.00	46.00	46.00	46.00	46.00	46.00	46.00	46.00
Naphtha (LVN)	GJ pr tonne	44.50	44.50	44.50	44.50	44.50	44.50	44.50	44.50	44.50	44.50
Motor Gasoline	GJ pr tonne	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80
Aviation Gasoline	GJ pr tonne	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80
JP4	GJ pr tonne	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80
Other Kerosene	GJ pr tonne	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50
JP1	GJ pr tonne	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50
Gas/Diesel Oil	GJ pr tonne	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70
Fuel Oil	GJ pr tonne	40.40	40.40	40.40	40.40	40.40	40.40	40.70	40.65	40.65	40.65
Orimulsion	GJ pr tonne	27.60	27.60	27.60	27.60	27.60	28.13	28.02	27.72	27.84	27.58
Petroleum Coke	GJ pr tonne	31.40	31.40	31.40	31.40	31.40	31.40	31.40	31.40	31.40	31.40
Waste Oil	GJ pr tonne	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90
White Spirit	GJ pr tonne	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50
Bitumen	GJ pr tonne	39.80	39.80	39.80	39.80	39.80	39.80	39.80	39.80	39.80	39.80
Lubricants	GJ pr tonne	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90
Natural Gas	GJ pr 1000 Nm <sup>3</sup>	39.00	39.00	39.00	39.30	39.30	39.30	39.30	39.60	39.90	40.00
Town Gas	GJ pr 1000 m <sup>3</sup>							17.00	17.00	17.00	17.00
Electricity Plant Coal	GJ pr tonne	25.30	25.40	25.80	25.20	24.50	24.50	24.70	24.96	25.00	25.00
Other Hard Coal	GJ pr tonne	26.10	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50
Coke	GJ pr tonne	31.80	29.30	29.30	29.30	29.30	29.30	29.30	29.30	29.30	29.30
Brown Coal Briquettes	GJ pr tonne	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30
Straw	GJ pr tonne	14.50	14.50	14.50	14.50	14.50	14.50	14.50	14.50	14.50	14.50
Wood Chips	GJ pr Cubic metre	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Wood Chips	GJ pr m <sup>3</sup>	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30
Firewood, Hardwood	GJ pr m <sup>3</sup>	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40
Firewood, Conifer	GJ pr tonne	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60
Wood Pellets	GJ pr tonne	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
Wood Waste	GJ pr Cubic metre	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70
Wood Waste	GJ pr 1000 m <sup>3</sup>	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
Biogas	GJ pr tonne								23.00	23.00	23.00
Wastes	GJ pr tonne	8.20	8.20	9.00	9.40	9.40	10.00	10.50	10.50	10.50	10.50
Bioethanol	GJ pr tonne	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70
Liquid Biofuels	GJ pr tonne	37.60	37.60	37.60	37.60	37.60	37.60	37.60	37.60	37.60	37.60
Bio Oil	GJ pr tonne	37.20	37.20	37.20	37.20	37.20	37.20	37.20	37.20	37.20	37.20

Table 3A-3.1b Time-series for calorific values of fuels (DEA 2013a).

<i>Continued</i>		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Crude Oil, Average	GJ pr tonne	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00
Crude Oil, Golf	GJ pr tonne	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 pr tonne	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00
Refinery Feedstocks	GJ pr tonne	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70
Refinery Gas	GJ pr tonne	52.00	52.00	52.00	52.00	52.00	52.00	52.00	52.00	52.00	52.00
LPG	GJ pr tonne	46.00	46.00	46.00	46.00	46.00	46.00	46.00	46.00	46.00	46.00
Naphtha (LVN)	GJ pr tonne	44.50	44.50	44.50	44.50	44.50	44.50	44.50	44.50	44.50	44.50
Motor Gasoline	GJ pr tonne	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80
Aviation Gasoline	GJ pr tonne	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80
JP4	GJ pr tonne	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80	43.80
Other Kerosene	GJ pr tonne	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50
JP1	GJ pr tonne	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50
Gas/Diesel Oil	GJ pr tonne	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70	42.70
Fuel Oil	GJ pr tonne	40.65	40.65	40.65	40.65	40.65	40.65	40.65	40.65	40.65	40.65
Orimulsion	GJ pr tonne	27.62	27.64	27.71	27.65	27.65	27.65	27.65	27.65	27.65	27.65
Petroleum Coke	GJ pr tonne	31.40	31.40	31.40	31.40	31.40	31.40	31.40	31.40	31.40	31.40
Waste Oil	GJ pr tonne	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90
White Spirit	GJ pr tonne	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50	43.50
Bitumen	GJ pr tonne	39.80	39.80	39.80	39.80	39.80	39.80	39.80	39.80	39.80	39.80
Lubricants	GJ pr tonne	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90	41.90
Natural Gas	GJ pr 1000 Nm <sup>3</sup>	40.15	39.99	40.06	39.94	39.77	39.67	39.54	39.59	39.48	39.46
Town Gas	GJ pr 1000 m <sup>3</sup>	17.01	16.88	17.39	16.88	17.58	17.51	17.20	17.14	15.50	21.29
Electricity Plant Coal	GJ pr tonne	24.80	24.90	25.15	24.73	24.60	24.40	24.80	24.40	24.30	24.60
Other Hard Coal	GJ pr tonne	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50	25.81	25.13
Coke	GJ pr tonne	29.30	29.30	29.30	29.30	29.30	29.30	29.30	29.30	29.30	29.30
Brown Coal Briquettes	GJ pr tonne	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30
Straw	GJ pr tonne	14.50	14.50	14.50	14.50	14.50	14.50	14.50	14.50	14.50	14.50
Wood Chips	GJ pr Cubic metre	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Wood Chips	GJ pr m <sup>3</sup>	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30	9.30
Firewood, Hardwood	GJ pr m <sup>3</sup>	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40	10.40
Firewood, Conifer	GJ pr tonne	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60
Wood Pellets	GJ pr tonne	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
Wood Waste	GJ pr Cubic metre	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70
Wood Waste	GJ pr 1000 m <sup>3</sup>	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
Biogas	GJ pr tonne	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Wastes	GJ pr tonne	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Bioethanol	GJ pr tonne	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70	26.70
Liquid Biofuels	GJ pr tonne	37.60	37.60	37.60	37.60	37.60	37.60	37.60	37.60	37.50	37.50
Bio Oil	GJ pr tonne	37.20	37.20	37.20	37.20	37.20	37.20	37.20	37.20	37.20	37.20



Table 3A-3.1c Time-series for calorific values of fuels (DEA 2013a).

<i>Continued</i>		2010	2011	2012
Crude Oil, Average	GJ pr tonne	43.00	43.00	43.00
Crude Oil, Golf	GJ pr tonne	41.80	41.80	41.80
Crude Oil, North Sea	GJ pr tonne	43.00	43.00	43.00
Refinery Feedstocks	GJ pr tonne	42.70	42.70	42.70
Refinery Gas	GJ pr tonne	52.00	52.00	52.00
LPG	GJ pr tonne	46.00	46.00	46.00
Naphtha (LVN)	GJ pr tonne	44.50	44.50	44.50
Motor Gasoline	GJ pr tonne	43.80	43.80	43.80
Aviation Gasoline	GJ pr tonne	43.80	43.80	43.80
JP4	GJ pr tonne	43.80	43.80	43.80
Other Kerosene	GJ pr tonne	43.50	43.50	43.50
JP1	GJ pr tonne	43.50	43.50	43.50
Gas/Diesel Oil	GJ pr tonne	42.70	42.70	42.70
Fuel Oil	GJ pr tonne	40.65	40.65	40.65
Orimulsion	GJ pr tonne	27.65	27.65	27.65
Petroleum Coke	GJ pr tonne	31.40	31.40	31.40
Waste Oil	GJ pr tonne	41.90	41.90	41.90
White Spirit	GJ pr tonne	43.50	43.50	43.50
Bitumen	GJ pr tonne	39.80	39.80	39.80
Lubricants	GJ pr tonne	41.90	41.90	41.90
Natural Gas	GJ pr 1000 Nm3	39.46	39.51	39.55
Town Gas	GJ pr 1000 m3	21.35	21.37	21.37
Electricity Plant Coal	GJ pr tonne	24.44	24.38	24.23
Other Hard Coal	GJ pr tonne	24.44	24.38	24.23
Coke	GJ pr tonne	29.30	29.30	29.30
Brown Coal Briquettes	GJ pr tonne	18.30	18.30	18.30
Straw	GJ pr tonne	14.50	14.50	14.50
Wood Chips	GJ pr Cubic metre	2.80	2.80	2.80
Wood Chips	GJ pr m3	9.30	9.30	9.30
Firewood, Hardwood	GJ pr m3	10.40	10.40	10.40
Firewood, Conifer	GJ pr tonne	7.60	7.60	7.60
Wood Pellets	GJ pr tonne	17.50	17.50	17.50
Wood Waste	GJ pr Cubic metre	14.70	14.70	14.70
Wood Waste	GJ pr 1000 m3	3.20	3.20	3.20
Biogas	GJ pr tonne	23.00	23.00	23.00
Wastes	GJ pr tonne	10.50	10.50	10.50
Bioethanol	GJ pr tonne	26.70	26.70	26.70
Liquid Biofuels	GJ pr tonne	37.50	37.50	37.50
Bio Oil	GJ pr tonne	37.20	37.20	37.20

Table 3A-3.2 category correspondence list, DEA, DCE and Climate Convention reportings (CRF).

<b>Danish Energy Agency</b>	<b>DCE Emission database</b>	<b>IPCC fuel category</b>
Other Hard Coal	Coal	Solid
Coke	Coke oven coke	Solid
Electricity Plant Coal	Coal	Solid
Brown Coal Briquettes	Brown coal briq.	Solid
-	Anode carbon	Solid
-	Fly ash	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 (biomass)	Municip. wastes	Biomass
Bio Oil	Bio oil	Biomass
Biogas	Biogas	Biomass
Biogas, other	Biogas	Biomass
Biogas, landfill	Biogas	Biomass
Biogas, sewage sludge	Biogas	Biomass
(Wood applied in gas engines)	Biomass producer gas	Biomass
Waste Combustion (fossil)	Fossil waste	Other fuel

## Annex 3A-4 Emission factors

Table 3A-4.1 CO<sub>2</sub> emission factors, 2012.

Fuel	Emission factor kg per GJ		Reference type	IPCC fuel category
	Biomass	Fossil fuel		
Coal, source category 1A1a Public electricity and heat production		94.25 <sup>1)</sup>	Country specific	Solid
Coal, Other source categories		94.6 <sup>3)</sup>	IPCC (1997)	Solid
Brown coal briquettes		94.6	IPCC (1997)	Solid
Coke oven coke		108	IPCC (1997)	Solid
Other solid fossil fuels <sup>6)</sup>		108 <sup>1)</sup>	IPCC (1997)	Solid
Fly ash fossil (from coal)		93.6	Country specific	Solid
Petroleum coke		93 <sup>3)</sup>	Country specific	Liquid
Residual oil, source category 1A1a Public electricity and heat production		79.21 <sup>1)</sup>	Country specific	Liquid
Residual oil, other source categories		77.4 <sup>3)</sup>	IPCC (1997)	Liquid
Gas oil		74 <sup>1)</sup>	EEA (2007)	Liquid
Kerosene		71.9	IPCC (1997)	Liquid
Orimulsion		80 <sup>2)</sup>	Country specific	Liquid
LPG		63.1	IPCC (1997)	Liquid
Refinery gas		58.099	Country specific	Liquid
Natural gas, off shore gas turbines		57.423	Country specific	Gas
Natural gas, other		57.03	Country specific	Gas
Waste	75.1 <sup>3)4)</sup>	+ 37 <sup>3)4)</sup>	Country specific	Biomass and Other fuels
Straw	110		IPCC (1997)	Biomass
Wood	110		IPCC (1997)	Biomass
Bio oil	74		Country specific	Biomass
Biogas	83.6		Country specific	Biomass
Biomass producer gas	142.9 <sup>5)</sup>		Country specific	Biomass

1) Plant specific data from EU ETS incorporated for individual plants.

2) Not applied in 2012. Orimulsion was applied in Denmark in 1995 – 2004.

3) Plant specific data from EU ETS incorporated for cement industry and sugar, lime and glass wool production.

4) The emission factor for waste is (37+75.1) kg CO<sub>2</sub> per GJ waste. The fuel consumption and the CO<sub>2</sub> emission have been disaggregated to the two IPCC fuel categories *Biomass* and *Other fuels* in CRF. The IEF<sup>1</sup> for CO<sub>2</sub>, Other fuels is 82.22 kg CO<sub>2</sub> per GJ fossil waste.

5) Includes a high content of CO<sub>2</sub> in the gas.

6) Anodic carbon

Time series have been estimated for coal (1A1a), residual oil (1A1a), refinery gas, natural gas fuelled off shore gas turbines, other natural gas consumption and the biomass part of industrial waste. For all other fuels the same emission factor has been applied for 1990-2012.

<sup>1</sup> Not including cement production.

Table 3A-4.2 CO<sub>2</sub> emission factors, time-series.

Year	Coal, sector 1A1a, kg per GJ	Residual oil, sector 1A1a, kg per GJ	Refinery gas, kg per GJ	Natural gas, off shore gas turbines, kg per GJ	Natural gas, other, kg per GJ	Industrial waste, biomass part
1990	94	78.4	57.6	57.469	56.9	86.7
1991	94	78.4	57.6	57.469	56.9	86.7
1992	94	78.4	57.6	57.469	56.9	84.2
1993	94	78.4	57.6	57.469	56.9	83
1994	94	78.4	57.6	57.469	56.9	83
1995	94	78.4	57.6	57.469	56.9	81.1
1996	94	78.4	57.6	57.469	56.9	79.6
1997	94	78.4	57.6	57.469	56.9	79.6
1998	94	78.4	57.6	57.469	56.9	79.6
1999	94	78.4	57.6	57.469	56.9	79.6
2000	94	78.4	57.6	57.469	57.1	79.6
2001	94	78.4	57.6	57.469	57.25	79.6
2002	94	78.4	57.6	57.469	57.28	79.6
2003	94	78.4	57.6	57.469	57.19	79.6
2004	94	78.4	57.6	57.469	57.12	79.6
2005	94	78.4	57.6	57.469	56.96	79.6
2006	94.4	78.2	57.812	57.879	56.78	79.6
2007	94.3	78.1	57.848	57.784	56.78	79.6
2008	94	78.5	57.948	56.959	56.77	79.6
2009	93.6	78.9	56.814	57.254	56.69	79.6
2010	93.6	79.2	57.134	57.314	56.74	79.6
2011	93.73	79.25	57.881	57.379	56.97	79.6
2012	93.25	79.21	58.099	57.423	57.03	79.6

Table 3A-4.3 CH<sub>4</sub> emission factors and references, 2012.

Fuel group	Fuel	CRF source category	CRF source category	SNAP	Emission factor, g pr GJ	Reference
SOLID	COAL	1A1a	Public electricity and heat production	0101 0102	0.9	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, Pulverised Bituminous Combustion, Wet bottom.
		1A2 a-f	Industry	03	10	IPCC (1997), Tier 2, Table 1-19, Commercial coal boilers.
		1A4b i	Residential	0202	300	IPCC (1997), Tier 1, Table 1-7, Residential, coal.
		1A4c i	Agriculture/ Forestry	0203	10	IPCC (1997), Tier 2, Table 1-19, Commercial coal boilers. <sup>1)</sup>
	BROWN COAL BRI.	1A4b i	Residential	0202	300	IPCC (1997), Tier 1, Table 1-7, Residential, coal.
	COKE OVEN COKE	1A2 A-f	Industry	03	10	IPCC (1997), Tier 2, Table 1-19, Commercial coal boilers.
		1A4b i	Residential	0202	300	IPCC (1997), Tier 1, Table 1-7, Residential, coal.
	ANODIC CARBON	1A2a-f	Industry	03	10	IPCC (1997), Tier 2, Table 1-19, Commercial coal boilers.
	FOSSIL FLY ASH	1A1a	Public electricity and heat production	0101	0.9	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, Pulverised Bituminous Combustion, Wet bottom.
LIQUID	PETROLEUM COKE	1A2a-f	Industry	03	2	IPCC (1997), Tier 1, Table 1-7, Industry, oil.
	RESIDUAL OIL	1A1a	Public electricity and heat production	010101	0.9	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, Residual fuel oil.
				010102	1.3	Nielsen et al. (2010)
				010103		
				010104	3	IPCC (1997), Tier 1, Table 1-7, Energy industries, oil.
				010203	0.9	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, Residual fuel oil.
		1A1b	Petroleum refining	010306	3	IPCC (1997), Tier 1, Table 1-7, Energy industries, oil.
		1A2 a-f	Industry	03	1.3	Nielsen et al. (2010)
				Engines	4	IPCC (1997), Tier 2, Table 1-15, Utility, Large diesel engines
		1A4a	Commercial/ Institutional	0201	1.4	IPCC (1997), Tier 2, Table 1-19, Commercial, residual fuel oil <sup>1)</sup> .
		1A4b	Residential	0202	1.4	IPCC (1997), Tier 2, Table 1-19, Commercial, residual fuel oil <sup>1)</sup> .
		1A4c	Agriculture/ Forestry	0203	1.4	IPCC (1997), Tier 2, Table 1-19, Commercial, residual fuel oil <sup>1)</sup> .
	GAS OIL	1A1a	Public electricity and heat production	010101	0.9	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, distillate fuel oil.
				010102		
				010103		
				010104	3	IPCC (1997), Tier 1, Table 1-7, Energy industries, oil.
				010105	24	Nielsen et al. (2010)
				010202	0.9	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, distillate fuel oil.
		1A1b	Petroleum refining	010203		
				010306	3	IPCC (1997), Tier 1, Table 1-7, Energy industries, oil.
		1A1c	Other energy industries	010504	3	IPCC (1997), Tier 1, Table 1-7, Energy industries, oil
		1A2 a-f	Industry	03	0.2	IPCC (1997), Tier 2, Table 1-16, Industry, distillate fuel oil.
				Turbines	2	IPCC (1997), Tier 1, Table 1-7, Industry, oil.
				Engines	24	Nielsen et al. (2010)

Fuel group	Fuel	CRF source category	CRF source category	SNAP	Emission factor, g pr GJ	Reference	
		1A4a	Commercial/ Institutional	0201	0.7	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil.	
				020105	24	Nielsen et al. (2010)	
		1A4b i	Residential	0202	0.7	IPCC (1997), Tier 2, Table 1-18, Residential, distillate fuel oil.	
		1A4c	Agriculture/ Forestry	0203	0.7	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil.	
	KEROSENE	1A2 a-f	Industry	all	0.2	IPCC (1997), Tier 2, Table 1-16, Industry, distillate fuel oil.	
		1A4a	Commercial/ Institutional	0201	0.7	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil.	
		1A4b i	Residential	0202	0.7	IPCC (1997), Tier 2, Table 1-18, Residential, distillate fuel oil.	
		1A4c i	Agriculture/ Forestry	0203	0.7	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil <sup>1)</sup> .	
	LPG	1A1a	Public electricity and heat production	0101 0102	3	IPCC (1997), Tier 1, Table 1-7, Energy Industries, oil.	
		1A1b	Petroleum refining	0103	3	IPCC (1997), Tier 1, Table 1-7, Energy Industries, oil.	
		1A2 a-f	Industry	03	2	IPCC (1997), Tier 1, Table 1-7, Industry, oil	
		1A4a	Commercial/ Institutional	0201	10	IPCC (1997), Tier 1, Table 1-7, Commercial, oil.	
		1A4b i	Residential	0202	1.1	IPCC (1997), Tier 2, Table 1-18, Residential propane/butane furnaces.	
		1A4c i	Agriculture/ Forestry	0203	10	IPCC (1997), Tier 1, Table 1-7, Agriculture, oil.	
	REFINERY GAS	1A1b	Petroleum refining	010304	1.7	Assumed equal to natural gas fuelled gas turbines. Nielsen et al. (2010)	
				010306	1	Assumed equal to natural gas fuelled plants. IPCC (1997), Tier 1, Table 1-7, Natural gas	
	GAS	NATURAL GAS	1A1a	Public electricity and heat production	010101 010102 010103 010104 010105	0.1   1.7 481	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, natural gas.  Nielsen et al. (2010) Nielsen et al. (2010)
				010202 010203	0.1	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, natural gas.	
		1A1c	Other energy industries	010504	1.7	Nielsen et al. (2010)	
		1A2 a-f	Industry	Other	1.4	IPCC (1997), Tier 2, Table 1-16, Industry, natural gas boilers.	
				Gas turbines	1.7	Nielsen et al. (2010)	
				Engines	481	Nielsen et al. (2010)	
		1A4a	Commercial/ Institutional	0201	1.2	IPCC (1997), Tier 2, Table 1-19, Commercial, natural gas boilers.	
				020105	481	Nielsen et al. (2010)	
		1A4b i	Residential	0202	5	IPCC (1997), Tier 1, Table 1-7, Residential, natural gas.	
				020204	481	Nielsen et al. (2010)	
		1A4c i	Agriculture/ Forestry	0203	1.2	IPCC (1997), Tier 2, Table 1-19, Commercial, natural gas boilers <sup>1)</sup> .	
				020304	481	Nielsen et al. (2010)	
	WASTE	1A1a	Public electricity and heat production	0101 0102	0.34	Nielsen et al. (2010)	
		1A2a-f	Industry	03	30	IPCC (1997), Tier 1, Table 1-7, Industry, wastes.	

Fuel group	Fuel	CRF source category	CRF source category	SNAP	Emission factor, g pr GJ	Reference	
BIO-MASS	INDUSTRIAL WASTE	1A4a	Commercial/ Institutional	0201	30	IPCC (1997), Tier 1, Table 1-7, Industry, wastes.	
		1A2f	Industry	0316	30	IPCC (1997), Tier 1, Table 1-7, Industry, wastes.	
	WOOD	1A1a	Public electricity and heat production	0101	3.1	Nielsen et al. (2010)	
				0102	30	IPCC (1997), Tier 1, Table 1-7, Energy industries, wood	
		1A2 a-f	Industry	03	15	IPCC (1997), Tier 2, Table 1-16, Industry, wood stoker boilers.	
		1A4a	Commercial/ Institutional	0201	30	IPCC (1997), Tier 1, Table 1-7, Industry, wood <sup>2)</sup> .	
		1A4b i	Residential	0202	129.3	DCE estimate based on technology distribution <sup>3)</sup>	
		1A4c i	Agriculture/ Forestry	0203	30	IPCC (1997), Tier 1, Table 1-7, Industry, wood <sup>2)</sup> .	
	STRAW	1A1a	Public electricity and heat production	0101	0.47	Nielsen et al. (2010)	
				0102	30	IPCC (1997), Tier 1, Table 1-7, Energy industries, other biomass	
		1A4b i	Residential	0202	300	IPCC (1997), Tier 1, Table 1-7, Residential, other biomass.	
		1A4c i	Agriculture/ Forestry	020300	300	IPCC (1997), Tier 1, Table 1-7, Agriculture, other biomass.	
				020302	30	IPCC (1997), Tier 1, Table 1-7, Energy industries, other biomass	
BIO OIL		1A1a	Public electricity and heat production	010102	0.9	IPCC (1997), Tier 2, Table 1-15, Utility Boiler, distillate fuel oil.	
	010105			24	Nielsen et al. (2010) assumed same emission factor as for gas oil fuelled engines.		
	0102			0.7	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil.		
	1A2 a-f			Industry	03	0.7	Assumed equal to district heating plants.
	1A4b i			Residential	0202	0.7	IPCC (1997), Tier 2, Table 1-18, Residential, distillate fuel oil.
	BIOGAS			1A1a	Public electricity and heat production	0101	1
010105		434	Nielsen et al. (2010)				
0102		1	IPCC (1997), Tier 1, Table 1-7, Energy industries, natural gas. Assumed similar to natural gas (DCE assumption).				
1A2 a-f		Industry	03	5	IPCC (1997), Tier 1, Table 1-7, Industry, natural gas. Assumed similar to natural gas (DCE assumption).		
			Engines	434	Nielsen et al. (2010)		
1A4a		Commercial/ Institutional	0201	5	IPCC (1997), Tier 1, Table 1-7, Commercial, natural gas. Assumed similar to natural gas (DCE assumption).		
			020105	434	Nielsen et al. (2010)		
1A4c i		Agriculture/ Forestry	0203	5	IPCC (1997), Tier 1, Table 1-7, Agriculture, natural gas. Assumed similar to natural gas (DCE assumption).		
			020304	434	Nielsen et al. (2010)		
BIO PROD GAS		1A1a	Public electricity and heat production	010105	13	Nielsen et al. (2010)	
	1A4a	Commercial/Institutional	020105	13	Nielsen et al. (2010)		

- 1) Assumed same emission factors as for commercial plants. Plant capacity and technology are similar for Danish plants.
- 2) Assumed same emission factor as for industrial plants. Plant capacity and technology is similar to industrial plants rather than to residential plants.
- 3) Aggregated emission factor based on the technology distribution in the sector (DEPA, 2013) and technology specific emission factors that refer to: Paulrud et al. (2005), Johansson et al. (2004), Olsson & Kjällstrand (2005) and Johansson et al. (2005).

In general, the same emission factors have been applied for 1990-2012. However, time series have been estimated for both natural gas fuelled engines and biogas fuelled engines, residential wood combustion, natural gas fuelled gas turbines<sup>2</sup> and waste incineration plants<sup>2</sup>.

Table 3A-4.4 CH<sub>4</sub> emission factors, time-series.

Year	Natural gas fuelled engines Emission factor, g per GJ	Biogas fuelled engines Emission factor, g per GJ	Residential wood combustion, g per GJ	Waste incineration g per GJ	Natural gas fuelled gas turbines, g per GJ
1990	266	239	224.0	0.59	1.5
1991	309	251	224.0	0.59	1.5
1992	359	264	224.0	0.59	1.5
1993	562	276	224.0	0.59	1.5
1994	623	289	224.0	0.59	1.5
1995	632	301	224.0	0.59	1.5
1996	616	305	224.0	0.59	1.5
1997	551	310	224.0	0.59	1.5
1998	542	314	224.0	0.59	1.5
1999	541	318	224.0	0.59	1.5
2000	537	323	224.0	0.59	1.5
2001	522	342	199.3	0.59	1.5
2002	508	360	189.6	0.59	1.6
2003	494	379	187.2	0.59	1.6
2004	479	397	184.5	0.51	1.7
2005	465	416	175.5	0.42	1.7
2006	473	434	165.2	0.34	1.7
2007	481	434	166.5	0.34	1.7
2008	481	434	156.5	0.34	1.7
2009	481	434	143.8	0.34	1.7
2010	481	434	136.6	0.34	1.7
2011	481	434	129.3	0.34	1.7
2012	481	434	123.7	0.34	1.7

<sup>2</sup> A minor emission source.



Table 3A-4.5 N<sub>2</sub>O emission factors and references 2012.

Fuel group	Fuel	CRF source category	CRF source category	SNAP	Emission factor, g per GJ	Reference
SOLID	COAL	1A1a	Public electricity and heat production	0101	0.8	Elsam (2005)
				0102	1.6	IPCC (1997), Tier 2, Table 1-15, Utility boiler, pulverised bituminous coal.
		1A2 a-f	Industry	03	1.4	IPCC (1997), Tier 1, Table 1-8, Industry, coal
		1A4b i	Residential	0202	1.4	IPCC (1997), Tier 1, Table 1-8, Residential, coal
		1A4c i	Agriculture/ Forestry	0203	1.4	IPCC (1997), Tier 1, Table 1-8, Commercial, coal
	BROWN COAL BRI.	1A4b i	Residential	0202	1.4	IPCC (1997), Tier 1, Table 1-8, Residential, coal
	COKE OVEN COKE	1A2 a-f	Industry	03	1.4	IPCC (1997), Tier 1, Table 1-8, Industry, coal
		1A4b i	Residential	020200	1.4	IPCC (1997), Tier 1, Table 1-8, Residential, coal
	ANODIC CARBON	1A2 a-f	Industry	03	1.4	IPCC (1997), Tier 1, Table 1-8, Industry, coal
LI-QUID	PETROLEUM COKE	1A2a-f	Industry – other	03	0.6	IPCC (1997), Tier 1, Table 1-8, Industry, oil
	RESIDUAL OIL	1A1a	Public electricity and heat production	010101	0.3	IPCC (1997), Tier 2, Table 1-15, Utility, residual fuel oil
				010102	5	Nielsen et al. (2010)
				010103		
				010104	0.6	IPCC (1997), Tier 1, Table 1-8, Energy industries, oil
		010203			0.3	IPCC (1997), Tier 2, Table 1-15, Utility, residual fuel oil
		1A1b	Petroleum refining	010306	0.6	IPCC (1997), Tier 1, Table 1-8, Energy industries, oil
		1A2 a-f	Industry	03	5	Nielsen et al. (2010)
				Engines	0.6	IPCC (1997), Tier 2, Table 1-15, Utility, residual fuel oil
		1A4a	Commercial/ Institutional	0201	0.3	IPCC (1997), Tier 2, Table 1-19, Commercial, fuel oil
		1A4b i	Residential	0202	0.6	IPCC (1997), Tier 1, Table 1-8, Residential, oil
		1A4c i	Agriculture/ Forestry	0203	0.3	IPCC (1997), Tier 2, Table 1-19, Commercial, fuel oil
	GAS OIL	1A1a	Public electricity and heat production	010101	0.4	IPCC (1997), Tier 2, Table 1-15, Utility, distillate fuel oil
				010102		
				010103		
				010104	0.6	IPCC (1997), Tier 1, Table 1-8, Energy industries, oil
				010105	2.1	Nielsen et al. (2010)
				0102	0.4	IPCC (1997), Tier 2, Table 1-15, Utility, distillate fuel oil
		1A1b	Petroleum refining	010306	0.6	IPCC (1997), Tier 1, Table 1-8, Energy industries, oil
		1A2 a-f	Industry	03	0.4	IPCC (1997), Tier 2, Table 1-16, Industry, distillate fuel oil boilers
		Turbin- Engines			0.6	IPCC (1997), Tier 1, Table 1-8, Industry, oil
		1A4a	Commercial/ Institutional	0201	0.4	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil
		Engines			2.1	Nielsen et al. (2010)
		1A4b i	Residential	0202	0.6	IPCC (1997), Tier 1, Table 1-8, Residential, oil

Fuel group	Fuel	CRF source category	CRF source category	SNAP	Emission factor, g per GJ	Reference
GAS	KEROSENE	1A4c	Agriculture/ Forestry	0203	0.4	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil
		1A2 a-f	Industry	03	0.4	IPCC (1997), Tier 2, Table 1-16, Industry, distillate fuel oil boilers
		1A4a	Commercial/ Institutional	0201	0.4	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil
		1A4b i	Residential	0202	0.6	IPCC (1997), Tier 1, Table 1-8, Residential, oil
		1A4c i	Agriculture/ Forestry	0203	0.4	IPCC (1997), Tier 2, Table 1-19, Commercial, distillate fuel oil <sup>1)</sup>
		1A1a	Public electricity and heat production	0101 0102	0.6	IPCC (1997), Tier 1, Table 1-8, Energy industries, oil
		1A1b	Petroleum refining	010306	0.6	IPCC (1997), Tier 1, Table 1-8, Energy industries, oil
		1A2 a-f	Industry	03	0.6	IPCC (1997), Tier 1, Table 1-8, Industry, oil
		1A4a	Commercial/ Institutional	0201	0.6	IPCC (1997), Tier 1, Table 1-8, Commercial, oil
		1A4b i	Residential	0202	0.6	IPCC (1997), Tier 1, Table 1-8, Residential, oil
		1A4c i	Agriculture/ Forestry	0203	0.6	IPCC (1997), Tier 1, Table 1-8, Agriculture, oil
	REFINERY GAS	1A1b	Petroleum refining	010304	1	Assumed equal to natural gas fuelled turbines. Based on Nielsen et al. (2010).
				010306	0.1	IPCC (1997), Tier 1, Table 1-8, Energy industries, natural gas
	NATURAL GAS	1A1a	Public electricity and heat production	010101	0.1	IPCC (1997), Tier 1, Table 1-8, Energy industries, natural gas
				010102		
				010103		
				010104	1	Nielsen et al. (2010)
				010105	0.58	Nielsen et al. (2010)
				0102	0.1	IPCC (1997), Tier 1, Table 1-8, Energy industries, natural gas
		1A1c	Other energy industries	010504	1	Nielsen et al. (2010)
		1A2 a-f	Industry	03	0.1	IPCC (1997), Tier 1, Table 1-8, Industry, natural gas
				Gas turbines	1	Nielsen et al. (2010)
				Engines	0.58	Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	020100	2.3	IPCC (1997), Tier 2, Table 1-19, Commercial, natural gas boilers
				020103		
				Engines	0.58	Nielsen et al. (2010)
		1A4b i	Residential	0202	0.1	IPCC (1997), Tier 1, Table 1-8, Residential, natural gas
				Engines	0.58	Nielsen et al. (2010)
		1A4c i	Agriculture/ Forestry	0203	2.3	IPCC (1997), Tier 2, Table 1-19, Commercial, natural gas boilers <sup>1)</sup>
				Engines	0.58	Nielsen et al. (2010)
WA-STE	WASTE	1A1a	Public electricity and heat production	0101 0102	1.2	Nielsen et al. (2010)
		1A2 a-f	Industry	03	4	IPCC (1997), Tier 1, Table 1-8, Industry, wastes
		1A4a	Commercial/ Institutional	0201	4	IPCC (1997), Tier 1, Table 1-8, Commercial, wastes
	INDUSTR. WA-STE	1A2a-f	Industry	03	4	IPCC (1997), Tier 1, Table 1-8, Industry, waste
BIO-MASS	WOOD	1A1a	Public electricity and heat production	0101	0.8	Nielsen et al. (2010)
				0102	4	IPCC (1997), Tier 1, Table 1-8, Energy industries, wood

Fuel group	Fuel	CRF source category	CRF source category	SNAP	Emission factor, g per GJ	Reference
		1A2 a-f	Industry	03	4	IPCC (1997), Tier 1, Table 1-8, Industry, wood
		1A4a	Commercial/ Institutional	0201	4	IPCC (1997), Tier 1, Table 1-8, Commercial, wood
		1A4b i	Residential	0202	4	IPCC (1997), Tier 1, Table 1-8, Residential, wood
		1A4c i	Agriculture/ Forestry	0203	4	IPCC (1997), Tier 1, Table 1-8, Agriculture, wood
	STRAW	1A1a	Public electricity and heat production	0101	1.1	Nielsen et al. (2010)
				0102	4	IPCC (1997), Tier 1, Table 1-8, Energy industries, other biomass
		1A4b i	Residential	0202	4	IPCC (1997), Tier 1, Table 1-8, Residential, other biomass
		1A4c i	Agriculture/ Forestry	0203	4	IPCC (1997), Tier 1, Table 1-8, Agriculture, other biomass
	BIO OIL	1A1a	Public electricity and heat production	0101 0102 Engines	0.4  2.1	IPCC (1997), Tier 2, Table 1-15, Utility, distillate fuel oil Assumed equal to gas oil. Based on Nielsen et al. (2010)
		1A2 a-f	Industry	03	0.4	IPCC (1997), Tier 1, Table 1-8, Industry, oil
		1A4b i	Residential	0202	0.6	IPCC (1997), Tier 1, Table 1-8, Residential, oil
	BIOGAS	1A1a	Public electricity and heat production	0101 0102 Engines	0.1  1.6	IPCC (1997), Tier 1, Table 1-8, Energy industries, natural gas Nielsen et al. (2010)
		1A2 a-f	Industry	03 Engines	0.1 1.6	IPCC (1997), Tier 1, Table 1-8, Industry, natural gas Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	0201 Engines	0.1 1.6	IPCC (1997), Tier 1, Table 1-8, Commercial, natural gas Nielsen et al. (2010)
		1A4c i	Agriculture/ Forestry	0203 Engines	0.1 1.6	IPCC (1997), Tier 1, Table 1-8, Agriculture, natural gas Nielsen et al. (2010)
	BIO PROD GAS	1A1a	Public electricity and heat production	010105	2.7	Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	020105	2.7	Nielsen et al. (2010)

1) In Denmark, plants in Agriculture/Forestry are similar to Commercial plants.

Time-series have been estimated for natural gas fuelled gas turbines and refinery gas fuelled gas turbines. All other emission factors have been applied unchanged for 1990-2012.

Table 3A-4.6 N<sub>2</sub>O emission factors, time-series.

Year	Natural gas fuelled gas turbines. Emission factor, g per GJ	Refinery gas fuelled gas turbines. Emission factor, g per GJ
1990	2.2	2.2
1991	2.2	2.2
1992	2.2	2.2
1993	2.2	2.2
1994	2.2	2.2
1995	2.2	2.2
1996	2.2	2.2
1997	2.2	2.2
1998	2.2	2.2
1999	2.2	2.2
2000	2.2	2.2
2001	2.0	2.0
2002	1.9	1.9
2003	1.7	1.7
2004	1.5	1.5
2005	1.4	1.4
2006	1.2	1.2
2007	1.0	1.0
2008	1.0	1.0
2009	1.0	1.0
2010	1.0	1.0
2011	1.0	1.0
2012	1.0	1.0

Table 3A-4.7 SO<sub>2</sub> emission factors and references 2012.

Fuel type	Fuel	NFR	NFR_name	SNAP	SO <sub>2</sub> emission factor, g/GJ	Reference
SOLID	ANODE CARBON	1A2f	Industry - other	032000	574	Assumed equal to coal. DCE assumption.
	COAL	1A1a	Public electricity and heat production	0101	11	DCE estimate based on data reported by plant owners to the electricity transmission company, Energinet.dk (Energinet.dk, 2013)
				0102	574	DCE calculation based on DEPA (2010c), DEA (2012a) and EMEP (2006)
		1A2a-f	Industry	03	574	DCE calculation based on DEPA (2010c), DEA (2012a) and EMEP (2006)
		1A4b i	Residential	020200	574	DCE calculation based on DEPA (2010c), DEA (2012a) and EMEP (2006)
		1A4c i	Agriculture/ Forestry	0203	574	DCE calculation based on DEPA (2010c), DEA (2012a) and EMEP (2006)
	FLY ASH FOSSIL	1A1a	Public electricity and heat production	010104	10	Assumed equal to the emission factor for coal in 2010. DCE assumption.
	BROWN COAL BRI.	1A4b	Residential	0202	574	Assumed equal to coal. DCE assumption.
	COKE OVEN COKE	1A2a-f	Industry	03	574	Assumed equal to coal. DCE assumption.
		1A4b i	Residential	020200	574	Assumed equal to coal. DCE assumption.
LIQUID	PETROLEUM COKE	1A2a-f	Industry	03	605	DCE calculation based on DEPA (2001b), DEA (2012a) and EMEP (2006).
	RESIDUAL OIL	1A1a	Electricity and heat production	0101	100	DCE estimate based on plant specific data for 2008 and 2009.
				0102	344	DCE estimate based on EOF (2013) and DEA (2012a)
		1A1b	Petroleum refining	010306	537	DCE calculation based on plant specific data for year 2003.
		1A2a-f	Industry	03	344	DCE estimate based on EOF (2013) and DEA (2012a)
		1A4a	Commercial/ Institutional	0201	344	DCE estimate based on EOF (2013) and DEA (2012a)
		1A4b	Residential	0202	344	DCE estimate based on EOF (2013) and DEA (2012a)
		1A4c i	Agriculture/ Forestry	0203	344	DCE estimate based on EOF (2013) and DEA (2012a)
	GAS OIL	1A1a	Public electricity and heat production	0101	23	DCE estimate based on DEPA (1998), Miljø- og planlægningsudvalget (1998) and DEA (2012a).
				0102		
		1A1b	Petroleum refining	010306	23	DCE estimate based on DEPA (1998), Miljø- og planlægningsudvalget (1998) and DEA (2012a).
		1A1c	Other energy industries	0105	23	DCE estimate based on DEPA (1998), Miljø- og planlægningsudvalget (1998) and DEA (2012a).
		1A2a-f	Industry	03	23	DCE estimate based on DEPA (1998), Miljø- og planlægningsudvalget (1998) and DEA (2012a).
		1A4a	Commercial/ Institutional	0201	23	DCE estimate based on DEPA (1998), Miljø- og planlægningsudvalget (1998) and DEA (2012a).
		1A4b i	Residential	0202	23	DCE estimate based on DEPA (1998), Miljø- og planlægningsudvalget (1998) and DEA (2012a).
		1A4c	Agriculture/Forestry	0203	23	DCE estimate based on DEPA (1998), Miljø- og planlægningsudvalget (1998) and DEA (2012a).
	KEROSENE	1A2f	Industry - other	03	5	DCE estimate based on Tønder (2004) and Shell (2013).
		1A4a	Commercial/ Institutional	0201	5	DCE estimate based on Tønder (2004) and Shell (2013).
		1A4b i	Residential	0202	5	DCE estimate based on Tønder (2004) and Shell (2013).
		1A4c i	Agriculture/ Forestry	0203	5	DCE estimate based on Tønder (2004) and Shell (2013).
	LPG	1A1a	Public electricity and heat production	All	0.13	DCE estimate based on Augustesen (2003) and DEA (2012a).

Fuel type	Fuel	NFR	NFR_name	SNAP	SO <sub>2</sub> emission factor, g/GJ	Reference
		1A2a-f	Industry	03	0.13	DCE estimate based on Augustesen (2003) and DEA (2012a).
		1A4a	Commercial/ Institutional	0201	0.13	DCE estimate based on Augustesen (2003) and DEA (2012a).
		1A4b i	Residential	0202	0.13	DCE estimate based on Augustesen (2003) and DEA (2012a).
		1A4c i	Agriculture/ Forestry	0203	0.13	DCE estimate based on Augustesen (2003) and DEA (2012a).
	REFINERY GAS	1A1b	Petroleum refining	0103	1	DCE estimate based on plant specific data for one plant, average value for 1995-2002.
GAS	NATURAL GAS	1A1a	Public electricity and heat production	0101, 0102, except engines	0.43	DCE estimate based on data from Energinet.dk (2013b)
				010105, engines	0.5	Kristensen (2003)
		1A1c	Other energy industries	0105	0.43	DCE estimate based on data from Energinet.dk (2013b)
		1A2a-f	Industry	03 except engines	0.43	DCE estimate based on data from Energinet.dk (2013b)
				Engines	0.5	Kristensen (2003)
		1A4a	Commercial/ Institutional	0201 except engines	0.43	DCE estimate based on data from Energinet.dk (2013b)
				Engines	0.5	Kristensen (2003)
		1A4b i	Residential	0202 except engines	0.43	DCE estimate based on data from Energinet.dk (2013b)
				Engines	0.5	Kristensen (2003)
		1A4c i	Agriculture/ Forestry	0203 except engines	0.43	DCE estimate based on data from Energinet.dk (2013b)
				Engines	0.5	Kristensen (2003)
WASTE	WASTE	1A1a	Public electricity and heat production	0101	8.3	Nielsen et al. (2010a)
				0102	14	DCE estimate based on plant specific data for four plants, 2009 data.
		1A2a-f	Industry	03	14	Assumed equal to district heating plants (DCE assumption).
		1A4a	Commercial/ Institutional	0201	14	Assumed equal to district heating plants (DCE assumption).
	INDU-STRIAL WASTE	1A2f	Industry - Other	031600	14	Assumed equal to waste. DCE assumption.
BIOMASS	WOOD	1A1a	Public electricity and heat production	0101	1.9	Nielsen et al. (2010a)
				0102	11	EEA (2013)
		1A2a-f	Industry	03	11	EEA (2013)
		1A4a	Commercial/ Institutional	0201	11	EEA (2013)
		1A4b i	Residential	0202	11	EEA (2013)
		1A4c i	Agriculture/ Forestry	0203	11	EEA (2013)
	STRAW	1A1a	Public electricity and heat production	0101	49	Nielsen et al. (2010a)
				0102	130	Nikolaisen et al. (1998)
		1A4b i	Residential	0202	130	Assumed equal to district heating plants. DCE assumption.
		1A4c i	Agriculture/ Forestry	0203	130	Assumed equal to district heating plants. DCE assumption.
	BIO OIL	1A1a	Public electricity and heat production	0101	0.1	DCE estimate based on Folkecenter for Vedvarende Energi (2000) and DEA (2012a).
		1A2a-f	Industry	03	0.1	DCE estimate based on Folkecenter for Vedvarende Energi (2000) and DEA (2012a).
		1A4b i	Residential	0202	0.1	DCE estimate based on Folkecenter for Vedvarende Energi (2000) and DEA (2012a).

Fuel type	Fuel	NFR	NFR_name	SNAP	SO <sub>2</sub> emission factor, g/GJ	Reference
	BIOGAS	1A1a	Public electricity and heat production	0101, except engines	25	DCE estimate based on Christiansen (2003), Hjort-Gregersen (1999) and DEA (2012a).
				Engines	19.2	Nielsen & Illerup (2003)
				0102	25	DCE estimate based on Christiansen (2003), Hjort-Gregersen (1999) and DEA (2012a).
		1A2a-f	Industry	03, except engines	25	DCE estimate based on Christiansen (2003), Hjort-Gregersen (1999) and DEA (2012a).
				03, engines	19.2	Nielsen & Illerup (2003)
		1A4a	Commercial/ Institutional	0201, except engines	25	DCE estimate based on Christiansen (2003), Hjort-Gregersen (1999) and DEA (2012a).
				020105	19.2	Nielsen & Illerup (2003)
		1A4c i	Agriculture/ Forestry	0203, except engines	25	DCE estimate based on Christiansen (2003), Hjort-Gregersen (1999) and DEA (2012a).
				020304	19.2	Nielsen & Illerup (2003)
	BIO PROD GAS	1A1a	Public electricity and heat production	010105	1.9	Assumed equal to wood. DCE assumption.

Table 3A-4.8 NOx emission factors and references 2012.

Fuel type	Fuel	NFR	NFR_name	SNAP	NO <sub>x</sub> emission factor, g/GJ	Reference	
SOLID	ANODE CARBON	1A2f	Industry - other	032000	132	Assumed equal to coal. DCE assumption.	
	COAL	1A1a	Public electricity and heat production	0101	32	DCE estimate based on Energinet.dk (2013) and EU ETS (2013)	
				0102	95	DEPA (2001a)	
		1A2a-f	Industry	03	132	DCE estimate based on plant specific data for 2011.	
				except cement production			
		1A2f	Industry, cement production	0316	176	DCE estimate based on plant specific data for 2012.	
		1A4b i	Residential	020200	95	DEPA (2001a)	
		1A4c i	Agriculture/ Forestry	0203	95	DEPA (2001a)	
	FLY ASH FOSSIL	1A1a	Public electricity and heat production	0101	30	Assumed equal to the emission factor for coal in 2010.	
	BROWN COAL BRI.	1A4b	Residential	0202	95	Assumed equal to coal. DCE assumption.	
	COKE OVEN COKE	1A2a-f	Industry	03	132	Assumed equal to coal. DCE assumption.	
1A4b i		Residential	020200	95	Assumed equal to coal. DCE assumption.		
LIQUID	PETROLEUM COKE	1A2a-f	Industry	03	132	Assumed equal to coal. DCE assumption.	
	RESIDUAL OIL	1A1a	Public electricity and heat production	0101	138	DCE estimate based on Energinet.dk (2009); Energinet.dk (2010); Energinet.dk (2011); EU ETS (2009-2011)	
				0102	142	DEPA (2001a)	
		1A1b	Petroleum refining	010306	200	IPCC (1997)	
		1A2a-f	Industry	03	129	DCE estimate based on plant specific data from two plants, 2011.	
		1A4a	Commercial/ Institutional	0201	142	DEPA (2001a)	
		1A4b	Residential	0202	142	DEPA (2001a)	
		1A4c i	Agriculture/ Forestry	0203	142	DEPA (2001a)	
		GAS OIL	1A1a	Public electricity and heat production	010101, 010102	114	DCE estimate based on plant specific data for 2011. Data from Energinet.dk (2011) and EU ETS (2011).
					010103	130	DEPA (2012b), DEPA (2003b) and DEPA (1990)
					0102		
					010104	350	DCE estimate based on Eltra & Elkraft System, (2001) and DEA (2012b)
					010105	942	Nielsen et al. (2010a)
			1A1b	Petroleum refining	010306	65	DEPA (1990)
			1A1c	Other energy industries	010504	350	(?)
			1A2a-f	Industry	03	130	DEPA (2012b), DEPA (2003b) and DEPA (1990)
				except engines			
	1A2a-f		Industry	Engines	942	Nielsen et al. (2010a)	
	1A4a	Commercial/ Institutional	0201	52	DEPA (2001a)		
	020105		942	Nielsen et al. (2010a)			
	1A4b i	Residential	0202	52	DEPA (2001a)		
	Engines		942	Nielsen et al. (2010a)			
	1A4c	Agriculture/Forestry	0203	52	DEPA (2001a)		
	Engines		942	Nielsen et al. (2010a)			
	KEROSENE	1A2f	Industry - other	03	50	EEA (2009)	



Fuel type	Fuel	NFR	NFR_name	SNAP	NO <sub>x</sub> emission factor, g/GJ	Reference
		1A4a	Commercial/ Institutional	0201	50	EEA (2009)
		1A4b i	Residential	0202	50	EEA (2009)
		1A4c i	Agriculture/ Forestry	0203	50	EEA (2009)
	LPG	1A1a	Public electricity and heat production	All	96	IPCC (1997)
		1A1b	Petroleum refining	0103	96	IPCC (1997)
		1A2a-f	Industry	03	96	IPCC (1997)
		1A4a	Commercial/ Institutional	0201	71	IPCC (1997)
		1A4b i	Residential	0202	47	IPCC (1997)
		1A4c i	Agriculture/ Forestry	0203	71	IPCC (1997)
	REFINERY GAS	1A1b	Petroleum refining	010304	170	DCE estimate based on plant specific data for a gas turbine in year 2000.
				010306	84	DCE estimate based on plant specific data for years 2011.
GAS	NATURAL GAS	1A1a	Public electricity and heat production	010101, 010102	55	DEPA (2003b)
				010103	42	Larsen (2009)
				010104	48	Nielsen et al. (2010a)
				010105	135	Nielsen et al. (2010a)
				0102	42	Larsen (2009)
		1A1c	Other energy industries	010504	250	Kristensen (2004)
		1A2a-f	Industry	03	42	Larsen (2009)
			Engines		135	Nielsen et al. (2010a)
			Turbines		48	Nielsen et al. (2010a)
				030700	87	DCE estimate based on plant specific data for 11 clay production plants, EU ETS (2011-2012); DEPA (2012)
		1A4a	Commercial/ Institutional	0201	30	Larsen (2009); DEPA (2001a)
			Engines		135	Nielsen et al. (2010a)
		1A4b i	Residential	0202	30	Larsen (2009); DEPA (2001a)
			Engines		135	Nielsen et al. (2010a)
		1A4c i	Agriculture/ Forestry	0203	30	Larsen (2009); DEPA (2001a)
			Engines		135	Nielsen et al. (2010a)
WASTE	WASTE	1A1a	Public electricity and heat production	0101	102	Nielsen et al. (2010a)
				0102	164	DCE estimate based on plant specific data for year 2000.
		1A2a-f	Industry	03	164	DCE estimate based on plant specific data for district heating plants in year 2000.
		1A4a	Commercial/ Institutional	0201	164	DCE estimate based on plant specific data for district heating plants in year 2000.
	INDUSTRIAL WASTE	1A2f	Industry - Other	031600	164	Assumed equal to waste. DCE assumption.
BIOMASS	WOOD	1A1a	Public electricity and heat production	0101	81	Nielsen et al. (2010a)
				0102	90	Serup et al. (1999)
		1A2a-f	Industry	All	90	Serup et al. (1999)
		1A4a	Commercial/ Institutional	0201	90	Serup et al. (1999)
		1A4b i	Residential	0202	73.9	DCE estimate based on DEA (2013a), DEPA (2013) and EEA (2013),
		1A4c i	Agriculture/ Forestry	0203	90	Serup et al. (1999)

Fuel type	Fuel	NFR	NFR_name	SNAP	NO <sub>x</sub> emission factor, g/GJ	Reference
STRAW		1A1a	Public electricity and heat production	0101	125	Nielsen et al. (2010a)
				0102	90	Nikolaisen et al. (1998)
		1A4b i	Residential	0202	90	Assumed equal to district heating plants. DCE assumption.
		1A4c i	Agriculture/ Forestry	0203	90	Assumed equal to district heating plants. DCE assumption.
BIO OIL		1A1a	Public electricity and heat production	0101	249	Assumed equal to gas oil. DCE assumption. The emission factor for gas oil have been changed and the emission factor for biooil will also be changed in future inventories.
				010105	700	Assumed equal to gas oil. DCE assumption.
				0102	65	Assumed equal to gas oil. DCE assumption.
		1A2a-f	Industry	03	65	Assumed equal to gas oil. DCE assumption.
				Engines	700	Assumed equal to gas oil. DCE assumption.
		1A4b i	Residential	0202	65	Assumed equal to gas oil. DCE assumption.
BIOGAS		1A1a	Public electricity and heat production	0101, not engines	28	DEPA (2001a)
				Engines	202	Nielsen et al. (2010a)
				0102	28	DEPA (2001a)
		1A2a-f	Industry	03, not engines	28	DEPA (2001a)
				03, engines	202	Nielsen et al. (2010a)
				030902	59	DEPA (1990); DEPA (1995)
		1A4a	Commercial/ Institutional	0201, not engines	28	DEPA (2001a)
				020105	202	Nielsen et al. (2010a)
		1A4c i	Agriculture/ Forestry	0203, not engines	28	DEPA (2001a)
				020304	202	Nielsen et al. (2010a)
BIO PROD GAS		1A1a	Public electricity and heat production	010105	173	Nielsen et al. (2010a)
		1A4a	Commercial/ Institutional	020105	173	Nielsen et al. (2010a)

Table 3A-4.9 NMVOC emission factors and references 2012.

Fuel type	Fuel	NFR	NFR_name	SNAP	NMVOC, g/GJ	Reference
SOLID	ANODE CARBON COAL	1A2f	Industry - other	032000	10	Assumed equal to coal. DCE assumption.
		1A1a	Electricity and heat production	0101 0102	1.2	EEA (2009)
		1A2a-f	Industry	(all)	10	EEA (2009)
		1A4b i	Residential	020200	484	EEA (2009)
		1A4c i	Agriculture/ Forestry	020300	88.8	EEA (2009)
	BROWN COAL BRI.	1A4b i	Residential	020200	484	EEA (2009)
	COKE OVEN COKE	1A2a-f	Industry	03	10	EEA (2009)
		1A4b i	Residential	020200	484	EEA (2009)
	PETROLEUM COKE	1A2a-f	Industry	03	10	Assumed equal to coal. DCE assumption.
		1A1a	Public electricity and heat production	010101 010102 010103 010104	0.8	Nielsen et al. (2010)
LIQUID	RESIDUAL OIL	1A1b	Petroleum refining	010203	2.3	EEA (2009)
				010306	2.3	EEA (2009)
				03 except engines	0.8	Nielsen et al. (2010)
				Engines	10	EEA (2009)
				1A4a	5	EEA (2009)
		1A4b	Residential	0202	15	EEA (2009)
		1A4c i	Agriculture/ Forestry	0203	5	EEA (2009)
	GAS OIL	1A1a	Public electricity and heat production	010101 010102 010103 010104	0.8	EEA (2009)
				010105	0.2	EEA (2009)
				0102	37	EEA (2009)
				0102	0.8	EEA (2009)
		1A1b	Petroleum refining	010306	0.8	EEA (2009)
		1A1c	Other energy industries	010504	0.2	EEA (2009)
		1A2a-f	Industry	03 boilers > 50 MW	5	EEA (2009)
				03 boilers < 50 MW	10	EEA (2009)
				Gas turbines	0.2	EEA (2009)
				Engines	37	EEA (2009)
				0201 except engines	5	EEA (2009)
	KEROSENE	1A4a	Commercial/ Institutional	Engines	37	EEA (2009)
				1A4b i	15	EEA (2009)
				1A4c	5	EEA (2009)
				1A2a-f	10	EEA (2009)
				1A4a	5	EEA (2009)
		1A4b i	Residential	0202	15	EEA (2009)
		1A4c i	Agriculture/ Forestry	0203	5	EEA (2009)

Fuel type	Fuel	NFR	NFR_name	SNAP	NMVOC, g/GJ	Reference
GAS	LPG	1A1a	Public electricity and heat production	0101	0.8	EEA (2009)
				0102		
		1A1b	Petroleum refining	0103	0.8	EEA (2009)
		1A2a-f	Iron and steel	03	5	EEA (2009)
		1A4a	Commercial/ Institutional	0201	5	EEA (2009)
		1A4b i	Residential	0202	10	EEA (2009)
		1A4c i	Agriculture/ Forestry	0203	5	EEA (2009)
	REFINERY GAS	1A1b	Petroleum refining	0103	1.4	Assumed equal to natural gas fuelled gas turbines. DCE assumption.
	NATURAL GAS	1A1a	Public electricity and heat production	010101	2	Danish Gas Technology Centre (2001).
				010102		
				010103		
				010104	1.6	Nielsen et al. (2010)
				010105	92	Nielsen et al. (2010)
				0102	2	Danish Gas Technology Centre (2001).
		1A1c	Other energy industries	010504	1.6	Nielsen et al. (2010)
		1A2a-f	Industry	03 except engines and turbines	2	Danish Gas Technology Centre (2001).
				Turbines	1.6	Nielsen et al. (2010)
				Engines	92	Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	0201 except engines	2	Danish Gas Technology Centre (2001).
				Engines	92	Nielsen et al. (2010)
		1A4b i	Residential	0202 except engines	4	Gruijthuijsen & Jensen (2000)
				Engines	92	Nielsen et al. (2010)
		1A4c i	Agriculture/ Forestry	0203 except engines	2	Danish Gas Technology Centre (2001).
				Engines	92	Nielsen et al. (2010)
WASTE	WASTE	1A1a	Public electricity and heat production	0101	0.56	Nielsen et al. (2010)
				0102	2	EEA (2009)
		1A2a-f	Industry	03	2	EEA (2009)
		1A4a	Commercial/ Institutional	0201	2	EEA (2009)
	INDISTRIAL WASTE	1A2f	Industry - Other	0316	2	EEA (2009)
BIOMASS	WOOD	1A1a	Public electricity and heat production	0101	5.1	Nielsen et al. (2010)
				0102	7.3	EEA (2009)
		1A2a-f	Industry	03	10	EEA (2009)
		1A4a	Commercial/ Institutional	0201	146	EEA (2009)
		1A4b i	Residential	0202	363.4	DCE estimate based on DEA (2013a), DEPA (2013) and EEA (2013),
		1A4c i	Agriculture/ Forestry	0203	146	EEA (2009)
	STRAW	1A1a	Public electricity and heat production	0101	0.78	Nielsen et al. (2010)
				0102	7.3	EEA (2009)
		1A4b i	Residential	0202	400	EEA (2009)
		1A4c i	Agriculture/ Forestry	0203	146	EEA (2009)
				020302	10	EEA (2009)

Fuel type	Fuel	NFR	NFR_name	SNAP	NMVOC, g/GJ	Reference
	BIO OIL	1A1a	Public electricity and heat production	010102	0.8	EEA (2009)
				010105	37	EEA (2009)
				0102	0.8	EEA (2009)
		1A2a-f	Industry	03	0.8	EEA (2009)
		1A4b i	Residential	0202	15	EEA (2009)
	BIOGAS	1A1a	Public electricity and heat production	0101	2	Assumed equal to natural gas. DCE assumption.
				010105	10	Nielsen et al. (2010)
				0102	2	Assumed equal to natural gas. DCE assumption.
		1A2a-f	Industry	03 except engines	2	Assumed equal to natural gas. DCE assumption.
				Engines	10	Nielsen et al. (2010)
				0201 except engines	2	Assumed equal to natural gas. DCE assumption.
		1A4a	Commercial/ Institutional	Engines	10	Nielsen et al. (2010)
				0203 except engines	2	Assumed equal to natural gas. DCE assumption.
				Engines	10	Nielsen et al. (2010)
	BIO PROD GAS	1A1a	Public electricity and heat production	010105	2	Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	020105	2	Nielsen et al. (2010)

Table 3A-4.10 CO emission factors and references 2012.

Fuel type	Fuel	NFR	NFR_name	SNAP	CO emission factor g/GJ	Reference
SOLID	ANODE CARBON COAL	1A2a-f	Industry	03	10	Assumed the same emission factor as for coal. DCE assumption.
		1A1a	Public electricity and heat production	0101 and 0102	10	Sander (2002)
		1A2a-f	Industry	03	10	Assumed equal to boilers in public electricity and heat production. DCE assumption.
		1A4b i	Residential	0202	2000	IPCC (1997)
		1A4c i	Agriculture/ Forestry	020300	931	EEA (2009)
	FLY ASH FOSSIL	1A1a	Public electricity and heat production	0101	10	Assumed equal to coal. DCE assumption.
	BROWN COAL BRI.	1A4b i	Residential	020200	2000	Assumed the same emission factor as for coal. DCE assumption.
	COKE OVEN COKE	1A2a-f	Industry	03	10	Assumed the same emission factor as for coal. DCE assumption.
		1A4b i	Residential	0202	2000	Assumed the same emission factor as for coal. DCE assumption.
LIQUID	PETROLEUM COKE	1A2a-f	Industry	03	61	Unknown – the emission factor will be updated according to EEA (2013)
	RESIDUAL OIL	1A1a	Electricity and heat production	0101	15	Sander (2002)
				010203	30	EEA (2007)
		1A1b	Petroleum refining	010306	30	EEA (2007)
		1A2a-f	Industry	03 except engines	2.8	Nielsen et al. (2010)
				Engines	100	EEA (2009)
		1A4a	Commercial/Institutional	0201	30	EEA (2007)
		1A4b	Residential	0202	30	EEA (2007)
		1A4c i	Agriculture/ Forestry	0203	30	EEA (2007)
	GAS OIL	1A1a	Public electricity and heat production	0101 except engines	15	Sander (2002)
				Engines	130	Nielsen et al. (2010)
				0102	30	EEA (2007)
				010306	30	EEA (2007)
				03 except gas turbines and engines	30	EEA (2007)
		1A2a-f	Industry	Gas turbines	15	Sander (2002)
				Engines	130	Nielsen et al. (2010)
				0201 except engines	30	EEA (2007)
				Engines	130	Nielsen et al. (2010)
				0202	43	EEA (2007)
		1A4c	Agriculture/Forestry	0203	30	EEA (2007)
	KEROSENE	1A2a-f	Industry	03	20	EEA (2007)
		1A4a	Commercial/ Institutional	0201	20	EEA (2007)
		1A4b i	Residential	0202	20	EEA (2007)
		1A4c i	Agriculture/ Forestry	0203	20	EEA (2007)
		1A1a	Public electricity and heat production	0101 and 0102	25	EEA (2007)

Fuel type	Fuel	NFR	NFR_name	SNAP	CO emission factor g/GJ	Reference
GAS	REFINERY GAS	1A2a-f	Industry	03	25	EEA (2007)
		1A4a	Commercial/ Institutional	0201	25	EEA (2007)
		1A4b i	Residential	0202	25	EEA (2007)
		1A4c i	Agriculture/ Forestry	0203	25	EEA (2007)
		1A1b	Petroleum refining	0103	6.2	Assumed same emission factor as for natural gas fuelled gas turbines. DCE assumption.
		1A1a	Public electricity and heat production	010101 and 010102	15	Sander (2002)
				010103	28	DEPA (2001)
				010104	4.8	Nielsen et al. (2010)
				010105	58	Nielsen et al. (2010)
				0102	28	DEPA (2001)
		1A1c	Other energy industries	010504	4.8	Nielsen et al. (2010)
		1A2a-f	Industry	03 except gas turbines and engines	28	DEPA (2001)
				Gas turbines	4.8	Nielsen et al. (2010)
				Engines	58	Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	0201 except engines	28	DEPA (2001)
				Engines	58	Nielsen et al. (2010)
		1A4b i	Residential	0202 except engines	20	Gruijthuijsen & Jensen (2000)
				Engines	58	Nielsen et al. (2010)
		1A4c i	Agriculture/ Forestry	0203 except engines	28	DEPA (2001)
				Engines	58	Nielsen et al. (2010)
WASTE	WASTE	1A1a	Public electricity and heat production	0101	3.9	Nielsen et al. (2010)
				0102	10	DCE calculation based on annual environmental reports for Danish plants year 2000.
		1A2a-f	Industry	03	10	Assumed equal to district heating plants. DCE assumption.
		1A4a	Commercial/ Institutional	0201	10	Assumed equal to district heating plants. DCE assumption.
		1A2f	Industry - Other	0316	10	Assumed equal to waste, district heating plants. DCE assumption.
BIOMASS	INDISTRIAL WASTE	1A1a	Public electricity and heat production	0101	90	Nielsen et al. (2010)
				010203	240	DEPA (2001)
		1A2a-f	Industry	03	240	DEPA (2001)
		1A4a	Commercial/ Institutional	020100	240	DEPA (2001)
		1A4b i	Residential	0202	2676	DCE estimate based on DEA (2013a), DEPA (2013) and EEA (2013),
	WOOD	1A4c i	Agriculture/ Forestry	020300	240	DEPA (2001)
		1A1a	Public electricity and heat production	0101	67	Nielsen et al. (2010)
				0102	325	DEPA (2001); Nikolaisen et al (1998)
		1A4b i	Residential	0202	4000	EEA (2007); Jensen & Nielsen (1990) and Bjerrum (2002)
		1A4c i	Agriculture/ Forestry	0203	4000	EEA (2007); Jensen & Nielsen (1990) and Bjerrum (2002)
				020302	325	DEPA (2001); Nikolaisen et al (1998)

Fuel type	Fuel	NFR	NFR_name	SNAP	CO emission factor g/GJ	Reference
	BIO OIL	1A1a	Public electricity and heat production	0101 and 0102	15	Assumed same emission factor as for gas oil. DCE assumption.
		1A2a-f			15	Assumed same emission factor as for gas oil. DCE assumption.
		1A4b i	Residential	0202	100	Assumed same emission factor as for gas oil. DCE assumption.
BIOGAS		1A1a	Public electricity and heat production	0101 except engines	36	DEPA (2001)
				Engines	310	Nielsen et al. (2010)
				0102	36	DEPA (2001)
		1A2a-f	Industry	03 except engines	36	DEPA (2001)
				Engines	310	Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	0201 except engines	36	DEPA (2001)
				Engines	310	Nielsen et al. (2010)
		1A4c i	Agriculture/ Forestry	0203 except engines	36	DEPA (2001)
				Engines	310	Nielsen et al. (2010)
BIO PROD GAS		1A1a	Public electricity and heat production	010105	586	Nielsen et al. (2010)
		1A4a	Commercial/ Institutional	020105	586	Nielsen et al. (2010)



Table 3A-4.11 SO<sub>2</sub> emission factors time-series, g per GJ for the years 1990 to 2012.

fuel_type	fuel_id	fuel_gr_abbr	nfr_id	EA	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SOLID	102A	COAL	1A1a		010100	506	571	454	386																			
SOLID	102A	COAL	1A1a		010101	506	571	454	386	343	312	420	215	263	193	64	47	45	61	42	41	37	40	26	14	10	9	11
SOLID	102A	COAL	1A1a		010102	506	571	454	386	343	312	420	215	263	193	64	47	45	61	42	41	37	40	26	14	10	9	11
SOLID	102A	COAL	1A1a		010103					343	312	420																
SOLID	102A	COAL	1A1a		010104					343	312	420	215													10	9	
LIQUID	110A	PETROLEUM COKE	1A1a		010102					787	787															605	605	
LIQUID	110A	PETROLEUM COKE	1A2e		030900					787														605		605	605	605
LIQUID	110A	PETROLEUM COKE	1A2f i		030700	787					787	787	787	787	787	787	605	605	605	605	605					605	605	605
LIQUID	110A	PETROLEUM COKE	1A2f i		030800	787	787	787	787		787				787	787	605	605	605	605	605							
LIQUID	110A	PETROLEUM COKE	1A2f i		031300	787	787	787			787	787		787	787									605		605	605	605
LIQUID	110A	PETROLEUM COKE	1A2f i		031600	787	787	787	787	787	787	787	787	787	787	787	605	605	605	605	605	605	605	605	605	605	605	605
LIQUID	110A	PETROLEUM COKE	1A4a i		020100	787	787	787	787	787	787	787	787	787	787	787	605	605	605		605	605	605	605		605	605	
LIQUID	110A	PETROLEUM COKE	1A4b i		020200	787	787	787	787	787	787	787	787	787	787	787	605	605	605		605		605	605		605	605	
LIQUID	110A	PETROLEUM COKE	1A4c i		020300	787	787	787	787		787	787	787	787	787	787	605	605	605									
LIQUID	203A	RESIDUAL OIL	1A1a		010100	446	470	490	475																			
LIQUID	203A	RESIDUAL OIL	1A1a		010101	446	470	490	475	543	351	408	344	369	369	403	315	290	334	349	283	308	206	100	100	100	100	100
LIQUID	203A	RESIDUAL OIL	1A1a		010102	446	470	490	475	543	351	408	344	369	369	403	315	290	334	349	283	308	206	100	100	100	100	100
LIQUID	203A	RESIDUAL OIL	1A1a		010103					543	351	408	344	369	369	403	315	290	334	349				100	100	100	100	100
LIQUID	203A	RESIDUAL OIL	1A1a		010104					543	351	408	344	369	369		315	290	334	349	283	308	206	100	100	100	100	100
LIQUID	203A	RESIDUAL OIL	1A1a		010105					543	351	408	344	369	369	403	315	290	334	349	283	308			100	100		
LIQUID	203A	RESIDUAL OIL	1A1a		010202					495	495	495	344	344	344								344			344	344	
LIQUID	203A	RESIDUAL OIL	1A1a		010203					495	495	495	344	344	344	344	344	344	344	344	344	344		344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A1b		010306	798	798	798	798	537	537	537	537	537	537	537	537	537	537	537	537	537	537	537	537	537	537	537
LIQUID	203A	RESIDUAL OIL	1A2a		030400	495	495	495	495	495	495	495	344	344	344	344	344	344					344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2b		030500	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2c		030600	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2d		031100	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2e		030900	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2e		030902					495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2e		030903					495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2f i		030700	495	495	495	495	495	495	495	344		344	344	344	344	344	344	344		344	344				
LIQUID	203A	RESIDUAL OIL	1A2f i		030800	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2f i		031000	495	495	495	495	495	495	495	344	344	344	344	344	344	344				344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2f i		031200	495	495	495	495	495	495	495		344	344	344	344	344				344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2f i		031300	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2f i		031400	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2f i		031500	495	495	495	495	495	495	495	344	344	344	344	344	344										
LIQUID	203A	RESIDUAL OIL	1A2f i		031600	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
LIQUID	203A	RESIDUAL OIL	1A2f i		032000	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344

fuel_type	fuel_id	fuel_gr_abbr	nfr_id_EA	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
LIQUID	203A	RESIDUAL OIL	1A4a i	020100	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	
LIQUID	203A	RESIDUAL OIL	1A4b i	020200	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	
LIQUID	203A	RESIDUAL OIL	1A4c i	020300	495	495	495	495	495	495	495	344	344	344	344	344	344	344	344	344	344			344	344	344	
LIQUID	204A	GAS OIL	1A1a	010101					94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A1a	010102					94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A1a	010104		94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A1a	010105					94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A1a	010202					94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A1a	010203					94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A1b	010306		94	94	94	94	23	23	23						23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A2a	030400	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2b	030500	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2c	030600	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2d	031100	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2e	030900	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2e	030902					94	23	23	23	23	23				23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A2e	030903					94	23					23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A2f i	030700	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2f i	030800	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2f i	031000	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2f i	031200	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2f i	031300	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2f i	031400	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	204A	GAS OIL	1A2f i	031403					94	23		23	23	23	23	23	23										
LIQUID	204A	GAS OIL	1A2f i	032000	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A4a i	020100	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A4a i	020103					94		23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A4a i	020105					94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A4b i	020200	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
LIQUID	204A	GAS OIL	1A4c i	020300	94	94	94	94	94	23	23	23	23	23	23	23	23	23	23	23	23						
LIQUID	225A	ORIMULSION	1A1a	010101						149	149	149	149	149		12	12	12	12								
WASTE	114A	WASTE	1A1a	010100	138	116	95	73																			
WASTE	114A	WASTE	1A1a	010102					52	30	29	28	26	25	24	24	24	24	19	14	8.3	8.3	8.3	8.3	8.3	8.3	
WASTE	114A	WASTE	1A1a	010103					52	30	29	28	26	25	24	24	24	24	19	14	8.3	8.3	8.3	8.3	8.3	8.3	
WASTE	114A	WASTE	1A1a	010104					52	30	29	28	26	25	24			24			8.3				8.3	8.3	
WASTE	114A	WASTE	1A1a	010200	138	131	124	117																	8.3	8.3	
WASTE	114A	WASTE	1A1a	010202						103	95																
WASTE	114A	WASTE	1A1a	010203					110	103	95	88	81	74	67	60	52	45	37	30	22	14	14	14	14	14	
WASTE	114A	WASTE	1A2a	030400					110	103																	
WASTE	114A	WASTE	1A2c	030600	138	131	124	117	110	103	95	88	81		67					30		14					
WASTE	114A	WASTE	1A2d	031100	138	131	124	117	110	103	95	88	81	74	67					30		14	14	14	14	14	
WASTE	114A	WASTE	1A2e	030900	138	131	124	117	110	103	95		81	74	67					30		14	14	14	14	14	
WASTE	114A	WASTE	1A2e	030902																30		14	14				
WASTE	114A	WASTE	1A2f i	030700	138	131	124	117	110	103			81														
WASTE	114A	WASTE	1A2f i	030800																30		14	14	14	14	14	
WASTE	114A	WASTE	1A2f i	031000	138	131	124	117	110	103	95	88	81	74	67							14					
WASTE	114A	WASTE	1A2f i	031200	138	131			110	103																	
WASTE	114A	WASTE	1A2f i	031300	138	131	124	117	110	103	95	88	81		67					30		14	14	14	14	14	

fuel_type	fuel_id	fuel_gr_abbr	nfr_id	EA	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
WASTE	114A	WASTE	1A2f i		031400			124	117	110	103	95	88	81	74	67					30		14					
WASTE	114A	WASTE	1A2f i		032000	138	131	124	117	110	103	95	88	81	74	67					30		14					
WASTE	114A	WASTE	1A4a i		020100	138	131	124	117	110	103	95	88	81	74				45	37	30	22		14		14	14	14
WASTE	114A	WASTE	1A4a i		020103					110	103	95	88	81	74	67	60	52	45	37	30	22	14	14	14	14	14	14
WASTE	115A	INDUSTR. WASTE	1A2f i		031600											67	60	52	45	37	30	22	14	14	14	14	14	14

Table 3A-4.12 NO<sub>x</sub> emission factors time-series, g per GJ for the years 1990 to 2012.

fuel_type	fuel_id	fuel_gr_abbr	nfr_id	EA	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SOLID	102A	COAL	1A1a		010100	342	384	294	289																			
SOLID	102A	COAL	1A1a		010101	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131	127	109	98	59	39	30	30	32
SOLID	102A	COAL	1A1a		010102	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131	127	109	98	59	39	30	30	32
SOLID	102A	COAL	1A1a		010103					267	239	250																
SOLID	102A	COAL	1A1a		010104					267	239	250	200													30	30	
SOLID	102A	COAL	1A1a		010203					200	200	200	200	200	200	95	95	95	95	95	95		95	95		95	95	95
																					516.		389.		262.			
SOLID	102A	COAL	1A2f i		031600	715	715	715	715	715	715	715	715	715	715	715	688	661	634	607	580	5	453	5	326	5	199	176
SOLID	102A	COAL	1A4a i		020100	200	200	200	200	200	200	200	200	200	200				95									
SOLID	102A	COAL	1A4b i		020200	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95	95	95	95	95	95	95	95	95
SOLID	102A	COAL	1A4c i		020300	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95	95	95	95	95	95	95	95	95
		BROWN COAL																										
SOLID	106A	BRI.	1A4b i		020200	200	200	200	200	200	200	200	200	200	200	95	95	95	95					95	95	95	95	95
		COKE OVEN																										
SOLID	107A	COKE	1A4b i		020200	200	200	200	200	200	200	200	200	200	200	95	95	95	95	95	95	95	95	95	95	95	95	95
		PETROLEUM																										
LIQUID	110A	COKE	1A1a		010102					267	239															138	138	
LIQUID	203A	RESIDUAL OIL	1A1a		010100	342	384	294	289																			
LIQUID	203A	RESIDUAL OIL	1A1a		010101	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131	127	109	98	138	138	138	138	138
LIQUID	203A	RESIDUAL OIL	1A1a		010102	342	384	294	289	267	239	250	200	177	152	129	122	130	144	131	127	109	98	138	138	138	138	138
LIQUID	203A	RESIDUAL OIL	1A1a		010103					267	239	250	200	177	152	129	122	130	144	131	127	109	98	138	138	138	138	138
LIQUID	203A	RESIDUAL OIL	1A1a		010104					267	239	250	200	177	152	129	122	130	144	131	127	109	98	138	138	138	138	138
LIQUID	203A	RESIDUAL OIL	1A1a		010105					267	239	250	200	177	152	129	122	130	144	131	127	109			138	138		
LIQUID	203A	RESIDUAL OIL	1A4c i		020304									142	142	142	142	142	142						130	130		
LIQUID	204A	GAS OIL	1A1a		010101					249	249	249	249	249	249	249	249	249	249	232	215	198	182	165	148	131	114	114
LIQUID	204A	GAS OIL	1A1a		010102					249	249	249	249	249	249	249	249	249	249	232	215	198	182	165	148	131	114	114
LIQUID	204A	GAS OIL	1A1a		010105					1247	1196	1145	1094	1044	993	942	942	942	942	942	942	942	942	942	942	942	942	942
LIQUID	204A	GAS OIL	1A1b		010306		95	90	85	80	75	70	65						65	65	65	65	65	65	65	65	65	65
LIQUID	204A	GAS OIL	1A4a i		020105					1247	1196	1145	1094	1044	993	942	942	942	942	942	942	942	942	942	942	942	942	942
LIQUID	204A	GAS OIL	1A4c i		020304									1145	1094							942	942		942			
LIQUID	225A	ORIMULSION	1A1a		010101						138	139	138	138	138		88	86	86	86								
LIQUID	308A	REFINERY GAS	1A1b		010306	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	94	94	94	94
GAS	301A	NATURAL GAS	1A1a		010101					115	115		115			115	115	115	115	97	97	97	97	55	55	55	55	55
GAS	301A	NATURAL GAS	1A1a		010102					115	115	115		115	115	115	115	115	115	97	97	97	97	55	55	55	55	55
GAS	301A	NATURAL GAS	1A1a		010104	161	157	153	149	145	141	138	134	131	127	124	119	113	108	103	98	73	48	48	48	48	48	48
GAS	301A	NATURAL GAS	1A1a		010105	276	241	235	214	199	194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A2c		030604	161	157	153	149	145	141	138	134	131	127	124	119	113	108	103	98	73	48	48	48	48	48	48
GAS	301A	NATURAL GAS	1A2c		030605								170	167	167	168	163	158	153	148	143							

fuel_type	fuel_id	fuel_gr_abbr	nfr_id	EA	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GAS	301A	NATURAL GAS	1A2d		031104						141	138	134	131	127	124	119	113	108	103	98	73	48	48	48	48	48	48
GAS	301A	NATURAL GAS	1A2e		030904					145	141	138	134	131	127	124	119	113	108	103	98	73	48	48	48	48	48	48
GAS	301A	NATURAL GAS	1A2e		030905					199	194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A2f i		030705						194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A2f i		031005							193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A2f i		031305							193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A2f i		031405						194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A2f i		032004							138	134	131	127	124	119	113	108	103	98		48	48	48	48	48	48
GAS	301A	NATURAL GAS	1A2f i		032005	276	241	235	214	199	194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A4a i		020104						141		134			124	119	113	108	103	98	73	48					
GAS	301A	NATURAL GAS	1A4a i		020105	276	241	235	214	199	194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A4b i		020204		241	235	214	199	194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
GAS	301A	NATURAL GAS	1A4c i		020304	276	241	235	214	199	194	193	170	167	167	168	163	158	153	148	143	139	135	135	135	135	135	135
WASTE	114A	WASTE	1A1a		010102					134	134	134	134	134	129	124	124	124	124	117	110	102	102	102	102	102	102	102
WASTE	114A	WASTE	1A1a		010103					134	134	134	134	134	129	124	124	124	124	117	110	102	102	102	102	102	102	102
WASTE	114A	WASTE	1A1a		010104					134	134	134	134	134	129	124			124			102				102	102	102
BIO- MASS	111A	WOOD	1A4b i		020200	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	65.4	66.2	66.5	66.8	67.6	68.5	68.8	70.1	71.5	72.3	73.2	73.9
BIO- MASS	111A	WOOD	1A4b i		020202																67.6	68.5	68.8	70.1	71.5	72.3	73.2	73.9
BIO- MASS	111A	WOOD	1A4b i		020204																			70.1	71.5	72.3		
BIO- MASS	215A	BIO OIL	1A1a		010200	100	95	90	85																			
BIO- MASS	215A	BIO OIL	1A1a		010203					80	75	70	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
BIO- MASS	309A	BIOGAS	1A1a		010105	711	696	681	665	650	635	616	597	578	559	540	484	427	371	315	259	202	202	202	202	202	202	202
BIO- MASS	309A	BIOGAS	1A2f i		032005												484	427	371	315	259	202	202	202	202	202	202	202
BIO- MASS	309A	BIOGAS	1A4a i		020105	711	696	681	665	650	635	616	597	578	559	540	484	427	371	315	259	202	202	202	202	202	202	202
BIO- MASS	309A	BIOGAS	1A4c i		020304					650	635	616	597	578	559	540	484	427	371	315	259	202	202	202	202	202	202	202

Table 3A-4.13 NMVOC emission factors time-series, g per GJ for the years 1990 to 2012.

Table 3A-4.15 NMVOC emission factors time series, g per GJ for the years 1990 to 2012.																											
fuel_type	fuel_id	fuel_gr_abbr	nfr_id_EA	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GAS	301A	NATURAL GAS	1A1a	010104	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
GAS	301A	NATURAL GAS	1A1a	010105	60	69	81	127	140	142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A1c	010504	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
GAS	301A	NATURAL GAS	1A2c	030604	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
GAS	301A	NATURAL GAS	1A2c	030605								124	122	122	121	114	108	101	95	88							
GAS	301A	NATURAL GAS	1A2d	031104						1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
GAS	301A	NATURAL GAS	1A2e	030904					1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
GAS	301A	NATURAL GAS	1A2e	030905					140	142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A2f i	030705						142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A2f i	031005							138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A2f i	031305							138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A2f i	031405						142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A2f i	032004							1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6		1.6	1.6	1.6	1.6	1.6	1.6
GAS	301A	NATURAL GAS	1A2f i	032005	60	69	81	127	140	142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A4a i	020104						1.4		1.4			1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.6					
GAS	301A	NATURAL GAS	1A4a i	020105	60	69	81	127	140	142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A4b i	020204		69	81	127	140	142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
GAS	301A	NATURAL GAS	1A4c i	020304	60	69	81	127	140	142	138	124	122	122	121	114	108	101	95	88	90	92	92	92	92	92	92
WASTE	114A	WASTE	1A1a	010101									0.98	0.98		0.98	0.98	0.98					0.56	0.56			
WASTE	114A	WASTE	1A1a	010102					0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.84	0.7	0.56	0.56	0.56	0.56	0.56	0.56	0.56
WASTE	114A	WASTE	1A1a	010103					0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.84	0.7	0.56	0.56	0.56	0.56	0.56	0.56	0.56
WASTE	114A	WASTE	1A1a	010104					0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.84	0.7	0.56	0.56	0.56	0.56	0.56	0.56	0.56
BIO-MASS	111A	WOOD	1A2a	030400	146	132	119	105	92									10	10								
BIO-MASS	111A	WOOD	1A2d	031100	146	132	119	105	92	78	64	51	37	24	10	10	10	10	10	10			10	10	10	10	10
BIO-MASS	111A	WOOD	1A2e	030900	146	132	119	105	92	78	64	51	37	24	10	10	10	10	10	10	10	10	10	10	10		
BIO-MASS	111A	WOOD	1A2e	030902									37	24	10	10								10	10	10	10

fuel_type	fuel_id	fuel_gr_abbr	nfr_id	EA	snap_id	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
BIO-MASS	111A	WOOD	1A2f i	030700	146	132	119	105	92	78	64	51	37	24	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
BIO-MASS	111A	WOOD	1A2f i	031000					92	78					24	10	10	10	10	10	10	10	10	10	10	10	10	10	
BIO-MASS	111A	WOOD	1A2f i	031200	146	132	119		92	78	64	51	37	24	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
BIO-MASS	111A	WOOD	1A2f i	031300	146	132	119	105	92	78	64	51	37	24	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
BIO-MASS	111A	WOOD	1A2f i	031400	146	132	119	105	92	78	64	51	37	24	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
BIO-MASS	111A	WOOD	1A2f i	031403					92	78	64	51	37	24	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
BIO-MASS	111A	WOOD	1A2f i	032000	146	132	119	105	92	78	64	51	37	24	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
BIO-MASS	111A	WOOD	1A2f i	032003					92	78	64	51	37	24	10	10	10												
BIO-MASS	111A	WOOD	1A4b i	020200	584.9	584.9	584.9	584.9	584.9	584.9	584.9	584.9	584.9	584.9	584.9	584.9	522.2	498.0	493.2	487.3	464.8	438.7	448.3	428.7	400.6	386.7	372.7	363.4	
BIO-MASS	111A	WOOD	1A4b i	020202	464.8 438.7 448.3 428.7 400.6 386.7 372.7 363.4																								
BIO-MASS	111A	WOOD	1A4b i	020204	428.7 400.6 386.7																								
BIO-MASS	117A	STRAW	1A4b i	020200	925	872.5	820	767	715	663	610	558	505	453	400	400	400	400	400	400	400	400	400	400	400	400	400		
BIO-MASS	309A	BIOGAS	1A1a	010105	14	14	14	14	14	14	14	14	14	14	14	14	13	13	12	11	10	10	10	10	10	10	10		
BIO-MASS	309A	BIOGAS	1A2f i	032005													13	13	12	11	10	10	10	10	10	10	10	10	10
BIO-MASS	309A	BIOGAS	1A4a i	020105	14	14	14	14	14	14	14	14	14	14	14	14	13	13	12	11	10	10	10	10	10	10	10		
BIO-MASS	309A	BIOGAS	1A4c i	020304	14					14	14	14	14	14	14	14	13	13	12	11	10	10	10	10	10	10	10	10	

Table 3A-4.14 CO emission factors time-series, g per GJ for the years 1990 to 2012.

fuel_type	fuel	fuel_gr_abbr	nfr_id	snap	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GAS	301A	NATURAL GAS	1A1a	010104	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.5	4.8	4.8	4.8	4.8	4.8	4.8
GAS	301A	NATURAL GAS	1A1a	010105	189	211	212	227	226	222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A1c	010504	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.5	4.8	4.8	4.8	4.8	4.8	4.8
GAS	301A	NATURAL GAS	1A2c	030604	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.5	4.8	4.8	4.8	4.8	4.8	4.8
GAS	301A	NATURAL GAS	1A2c	030605								182	182	182	183	163	142	122	101	81							
GAS	301A	NATURAL GAS	1A2d	031104						6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.5	4.8	4.8	4.8	4.8	4.8	4.8
GAS	301A	NATURAL GAS	1A2e	030904					6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.5	4.8	4.8	4.8	4.8	4.8	4.8
GAS	301A	NATURAL GAS	1A2e	030905					226	222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A2f i	030705						222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A2f i	031005							221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A2f i	031305							221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A2f i	031405						222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A2f i	032004							6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2		4.8	4.8	4.8	4.8	4.8	4.8
GAS	301A	NATURAL GAS	1A2f i	032005	189	211	212	227	226	222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A4a i	020104						6.2		6.2			6.2	6.2	6.2	6.2	6.2	6.2	5.5	4.8					
GAS	301A	NATURAL GAS	1A4a i	020105	189	211	212	227	226	222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A4b i	020204		211	212	227	226	222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
GAS	301A	NATURAL GAS	1A4c i	020304	189	211	212	227	226	222	221	182	182	182	183	163	142	122	101	81	70	58	58	58	58	58	58
WASTE	114A	WASTE	1A1a	010101									7.4	7.4		8	8	8						3.9			
WASTE	114A	WASTE	1A1a	010102					7.4	7.4	7.4	7.4	7.4	7.4	8	8	8	8	6.6	5.3	3.9	3.9	3.9	3.9	3.9	3.9	3.9
WASTE	114A	WASTE	1A1a	010103					7.4	7.4	7.4	7.4	7.4	7.4	8	8	8	8	6.6	5.3	3.9	3.9	3.9	3.9	3.9	3.9	3.9
WASTE	114A	WASTE	1A1a	010104					7.4	7.4	7.4	7.4	7.4	7.4	8		8	8			3.9			3.9	3.9	3.9	3.9
WASTE	114A	WASTE	1A1a	010200	100	85	70	55																			
WASTE	114A	WASTE	1A1a	010202						25	10	10	10														
WASTE	114A	WASTE	1A1a	010203					40	25	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
WASTE	114A	WASTE	1A2a	030400					40	25																	
WASTE	114A	WASTE	1A2c	030600	100	85	70	55	40	25	10	10	10		10					10		10					
WASTE	114A	WASTE	1A2d	031100	100	85	70	55	40	25	10	10	10	10	10					10		10	10	10	10	10	10
WASTE	114A	WASTE	1A2e	030900	100	85	70	55	40	25	10		10	10	10					10		10	10	10	10	10	10
WASTE	114A	WASTE	1A2f i	030700	100	85	70	55	40	25			10									10	10	10	10	10	10
WASTE	114A	WASTE	1A2f i	031000	100	85	70	55	40	25	10	10	10	10	10							10					
WASTE	114A	WASTE	1A2f i	031200	100	85			40	25																	
WASTE	114A	WASTE	1A2f i	031300	100	85	70	55	40	25	10	10	10		10					10		10	10	10	10	10	10
WASTE	114A	WASTE	1A2f i	031400			70	55	40	25	10	10	10	10	10					10		10					
WASTE	114A	WASTE	1A2f i	032000	100	85	70	55	40	25	10	10	10	10	10					10		10			10	10	10
WASTE	114A	WASTE	1A4a i	020100	100	85	70	55	40	25	10	10	10	10				10	10	10	10		10		10	10	10
WASTE	114A	WASTE	1A4a i	020103					40	25	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
BIOMASS	111A	WOOD	1A1a	010200	400	373	347	320																			
BIOMASS	111A	WOOD	1A1a	010203					293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2a	030400	400	373	347	320	293									240	240	240							
BIOMASS	111A	WOOD	1A2d	031100	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240			240	240	240	240	240
BIOMASS	111A	WOOD	1A2e	030900	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	030700	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	031000					293	267				240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	031200	400	373	347		293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	031300	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	031400	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	031403					293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	032000	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A2f i	032003					293	267	240	240	240	240	240	240	240										
BIOMASS	111A	WOOD	1A4a i	020100	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	111A	WOOD	1A4a i	020103					293	267	240	240															
BIOMASS	111A	WOOD	1A4b i	020200	4227.8	4227.8	4227.8	4227.8	4227.8	4227.8	4227.8	4227.8	4227.8	4227.8	4227.8	3810.0	3654.9	3633.0	3604.7	3461.1	3296.7	3349.5	3194.1	2982.1	2868.0	2755.7	2675.8

fuel_type	fuel	fuel_gr_abbr	nfr_id	snap	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BIOMASS	111A	WOOD	1A4b i	020202																3461.1	3296.7	3349.5	3194.1	2982.1	2868.0	2755.7	2675.8
BIOMASS	111A	WOOD	1A4b i	020204																			3194.1	2982.1	2868.0		
BIOMASS	111A	WOOD	1A4c i	020300	400	373	347	320	293	267	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
BIOMASS	117A	STRAW	1A1a	010200	600	554	508	463																			
BIOMASS	117A	STRAW	1A1a	010203					417	371	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
BIOMASS	117A	STRAW	1A4b i	020200	8500	8500	8500	8500	8500	7500	6500	5500	4500	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
BIOMASS	117A	STRAW	1A4c i	020300	8500	8500	8500	8500	8500	7500	6500	5500	4500	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
BIOMASS	309A	BIOGAS	1A1a	010105	230	234	239	243	248	252	256	260	265	269	273	279	285	292	298	304	310	310	310	310	310	310	310
BIOMASS	309A	BIOGAS	1A2f i	032005												279	285	292	298	304	310	310	310	310	310	310	310
BIOMASS	309A	BIOGAS	1A4a i	020105	230	234	239	243	248	252	256	260	265	269	273	279	285	292	298	304	310	310	310	310	310	310	310
BIOMASS	309A	BIOGAS	1A4c i	020304					248	252	256	260	265	269	273	279	285	292	298	304	310	310	310	310	310	310	310



Table 3A-4.15 Technology specific emission factors for residential wood combustion.

Emission factor (g/GJ)	Pollutant	Emission factor, Reference	
		g/GJ	
Old stove	NOx	50	EEA (2013), conventional stoves
New stove	NOx	50	EEA (2013), conventional stoves
Stove according to resent Danish legislation (2008)	NOx	80	EEA (2013), energy efficient stoves
Eco labelled stove	NOx	95	EEA (2013), advanced / ecolabelled stoves
Other stove	NOx	50	EEA (2013), conventional stoves
Old boilers with hot water storage	NOx	80	EEA (2013), conventional boilers
Old boilers without hot water storage	NOx	80	EEA (2013), conventional boilers
New boilers with hot water storage	NOx	95	EEA (2013), advanced / ecolabelled stoves
New boilers without hot water storage	NOx	95	EEA (2013), advanced / ecolabelled stoves
Pellet boilers/stoves	NOx	80	EEA (2013), pellet stoves / boilers
Old stove	NM VOC	1200	Assumed two times conventional stoves. EEA (2013) for conventional stoves 20-3000 g/GJ.
New stove	NM VOC	600	EEA (2013), conventional stoves
Stove according to resent Danish legislation (2008)	NM VOC	350	EEA (2013), energy efficient stoves
Eco labelled stove	NM VOC	175	Assumed ½ modern stove. The EEA (2013) emission factor for ecolabelled stoves is 250 g/GJ, but this emission factor have not been revised since the 2009 version of the Guide-book.
Other stove	NM VOC	600	EEA (2013), conventional stoves
Old boilers with hot water storage	NM VOC	350	EEA (2013), conventional boilers
Old boilers without hot water storage	NM VOC	350	EEA (2013), conventional boilers
New boilers with hot water storage	NM VOC	175	Assumed equal to ecolabelled stoves.
New boilers without hot water storage	NM VOC	350	Assumed 2 times the emission from new boilers with heat accumulation tank
Pellet boilers/stoves	NM VOC	10	EEA (2013), pellet stoves / boilers
Old stove	CO	8000	Assumed two times conventional stoves. EEA (2013) for conventional stoves 1,000-10,000 g/GJ.
New stove	CO	4000	EEA (2013), conventional stoves
Stove according to resent Danish legislation (2008)	CO	4000	EEA (2013), energy efficient stoves
Eco labelled stove	CO	1117	Nordic Swan label limit. The EEA (2013) emission factor for advanced / ecolabelled stoves is 2000 g/GJ.
Other stove	CO	4000	EEA (2013), conventional stoves
Old boilers with hot water storage	CO	4000	EEA (2013), conventional boilers
Old boilers without hot water storage	CO	4000	EEA (2013), conventional boilers
New boilers with hot water storage	CO	1117	Assumed equal to ecolabelled stoves.
New boilers without hot water storage	CO	2234	Assumed 2 times the emission from new boilers with heat accumulation tank
Pellet boilers/stoves	CO	300	EEA (2013), pellet stoves and boilers

## Annex 3A-5 Large point sources

Table 3A-5.1 Large point sources, fuel consumption in 2012 (1A1, 1A2 and 1A4).

nfr_id_EA	lps_id	lps_name	fuel_id	fuel_gr_abbr	Fuel_rate_TJ
1A1a	001	Amagervaerket	111A	WOOD AND SIMIL.	5332
1A1a	001	Amagervaerket	117A	STRAW	622
1A1a	001	Amagervaerket	203A	RESIDUAL OIL	85
1A1a	001	Amagervaerket	102A	COAL	9951
1A1a	001	Amagervaerket	203A	RESIDUAL OIL	335
1A1a	002	Svanemoellevaerket	301A	NATURAL GAS	2573
1A1a	002	Svanemoellevaerket	204A	GAS OIL	6
1A1a	003	H.C.Oerstedsvaerket	203A	RESIDUAL OIL	1
1A1a	003	H.C.Oerstedsvaerket	301A	NATURAL GAS	2898
1A1a	003	H.C.Oerstedsvaerket	301A	NATURAL GAS	1082
1A1a	003	H.C.Oerstedsvaerket	204A	GAS OIL	232
1A1a	004	Kyndbyvaerket	204A	GAS OIL	937
1A1a	005	Masnedoevaerket	204A	GAS OIL	40
1A1a	007	Stigsnaesvaerket	203A	RESIDUAL OIL	99
1A1a	007	Stigsnaesvaerket	203A	RESIDUAL OIL	61
1A1a	007	Stigsnaesvaerket	204A	GAS OIL	5
1A1a	008	Asnaesvaerket	102A	COAL	7300
1A1a	008	Asnaesvaerket	117A	STRAW	7
1A1a	008	Asnaesvaerket	111A	WOOD AND SIMIL.	5
1A1a	008	Asnaesvaerket	204A	GAS OIL	0
1A1a	008	Asnaesvaerket	303A	LPG	1
1A1a	008	Asnaesvaerket	203A	RESIDUAL OIL	28
1A1a	008	Asnaesvaerket	102A	COAL	257
1A1a	008	Asnaesvaerket	203A	RESIDUAL OIL	24
1A1a	008	Asnaesvaerket	204A	GAS OIL	31
1A1a	010	Avedoerevaerket	203A	RESIDUAL OIL	46
1A1a	010	Avedoerevaerket	117A	STRAW	1230
1A1a	010	Avedoerevaerket	111A	WOOD AND SIMIL.	13735
1A1a	010	Avedoerevaerket	103A	FLY ASH	61
1A1a	010	Avedoerevaerket	204A	GAS OIL	14
1A1a	010	Avedoerevaerket	203A	RESIDUAL OIL	286
1A1a	010	Avedoerevaerket	102A	COAL	8364
1A1a	010	Avedoerevaerket	301A	NATURAL GAS	3162
1A1a	011	Fynsvaerket	111A	WOOD AND SIMIL.	308
1A1a	011	Fynsvaerket	309A	BIOGAS	46
1A1a	011	Fynsvaerket	117A	STRAW	1959
1A1a	011	Fynsvaerket	102A	COAL	17425
1A1a	011	Fynsvaerket	203A	RESIDUAL OIL	147
1A1a	011	Fynsvaerket	204A	GAS OIL	0
1A1a	012	Studstrupvaerket	204A	GAS OIL	6
1A1a	012	Studstrupvaerket	111A	WOOD AND SIMIL.	27
1A1a	012	Studstrupvaerket	117A	STRAW	62
1A1a	012	Studstrupvaerket	203A	RESIDUAL OIL	150
1A1a	012	Studstrupvaerket	102A	COAL	16363
1A1a	012	Studstrupvaerket	117A	STRAW	777
1A1a	012	Studstrupvaerket	203A	RESIDUAL OIL	141
1A1a	012	Studstrupvaerket	102A	COAL	6675
1A1a	014	Nordjyllandsvaerket	303A	LPG	0
1A1a	014	Nordjyllandsvaerket	204A	GAS OIL	11
1A1a	014	Nordjyllandsvaerket	204A	GAS OIL	8
1A1a	014	Nordjyllandsvaerket	203A	RESIDUAL OIL	127
1A1a	014	Nordjyllandsvaerket	204A	GAS OIL	4
1A1a	014	Nordjyllandsvaerket	102A	COAL	14945
1A1a	018	Skaerbaekvaerket	204A	GAS OIL	12
1A1a	018	Skaerbaekvaerket	301A	NATURAL GAS	8783
1A1a	019	Enstedvaerket	102A	COAL	2358
1A1a	019	Enstedvaerket	203A	RESIDUAL OIL	24
1A1a	019	Enstedvaerket	111A	WOOD AND SIMIL.	169
1A1a	019	Enstedvaerket	117A	STRAW	1016
1A1a	019	Enstedvaerket	204A	GAS OIL	7
1A1a	019	Enstedvaerket	303A	LPG	0
1A1a	020	Esbjergvaerket	102A	COAL	17081
1A1a	020	Esbjergvaerket	203A	RESIDUAL OIL	122
1A1a	020	Esbjergvaerket	303A	LPG	0
1A1a	022	Oestkraft	102A	COAL	457
1A1a	022	Oestkraft	111A	WOOD AND SIMIL.	213
1A1a	022	Oestkraft	203A	RESIDUAL OIL	81
1A1a	022	Oestkraft	204A	GAS OIL	14
1A1a	022	Oestkraft	303A	LPG	0

nfr_id_EA	lps_id	lps_name	fuel_id	fuel_gr_abbr	Fuel_rate_TJ
1A1a	025	Horsens Kraftvarmevaerk	114A	MUNICIP. WASTES	1013
1A1a	025	Horsens Kraftvarmevaerk	111A	WOOD AND SIMIL.	13
1A1a	025	Horsens Kraftvarmevaerk	301A	NATURAL GAS	567
1A1a	025	Horsens Kraftvarmevaerk	303A	LPG	1
1A1a	026	Herningvaerket	111A	WOOD AND SIMIL.	4168
1A1a	026	Herningvaerket	203A	RESIDUAL OIL	0
1A1a	026	Herningvaerket	204A	GAS OIL	0
1A1a	026	Herningvaerket	215A	BIO OIL	5
1A1a	026	Herningvaerket	301A	NATURAL GAS	454
1A1a	026	Herningvaerket	303A	LPG	0
1A1a	027	I/S Vestforbraending	114A	MUNICIP. WASTES	5349
1A1a	027	I/S Vestforbraending	303A	LPG	0
1A1a	027	I/S Vestforbraending	204A	GAS OIL	1
1A1a	027	I/S Vestforbraending	301A	NATURAL GAS	17
1A1a	028	Amagerforbraending	111A	WOOD AND SIMIL.	541
1A1a	028	Amagerforbraending	114A	MUNICIP. WASTES	3901
1A1a	028	Amagerforbraending	303A	LPG	31
1A1a	029	Energi Randers Produktion	309A	BIOGAS	10
1A1a	029	Energi Randers Produktion	215A	BIO OIL	49
1A1a	029	Energi Randers Produktion	204A	GAS OIL	4
1A1a	029	Energi Randers Produktion	102A	COAL	2
1A1a	029	Energi Randers Produktion	111A	WOOD AND SIMIL.	2775
1A1a	030	Grenaa Kraftvarmevaerk	117A	STRAW	497
1A1a	030	Grenaa Kraftvarmevaerk	102A	COAL	528
1A1a	030	Grenaa Kraftvarmevaerk	111A	WOOD AND SIMIL.	261
1A1a	030	Grenaa Kraftvarmevaerk	203A	RESIDUAL OIL	30
1A1a	030	Grenaa Kraftvarmevaerk	204A	GAS OIL	3
1A1a	030	Grenaa Kraftvarmevaerk	303A	LPG	0
1A1a	031	Hilleroed Kraftvarmevaerk	301A	NATURAL GAS	1502
1A1a	032	Helsingoer Kraftvarmevaerk	301A	NATURAL GAS	1533
1A1a	032	Helsingoer Kraftvarmevaerk	301A	NATURAL GAS	1533
1A1a	036	Kolding Forbraendingsanlaeg TAS	203A	RESIDUAL OIL	0
1A1a	036	Kolding Forbraendingsanlaeg TAS	114A	MUNICIP. WASTES	530
1A1a	036	Kolding Forbraendingsanlaeg TAS	111A	WOOD AND SIMIL.	331
1A1a	036	Kolding Forbraendingsanlaeg TAS	111A	WOOD AND SIMIL.	348
1A1a	036	Kolding Forbraendingsanlaeg TAS	117A	STRAW	2
1A1a	036	Kolding Forbraendingsanlaeg TAS	117A	STRAW	1
1A1a	036	Kolding Forbraendingsanlaeg TAS	114A	MUNICIP. WASTES	504
1A1a	037	Maabjergvaerket	114A	MUNICIP. WASTES	1757
1A1a	037	Maabjergvaerket	301A	NATURAL GAS	55
1A1a	037	Maabjergvaerket	117A	STRAW	458
1A1a	037	Maabjergvaerket	111A	WOOD AND SIMIL.	419
1A1a	037	Maabjergvaerket	309A	BIOGAS	15
1A1a	038	Soenderborg Kraftvarmevaerk	301A	NATURAL GAS	86
1A1a	038	Soenderborg Kraftvarmevaerk	111A	WOOD AND SIMIL.	77
1A1a	038	Soenderborg Kraftvarmevaerk	114A	MUNICIP. WASTES	676
1A1a	038	Soenderborg Kraftvarmevaerk	117A	STRAW	0
1A1a	038	Soenderborg Kraftvarmevaerk	204A	GAS OIL	0
1A1a	039	I/S Kara Affaldsforbraendingsanlaeg	301A	NATURAL GAS	10
1A1a	039	I/S Kara Affaldsforbraendingsanlaeg	111A	WOOD AND SIMIL.	48
1A1a	039	I/S Kara Affaldsforbraendingsanlaeg	114A	MUNICIP. WASTES	2156
1A1a	040	Viborg Kraftvarme	204A	GAS OIL	1
1A1a	040	Viborg Kraftvarme	301A	NATURAL GAS	1921
1A1a	042	I/S Nordforbraending	111A	WOOD AND SIMIL.	446
1A1a	042	I/S Nordforbraending	301A	NATURAL GAS	9
1A1a	042	I/S Nordforbraending	114A	MUNICIP. WASTES	1068
1A1a	046	Affaldscenter aarhus - Forbraendsanlaegget	114A	MUNICIP. WASTES	2705
1A1a	047	I/S Reno Nord	114A	MUNICIP. WASTES	1860
1A1a	047	I/S Reno Nord	204A	GAS OIL	2
1A1a	047	I/S Reno Nord	111A	WOOD AND SIMIL.	30
1A1a	048	Silkeborg Kraftvarmevaerk	204A	GAS OIL	0
1A1a	048	Silkeborg Kraftvarmevaerk	301A	NATURAL GAS	1818
1A1a	050	AffaldPlus+, Naestved Forbraendingsanlaeg	114A	MUNICIP. WASTES	1169
1A1a	051	AVV Forbraendingsanlaeg	204A	GAS OIL	2
1A1a	051	AVV Forbraendingsanlaeg	111A	WOOD AND SIMIL.	23
1A1a	051	AVV Forbraendingsanlaeg	114A	MUNICIP. WASTES	737
1A1a	051	AVV Forbraendingsanlaeg	117A	STRAW	0
1A1a	051	AVV Forbraendingsanlaeg	203A	RESIDUAL OIL	7
1A1a	052	Affaldsforbraendingsanlaeg I/S REFA	114A	MUNICIP. WASTES	1233
1A1a	053	Svendborg Kraftvarmevaerk	114A	MUNICIP. WASTES	516
1A1a	053	Svendborg Kraftvarmevaerk	111A	WOOD AND SIMIL.	10
1A1a	053	Svendborg Kraftvarmevaerk	301A	NATURAL GAS	6
1A1a	053	Svendborg Kraftvarmevaerk	204A	GAS OIL	0

nfr_id_EA	lps_id	lps_name	fuel_id	fuel_gr_abbr	Fuel_rate_TJ
1A1a	053	Svendborg Kraftvarmeværk	117A	STRAW	0
1A1a	054	Kommunekemi	204A	GAS OIL	22
1A1a	054	Kommunekemi	203A	RESIDUAL OIL	57
1A1a	054	Kommunekemi	114A	MUNICIP. WASTES	1906
1A1a	055	I/S Faelles Forbraending	114A	MUNICIP. WASTES	257
1A1a	058	I/S Reno Syd	204A	GAS OIL	2
1A1a	058	I/S Reno Syd	117A	STRAW	0
1A1a	058	I/S Reno Syd	114A	MUNICIP. WASTES	620
1A1a	058	I/S Reno Syd	111A	WOOD AND SIMIL.	91
1A1a	059	I/S Kraftvarmeværk Thisted	117A	STRAW	1
1A1a	059	I/S Kraftvarmeværk Thisted	114A	MUNICIP. WASTES	516
1A1a	059	I/S Kraftvarmeværk Thisted	111A	WOOD AND SIMIL.	49
1A1a	061	Affaldplus+, Slagelse Forbr. and DONG Slagelse KVV	114A	MUNICIP. WASTES	566
1A1a	061	Affaldplus+, Slagelse Forbr. and DONG Slagelse KVV	117A	STRAW	474
1A1a	065	Haderslev Kraftvarmeværk	301A	NATURAL GAS	11
1A1a	065	Haderslev Kraftvarmeværk	111A	WOOD AND SIMIL.	27
1A1a	065	Haderslev Kraftvarmeværk	114A	MUNICIP. WASTES	595
1A1a	065	Haderslev Kraftvarmeværk	117A	STRAW	1
1A1a	066	Frederikshavn Affaldskraftvarmeværk	204A	GAS OIL	1
1A1a	066	Frederikshavn Affaldskraftvarmeværk	111A	WOOD AND SIMIL.	41
1A1a	066	Frederikshavn Affaldskraftvarmeværk	114A	MUNICIP. WASTES	359
1A1a	068	Bofa I/S	114A	MUNICIP. WASTES	193
1A1a	069	DTU	301A	NATURAL GAS	1035
1A1a	070	AffaldPlus+, Naestved Kraftvarmeværk	301A	NATURAL GAS	143
1A1a	072	Hjoerring Varmeforsyning	301A	NATURAL GAS	24
1A1a	072	Hjoerring Varmeforsyning	111A	WOOD AND SIMIL.	536
1A1a	085	L90 Affaldsforbraending	114A	MUNICIP. WASTES	2333
1A1a	085	L90 Affaldsforbraending	204A	GAS OIL	7
1A1a	086	Hammel Fjernvarmeselskab	114A	MUNICIP. WASTES	293
1A1a	086	Hammel Fjernvarmeselskab	215A	BIO OIL	14
1A1a	086	Hammel Fjernvarmeselskab	111A	WOOD AND SIMIL.	35
1A1a	087	Koege Kraftvarmeværk	111A	WOOD AND SIMIL.	1098
1A1a	087	Koege Kraftvarmeværk	203A	RESIDUAL OIL	1
1A1a	087	Koege Kraftvarmeværk	204A	GAS OIL	0
1A1a	088	Skagen Forbraending	114A	MUNICIP. WASTES	114
1A1a	088	Skagen Forbraending	111A	WOOD AND SIMIL.	25
1A1a	090	Odense Kraftvarmeværk	204A	GAS OIL	22
1A1a	090	Odense Kraftvarmeværk	117A	STRAW	5
1A1a	090	Odense Kraftvarmeværk	111A	WOOD AND SIMIL.	12
1A1a	090	Odense Kraftvarmeværk	114A	MUNICIP. WASTES	2239
1A1a	091	Centralkommunernes Transmissionsselskab F.berg	204A	GAS OIL	170
1A1a	092	Frederikshavn Kraftvarmeværk	301A	NATURAL GAS	61
1A1a	093	Fjernvarme Fyn, Centrum Varmecentral	301A	NATURAL GAS	28
1A1a	094	Special Waste System	114A	MUNICIP. WASTES	37
1A1a	095	Grenaa Forbraending	111A	WOOD AND SIMIL.	8
1A1a	095	Grenaa Forbraending	114A	MUNICIP. WASTES	247
1A1a	098	Vordingborg Kraftvarme	111A	WOOD AND SIMIL.	162
1A1a	098	Vordingborg Kraftvarme	117A	STRAW	472
1A1a	098	Vordingborg Kraftvarme	204A	GAS OIL	1
1A1b	009	Statoil Raffinaderi	303A	LPG	193
1A1b	009	Statoil Raffinaderi	308A	REFINERY GAS	8549
1A1b	009	Statoil Raffinaderi	204A	GAS OIL	1
1A1b	017	Shell Raffinaderi	308A	REFINERY GAS	4365
1A1b	017	Shell Raffinaderi	308A	REFINERY GAS	1734
1A1b	017	Shell Raffinaderi	203A	RESIDUAL OIL	808
1A1c	024	Nybro Gasbehandlingsanlaeg	204A	GAS OIL	0
1A1c	024	Nybro Gasbehandlingsanlaeg	301A	NATURAL GAS	0
1A1c	024	Nybro Gasbehandlingsanlaeg	301A	NATURAL GAS	175
1A4a i	049	Rensningsanlaegget Lynetten	114A	MUNICIP. WASTES	47
1A4a i	049	Rensningsanlaegget Lynetten	309A	BIOGAS	144
1A4a i	049	Rensningsanlaegget Lynetten	204A	GAS OIL	4
<b>Total</b>					<b>225087</b>

Table 3A-5.2 Large point sources, plant specific emissions (IPCC 1A1, 1A2 and 1A4)<sup>1)</sup>.

nfr_id	lps_id	lps_name	SO <sub>2</sub>	NO <sub>x</sub>	NMVOC	CO
1A1a	001	Amagervaerket	x	x		
1A1a	002	Svanemoellevaerket	x	x		x
1A1a	003	H.C.Oerstedsvaerket	x	x		
1A1a	004	Kyndbyvaerket	x	x		
1A1a	005	Masnedoevaerket	x	x		
1A1a	007	Stigsnaesvaerket	x	x		
1A1a	008	Asnaesvaerket	x	x		
1A1a	010	Avedoevaerket	x	x		x
1A1a	011	Fynsvaerket	x	x		
1A1a	012	Studstrupvaerket	x	x		
1A1a	014	Nordjyllandsvaerket	x	x		
1A1a	018	Skaerbaekvaerket	x	x		
1A1a	019	Enstedvaerket	x	x		
1A1a	020	Esbjergvaerket	x	x		
1A1a	022	Oestkraft	x	x		
1A1a	025	Horsens Kraftvarmevaerk	x	x		
1A1a	026	Herningvaerket	x	x		x
1A1a	027	I/S Vestforbraending	x	x		
1A1a	028	Amagerforbraending	x	x		x
1A1a	029	Energi Randers Produktion	x	x		
1A1a	030	Grenaa Kraftvarmevaerk	x	x		x
1A1a	031	Hilleroed Kraftvarmevaerk		x		
1A1a	032	Helsingoer Kraftvarmevaerk		x		
1A1a	036	Kolding Forbraendingsanlaeg TAS	x	x	x	x
1A1a	037	Maabjergvaerket	x	x		x
1A1a	038	Soenderborg Kraftvarmevaerk	x	x	x	x
1A1a	039	I/S Kara Affaldsforbraendingsanlaeg	x	x		x
1A1a	040	Viborg Kraftvarme		x		
1A1a	042	I/S Nordforbraending	x	x		x
1A1a	046	Affaldscenter aarhus - Forbraendsanlaegget	x	x	x	
1A1a	047	I/S Reno Nord	x	x	x	x
1A1a	048	Silkeborg Kraftvarmevaerk		x		
1A1a	050	AffaldPlus+, Naestved Forbraendingsanlaeg	x	x	x	x
1A1a	051	AVV Forbraendingsanlaeg	x	x	x	x
1A1a	052	Affaldsforbraendingsanlaeg I/S REFA	x	x		x
1A1a	053	Svendborg Kraftvarmevaerk	x	x	x	x
1A1a	054	Kommunekemi	x	x	x	x
1A1a	055	I/S Faelles Forbraending	x	x		x
1A1a	058	I/S Reno Syd	x	x	x	x
1A1a	059	I/S Kraftvarmevaerk Thisted	x	x	x	x
1A1a	061	Affaldplus+, Slagelse Forbr. and DONG Slagelse KVV	x	x		x
1A1a	065	Haderslev Kraftvarmevaerk	x	x		x
1A1a	066	Frederikshavn Affaldskraftvarmevaerk	x	x	x	x
1A1a	068	Bofa I/S	x	x		x
1A1a	069	DTU		x		x
1A1a	070	AffaldPlus+, Naestved Kraftvarmevaerk		x		x
1A1a	072	Hjoerring Varmeforsyning		x		x
1A1a	085	L90 Affaldsforbraending	x	x		x
1A1a	086	Hammel Fjernvarmeselskab	x	x	x	x
1A1a	087	Koege Kraftvarmevaerk	x	x		
1A1a	088	Skagen Forbraending	x	x	x	
1A1a	090	Odense Kraftvarmevaerk	x	x		x
1A1a	091	Centralkommunernes Transmissionsselskab F_berg	x	x		
1A1a	092	Frederikshavn Kraftvarmevaerk	x	x		
1A1a	093	Fjernvarme Fyn, Centrum Varmecentral		x		
1A1a	094	Special Waste System	x	x	x	x
1A1b	009	Statoil Raffinaderi	x	x		
1A1b	017	Shell Raffinaderi	x	x		
1A1c	024	Nybro Gasbehandlingsanlaeg		x		
1A2a	033	DanSteel		x		
1A2c	081	Haldor Topsoee		x		
1A2c	084	Cheminova		x		
1A2c	097	Koppers	x	x	x	

nfr_id	lps_id	lps_name	SO <sub>2</sub>	NO <sub>x</sub>	NMVOC	CO
1A2d	034	Dalum Papir		x		
1A2e	023	Danisco Grindsted		x		
1A2e	071	Maricogen		x		
1A2e	082	Nordic Sugar Nakskov	x	x		
1A2e	083	Nordic Sugar Nykoebing	x			
1A2e	089	AarhusKarlshamn Denmark A/S	x	x		
1A2f i	045	Aalborg Portland	x	x		x
1A2f i	076	Rockwool A/S Vamdrup	x	x		
1A2f i	077	Rockwool A/S Doense	x	x		
1A2f i	078	Ardagh Glass Holmegaard A/S		x		x
1A2f i	080	Saint-Gobain Isover A/S	x	x		
1A2f i	096	Faxe Kalk	x	x		
1A4a i	049	Rensningsanlaegget Lynetten	x	x		x
<b>TOTAL</b>			<b>4157</b>	<b>14036</b>	<b>4</b>	<b>3412</b>
<b>Share of total emission from stationary combustion, %</b>			<b>52%</b>	<b>43%</b>	<b>0.02%</b>	<b>3%</b>

1) Emissions of the pollutants marked with "x" are plant specific. Emission of other pollutants is estimated based on emission factors.  
The total shown *in this table* only includes plant specific data.

## Annex 3A-6 Adjustment of CO<sub>2</sub> emission

Table 3A-6.1 Adjustment of CO<sub>2</sub> emission (ref. DEA, 2013a).

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Actual Degree Days	Degree days	2857	3284	3022	3434	3148	3297	3837	3236	3217	3056
Normal Degree Days	Degree days	3379	3380	3 359	3 365	3 366	3 378	3 395	3 389	3 375	3 339
Net electricity import	PJ	25.4	-7.1	13.5	4.3	-17.4	-2.9	-55.4	-26.1	-15.6	-8.3
Actual CO <sub>2</sub> emission	1 000 000 tonnes	37.7	47.3	41.5	43.7	47.3	44.0	57.1	47.3	43.4	40.2
Adjusted CO <sub>2</sub> emission	1 000 000 tonnes	43.9	45.8	44.4	44.8	43.5	43.3	44.1	41.3	39.8	38.3
<b>Continued</b>		<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Actual Degree Days	Degree days	2902	3279	3011	3150	3113	3068	2908	2807	2853	3061
Normal Degree Days	Degree days	3304	3289	3273	3271	3261	3224	3188	3136	3120	3127
Net electricity import	PJ	2.4	-2.1	-7.5	-30.8	-10.3	4.9	-25.0	-3.4	5.2	1.2
Actual CO <sub>2</sub> emission	1 000 000 tonnes	36.3	37.9	37.5	42.3	36.2	32.5	40.2	34.6	31.8	31.0
Adjusted CO <sub>2</sub> emission	1 000 000 tonnes	37.0	37.5	35.9	35.4	34.0	33.7	34.6	33.9	33.0	31.3
<b>Continued</b>		<b>2010</b>	<b>2011</b>	<b>2012</b>							
Actual Degree Days	Degree days	3742	2970	3234							
Normal Degree Days	Degree days	3171	3156	3166							
Net electricity import	PJ	-4.1	4.7	18.8							
Actual CO <sub>2</sub> emission	1 000 000 tonnes	31.3	26.6	22.7							
Adjusted CO <sub>2</sub> emission	1 000 000 tonnes	30.4	27.7	26.9							

## Annex 3A-7 Uncertainty estimates

Table 3A-7.1 Uncertainty estimation, tier 1.

IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Gg CO <sub>2</sub> eq	Input data Gg CO <sub>2</sub> eq	Input data %	Input data %	%	%	%	%	%	%	%
Stationary Combustion, Coal	CO <sub>2</sub>	23834	10005	0.9	0.5	1.030	0.444	-0.118	0.263	-0.059	0.335	0.340
Stationary Combustion, BKB	CO <sub>2</sub>	11	1	3.0	5	5.831	0.000	-0.000	0.000	-0.001	0.000	0.001
Stationary Combustion, Coke	CO <sub>2</sub>	138	74	1.8	5	5.301	0.017	-0.000	0.002	-0.001	0.005	0.005
Stationary Combustion, Fossil waste	CO <sub>2</sub>	573	1397	5.0	10	11.180	0.674	0.028	0.037	0.275	0.260	0.379
Stationary Combustion, Petroleum coke	CO <sub>2</sub>	415	628	2.0	5	5.385	0.146	0.010	0.017	0.049	0.047	0.068
Stationary Combustion, Residual oil	CO <sub>2</sub>	2496	571	1.2	2	2.334	0.057	-0.025	0.015	-0.050	0.026	0.056
Stationary Combustion, Gas oil	CO <sub>2</sub>	4547	742	2.2	4	4.587	0.147	-0.053	0.020	-0.213	0.062	0.222
Stationary Combustion, Kerosene	CO <sub>2</sub>	366	2	2.0	5	5.393	0.000	-0.006	0.000	-0.029	0.000	0.029
Stationary Combustion, LPG	CO <sub>2</sub>	184	91	1.8	5	5.317	0.021	-0.001	0.002	-0.003	0.006	0.007
Stationary Combustion, Refinery gas	CO <sub>2</sub>	816	906	1.0	2	2.236	0.087	0.011	0.024	0.021	0.034	0.040
Stationary Combustion, Natural gas	CO <sub>2</sub>	4335	8293	1.0	0	1.118	0.400	0.148	0.218	0.059	0.322	0.327
Stationary Combustion, SOLID, CH <sub>4</sub>	CH <sub>4</sub>	13	3	1.0	100	100.005	0.013	-0.000	0.000	-0.012	0.000	0.012
Stationary Combustion, LIQUID, CH <sub>4</sub>	CH <sub>4</sub>	3	1	0.8	100	100.003	0.005	-0.000	0.000	-0.002	0.000	0.002
Stationary Combustion, GAS, CH <sub>4</sub>	CH <sub>4</sub>	3	6	1.0	100	100.005	0.024	0.000	0.000	0.010	0.000	0.010
Natural gas fuelled engines, GAS, CH <sub>4</sub>	CH <sub>4</sub>	5	120	1.0	2	2.236	0.012	0.003	0.003	0.006	0.004	0.008
Stationary Combustion, WASTE, CH <sub>4</sub>	CH <sub>4</sub>	1	2	5.0	100	100.125	0.007	0.000	0.000	0.003	0.000	0.003
Stationary Combustion, BIOMASS, CH <sub>4</sub>	CH <sub>4</sub>	102	135	15.7	100	101.233	0.589	0.002	0.004	0.191	0.079	0.207
Biogas fuelled engines, BIOMASS, CH <sub>4</sub>	CH <sub>4</sub>	1	31	3.9	10	10.728	0.015	0.001	0.001	0.008	0.005	0.009
Stationary Combustion, SOLID, N <sub>2</sub> O	N <sub>2</sub> O	68	27	1.0	400	400.001	0.474	-0.000	0.001	-0.148	0.001	0.148
Stationary Combustion, LIQUID, N <sub>2</sub> O	N <sub>2</sub> O	44	11	0.8	1000	1000.000	0.478	-0.000	0.000	-0.415	0.000	0.415
Stationary Combustion, GAS, N <sub>2</sub> O	N <sub>2</sub> O	16	24	1.0	750	750.001	0.791	0.000	0.001	0.285	0.001	0.285
Stationary Combustion, WASTE, N <sub>2</sub> O	N <sub>2</sub> O	7	16	5.0	400	400.031	0.271	0.000	0.000	0.123	0.003	0.123
Stationary Combustion, BIOMASS, N <sub>2</sub> O	N <sub>2</sub> O	38	91	15.3	400	400.292	1.570	0.002	0.002	0.713	0.052	0.715
<b>Total</b>		<b>38015.248</b>	<b>23177.199</b>				<b>4.831</b>					<b>1.271</b>
<b>Total uncertainties</b>				<b>Overall uncertainty i the year (%):</b>			<b>2.198</b>	<b>Trend uncertainty (%):</b>				<b>1.127</b>



IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Gg CO <sub>2</sub>	Input data Gg CO <sub>2</sub>	Input data %	Input data %	%	%	%	%	%	%	%
Stationary Combustion, Coal	CO <sub>2</sub>	23834	10005	0.9	0.5	1.030	0.454	-0.115	0.265	-0.057	0.338	0.342
Stationary Combustion, BKB	CO <sub>2</sub>	11	1	3.0	5	5.831	0.000	-0.000	0.000	-0.001	0.000	0.001
Stationary Combustion, Coke	CO <sub>2</sub>	138	74	1.8	5	5.301	0.017	-0.000	0.002	-0.001	0.005	0.005
Stationary Combustion, Fosssil waste	CO <sub>2</sub>	573	1397	5.0	10	11.180	0.688	0.028	0.037	0.279	0.262	0.383
Stationary Combustion, Petroleum coke	CO <sub>2</sub>	415	628	2.0	5	5.385	0.149	0.010	0.017	0.050	0.047	0.069
Stationary Combustion, Residual oil	CO <sub>2</sub>	2496	571	1.2	2	2.334	0.059	-0.025	0.015	-0.049	0.026	0.056
Stationary Combustion, Gas oil	CO <sub>2</sub>	4547	742	2.2	4	4.587	0.150	-0.053	0.020	-0.211	0.062	0.220
Stationary Combustion, Kerosene	CO <sub>2</sub>	366	2	2.0	5	5.393	0.000	-0.006	0.000	-0.029	0.000	0.029
Stationary Combustion, LPG	CO <sub>2</sub>	184	91	1.8	5	5.317	0.021	-0.001	0.002	-0.003	0.006	0.007
Stationary Combustion, Refinery gas	CO <sub>2</sub>	816	906	1.0	2	2.236	0.089	0.011	0.024	0.022	0.034	0.040
Stationary Combustion, Natural gas	CO <sub>2</sub>	4335	8293	1.0	0	1.118	0.408	0.150	0.220	0.060	0.325	0.330
<b>Total</b>	CO <sub>2</sub>	<b>37715</b>	<b>22710</b>				<b>0.902</b>					<b>0.432</b>
<b>Total uncertainties</b>				<b>Overall uncertainty i the year (%):</b>			<b>0.950</b>	<b>Trend uncertainty (%):</b>				<b>0.657</b>

IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Mg CH <sub>4</sub>	Input data Mg CH <sub>4</sub>	Input data %	Input data %	%	%	%	%	%	%	%
Stationary Combustion, SOLID, CH <sub>4</sub>	CH <sub>4</sub>	613	149	1.0	100	100.005	1.048	-0.211	0.024	-21.136	0.033	21.136
Stationary Combustion, LIQUID, CH <sub>4</sub>	CH <sub>4</sub>	131	53	0.8	100	100.003	0.372	-0.042	0.009	-4.183	0.010	4.183
Stationary Combustion, GAS, CH <sub>4</sub>	CH <sub>4</sub>	149	266	1.0	100	100.005	1.876	-0.014	0.044	-1.359	0.062	1.360
Natural gas fuelled engines, GAS, CH <sub>4</sub>	CH <sub>4</sub>	221	5735	1.0	2	2.236	0.904	0.859	0.945	1.719	1.336	2.177
Stationary Combustion, WASTE, CH <sub>4</sub>	CH <sub>4</sub>	37	73	5.0	100	100.125	0.518	-0.002	0.012	-0.209	0.086	0.226
Stationary Combustion, BIOMASS, CH <sub>4</sub>	CH <sub>4</sub>	4849	6421	15.7	100	101.233	45.809	-0.803	1.058	-80.286	23.555	83.670
Biogas fuelled engines, BIOMASS, CH <sub>4</sub>	CH <sub>4</sub>	70	1492	3.9	10	10.728	1.128	0.219	0.246	2.187	1.351	2.571
<b>Total</b>	<b>CH<sub>4</sub></b>	<b>6071</b>	<b>14189</b>				<b>2105.583</b>					<b>7478.193</b>
<b>Total uncertainties</b>				<b>Overall uncertainty i the year (%):</b>			<b>45.887</b>			<b>Trend uncertainty (%):</b>		<b>86.477</b>

IPCC Source category	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Mg N <sub>2</sub> O	Input data Mg N <sub>2</sub> O	Input data %	Input data %	%	%	%	%	%	%	%
Stationary Combustion, SOLID, N <sub>2</sub> O	N <sub>2</sub> O	220	89	1.0	400	400.001	64.748	-0.226	0.159	-90.530	0.214	90.530
Stationary Combustion, LIQUID, N <sub>2</sub> O	N <sub>2</sub> O	142	36	0.8	1000	1000.000	65.321	-0.185	0.064	-184.872	0.070	184.872
Stationary Combustion, GAS, N <sub>2</sub> O	N <sub>2</sub> O	53	79	1.0	750	750.001	108.108	0.048	0.141	36.334	0.200	36.334
Stationary Combustion, WASTE, N <sub>2</sub> O	N <sub>2</sub> O	21	51	5.0	400	400.031	37.091	0.054	0.091	21.427	0.643	21.437
Stationary Combustion, BIOMASS, N <sub>2</sub> O	N <sub>2</sub> O	122	293	15.3	400	400.292	214.535	0.310	0.525	123.920	11.359	124.440
<b>Total</b>	<b>N<sub>2</sub>O</b>	<b>558</b>	<b>547</b>				<b>67547.291</b>					<b>59638.222</b>
<b>Total uncertainties</b>				<b>Overall uncertainty i the year (%):</b>			<b>259.899</b>			<b>Trend uncertainty (%):</b>		<b>244.209</b>

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Mg SO <sub>2</sub>	Input data Mg SO <sub>2</sub>	Input data %	Input data %	%	%	%	%	%	%	%
01	SO <sub>2</sub>	127207	3066	2	10	10.198	3.878	-0.023	0.020	-0.227	0.056	0.234
02	SO <sub>2</sub>	11359	2092	2	20	20.100	5.217	0.010	0.013	0.194	0.038	0.197
03	SO <sub>2</sub>	16437	2903	2	10	10.198	3.673	0.013	0.019	0.132	0.053	0.142
<b>Total</b>	<b>SO<sub>2</sub></b>	<b>155003</b>	<b>8061</b>				<b>55.745</b>					<b>0.114</b>
<b>Total uncertainties</b>						<b>Overall uncertainty i the year (%):</b>		<b>7.466</b>		<b>Trend uncertainty (%):</b>		<b>0.337</b>

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Mg NO <sub>x</sub>	Input data Mg NO <sub>x</sub>	Input data %	Input data %	%	%	%	%	%	%	%
01	NO <sub>x</sub>	94566	21846	2	20	20.100	13.574	-0.043	0.192	-0.869	0.542	1.024
02	NO <sub>x</sub>	6949	5186	2	50	50.040	8.023	0.028	0.046	1.409	0.129	1.415
03	NO <sub>x</sub>	12457	5316	2	20	20.100	3.303	0.016	0.047	0.312	0.132	0.339
<b>Total</b>	<b>NO<sub>x</sub></b>	<b>113972</b>	<b>32349</b>				<b>259.527</b>					<b>3.167</b>
<b>Total uncertainties</b>						<b>Overall uncertainty i the year (%):</b>		<b>16.110</b>		<b>Trend uncertainty (%):</b>		<b>1.779</b>

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Mg NMVOC	Input data Mg NMVOC	Input data %	Input data %	%	%	%	%	%	%	%
01	NMVOC	486	1509	2	50	50.040	4.796	0.069	0.107	3.430	0.304	3.443
02	NMVOC	12475	13966	2	50	50.040	44.383	-0.000	0.993	-0.012	2.809	2.809
03	NMVOC	1100	271	2	50	50.040	0.861	-0.068	0.019	-3.416	0.055	3.417
<b>Total</b>	<b>NMVOC</b>	<b>14061</b>	<b>15746</b>				<b>1993.576</b>					<b>31.422</b>
<b>Total uncertainties</b>						<b>Overall uncertainty i the year (%):</b>		<b>44.649</b>		<b>Trend uncertainty (%):</b>		<b>5.606</b>

SNAP	Gas	Base year emission	Year t emission	Activity data uncertainty	Emission factor uncertainty	Combined uncertainty	Combined uncertainty as % of total na- tional emissions in year t	Type A sensitivity	Type B sensitivity	Uncertainty i trend in national emissions introduced by emis- sion factor uncertainty	Uncertainty in trend in national emissions introduced by activity data uncer- tainty	Uncertainty introduced into the trend in total na- tional emissions
		Input data Mg CO	Input data Mg CO	Input data %	Input data %	%	%	%	%	%	%	%
01	CO	8105	10974	2	20	20.100	1.767	0.025	0.083	0.500	0.236	0.553
02	CO	118884	109626	2	50	50.040	43.955	-0.023	0.832	-1.142	2.354	2.617
03	CO	4706	4201	2	20	20.100	0.677	-0.002	0.032	-0.039	0.090	0.098
<b>Total</b>	<b>CO</b>	<b>131695</b>	<b>124802</b>				<b>1935.658</b>					<b>7.162</b>
<b>Total uncertainties</b>						<b>Overall uncertainty i the year (%):</b>		<b>43.996</b>		<b>Trend uncertainty (%):</b>		<b>2.676</b>

Table 3A-7.2 Uncertainty estimation for GHG 2012, tier 2.

	Activity			Emission Factor			Emissions			
Parameter	Below 2.5%	Above 97.5%	Difference	Below 2.5%	Above 97.5%	Difference	Median	Below 2.5%	Above 97.5%	Difference
all							23285.44	22957.32	23854.53	897.21
all							244.86	63.07	792.41	729.34
all							22711.13	22502.56	22937.38	434.81
all							300.23	217.24	506.12	288.88
Stationary Combustion, BIOMASS, N <sub>2</sub> O	93.05	125.47	32.42	0.06	5.77	5.70	84.51	6.89	624.10	617.21
Stationary Combustion, Fossil waste, CO <sub>2</sub>	16.12	17.75	1.64	74.82	90.99	16.17	1396.99	1251.03	1559.84	308.81
Stationary Combustion, BIOMASS, CH <sub>4</sub>	89.70	122.34	32.64	0.52	3.23	2.71	135.78	52.79	342.10	289.31
Stationary Combustion, GAS, N <sub>2</sub> O	143.85	146.66	2.81	0.01	1.89	1.88	21.91	0.95	272.80	271.86
Stationary Combustion, Coal, CO <sub>2</sub>	105.23	107.08	1.86	93.81	94.71	0.90	10004.67	9904.99	10104.74	199.75
Stationary Combustion, SOLID, N <sub>2</sub> O	105.88	107.87	1.99	0.02	1.76	1.74	26.24	2.37	188.02	185.65
Stationary Combustion, Natural gas, CO <sub>2</sub>	143.75	146.77	3.02	56.88	57.32	0.45	8293.45	8202.23	8386.32	184.10
Stationary Combustion, LIQUID, N <sub>2</sub> O	40.80	41.43	0.63	0.01	3.97	3.96	9.90	0.32	163.14	162.82
Stationary Combustion, WASTE, N <sub>2</sub> O	35.69	39.37	3.68	0.03	2.79	2.75	14.99	1.29	104.24	102.95
Stationary Combustion, Refinery gas, CO <sub>2</sub>	15.48	15.79	0.31	55.19	60.81	5.62	905.69	862.24	951.47	89.23
Stationary Combustion, Gas oil, CO <sub>2</sub>	9.81	10.24	0.44	71.18	76.98	5.79	741.68	709.68	775.56	65.88
Stationary Combustion, Petroleum coke, CO <sub>2</sub>	6.58	6.85	0.26	89.07	98.13	9.06	627.64	595.97	661.37	65.40
Stationary Combustion, Residual oil, CO <sub>2</sub>	7.20	7.37	0.17	76.88	79.94	3.06	570.90	557.69	584.13	26.44
Stationary Combustion, GAS, CH <sub>4</sub>	143.81	146.70	2.89	0.02	0.10	0.08	5.67	2.25	14.52	12.27
Stationary Combustion, LPG, CO <sub>2</sub>	1.40	1.46	0.05	60.64	66.84	6.21	91.08	86.45	95.94	9.50
Stationary Combustion, Coke, CO <sub>2</sub>	0.10	0.10	0.00	713.63	786.54	72.91	73.80	70.10	77.73	7.63
Stationary Combustion, SOLID, CH <sub>4</sub>	105.88	107.87	1.99	0.01	0.07	0.06	3.11	1.23	7.83	6.60
Biogas fuelled engines, BIOMASS, CH <sub>4</sub>	3.31	3.57	0.26	8.25	10.03	1.78	31.36	28.24	34.82	6.57
Natural gas fuelled engines, GAS, CH <sub>4</sub>	11.80	12.04	0.24	9.90	10.30	0.40	120.43	117.78	123.12	5.33
Stationary Combustion, WASTE, CH <sub>4</sub>	35.70	39.37	3.67	0.02	0.10	0.09	1.54	0.60	3.87	3.28
Stationary Combustion, LIQUID, CH <sub>4</sub>	40.79	41.41	0.61	0.01	0.07	0.06	1.11	0.44	2.78	2.35
Stationary Combustion, Kerosene, CO <sub>2</sub>	0.02	0.02	0.00	68.43	75.55	7.12	1.69	1.60	1.78	0.18
Stationary Combustion, BKB, CO <sub>2</sub>	0.01	0.02	0.00	90.10	99.42	9.32	1.41	1.33	1.49	0.16

## Annex 3A-8 Emission inventory 2012 based on SNAP sectors

Table 3A-8.1 Emission inventory 2012 based on SNAP sectors.

SNAP	SO <sub>2</sub> [Mg]	NO <sub>x</sub> [Mg]	NMVOC [Mg]	CH <sub>4</sub> [Mg]	CO [Mg]	CO <sub>2</sub> [Gg] <sup>1)</sup>	N <sub>2</sub> O [Mg]
<b>Total:</b>	<b>10964.09</b>	<b>37665.07</b>	<b>16017.48</b>	<b>14597.32</b>	<b>129003</b>	<b>41472.48</b>	<b>622.75</b>
<b>1</b>	<b>3065.62</b>	<b>21846.17</b>	<b>1509.22</b>	<b>6609.77</b>	<b>10973.86</b>	<b>25623.37</b>	<b>283.32</b>
101	1908.04	11350.17	1300.29	6052.78	6077.9	20038.57	181.79
10100	0	0	0	0	0	0	0
10101	1131.63	3897.19	171.02	112.45	1848.68	11093.11	89.59
10102	530.78	2984.69	74.07	41.41	1095.7	3955.57	36.69
10103	117.78	1060.02	7.82	7.68	159.14	1244.5	12.95
10104	77.61	1476.07	96.99	71.54	1455.03	2923.21	31.96
10105	50.25	1932.21	950.39	5819.7	1519.35	822.17	10.61
102	873.68	2644.26	144.99	494.59	4649.73	3164.48	72.78
10200	0	0	0	0	0	0	0
10201	0	0	0	0	0	0	0
10202	4.41	56.27	2.21	0.29	34.37	74.52	0.19
10203	869.27	2587.98	142.78	494.3	4615.36	3089.97	72.59
10204	0	0	0	0	0	0	0
10205	0	0	0	0	0	0	0
103	273.13	1604.15	23.91	19.86	126.13	983.65	3.73
10300	0	0	0	0	0	0	0
10301	0	0	0	0	0	0	0
10302	0	0	0	0	0	0	0
10303	0	0	0	0	0	0	0
10304	5.24	270	2.43	2.95	10.75	100.47	1.73
10305	0	0	0	0	0	0	0
10306	267.89	1334.15	21.48	16.92	115.38	883.18	1.99
104	0	0	0	0	0	0	0
10400	0	0	0	0	0	0	0
10401	0	0	0	0	0	0	0
10402	0	0	0	0	0	0	0
10403	0	0	0	0	0	0	0
10404	0	0	0	0	0	0	0
10405	0	0	0	0	0	0	0
10406	0	0	0	0	0	0	0
10407	0	0	0	0	0	0	0
105	10.76	6247.59	40.03	42.53	120.1	1436.67	25.02
10500	0	0	0	0	0	0	0
10501	0	0	0	0	0	0	0
10502	0	0	0	0	0	0	0
10503	0.08	36.26	0.28	0.3	0.84	9.97	0.17
10504	10.68	6211.34	39.75	42.24	119.26	1426.7	24.85
10505	0	0	0	0	0	0	0
10506	0	0	0	0	0	0	0
<b>2</b>	<b>2092.06</b>	<b>5186.26</b>	<b>13966.27</b>	<b>7170.22</b>	<b>109626.4</b>	<b>7382.39</b>	<b>188.07</b>
201	146.75	677.6	201.33	498.12	714.86	856.8	23.94
20100	133.98	495.36	156.65	45.6	509.15	762.16	22.45
20101	0	0	0	0	0	0	0
20102	0	0	0	0	0	0	0
20103	1.47	8.87	0.66	2.21	2.57	22.63	0.32
20104	0	0	0	0	0	0	0
20105	11.3	173.36	44.03	450.31	203.13	72.01	1.17
20106	0	0	0	0	0	0	0
202	922.22	3927.72	13288.78	5560.88	99781.02	5979.45	148.94
20200	921.76	3831.03	13224.92	5236.25	99728.8	5929.87	148.51
20201	0	0	0	0	0	0	0
20202	0.12	5.98	2.04	1.41	13.25	11.26	0.03
20203	0	0	0	0	0	0	0
20204	0.34	90.72	61.82	323.22	38.97	38.32	0.39
20205	0	0	0	0	0	0	0

SNAP	SO <sub>2</sub> [Mg]	NO <sub>x</sub> [Mg]	NMVOC [Mg]	CH <sub>4</sub> [Mg]	CO [Mg]	CO <sub>2</sub> [Gg] <sup>1)</sup>	N <sub>2</sub> O [Mg]
203	1023.1	580.94	476.16	1111.22	9130.54	546.15	15.19
20300	1005.38	386.41	420.19	599.26	8908.43	462.76	13.83
20301	0	0	0	0	0	0	0
20302	6.16	3.9	1.16	0.85	8.89	3.88	0.12
20303	0	0	0	0	0	0	0
20304	11.56	190.63	54.8	511.1	213.22	79.51	1.25
20305	0	0	0	0	0	0	0
3	5806.41	10632.64	541.99	817.33	8402.69	8466.72	151.36
301	0	0.16	0.01	0.01	0.11	0.22	0
30100	0	0	0	0	0	0	0
30101	0	0	0	0	0	0	0
30102	0	0	0	0	0	0	0
30103	0	0	0	0	0	0	0
30104	0	0	0	0	0	0	0
30105	0	0	0	0	0	0	0
30106	0	0.16	0.01	0.01	0.11	0.22	0
302	0	0	0	0	0	0	0
30200	0	0	0	0	0	0	0
30203	0	0	0	0	0	0	0
30204	0	0	0	0	0	0	0
30205	0	0	0	0	0	0	0
304	1.39	53.54	1.94	1.35	26.78	54.83	0.11
30400	0.98	0.55	0.01	0.01	0.06	0.35	0.01
30401	0	0	0	0	0	0	0
30402	0.41	52.99	1.92	1.34	26.72	54.48	0.1
30403	0	0	0	0	0	0	0
30404	0	0	0	0	0	0	0
30405	0	0	0	0	0	0	0
30406	0	0	0	0	0	0	0
305	2.84	3.37	0.12	0.09	1.56	3.77	0.05
30500	2.84	3.37	0.12	0.09	1.56	3.77	0.05
30501	0	0	0	0	0	0	0
30502	0	0	0	0	0	0	0
30503	0	0	0	0	0	0	0
30504	0	0	0	0	0	0	0
30505	0	0	0	0	0	0	0
30506	0	0	0	0	0	0	0
306	12.63	270.22	8.78	6.25	97.34	249.83	2.13
30600	1.15	112.67	5.37	3.75	75.02	152.83	0.27
30601	0	0	0	0	0	0	0
30602	0.28	4.75	1.26	0.88	17.66	35.99	0.06
30603	11.2	36.6	0.89	0.28	0.89	16.28	1.01
30604	0	116.2	1.25	1.33	3.77	44.73	0.78
30605	0	0	0	0	0	0	0
30606	0	0	0	0	0	0	0
307	280.57	453.62	16.1	17.25	118.66	286.84	1.37
30700	280.49	392.55	12.52	9.43	115.28	262.45	1.01
30701	0	0	0	0	0	0	0
30702	0	0	0	0	0	0	0
30703	0.07	59.6	2.58	2.57	2.75	23.77	0.36
30704	0	0	0	0	0	0	0
30705	0.01	1.47	1	5.25	0.63	0.62	0.01
30706	0	0	0	0	0	0	0
308	92.47	144.15	10.97	18.76	223.59	154.52	4.54
30800	92.47	144.15	10.97	18.76	223.59	154.52	4.54
30801	0	0	0	0	0	0	0
30802	0	0	0	0	0	0	0
30803	0	0	0	0	0	0	0
30804	0	0	0	0	0	0	0
30805	0	0	0	0	0	0	0
30806	0	0	0	0	0	0	0
309	1365.35	1348.75	59.88	136.62	415.65	1240.61	22.49
30900	72.08	547.45	24.5	21.22	336.42	711.37	2.6

SNAP	SO <sub>2</sub> [Mg]	NO <sub>x</sub> [Mg]	NMVOC [Mg]	CH <sub>4</sub> [Mg]	CO [Mg]	CO <sub>2</sub> [Gg] <sup>1)</sup>	N <sub>2</sub> O [Mg]
30901	0	0	0	0	0	0	0
30902	960.1	485.09	10.09	15.95	33.18	282.7	11.69
30903	332.53	228.52	5.91	6.6	29	163.17	6.81
30904	0.55	62.24	2.04	2.16	6.11	72.62	1.27
30905	0.09	25.45	17.35	90.69	10.94	10.75	0.11
30906	0	0	0	0	0	0	0
310	1.44	19.13	1.62	4.57	13.09	24.36	0.09
31000	1.43	18.03	0.87	0.65	12.62	23.9	0.08
31001	0	0	0	0	0	0	0
31002	0	0	0	0	0	0	0
31003	0	0	0	0	0	0	0
31004	0	0	0	0	0	0	0
31005	0	1.1	0.75	3.92	0.47	0.46	0
31006	0	0	0	0	0	0	0
311	47.36	373.69	36.23	52	820.64	473.52	13.85
31100	33.03	242.51	22.51	31.88	510.25	300.04	8.2
31101	0	0	0	0	0	0	0
31102	14.1	105.7	12.87	19.22	307.84	143.2	5.11
31103	0	0	0	0	0	0	0
31104	0.23	25.48	0.85	0.9	2.55	30.28	0.53
31105	0	0	0	0	0	0	0
31106	0	0	0	0	0	0	0
312	3.83	26.69	1.3	1.01	19.02	34.86	0.16
31200	3.82	26.64	1.29	1	18.97	34.83	0.15
31201	0	0	0	0	0	0	0
31202	0	0	0	0	0	0	0
31203	0	0	0	0	0	0	0
31204	0	0	0	0	0	0	0
31205	0.01	0.05	0.01	0.01	0.05	0.03	0
31206	0	0	0	0	0	0	0
313	39.7	195.2	10.31	11.75	156.54	240.63	1.99
31300	39.7	194.66	9.94	9.83	156.31	240.4	1.99
31301	0	0	0	0	0	0	0
31302	0	0	0	0	0	0	0
31303	0	0	0	0	0	0	0
31304	0	0	0	0	0	0	0
31305	0	0.54	0.37	1.91	0.23	0.23	0
31306	0	0	0	0	0	0	0
314	66.39	288.46	31.08	50.59	710.51	342.59	12.27
31400	62.86	257.91	26.7	39.62	632.91	306.63	10.98
31401	0	0	0	0	0	0	0
31402	0	0	0	0	0	0	0
31403	3.52	28.82	3.2	4.8	76.85	35.23	1.28
31404	0	0	0	0	0	0	0
31405	0.01	1.73	1.18	6.16	0.74	0.73	0.01
31406	0	0	0	0	0	0	0
315	0.29	34.08	1.72	1	18.59	39.33	0.12
31500	0.29	34.08	1.72	1	18.59	39.33	0.12
31501	0	0	0	0	0	0	0
31502	0	0	0	0	0	0	0
31503	0	0	0	0	0	0	0
31504	0	0	0	0	0	0	0
31505	0	0	0	0	0	0	0
31506	0	0	0	0	0	0	0
316	504	1621	78.43	66.72	1372	865.82	12.25
31600	504	1621	78.43	66.72	1372	865.82	12.25
31601	0	0	0	0	0	0	0
31602	0	0	0	0	0	0	0
31603	0	0	0	0	0	0	0
31604	0	0	0	0	0	0	0
31605	0	0	0	0	0	0	0
31606	0	0	0	0	0	0	0
320	484.95	484.26	12.51	40.71	207.27	221.63	4.28



SNAP	SO <sub>2</sub> [Mg]	NO <sub>x</sub> [Mg]	NMVOG [Mg]	CH <sub>4</sub> [Mg]	CO [Mg]	CO <sub>2</sub> [Gg] <sup>1)</sup>	N <sub>2</sub> O [Mg]
32000	484.5	476.44	10.11	19.49	198.84	218.33	4.23
32001	0	0	0	0	0	0	0
32002	0	0	0	0	0	0	0
32003	0	0	0	0	0	0	0
32004	0	0.04	0	0	0	0.05	0
32005	0.45	7.78	2.4	21.22	8.43	3.25	0.05
32006	0	0	0	0	0	0	0

<sup>1)</sup> Including CO<sub>2</sub> emission from biomass.

## Annex 3A-9 Description of the Danish energy statistics

This description of the Danish energy statistics has been prepared by Denmark's National Environmental Research Institute, NERI (now DCE) in cooperation with the Danish Energy Agency (DEA) as background information to the Danish National Inventory Report (NIR).

### The Danish energy statistics system

DEA is responsible for the Danish energy balance. Main contributors to the energy statistics outside DEA are Statistics Denmark and Danish Energy Association (before Association of Danish Energy Companies). The statistics is performed using an integrated statistical system building on an Access database and Excel spreadsheets.

The DEA follows the recommendations of the International Energy Agency as well as Eurostat.

The national energy statistics is updated annually and all revisions are immediately included in the published statistics, which can be found on the DEA homepage<sup>3</sup>. It is an easy task to check for breaks in a series because the statistics is 100% time-series oriented.

The national energy statistics does not include Greenland and Faroe Islands.

For historical reasons, DEA receive monthly information from the Danish oil companies regarding Danish deliveries of oil products to Greenland and Faroe Islands. However, the monthly (MOS) and annual (AOS) reporting of oil statistics to Eurostat and IEA exclude Greenland and Faroe Islands. For all other energy products, the Danish figures are also excluding Greenland and Faroe Islands.

### Reporting to the Danish Energy Agency

The Danish Energy Agency receives monthly statistics for the following fuel groups:

- Crude oil and oil products.
- Monthly data from 46 oil companies, the main purpose is monitoring oil stocks according to the oil preparedness system.
- Natural gas.
- Fuel/flare from platforms in the North Sea.
- Natural gas balance from the regulator Energinet.dk (National monopoly).
- Coal and coke.
- Power plants (94 %).
- Industry companies (4 %).
- Coal and coke traders (2 %).
- Electricity.
- Monthly reporting by e-mail from the regulator Energinet.dk (National monopoly).
- The statistics covers:
  - Production by type of producer.
  - Own use of electricity.
  - Import and export by country.

<sup>3</sup> [http://www.ens.dk/EN-US/INFO/FACTSANDFIGURES/ENERGY\\_STATISTICS\\_AND\\_INDICATORS/ANNUAL%20STATISTICS/Sider/Forside.aspx](http://www.ens.dk/EN-US/INFO/FACTSANDFIGURES/ENERGY_STATISTICS_AND_INDICATORS/ANNUAL%20STATISTICS/Sider/Forside.aspx)

- Domestic supply (consumption + distribution loss).
- Town gas (quarterly) from two town gas producers.
- The large central power plants also report monthly consumption of biomass.

Annual data includes renewable energy including waste. The DEA conducts a biannual survey on wood pellets and wood fuel. Statistics Denmark conducts biannual surveys on the energy consumption in the service and industrial sectors. Statistics Denmark prepares annual surveys on forest (wood fuel) & straw.

Other annual data sources include:

- DEA.
- Survey on production of electricity and heat and fuels used.
- Survey on end use of oil.
- Survey on end use of natural gas.
- Survey on end use of coal and coke.
- DCE, Aarhus University.
- Energy consumption for domestic air transport.
- Danish Energy Association (Association of Danish Energy companies).
- Survey on electricity consumption.
- Ministry of Taxation.
- Border trade.
- Centre for Biomass Technology.
- Annual estimates of final consumption of straw and wood chips.

#### **Annual revisions**

In general, DEA follows the same procedures as in the Danish national account. This means that normally only figures for the last two years are revised.

#### **Aggregating the energy statistics on SNAP level**

The sectors used in the official energy statistics have been mapped to SNAP categories, used in the Danish emission database. DCE aggregates the official energy statistics to SNAP level based on a source correspondence table.

In cooperation between DEA and DCE, a fuel correspondence table has been developed mapping the fuels used by the DEA in the official energy statistics with the fuel codes used in the Danish national emission database. The fuel correspondence table between fuel categories used by the DEA, DCE and IPCC is presented in Annex 3A-3.

The mapping between the energy statistics and the SNAP and fuel codes used by DCE can be seen in the table below.

Table 3A-9.1 Correspondence between the Danish national energy statistics and the SNAP nomenclature (only stationary combustion part shown).

Unit: TJ	Enduse		Transformation	
	SNAP	Fuel	SNAP	Fuel
<b>Energy Sector</b>				
<b>Extraction and Gasification</b>				
- <b>Extraction</b>				
- - Natural Gas	010504	301A		
- <b>Gasification</b>				
- - Biogas, Landfill				
- - Biogas, Other				
- - Electricity				
<b>Refineries</b>				
- <b>Used for Refining</b>				
- - Crude Oil				
- - Refinery Feedstocks				
- - Electricity				
- - District Heating				
- <b>Own Use</b>				
- - Refinery Gas	010306	308A		
- - LPG	010306	303A		
- - Gas-/Diesel Oil	010306	204A		
- - Fuel Oil	010306	203A		
- <b>Net Production</b>				
- - Refinery Gas				
- - LPG				
- - Naphtha (LVN)				
- - Aviation Gasoline				
- - Motor Gasoline				
- - JP4				
- - Other Kerosene				
- - JP1				
- - Gas-/Diesel Oil				
- - Fuel Oil				
- - Petroleum Coke				
- - White Spirit				
- - Lubricants				
- - Bitumen				
<b>Distribution</b>				
- <b>Electricity Used in Distribution</b>				
- - Electricity Distribution				
- - District Heating Distribution				
- - Gas Distribution				
<b>Transformation Sector</b>				
<b>Large-scale Power Units</b>				
- <b>Fuels Used for Power Production</b>				
- - Gas-/Diesel Oil			010100	204A
- - Fuel Oil			010100	203A
- - Electricity Plant Coal			010100	102A
- - Straw			010100	117A
- <b>Own Use</b>				
- - Electricity				
- <b>Gross Production</b>				
- - Electricity				
<b>Large-Scale CHP Units</b>				
- <b>Fuels Used for Power Production</b>				
- - Refinery Gas			010300	308A
- - LPG			010100	303A
- - Naphtha (LVN)			010100	210A
- - Gas-/Diesel Oil			010100	204A
- - Fuel Oil			010100	203A
- - Petroleum Coke			010100	110A
- - Orimulsion			010100	225A
- - Natural Gas			010100	301A
- - Electricity Plant Coal			010100	102A
- - Straw			010100	117A
- - Wood Chips			010100	111A
- - Wood Pellets			010100	111A
- - Wood Waste			010100	111A
- - Biogas, Landfill			010100	309A
- - Biogas, Sludge			010100	309A
- - Biogas, Others			010100	309A

- - Waste, Non-renewable		010100	114A
- - Wastes, Renewable		010100	114A
<i>Continued</i>			
<b>- Fuels Used for Heat Production</b>			
- - Refinery Gas		010300	308A
- - LPG		010100	303A
- - Naphtha (LVN)		010100	210A
- - Gas-/Diesel Oil		010100	204A
- - Fuel Oil		010100	203A
- - Petroleum Coke		010100	110A
- - Orimulsion		010100	225A
- - Natural Gas		010100	301A
- - Electricity Plant Coal		010100	102A
- - Straw		010100	117A
- - Wood Chips		010100	111A
- - Wood Pellets		010100	111A
- - Wood Waste		010100	111A
- - Biogas, Landfill		010100	309A
- - Biogas, Sludge		010100	309A
- - Biogas, Other		010100	309A
- - Wastes, Non-renewable		010100	114A
- - Wastes, Renewable		010100	114A
<b>- Own Use</b>			
- - Electricity			
- - District Heating			
<b>- Production</b>			
- - Electricity, Gross			
- - District Heating, Net			
<b>Small-Scale CHP Units</b>			
<b>- Fuels Used for Power Production</b>			
- - Gas-/Diesel Oil		010100	204A
- - Fuel Oil		010100	203A
- - Natural Gas		010100	301A
- - Hard Coal		010100	102A
- - Straw		010100	117A
- - Wood Chips		010100	111A
- - Wood Pellets		010100	111A
- - Wood Waste		010100	111A
- - Biogas, Landfill		010100	309A
- - Biogas, Sludge		010100	309A
- - Biogas, Other		010100	309A
- - Waste, Non-renewable		010100	114A
- - Wastes, Renewable		010100	114A
<b>- Fuels Used for Heat Production</b>			
- - Gas-/Diesel Oil		010100	204A
- - Fuel Oil		010100	203A
- - Natural Gas		010100	301A
- - Coal		010100	102A
- - Straw		010100	117A
- - Wood Chips		010100	111A
- - Wood Pellets		010100	111A
- - Wood Waste		010100	111A
- - Biogas, Landfill		010100	309A
- - Biogas, Sludge		010100	309A
- - Biogas, Other		010100	309A
- - Wastes, Non-renewable		010100	114A
- - Wastes, Renewable		010100	114A
<b>- Own Use</b>			
- - Electricity			
- - District Heating			
<b>- Production</b>			
- - Electricity, Gross			
- - District Heating, Net			
<b>Wind Turbines</b>			
<b>- Used for Power Production</b>			
- - Wind Power			
<b>- Gross Production</b>			
- - Electricity			
<b>Hydro Power Units</b>			
<b>- Used for Power Production</b>			
- - Hydro Power			
<b>- Gross Production</b>			
- - Electricity			

<b>District Heating Units</b>			
<b>- Fuels Used for Heat Production</b>			
- - Refinery Gas		010300	308A
- - LPG		010200	303A
<i>Continued</i>			
- - Gas-/Diesel Oil		010200	204A
- - Fuel Oil		010200	203A
- - Waste Oil		010200	203A
- - Petroleum Coke		010200	110A
- - Natural Gas		010200	301A
- - Electricity Plant Coal		010200	102A
- - Coal		010200	102A
- - Solar Energy			
- - Geothermal Energy			
- - Straw		010200	117A
- - Wood Chips		010200	111A
- - Wood Pellets		010200	111A
- - Wood Waste		010200	111A
- - Biogas, Landfill		010200	309A
- - Biogas, Sludge		010200	309A
- - Biogas, Other		010200	309A
- - Wastes, Non-renewable		010200	114A
- - Wastes, Renewable		010200	114A
- - Fish Oil		010200	215A
- - Electricity for Heat Pumps			
<b>- Own Use</b>			
- - District Heating			
<b>- Net Production</b>			
- - District Heating			
<b>Autoproducers, Electricity Only</b>			
<b>- Fuels Used for Power Production</b>			
- - Natural Gas		030100	301A
- - Solar Energy			
- - Biogas, Landfill		030100	309A
- - Biogas, Sewage Sludge		030100	309A
- - Biogas, Other		030100	309A
<b>- Gross Production</b>			
- - Electricity			
<b>Autoproducers, CHP Units</b>			
<b>- Fuels Used for Power Production</b>			
- - Refinery Gas		010300	308A
- - Gas-/Diesel Oil		030100	204A
- - Fuel Oil		030100	203A
- - Waste Oil		030100	203A
- - Natural Gas		030100	301A
- - Coal		030100	102A
- - Straw		030100	117A
- - Wood Chips		030100	111A
- - Wood Pellets		030100	111A
- - Wood Waste		030100	111A
- - Biogas, Landfill		030100	309A
- - Biogas, Sludge		030100	309A
- - Biogas, Other		030100	309A
- - Fish Oil		030100	215A
- - Wastes, Non-renewable		010100	114A
- - Wastes, Renewable		010100	114A
<b>- Fuels Used for Heat Production</b>		030100	114A
- - Refinery Gas		010300	308A
- - Gas-/Diesel Oil		030100	204A
- - Fuel Oil		030100	203A
- - Waste Oil		030100	203A
- - Natural Gas		030100	301A
- - Coal		030100	102A
- - Wood Chips		030100	111A
- - Wood Waste		030100	111A
- - Biogas, Landfill		030100	309A
- - Biogas, Sludge		030100	309A
- - Biogas, Other		030100	309A
- - Wastes, Non-renewable		010100	114A
- - Wastes, Renewable		010100	114A
<b>- Production</b>			
- - Electricity, Gross			
- - District Heating, Net			

<b>Autoproducers, Heat Only</b>		
<b>- Fuels Used for Heat Production</b>		
- - Gas-/Diesel Oil		030100 204A
- - Fuel Oil		030100 203A
- - Waste Oil		030100 203A
- - Natural Gas		030100 301A
- - Straw		030100 117A
<i>Continued</i>		
- - Wood Chips		030100 111A
- - Wood Chips		030100 111A
- - Wood Waste		030100 111A
- - Biogas, Landfill		030100 309A
- - Biogas, Sludge		030100 309A
- - Biogas, Other		030100 309A
- - Wastes, Non-renewable		010200 114A
- - Wastes, Renewable		010200 114A
- - Heat Pumps		
<b>- Net Production</b>		
- - District Heating		
<b>Gas Works Gas Units</b>	030106	301A
<b>- Fuels Used for Production of District Heating</b>		
- - Refinery Gas		
- - LPG		
- - Naphtha (LVN)		
- - Gas-/Diesel Oil		
- - Natural Gas		
- - Hard Coal		
<b>- Production</b>		
- - Gas Works Gas		
- - Coke		
<b>Distribution Losses</b>		
<b>- Distribution Losses etc.</b>		
- - Natural Gas		
- - Electricity		
- - District Heating		
- - Gas Works Gas		
<b>Consumption Sector</b>		
<b>- Non-energy Use</b>		
- - White Spirit		
- - Lubricants		
- - Bitumen		
<b>Transport</b>		
<b>Military Transport</b>		
- Aviation Gasoline		
- Motor Gasoline		
- JP4		
- JP1		
- Gas-/Diesel Oil		
<b>Road</b>		
- LPG		
- Motor Gasoline		
- Other Kerosene	020200	206A
- Gas-/Diesel Oil		
- Fuel Oil		
- Bioethanol		
- Biodiesel		
<b>Rail</b>		
- Motor Gasoline		
- Other Kerosene		
- Gas-/Diesel Oil		
- Electricity		
<b>Domestic Sea Transport</b>		
- LPG	Transport	
- Other Kerosene	Transport	
- Gas-/Diesel Oil	Transport	
- Fuel Oil	Transport	
<b>Domestic Aviation</b>		
- LPG	Transport	
- Aviation Gasoline	Transport	
- Motor Gasoline	Transport	
- Other Kerosene	020100	206A

- JP1	Transport	
<b>International Aviation</b>		
- Aviation Gasoline	Transport	
- JP1	Transport	
<b>Agriculture and Forestry</b>		
- LPG	Transport	
- Motor Gasoline	Transport	
- Other Kerosene	020300	206A
- Gas-/Diesel Oil	Transport	
- Fuel Oil	020300	203A
- Petroleum Coke	020300	110A
<i>Continued</i>		
- Natural Gas	020300	301A
- Coal	020300	102A
- Brown Coal Briquettes	020300	106A
- Straw	020300	117A
- Wood Chips	020300	111A
- Wood Waste	020300	111A
- Biogas, Other	020300	309A
- Heat Pumps		
- Electricity		
<b>Horticulture</b>		
- LPG	Transport	
- Motor Gasoline	Transport	
- Gas-/Diesel Oil	Transport	
- Fuel Oil	020300	203A
- Petroleum Coke	020300	110A
- Natural Gas	020300	301A
- Coal	020300	102A
- Wood Waste	020300	111A
- Electricity		
- District Heating		
<b>Fishing</b>		
- LPG	Transport	
- Motor Gasoline	Transport	
- Other Kerosene	Transport	
- Gas-/Diesel Oil	Transport	
- Fuel Oil	Transport	
<b>Manufacturing Industry</b>		
- Refinery Gas	030100	308A
- LPG	Transport	
- Naphtha (LVN)	Transport	
- Motor Gasoline	Transport	
- Other Kerosene	030100	206A
- Gas-/Diesel Oil	Transport	
- Fuel Oil	030100	203A
- Waste Oil	030100	203A
- Petroleum Coke	030100	110A
- Natural Gas	030100	301A
- Coal	030100	102A
- Coke	030100	107A
- Brown Coal Briquettes	030100	106A
- Wood Pellets	030100	111A
- Wood Waste	030100	111A
- Biogas, Landfill	030100	111A
- Biogas, Sludge	030100	309A
- Biogas, Other	030100	309A
- Wastes, Non-renewable	030100	114A
- Wastes, Renewable	030100	114A
- Heat Pumps		
- Electricity		
- District Heating		
- Gas Works Gas	030100	301A
<b>Construction</b>		
- LPG	031500	303A
- Motor Gasoline	Transport	
- Other Kerosene	031500	206A
- Gas-/Diesel Oil	Transport	
- Fuel Oil	031500	203A
- Natural Gas	031500	301A
- Electricity		
<b>Wholesale</b>		
- LPG	020100	303A

- Motor Gasoline	020100	206A	
- Other Kerosene	020100	204A	
- Gas-/Diesel Oil	020100	203A	
- Petroleum Coke	020100	110A	
- Natural Gas	020100	301A	
- Wood Waste	020100	111A	
- Electricity			
- District Heating			
<b>Retail Trade</b>			
- LPG	020100	303A	
- Other Kerosene	020100	206A	
- Gas-/Diesel Oil	020100	204A	
- Fuel Oil	020100	203A	
- Petroleum Coke	020100	110A	
<i>Continued</i>			
- Natural Gas	020100	301A	
- Electricity			
- District Heating			
<b>Private Service</b>			
- LPG	020100	303A	
- Other Kerosene	020100	206A	
- Gas-/Diesel Oil	020100	204A	
- Fuel Oil	020100	203A	
- Waste Oil	020100	203A	
- Petroleum Coke	020100	110A	
- Natural Gas	020100	301A	
- Wood Chips	020100	111A	
- Wood Waste	020100	111A	
- Biogas, Landfill	020100	309A	
- Biogas, Sludge	020100	309A	
- Biogas, Other	020100	309A	
- Wastes, Non-renewable	020100	114A	
- Wastes, Renewable	020100	114A	
- Electricity			
- District Heating			
- Gas Works Gas	020100	301A	
<b>Public Service</b>			
- LPG	020100	303A	
- Other Kerosene	020100	206A	
- Gas-/Diesel Oil	020100	204A	
- Fuel Oil	020100	203A	
- Petroleum Coke	020100	110A	
- Natural Gas	020100	301A	
- Coal	020100	102A	
- Brown Coal Briquettes	020100	106A	
- Solar Energy			
- Wood Chips	020100	111A	
- Wood Pellets	020100	111A	
- Electricity			
- District Heating			
- Gas Works Gas	020100	301A	
<b>Single Family Houses</b>			
- LPG	020200	303A	
- Motor Gasoline	Transport		
- Other Kerosene	020200	206A	
- Gas-/Diesel Oil	020200	204A	
- Fuel Oil	020200	203A	
- Petroleum Coke	020200	110A	
- Natural Gas	020200	301A	
- Coal	020200	102A	
- Coke	020200	107A	
- Brown Coal Briquettes	020200	106A	
- Solar Energy			
- Straw	020200	117A	
- Firewood	020200	111A	
- Wood Chips	020200	111A	
- Wood Pellets	020200	111A	
- Biodiesel	020200	215A	
- Heat Pumps			
- Electricity			
- District Heating			
- Gas Works Gas	020200	301A	



Multi-family Houses			
- LPG	020200	303A	
- Other Kerosene	020200	206A	
- Gas-/Diesel Oil	020200	204A	
- Fuel Oil	020200	203A	
- Petroleum Coke	020200	110A	
- Natural Gas	020200	301A	
- Coal	020200	102A	
- Coke	020200	107A	
- Brown Coal Briquettes	020200	106A	
- Solar Energy			
- Electricity			
- District Heating			
- Gas Works Gas	020200	301A	

### Annex 3A-10 EU ETS data for coal

EU ETS data are available for the years 2006-2012. Corresponding values for lower calorific value (LCV) and implied emission factor (IEF) for CO<sub>2</sub> for 2006-2009 are shown in Figure 3A-10.1. The IEF factors include the oxidation factors.

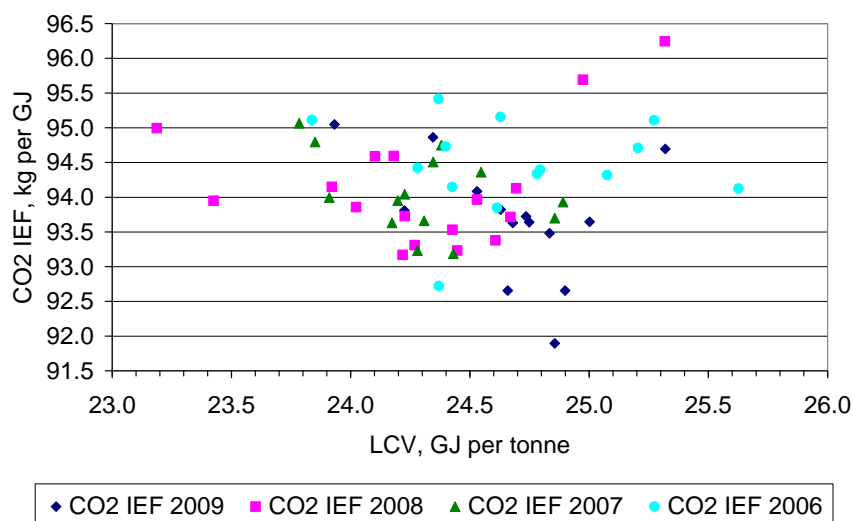


Figure 3A-10.1 EU ETS data for LCV and CO<sub>2</sub> IEF (including oxidation factor) for coal. Data for the years 2006-2009.

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## Annex 3B-1 Fleet data 1985-2012 for road transport (No. vehicles)

Sector	Subsector	Tech 2	FYear	LYear	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	0	1969	75564	16627	13368	10706	8571	7246	6992	6618	6159	5646	5194
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	1970	1978	404440	179963	156167	134583	102209	66638	55669	43359	30440	19722	12950
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1979	1980	97500	87416	63723	53008	61799	45282	38690	30726	21910	14275	8539
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1981	1985	152241	318620	330061	307288	254029	235151	221927	204913	179982	150784	119474
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1986	1990		165103	178393	209260	261579	258381	253651	249450	243072	232062	220895
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1991	1996			28375	60724	96922	141546	180780	219477	218990	216002	214711
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1997	2000									39547	74071	106936
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2001	2005											
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2006	2010											
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2011	2014											
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	0	1969	90872	28856	23474	19524	15744	13167	12527	11642	10624	9570	8659
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	1970	1978	344507	171158	152919	137410	110813	76213	63961	50125	35583	23605	15800
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1979	1980	87587	74393	54644	44813	52998	40866	35395	28785	21181	14516	9144
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1981	1985	210664	276844	281145	261224	218177	205239	196226	184150	165329	142253	115689
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1986	1990		221807	211098	215194	242500	240697	238039	236139	232642	225250	217019
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1991	1996			51521	101611	148509	235536	319571	414973	413070	407030	404816
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1997	2000									105322	217501	303755
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2001	2005											
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2006	2010											
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2011	2014											
Passenger Cars	Gasoline >2,0 l	PRE ECE	0	1969	3246	1388	1186	1033	897	911	945	971	986	987	989
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	1970	1978	3113	3661	3581	3373	3096	2800	2589	2352	2039	1657	1381
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1979	1980	1078	564	531	687	859	865	865	846	773	702	599
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1981	1985	4087	2263	2037	1700	1575	1659	1801	1950	2055	2081	2018
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1986	1990		4323	3630	3161	2668	2810	3052	3331	3638	3874	4089
Passenger Cars	Gasoline >2,0 l	Euro I	1991	1996			1263	2350	3350	5384	7888	10682	11000	11250	11334
Passenger Cars	Gasoline >2,0 l	Euro II	1997	2000									3980	8667	14014
Passenger Cars	Gasoline >2,0 l	Euro III	2001	2005											
Passenger Cars	Gasoline >2,0 l	Euro IV	2006	2010											
Passenger Cars	Gasoline >2,0 l	Euro V	2011	2014											
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	69406	71018	70198	69500	68720	65169	62762	59117	54631	50590	48238
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996			979	2163	3799	6613	9919	13122	13689	14318	15305
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000									3064	8535	18211
Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005											

Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010											
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014											
Passenger Cars	Diesel >2,0 l	Conventional	0	1990	14055	14871	13888	13012	12136	11757	11413	10708	10043	9269	8435
Passenger Cars	Diesel >2,0 l	Euro I	1991	1996			1017	1988	3035	4323	5638	7401	7600	7595	7716
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000									2079	5072	9083
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005											
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010											
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014											
Passenger Cars	LPG cars	Conventional	0	1990	1136	1163	1166	1173	1184	734	495	310	171	96	56
Passenger Cars	LPG cars	Euro I	1991	1996				1	4	4	3	1	1	1	3
Passenger Cars	LPG cars	Euro II	1997	2000											
Passenger Cars	LPG cars	Euro III	2001	2005											
Passenger Cars	LPG cars	Euro IV	2006	2010											
Passenger Cars	2-Stroke	Conventional	0	9999	4823	5417	4804	4308	3747	3029	2443	1824	1248	761	400
Passenger Cars	Electric cars	Conventional	0	9999	130	133	133	134	136	155	163	187	230	292	298
Passenger Cars	Gasoline <0,8 l	PRE ECE	0	1969											
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	1970	1978											
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980											
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985											
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990											
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996											
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000											40
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005											
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010											
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014											
Passenger Cars	Diesel <1,4 l	Conventional	0	1990											
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996											
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000											361
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005											
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010											
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014											
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	34172	44442	45625	46865	48934	49865	46712	42710	37987	34274	30224
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998							3773	7509	12025	17550	17352
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001											5272
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006											
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011											
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015											
Light Duty Vehicles	Diesel <3,5t	Conventional	0	1994	113019	146986	150898	154999	161842	169142	160228	148520	133718	120795	105967

Light Duty Vehicles	Diesel <3,5t	Euro I	1995	1998							16899	35370	56836	76717	75753
Light Duty Vehicles	Diesel <3,5t	Euro II	1999	2001											24555
Light Duty Vehicles	Diesel <3,5t	Euro III	2002	2006											
Light Duty Vehicles	Diesel <3,5t	Euro IV	2007	2011											
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	2015											
Light Duty Vehicles	LPG <3,5t	Conventional	0	1994	684	889	913	938	979	632	462	295	196	125	90
Light Duty Vehicles	LPG <3,5t	Euro I	1995	1998										1	1
Light Duty Vehicles	LPG <3,5t	Euro II	1999	2001											
Light Duty Vehicles	LPG <3,5t	Euro III	2002	2006											
Light Duty Vehicles	LPG <3,5t	Euro IV	2007	2011											
Light Duty Vehicles	Electric <3,5t	Conventional	0	9999	3	4	4	4	4	3	2	2	1	1	1
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	0	9999	621	530	510	497	503	455	412	365	326	336	318
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	0	1993	8686	7049	6675	6430	6419	6194	5738	5137	4646	4156	3518
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	1994	1996					66	376	711	976	973	967	906
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	1997	2001								89	521	1236	1782
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	0	1993	7266	5897	5584	5379	5375	5316	5373	5207	4854	4491	4116
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	1994	1996					51	298	671	968	1002	1081	1102
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	1997	2001								94	429	798	1200
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	0	1993	4984	4519	4461	4388	4454	3991	3248	2731	2360	1984	1623
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	1994	1996					37	156	234	285	283	286	289
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	1997	2001								21	126	216	262
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	0	1993	5171	4689	4628	4552	4601	4348	4047	3669	3316	2924	2537
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	1994	1996					58	334	708	1001	1007	985	963
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	1997	2001								98	535	937	1371
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2010	2013											

Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	0	1993	4307	5179	5237	5326	5315	5031	4565	4059	3536	3067	2596
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	1994	1996					67	469	1003	1452	1442	1400	1322
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	1997	2001								152	748	1330	1898
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	0	1993	7	8	8	9	9	7	6	6	6	6	6
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	1994	1996							0	1	1	1	1
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	1997	2001								0	1	2	3
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	0	1993	271	326	329	335	327	326	329	321	300	262	231
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	1994	1996					11	62	152	239	246	252	253
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	1997	2001								28	147	289	455
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT >32t	Conventional	0	1993	0	0	0	0	0	0	1	0	0	1	1
Heavy Duty Vehicles	Diesel RT >32t	Euro I	1994	1996							0	1	1	1	1
Heavy Duty Vehicles	Diesel RT >32t	Euro II	1997	2001								0	1	0	0
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	0	1993	5617	5132	5080	5011	5065	4783	4448	4025	3645	3208	2772
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	1994	1996					63	356	759	1069	1076	1051	1028
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	1997	2001								104	570	1000	1467
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	0	1993	8359	10252	10740	11202	11174	10480	8917	7262	5877	4730	3842
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	1994	1996					204	1616	3609	4958	4683	4110	3555
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	1997	2001								495	2223	4240	5939
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2002	2006											

Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	0	1993	1672	2083	2242	2382	2379	2398	2257	2045	1799	1469	1240
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	1994	1996					49	333	888	1316	1327	1314	1305
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	1997	2001								143	778	1564	2540
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro I	1994	1996								1	1	1	1
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	1997	2001										1	1
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro V	2010	2013											
Buses	Gasoline Urban Buses	Conventional	0	9999	8	8	9	11	14	11	11	16	17	17	15
Buses	Diesel Urban Buses <15t	Conventional	0	1993	347	352	433	488	639	558	494	411	335	281	250
Buses	Diesel Urban Buses <15t	Euro I	1994	1996						49	81	122	130	132	124
Buses	Diesel Urban Buses <15t	Euro II	1997	2001									103	295	438
Buses	Diesel Urban Buses <15t	Euro III	2002	2006											
Buses	Diesel Urban Buses <15t	Euro IV	2007	2009											
Buses	Diesel Urban Buses <15t	Euro V	2010	2013											
Buses	Diesel Urban Buses 15 - 18t	Conventional	0	1993	2083	2109	2597	2928	3833	3475	3205	2861	2691	2353	2012
Buses	Diesel Urban Buses 15 - 18t	Euro I	1994	1996						397	632	985	989	891	891
Buses	Diesel Urban Buses 15 - 18t	Euro II	1997	2001									183	568	817
Buses	Diesel Urban Buses 15 - 18t	Euro III	2002	2006											
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2007	2009											
Buses	Diesel Urban Buses 15 - 18t	Euro V	2010	2013											
Buses	Diesel Urban Buses >18t	Conventional	0	1993	5	5	6	7	9	8	6	7	6	3	2
Buses	Diesel Urban Buses >18t	Euro I	1994	1996						1	1	3	3	3	2
Buses	Diesel Urban Buses >18t	Euro II	1997	2001										6	20
Buses	Diesel Urban Buses >18t	Euro III	2002	2006											
Buses	Diesel Urban Buses >18t	Euro IV	2007	2009											
Buses	Diesel Urban Buses >18t	Euro V	2010	2013											
Buses	Gasoline Coaches	Conventional	0	9999	931	942	1161	1309	1508	1762	1775	1786	1791	1808	1810
Buses	Diesel Coaches <15t	Conventional	0	1993	3710	3756	4627	5215	6010	5926	5739	5506	5208	4941	4629
Buses	Diesel Coaches <15t	Euro I	1994	1996						420	682	1113	1103	1091	1056
Buses	Diesel Coaches <15t	Euro II	1997	2001									370	695	1039

Buses	Diesel Coaches <15t	Euro III	2002	2006											
Buses	Diesel Coaches <15t	Euro IV	2007	2009											
Buses	Diesel Coaches <15t	Euro V	2010	2013											
Buses	Diesel Coaches 15 - 18t	Conventional	0	1993	804	814	1003	1131	1303	1389	1393	1342	1253	1241	1184
Buses	Diesel Coaches 15 - 18t	Euro I	1994	1996						35	89	153	162	163	159
Buses	Diesel Coaches 15 - 18t	Euro II	1997	2001									44	77	119
Buses	Diesel Coaches 15 - 18t	Euro III	2002	2006											
Buses	Diesel Coaches 15 - 18t	Euro IV	2007	2009											
Buses	Diesel Coaches 15 - 18t	Euro V	2010	2013											
Buses	Diesel Coaches >18t	Conventional	0	1993	122	123	152	171	197	210	221	211	193	193	206
Buses	Diesel Coaches >18t	Euro I	1994	1996						20	42	78	84	82	81
Buses	Diesel Coaches >18t	Euro II	1997	2001									25	54	99
Buses	Diesel Coaches >18t	Euro III	2002	2006											
Buses	Diesel Coaches >18t	Euro IV	2007	2009											
Buses	Diesel Coaches >18t	Euro V	2010	2013											
Mopeds	2-stroke <50 cm³	Conventional	0	1999	151000	120000	118000	113000	109000	105000	114167	123333	132496	141636	150802
Mopeds	2-stroke <50 cm³	Euro I	2000	2003											
Mopeds	2-stroke <50 cm³	Euro II	2004	2014											
Mopeds	4-stroke <50 cm³	Euro II	2004	2014											
Motorcycles	2-stroke >50 cm³	Conventional	0	1999	6072	6470	6653	6737	6949	7255	7666	8228	8891	9524	10316
Motorcycles	2-stroke >50 cm³	Euro I	2000	2003											
Motorcycles	2-stroke >50 cm³	Euro II	2004	2006											
Motorcycles	2-stroke >50 cm³	Euro III	2007	9999											
Motorcycles	4-stroke <250 cm³	Conventional	0	1999	6881	7333	7541	7635	7875	8222	8688	9325	10077	10794	11692
Motorcycles	4-stroke <250 cm³	Euro I	2000	2003											
Motorcycles	4-stroke <250 cm³	Euro II	2004	2006											
Motorcycles	4-stroke <250 cm³	Euro III	2007	9999											
Motorcycles	4-stroke 250 - 750 cm³	Conventional	0	1999	18923	20165	20737	20996	21657	22611	23892	25645	27712	29683	32152
Motorcycles	4-stroke 250 - 750 cm³	Euro I	2000	2003											
Motorcycles	4-stroke 250 - 750 cm³	Euro II	2004	2006											
Motorcycles	4-stroke 250 - 750 cm³	Euro III	2007	9999											
Motorcycles	4-stroke >750 cm³	Conventional	0	1999	8601	9166	9426	9544	9844	10278	10860	11657	12596	13492	14615
Motorcycles	4-stroke >750 cm³	Euro I	2000	2003											
Motorcycles	4-stroke >750 cm³	Euro II	2004	2006											
Motorcycles	4-stroke >750 cm³	Euro III	2007	9999											



Sector	Subsector	Tech 2	FYear	LYear	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE ECE 15/00-01	0	1969	4994	4949	4963	5045	5223	5417	5688	6017	6367	6599	6784	6867	6833
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1970	1978	9402	7791	6441	5527	4770	4352	4057	4054	4021	4051	3997	4014	4024
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1979	1980	5582	4146	3061	2228	1672	1270	1027	853	726	631	566	520	467
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1981	1985	95486	78149	62695	47507	35638	25238	18614	13038	9396	6522	4731	3282	2418
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1986	1990	203911	188827	166452	145685	119763	96437	73954	56825	40791	29907	20894	14633	9806
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1991	1996	212883	211037	207661	203273	197813	189157	177729	161931	144861	127430	107614	87661	67243
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	1997	2000	132750	131463	130039	129601	128725	127432	126887	122693	118998	115799	111468	104577	96701
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2001	2005		20346	43295	64167	93617	135259	136188	133545	132050	131454	129736	127743	125511
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2006	2010							46062	87481	131346	170512	229373	227730	225805
Passenger Cars	Gasoline 0,8 - 1,4 l		2011	2014												67894	155289
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE ECE 15/00-01	0	1969	8291	8215	8200	8321	8638	9068	9590	10256	10933	11397	11659	11779	11667
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1970	1978	11566	9555	7938	6866	5944	5373	5152	5259	5418	5580	5670	5749	5743
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1979	1980	6258	4775	3690	2780	2170	1670	1386	1183	1020	895	801	724	636
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1981	1985	94495	78552	64108	49671	37838	27501	20745	15213	11502	8470	6409	4690	3594
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1986	1990	203365	190772	171667	153308	129614	107639	85477	67960	51214	39588	29267	21797	15650
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1991	1996	402938	402008	397847	391776	383213	370015	348989	317437	286224	256621	220110	181444	140026
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	1997	2000	363391	359754	355763	355858	352963	349516	350200	334149	320149	310654	298510	280024	258140
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2001	2005		51742	107686	149320	197612	252007	258765	251961	248489	247402	243897	238197	233396
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2006	2010							55865	102438	130442	145805	160847	156500	155094
Passenger Cars	Gasoline 1,4 - 2,0 l		2011	2014												15850	25993
Passenger Cars	Gasoline >2,0 l	PRE ECE ECE 15/00-01	0	1969	1024	1079	1128	1237	1391	1600	2061	2629	3223	3590	3776	3921	4420
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1970	1978	1181	1034	936	859	830	841	1031	1313	1734	2009	2238	2457	2858
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1979	1980	520	479	444	399	369	318	311	330	319	297	271	243	268
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1981	1985	1904	1798	1696	1572	1431	1299	1182	1129	1031	935	835	734	743
Passenger Cars	Gasoline >2,0 l	Euro I	1986	1990	4161	4188	4196	4099	3992	3847	3772	3641	3404	3151	2818	2454	2316
Passenger Cars	Gasoline >2,0 l	Euro II	1991	1996	11470	11572	11776	11983	12425	12702	13046	13207	12846	12337	11594	10655	9901
Passenger Cars	Gasoline >2,0 l	Euro III	1997	2000	18870	18780	18760	18987	19329	19850	21109	21230	20991	20706	20140	19257	18272
Passenger Cars	Gasoline >2,0 l	Euro IV	2001	2005		4624	9882	14671	21339	29801	32250	33685	34091	34561	34549	33571	32596
Passenger Cars	Gasoline >2,0 l	Euro V	2006	2010							7894	14607	18442	20013	21352	20826	20873
Passenger Cars	Gasoline >2,0 l		2011	2014												846	1125
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	46384	44480	41523	38006	34340	30088	26004	22021	17989	14348	10977	8074	5859
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996	16471	17245	18106	19220	20895	21613	21522	20504	19072	17688	15816	13503	10845
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000	28716	28688	28633	28948	29194	29373	31180	32603	31362	30703	30387	29751	29009
Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005		10980	25186	38421	57411	82415	88649	104131	104503	105907	107353	107313	110697
Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010							27710	68948	93912	103857	111254	110710	112787

Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014							3079	12844	38640	66553	119156	179520	226628
Passenger Cars	Diesel >2,0 l	Conventional	0	1990	7728	7120	6345	5723	5039	4460	3895	3402	2908	2516	2095	1656	1376
Passenger Cars	Diesel >2,0 l	Euro I	1991	1996	7698	7640	7463	7353	7287	7147	6944	6585	6018	5575	5022	4380	3823
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000	13125	13236	13141	13296	13564	13885	14771	14907	14386	13960	13559	12861	12557
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005		3884	8635	12968	18885	25776	27913	29844	30102	30677	30829	30074	28854
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010							6563	15768	18658	20592	22307	22792	23793
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014							729	2860	5908	9868	14513	20115	26047
Passenger Cars	LPG cars	Conventional	0	1990	30	24	17	11	10	10	10	7	8	7	6	6	5
Passenger Cars	LPG cars	Euro I	1991	1996	2	2	3	2	4	4	3	2	2	2	3	2	2
Passenger Cars	LPG cars	Euro II	1997	2000			1	2	1	1	1			1	1	4	4
Passenger Cars	LPG cars	Euro III	2001	2005								1	2	4	3	3	3
Passenger Cars	LPG cars	Euro IV	2006	2010										1	1	4	4
Passenger Cars	2-Stroke	Conventional	0	9999	300	200	150	100	50								
Passenger Cars	Electric cars	Conventional	0	9999	322	301	280	250	211	183	185	188	191	276	350	800	1307
Passenger Cars	Gasoline <0,8 l	PRE ECE ECE 15/00- 01	0	1969							33	65	98	124	142	157	214
Passenger Cars	Gasoline <0,8 l		1970	1978							17	49	71	95	117	127	164
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980								3	2	3	4	3	4
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985						1	4	10	13	13	13	15	32
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990							13	20	27	30	31	33	35
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996						4	21	38	47	59	60	56	65
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000	97	96	95	94	94	95	117	141	159	171	185	198	239
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005		52	118	193	324	553	573	607	626	650	657	685	743
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010							257	645	1596	2031	2091	2067	2012
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014												113	207
Passenger Cars	Diesel <1,4 l	Conventional	0	1990						1	5	8	11	13	11	9	11
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996						3	45	85	96	98	93	92	86
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000	1372	1407	1402	1401	1403	1406	1462	1395	1388	1404	1378	1347	1363
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005		1751	4929	8243	12614	17773	17986	17827	17580	17685	17471	17086	16976
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010							4746	13769	21404	23476	24508	24289	24022
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014							527	2784	10485	16524	26729	37853	50905
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	27140	23832	21083	18787	16405	14063	11895	9933	7994	6336	4955	3852	3038
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998	17103	16862	16703	16454	16011	15464	14730	13333	12215	11198	10027	8622	7236
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001	9655	14319	14153	14012	13791	13616	13436	10305	9611	8985	8074	6752	5253
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006			3784	8014	13934	20623	26285	19003	18316	17583	15860	13792	11006
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011								3187	3814	3801	4055	4105	3680
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015													233
Light Duty Vehicles	Diesel <3,5t	Conventional	0	1994	94102	80466	67925	56940	46624	37412	29739	24091	18856	14741	11426	9018	7286

Light Duty Vehicles	Diesel <3,5t	Euro I	1995	1998	74373	72684	71182	69081	66775	63284	58503	52349	46834	41796	36667	31364	26257
Light Duty Vehicles	Diesel <3,5t	Euro II	1999	2001	49951	74831	73532	72069	70326	68384	65694	55259	49908	45261	40307	34072	27892
Light Duty Vehicles	Diesel <3,5t	Euro III	2002	2006			27192	54236	92157	139815	191494	165460	156173	147683	134874	120633	103085
Light Duty Vehicles	Diesel <3,5t	Euro IV	2007	2011								37697	54077	54534	62080	78410	73628
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	2015							2832	11924	20902	21750	34043	32718	50059
Light Duty Vehicles	LPG <3,5t	Conventional	0	1994	60	36	27	21	14	10	9	7	5	4	4	4	4
Light Duty Vehicles	LPG <3,5t	Euro I	1995	1998	1	1											
Light Duty Vehicles	LPG <3,5t	Euro II	1999	2001	1				1	3	3	2	2	3	3	2	2
Light Duty Vehicles	LPG <3,5t	Euro III	2002	2006							5	7	7	8	8	7	7
Light Duty Vehicles	LPG <3,5t	Euro IV	2007	2011								1	3	4	3	4	3
Light Duty Vehicles	Electric <3,5t	Conventional	0	9999	1								1	7	4	17	128
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	0	9999	307	295	291	283	268	287	297	328	325	340	344	347	335
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	0	1993	3011	2552	2088	1709	1430	1244	1075	937	793	653	540	481	440
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	1994	1996	834	769	715	656	594	492	434	359	290	234	191	157	141
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	1997	2001	2136	2254	2161	2078	2003	1901	1728	1509	1250	1060	893	750	642
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2002	2006		166	460	755	1049	1437	1674	1661	1576	1450	1315	1209	1100
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2007	2009							52	363	758	911	968	972	941
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2010	2013								2	5	27	155	322	496
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2014	9999													1
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	0	1993	3782	3406	3069	2766	2503	2241	2084	1901	1683	1419	1250	1128	1030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	1994	1996	1099	1070	1040	985	948	885	828	748	667	545	481	418	359
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	1997	2001	1575	1783	1840	1884	1858	1838	1706	1584	1352	1201	1079	951	856
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2002	2006		155	443	713	1061	1501	1949	2011	1924	1798	1631	1529	1390
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2007	2009		2	2	2	2	3	91	424	824	889	935	937	941
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2010	2013				1	1	1	1	41	181	352	551	724	889
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2014	9999													1
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	0	1993	1368	1094	896	734	612	500	441	372	299	228	187	139	112
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	1994	1996	278	274	248	203	174	152	138	115	100	86	67	57	48
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	1997	2001	298	312	291	285	278	273	267	243	205	162	142	122	109
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2002	2006		10	32	46	58	82	100	109	108	104	95	77	71
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2007	2009					1	1	3	28	52	65	63	58	57
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2010	2013									8	11	35	52	57
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	0	1993	2143	1897	1382	1158	1003	884	902	730	536	430	351	289	259
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	1994	1996	905	983	787	701	638	562	571	457	330	242	205	169	150
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	1997	2001	1642	1926	1653	1586	1587	1564	1718	1459	1083	862	733	629	539
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2002	2006		194	389	665	919	1245	1745	1658	1469	1330	1207	1098	940
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2007	2009		4	4	6	7	14	101	457	699	747	757	748	707
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2010	2013						3	21	106	254	415	572	717	867

Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2014	9999													2
Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	0	1993	2097	1769	1231	984	797	655	626	464	307	217	163	140	114
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	1994	1996	1204	1206	935	815	728	643	649	511	356	267	204	164	129
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	1997	2001	2179	2589	2176	2053	1970	1846	1974	1670	1245	986	838	697	561
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2002	2006		197	487	803	1143	1583	2274	2161	1907	1748	1590	1407	1188
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2007	2009		3	3	3	3	26	128	595	910	988	990	964	942
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2010	2013						7	24	124	293	493	696	920	1160
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2014	9999													1
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	0	1993	4	4	4	4	4	4	4	4	3	2	2	2	1
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	1994	1996	1	2	1	1	1	0	1	1	1	0	1		1
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	1997	2001	3	3	2	2	2	2	2	2	1	1	1	1	1
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2002	2006				0	2	2	3	3	3	3	3	3	2
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2007	2009								3	3	1	2	1	1
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2010	2013								1	1	1	1	2	3
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	0	1993	185	139	93	70	50	42	36	22	13	9	6	6	5
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	1994	1996	239	241	190	157	134	114	95	67	40	26	20	15	13
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	1997	2001	618	792	670	641	637	639	702	589	439	327	279	231	181
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2002	2006		82	193	341	509	747	1178	1146	1016	924	873	815	734
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2007	2009			0	1	1	21	97	412	619	674	686	677	668
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2010	2013							10	69	157	255	341	504	723
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2014	9999													1
Heavy Duty Vehicles	Diesel RT >32t	Conventional	0	1993	2	2	1	2	2	2	1	1	1				
Heavy Duty Vehicles	Diesel RT >32t	Euro I	1994	1996	0	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Duty Vehicles	Diesel RT >32t	Euro II	1997	2001	1	1	0										
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2002	2006		1	1	2	1	2	3	3	3	3	3	2	3
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2007	2009								1	1	1			1
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2010	2013										1	2	4	4
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	0	1993	2481	1887	1804	1515	1250	1033	763	659	552	445	365	304	279
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	1994	1996	1025	954	1006	898	781	648	473	404	333	244	207	170	151
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	1997	2001	1862	1872	2119	2035	1942	1802	1414	1281	1087	865	736	633	541
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2002	2006		188	497	852	1123	1432	1438	1457	1473	1333	1211	1103	946
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2007	2009		3	6	8	8	15	83	405	707	754	764	754	709
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2010	2013						3	17	93	255	416	573	718	870
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2014	9999													2
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	0	1993	3173	2250	1980	1585	1255	973	712	583	456	328	253	223	188
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	1994	1996	2884	2100	1834	1472	1214	979	714	597	465	345	271	224	178
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	1997	2001	7098	7055	6586	5636	4638	3653	2749	2277	1781	1351	1128	937	752
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2002	2006		1009	2342	3625	4439	5378	5569	4881	4150	3380	2811	2234	1802

Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2007	2009		4	7	6	10	76	214	994	1635	1720	1738	1605	1442
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2010	2013		1	1	1		27	151	675	1162	1550	2018	2802	3305
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2014	9999													7
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	0	1993	1029	708	549	388	287	219	170	123	95	67	61	58	50
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	1994	1996	1215	1060	967	781	616	482	351	285	176	114	101	84	69
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	1997	2001	3548	4062	4016	3731	3293	2841	2242	1791	1225	823	654	538	426
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2002	2006		552	1706	3011	4472	6217	7578	7024	5985	4772	3954	3229	2562
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2007	2009		1	5	6	6	82	340	2129	3557	3680	3845	3624	3280
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2010	2013		1	2	2	2	1	68	724	1428	1909	2680	3768	4838
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2014	9999													16
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro I	1994	1996	1	1	1	1	1	1							
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	1997	2001	1	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2007	2009								1	1	1	1		1
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2002	2006													1
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro V	2010	2013									1	3		1	
Buses	Gasoline Urban Buses	Conventional	0	9999	11	9	7	1	2	2	2	4	7	9	9	10	11
Buses	Diesel Urban Buses <15t	Conventional	0	1993	200	183	154	123	101	80	68	56	49	33	25	16	7
Buses	Diesel Urban Buses <15t	Euro I	1994	1996	118	118	96	106	88	84	75	57	53	28	16	15	10
Buses	Diesel Urban Buses <15t	Euro II	1997	2001	525	542	553	569	535	545	494	427	367	221	117	90	53
Buses	Diesel Urban Buses <15t	Euro III	2002	2006			56	155	248	378	461	439	433	416	363	332	255
Buses	Diesel Urban Buses <15t	Euro IV	2007	2009								119	262	434	425	461	491
Buses	Diesel Urban Buses <15t	Euro V	2010	2013											165	266	397
Buses	Diesel Urban Buses 15 - 18t	Conventional	0	1993	1701	1506	1175	1030	880	758	629	544	460	336	276	217	151
Buses	Diesel Urban Buses 15 - 18t	Euro I	1994	1996	845	810	749	691	620	561	477	399	338	296	253	180	158
Buses	Diesel Urban Buses 15 - 18t	Euro II	1997	2001	1049	1165	1156	1136	1066	1061	1033	1002	919	851	744	636	519
Buses	Diesel Urban Buses 15 - 18t	Euro III	2002	2006			288	456	596	733	1007	1008	989	962	969	951	870
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2007	2009								110	327	624	628	629	628
Buses	Diesel Urban Buses 15 - 18t	Euro V	2010	2013											217	404	562
Buses	Diesel Urban Buses >18t	Conventional	0	1993	37	47	45	25	24	23	16	7	6	6	2	2	1
Buses	Diesel Urban Buses >18t	Euro I	1994	1996	28	44	52	51	42	44	44	23	6	4	2	1	1
Buses	Diesel Urban Buses >18t	Euro II	1997	2001	106	220	225	224	218	217	215	213	161	148	142	105	48
Buses	Diesel Urban Buses >18t	Euro III	2002	2006			135	228	337	388	448	439	414	398	389	377	334
Buses	Diesel Urban Buses >18t	Euro IV	2007	2009								125	247	338	340	333	333
Buses	Diesel Urban Buses >18t	Euro V	2010	2013											97	162	280
Buses	Gasoline Coaches	Conventional	0	9999	1796	1788	1763	1722	1663	1586	1522	1421	1306	1186	1052	913	769
Buses	Diesel Coaches <15t	Conventional	0	1993	4340	3989	3649	3360	3029	2726	2438	2163	1927	1662	1439	1184	996
Buses	Diesel Coaches <15t	Euro I	1994	1996	1079	1053	1031	982	956	920	873	814	733	664	614	545	488
Buses	Diesel Coaches <15t	Euro II	1997	2001	1347	1658	1694	1740	1908	2023	2162	2144	2077	2011	1914	1801	1689

Buses	Diesel Coaches <15t	Euro III	2002	2006			253	482	751	1052	1361	1423	1439	1461	1454	1365	1215
Buses	Diesel Coaches <15t	Euro IV	2007	2009								228	480	793	822	798	742
Buses	Diesel Coaches <15t	Euro V	2010	2013											204	328	382
Buses	Diesel Coaches 15 - 18t	Conventional	0	1993	1133	1061	1013	957	914	847	768	693	609	540	463	377	319
Buses	Diesel Coaches 15 - 18t	Euro I	1994	1996	148	161	173	176	176	184	176	177	178	193	179	154	135
Buses	Diesel Coaches 15 - 18t	Euro II	1997	2001	173	208	221	220	230	240	237	236	226	245	258	267	284
Buses	Diesel Coaches 15 - 18t	Euro III	2002	2006			19	46	61	71	90	81	99	106	107	109	119
Buses	Diesel Coaches 15 - 18t	Euro IV	2007	2009								11	38	69	66	65	64
Buses	Diesel Coaches 15 - 18t	Euro V	2010	2013											41	48	59
Buses	Diesel Coaches >18t	Conventional	0	1993	192	177	157	142	138	121	92	77	56	48	38	31	26
Buses	Diesel Coaches >18t	Euro I	1994	1996	78	76	79	74	70	65	60	56	49	46	36	26	20
Buses	Diesel Coaches >18t	Euro II	1997	2001	145	190	196	201	192	192	202	199	173	165	156	141	134
Buses	Diesel Coaches >18t	Euro III	2002	2006			32	92	152	230	293	302	312	321	322	309	322
Buses	Diesel Coaches >18t	Euro IV	2007	2009								55	114	180	194	197	193
Buses	Diesel Coaches >18t	Euro V	2010	2013											39	70	112
Mopeds	2-stroke <50 cm <sup>3</sup>	Conventional	0	1999	143569	136233	128203	120288	112245	103814	95123	86611	78807	71061	63625	56546	50013
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro I	2000	2003	16403	28734	42762	48678	46056	43440	40735	37815	35222	32562	29999	27566	25345
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro II	2004	2014					7996	16278	24801	33341	38136	42179	44312	46905	53316
Mopeds	4-stroke <50 cm <sup>3</sup>	Euro II	2004	2014					2665	5426	8267	11114	12712	14060	14771	15635	17772
Motorcycles	2-stroke >50 cm <sup>3</sup>	Conventional	0	1999	10536	10539	10440	10400	10480	10665	10952	11137	11004	10594	10060	9465	8930
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro I	2000	2003	464	779	1097	1409	1356	1339	1361	1368	1357	1308	1250	1190	1136
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro II	2004	2006					450	1115	1957	1864	1769	1655	1543	1425	1326
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro III	2007	9999								1042	1673	1927	2033	2060	2049
Motorcycles	4-stroke <250 cm <sup>3</sup>	Conventional	0	1999	11941	12429	12827	13327	14028	14931	16063	17142	17806	18061	18108	18033	18059
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro I	2000	2003	526	918	1348	1805	1814	1874	1996	2106	2196	2230	2250	2267	2297
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro II	2004	2006					603	1560	2870	2870	2863	2822	2777	2715	2682
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro III	2007	9999								1604	2707	3285	3659	3924	4143
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Conventional	0	1999	32838	34180	35273	36650	38576	41061	44174	47140	48967	49667	49797	49591	49662
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro I	2000	2003	1447	2525	3707	4964	4990	5154	5489	5792	6038	6133	6188	6234	6318
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro II	2004	2006					1657	4291	7892	7891	7873	7761	7638	7467	7376
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro III	2007	9999								4410	7445	9033	10061	10791	11394
Motorcycles	4-stroke >750 cm <sup>3</sup>	Conventional	0	1999	14926	15536	16033	16659	17535	18664	20079	21427	22258	22576	22635	22541	22574
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro I	2000	2003	658	1148	1685	2257	2268	2343	2495	2633	2745	2788	2813	2834	2872
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro II	2004	2006					753	1950	3587	3587	3578	3528	3472	3394	3353
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro III	2007	9999								2005	3384	4106	4573	4905	5179

## Annex 3B-2 Mileage data 1985-2012 for road transport (km)

Sector	Subsector	Tech 2	FYear	LYear	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	0	1969	10987	10126	10512	10813	10717	10998	10369	9770	9516	9206	8738
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	1970	1978	13512	12672	13276	13818	13785	14238	13441	12686	12361	11935	11315
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1979	1980	15074	14174	14709	15129	15002	15478	14621	13813	13487	13071	12472
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1981	1985	15016	15385	16091	16689	16643	17192	16255	15377	15047	14633	13973
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1986	1990		15922	18158	18617	18423	18995	17947	16963	16578	16099	15347
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1991	1996			9822	15599	17451	17935	18227	17893	19347	18764	17873
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1997	2000									10518	15722	16679
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2001	2005											
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2006	2010											
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2011	2014											
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	0	1969	13245	12360	12855	13288	13221	13566	12782	12036	11712	11322	10737
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	1970	1978	16412	15390	16109	16770	16715	17277	16317	15407	15023	14509	13761
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1979	1980	18351	17283	17934	18482	18333	18919	17876	16896	16503	15993	15257
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1981	1985	17890	18791	19630	20355	20297	20965	19820	18752	18345	17823	16991
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1986	1990		19005	22385	22891	22603	23307	22019	20810	20338	19743	18813
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1991	1996			12083	18712	20806	21397	21850	21413	23821	23096	21991
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1997	2000									12863	18602	20691
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2001	2005											
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2006	2010											
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2011	2014											
Passenger Cars	Gasoline >2,0 l	PRE ECE	0	1969	14692	13694	14191	14612	14494	14941	14084	13263	12911	12478	11825
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	1970	1978	17959	16981	17820	18516	18543	19119	18039	17008	16558	16029	15211
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1979	1980	20799	19449	20135	20768	20669	21331	20133	19014	18551	17943	17090
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1981	1985	20329	21465	22268	22895	22702	23415	22104	20877	20384	19776	18841
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1986	1990		21408	25931	26252	25851	26645	25127	23708	23150	22469	21401
Passenger Cars	Gasoline >2,0 l	Euro I	1991	1996			14128	21423	23687	24914	24459	24235	26905	26023	24747
Passenger Cars	Gasoline >2,0 l	Euro II	1997	2000									14567	20725	22239
Passenger Cars	Gasoline >2,0 l	Euro III	2001	2005											
Passenger Cars	Gasoline >2,0 l	Euro IV	2006	2010											
Passenger Cars	Gasoline >2,0 l	Euro V	2011	2014											
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	35362	42261	43428	41168	40097	42647	40813	39720	39124	37694	36387
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996			67316	85071	76115	63947	57531	55204	56392	48899	44835
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000									35632	44754	42660
Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005											

Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010											
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014											
Passenger Cars	Diesel >2,0 l	Conventional	0	1990	46795	53584	53600	45969	41568	42757	40159	38685	37779	36369	35252
Passenger Cars	Diesel >2,0 l	Euro I	1991	1996			75908	100414	95448	94680	87668	79953	77912	58365	47751
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000									62706	82066	72553
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005											
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010											
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014											
Passenger Cars	LPG cars	Conventional	0	1990	25575	26636	28202	29712	30233	31206	29655	28181	27555	26612	25314
Passenger Cars	LPG cars	Euro I	1991	1996				38174	37417	38309	37546	35227	34476	33513	33997
Passenger Cars	LPG cars	Euro II	1997	2000											
Passenger Cars	LPG cars	Euro III	2001	2005											
Passenger Cars	LPG cars	Euro IV	2006	2010											
Passenger Cars	2-Stroke	Conventional	0	9999	14642	15402	16008	16500	16419	16953	16011	15123	14770	14328	13647
Passenger Cars	Electric cars	Conventional	0	9999	10260	10737	11377	11996	12218	15192	14786	13930	13775	13126	13594
Passenger Cars	Gasoline <0,8 l	PRE ECE	0	1969											
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	1970	1978											
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980											
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985											
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990											
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996											
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000											10225
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005											
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010											
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014											
Passenger Cars	Diesel <1,4 l	Conventional	0	1990											
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996											
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000											23322
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005											
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010											
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014											
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	16590	15777	16152	16764	16864	17510	17508	16793	16443	16079	15437
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998							11236	16067	17035	17363	19669
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001											10620
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006											
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011											
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015											
Light Duty Vehicles	Diesel <3,5t	Conventional	0	1994	29423	32398	32514	31159	30456	31409	31302	30275	29362	28039	26954



Light Duty Vehicles	Diesel <3,5t	Euro I	1995	1998							20709	29650	31926	32950	36390
Light Duty Vehicles	Diesel <3,5t	Euro II	1999	2001											20043
Light Duty Vehicles	Diesel <3,5t	Euro III	2002	2006											
Light Duty Vehicles	Diesel <3,5t	Euro IV	2007	2011											
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	2015											
Light Duty Vehicles	LPG <3,5t	Conventional	0	1994	20338	19332	19790	20538	20660	20626	19555	18924	18421	17853	16944
Light Duty Vehicles	LPG <3,5t	Euro I	1995	1998										16428	30783
Light Duty Vehicles	LPG <3,5t	Euro II	1999	2001											
Light Duty Vehicles	LPG <3,5t	Euro III	2002	2006											
Light Duty Vehicles	LPG <3,5t	Euro IV	2007	2011											
Light Duty Vehicles	Electric <3,5t	Conventional	0	9999	12109	11522	11796	12244	12317	12509	11218	10676	12192	11836	11262
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	0	9999	20176	18562	19950	20541	19045	18224	18229	17308	16292	15404	15444
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	0	1993	31593	30572	33046	29469	24828	23910	25188	22923	20954	19357	17443
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	1994	1996					23054	26299	36682	37885	39907	36293	32356
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	1997	2001								24587	27344	31676	34883
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	0	1993	37315	36012	38915	34698	29224	28272	29993	27218	24915	23136	20843
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	1994	1996					27938	31807	42654	45806	48666	44243	39322
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	1997	2001								29796	34383	41420	41778
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	0	1993	27513	30299	32856	31321	26652	28985	28652	23167	21675	21127	22644
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	1994	1996					23844	32017	43687	39124	40920	39134	41056
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	1997	2001								24863	28125	38236	47872
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	0	1993	49555	54586	59192	56427	48056	53001	52789	42730	40125	39183	41634
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	1994	1996					41509	54202	69364	66546	72839	69704	72988
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	1997	2001								43283	49885	65693	77120
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2010	2013											

Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	0	1993	77104	85021	80265	84890	81445	80397	77249	73888	64558	62670	54436
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	1994	1996					67784	77139	97621	109399	112920	107957	92590
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	1997	2001								71827	78066	100546	97933
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	0	1993	74213	81865	77431	81805	78420	81812	79350	79054	67611	64481	54746
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	1994	1996							121173	94707	117422	111012	95023
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	1997	2001								72706	86469	88492	100154
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	0	1993	85446	94256	89150	94186	91028	93121	88668	84213	73749	72366	63114
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	1994	1996					69026	80737	95841	108625	114746	109433	93722
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	1997	2001								72706	78416	98957	96107
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel RT >32t	Conventional	0	1993	56752	62603	59212	62557	59968	56125	80742	49186	42044	75528	64649
Heavy Duty Vehicles	Diesel RT >32t	Euro I	1994	1996							71581	107606	120397	114825	89619
Heavy Duty Vehicles	Diesel RT >32t	Euro II	1997	2001								72706	86871	118546	65155
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	0	1993	53602	59453	64508	61415	52944	58371	58054	47394	44784	43638	46146
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	1994	1996					45559	59585	76332	73342	80388	77115	80613
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	1997	2001								47629	54989	72613	85120
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	0	1993	84648	90436	86534	82989	83916	86825	79943	79896	73919	69127	62201
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	1994	1996					61500	71410	83419	102475	117340	106705	99631
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	1997	2001								66415	81057	94399	102498
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2002	2006											

Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	0	1993	109789	114598	111039	100652	104396	108389	95165	94197	91124	81657	76385
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	1994	1996					79563	92663	99809	121225	138856	122156	112618
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	1997	2001								79383	92909	107228	111665
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2010	2013											
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2014	9999											
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro I	1994	1996								138231	135435	116422	110616
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	1997	2001										72370	137521
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2007	2009											
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2002	2006											
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro V	2010	2013											
Buses	Gasoline Urban Buses	Conventional	0	9999	29543	28977	24021	21995	17353	26031	23506	19551	21801	20975	18284
Buses	Diesel Urban Buses <15t	Conventional	0	1993	183187	207698	168762	142671	109361	117960	108353	102142	95506	91310	81145
Buses	Diesel Urban Buses <15t	Euro I	1994	1996						96215	142149	144219	157743	147146	129841
Buses	Diesel Urban Buses <15t	Euro II	1997	2001									91225	119788	134162
Buses	Diesel Urban Buses <15t	Euro III	2002	2006											
Buses	Diesel Urban Buses <15t	Euro IV	2007	2009											
Buses	Diesel Urban Buses <15t	Euro V	2010	2013											
Buses	Diesel Urban Buses 15 - 18t	Conventional	0	1993	173862	197367	160377	135588	103937	112696	103596	99477	92134	87205	79413
Buses	Diesel Urban Buses 15 - 18t	Euro I	1994	1996						96215	142765	138879	157646	147436	129279
Buses	Diesel Urban Buses 15 - 18t	Euro II	1997	2001									91225	117036	134971
Buses	Diesel Urban Buses 15 - 18t	Euro III	2002	2006											
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2007	2009											
Buses	Diesel Urban Buses 15 - 18t	Euro V	2010	2013											
Buses	Diesel Urban Buses >18t	Conventional	0	1993	226400	257009	208841	176562	135345	148089	129169	116874	115488	93970	71929
Buses	Diesel Urban Buses >18t	Euro I	1994	1996						96215	172711	115545	162038	150495	138217
Buses	Diesel Urban Buses >18t	Euro II	1997	2001										91104	108084
Buses	Diesel Urban Buses >18t	Euro III	2002	2006											
Buses	Diesel Urban Buses >18t	Euro IV	2007	2009											
Buses	Diesel Urban Buses >18t	Euro V	2010	2013											
Buses	Gasoline Coaches	Conventional	0	9999	16804	17038	14174	13035	12050	13129	16303	18243	17792	17183	16236
Buses	Diesel Coaches <15t	Conventional	0	1993	32231	37854	30875	26219	23552	24864	28995	33414	32601	31028	29777
Buses	Diesel Coaches <15t	Euro I	1994	1996						16383	30705	36060	43701	40996	38739
Buses	Diesel Coaches <15t	Euro II	1997	2001									24161	34986	37030

Buses	Diesel Coaches <15t	Euro III	2002	2006											
Buses	Diesel Coaches <15t	Euro IV	2007	2009											
Buses	Diesel Coaches <15t	Euro V	2010	2013											
Buses	Diesel Coaches 15 - 18t	Conventional	0	1993	46554	54705	44620	37893	34040	32112	38024	44216	43217	41123	39645
Buses	Diesel Coaches 15 - 18t	Euro I	1994	1996						26952	45374	59695	72100	67579	63928
Buses	Diesel Coaches 15 - 18t	Euro II	1997	2001									39748	59444	60740
Buses	Diesel Coaches 15 - 18t	Euro III	2002	2006											
Buses	Diesel Coaches 15 - 18t	Euro IV	2007	2009											
Buses	Diesel Coaches 15 - 18t	Euro V	2010	2013											
Buses	Diesel Coaches >18t	Conventional	0	1993	92397	108585	88569	75217	67569	66502	77292	89552	86760	82331	77766
Buses	Diesel Coaches >18t	Euro I	1994	1996						42878	72260	92808	115142	107985	102154
Buses	Diesel Coaches >18t	Euro II	1997	2001									63234	87431	91335
Buses	Diesel Coaches >18t	Euro III	2002	2006											
Buses	Diesel Coaches >18t	Euro IV	2007	2009											
Buses	Diesel Coaches >18t	Euro V	2010	2013											
Mopeds	2-stroke <50 cm <sup>3</sup>	Conventional	0	1999	1416	1341	1400	1469	1509	1544	1599	1711	1963	2203	2000
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro I	2000	2003											
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro II	2004	2014											
Mopeds	4-stroke <50 cm <sup>3</sup>	Euro II	2004	2014											
Motorcycles	2-stroke >50 cm <sup>3</sup>	Conventional	0	1999	6850	6697	6704	7068	7252	7410	7244	6880	6680	6463	6078
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro I	2000	2003											
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro II	2004	2006											
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro III	2007	9999											
Motorcycles	4-stroke <250 cm <sup>3</sup>	Conventional	0	1999	6850	6697	6704	7068	7252	7410	7244	6880	6680	6463	6078
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro I	2000	2003											
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro II	2004	2006											
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro III	2007	9999											
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Conventional	0	1999	6850	6697	6704	7068	7252	7410	7244	6880	6680	6463	6078
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro I	2000	2003											
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro II	2004	2006											
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro III	2007	9999											
Motorcycles	4-stroke >750 cm <sup>3</sup>	Conventional	0	1999	6850	6697	6704	7068	7252	7410	7244	6880	6680	6463	6078
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro I	2000	2003											
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro II	2004	2006											
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro III	2007	9999											

Sector	Subsector	Tech 2	FYear	LYear	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	0	1969	8322	7869	7768	7593	7412	6918	6482	6389	6055	5776	5467	5292	5079
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	1970	1978	10751	10160	9981	9712	9418	8743	8139	7937	7514	7149	6739	6508	6236
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1979	1980	11910	11293	11141	10904	10631	9932	9290	9135	8680	8283	7831	7578	7270
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1981	1985	13387	12812	12661	12392	12110	11321	10629	10256	9906	9441	8897	8561	8176
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1986	1990	14690	14012	13868	13584	13296	12442	11689	11413	10947	10460	9896	9569	9151
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1991	1996	17076	16211	16019	15672	15300	14294	13402	13193	12561	12020	11395	11056	10627
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1997	2000	17174	18159	17948	17556	17139	15991	14975	14782	13990	13351	12636	12241	11765
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2001	2005		9693	14122	15944	15903	15178	16977	16790	15878	15149	14338	13881	13337
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2006	2010							9067	13744	14370	14743	13940	15645	15027
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2011	2014												8406	11701
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	0	1969	10219	9649	9528	9313	9093	8492	7957	7858	7447	7107	6726	6511	6250
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	1970	1978	13080	12344	12131	11809	11459	10629	9884	9667	9111	8667	8177	7902	7584
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1979	1980	14571	13788	13612	13324	12995	12132	11351	11194	10601	10119	9567	9265	8886
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1981	1985	16262	15470	15291	14950	14592	13613	12754	12461	11886	11331	10708	10340	9916
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1986	1990	17995	17102	16929	16583	16222	15170	14226	13981	13302	12701	12012	11628	11151
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1991	1996	21008	19934	19695	19267	18807	17565	16465	16213	15419	14746	13974	13551	13019
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1997	2000	21342	22231	21965	21480	20967	19565	18328	18051	17112	16331	15454	14966	14373
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2001	2005		11898	17414	20033	20194	19474	20634	20321	19273	18394	17403	16838	16142
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2006	2010													
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2011	2014							11129	16919	18656	19084	18251	18770	18000
Passenger Cars	Gasoline >2,0 l	PRE ECE	0	1969	11255	10611	10487	10283	10090	9461	8916	8848	8398	8024	7583	7331	7052
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	1970	1978	14493	13697	13480	13156	12854	11899	10999	10747	10097	9604	9083	8812	8499
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1979	1980	16275	15348	15169	14795	14485	13529	12670	12530	11863	11313	10701	10396	9993
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1981	1985	17994	16987	16805	16432	16038	14958	13996	13837	13074	12465	11786	11400	10935
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1986	1990	20447	19314	19091	18686	18256	17041	15954	15774	14926	14237	13488	13052	12559
Passenger Cars	Gasoline >2,0 l	Euro I	1991	1996	23618	22334	22050	21557	21047	19647	18397	18133	17178	16391	15513	15016	14420
Passenger Cars	Gasoline >2,0 l	Euro II	1997	2000	23100	25204	24880	24318	23732	22144	20744	20336	19307	18424	17425	16853	16145
Passenger Cars	Gasoline >2,0 l	Euro III	2001	2005		13431	19503	21913	22034	21459	23318	22717	21635	20658	19538	18882	18104
Passenger Cars	Gasoline >2,0 l	Euro IV	2006	2010							12528	19167	21128	21833	20987	20999	20164
Passenger Cars	Gasoline >2,0 l	Euro V	2011	2014												11573	18688
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	33586	30342	29663	30687	30638	28016	26119	21907	23444	21533	20732	20558	19115
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996	40694	36121	35088	36087	35846	32663	30053	26974	27319	24898	24043	23919	22366
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000	41596	43922	41235	41711	41252	37510	34057	31516	31270	28407	27452	27266	25465
Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005		23955	32964	38627	38821	36272	38243	35241	34761	31564	30561	30354	28230
Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010							20846	28905	33241	33350	33010	33752	31660
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014							20846	25491	26060	28378	27978	30111	31194
Passenger Cars	Diesel >2,0 l	Conventional	0	1990	32416	28512	27974	28962	28929	26435	23948	23759	22352	20170	19613	19575	18370

Passenger Cars	Diesel >2,0 l	Euro I	1991	1996	41527	35930	34584	35270	34807	31561	28456	28427	26535	23936	23289	23340	22116
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000	64167	62355	48724	43301	40719	36289	32454	30870	29733	26845	26007	25874	24141
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005		42598	57973	62445	56784	50073	47421	39034	34785	30679	29446	29083	27332
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010							32485	44190	49037	41813	37119	34187	30832
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014							32485	38678	44322	43444	43214	41146	38817
Passenger Cars	LPG cars	Conventional	0	1990	25034	22415	21851	20927	20407	18906	17304	15442	14908	13803	12490	12087	10833
Passenger Cars	LPG cars	Euro I	1991	1996	31569	28387	27999	28490	27879	25815	23399	22887	21670	20318	19523	19654	18606
Passenger Cars	LPG cars	Euro II	1997	2000			31538	30754	29812	27773	27787			22727	20577	18904	16990
Passenger Cars	LPG cars	Euro III	2001	2005								14961	25009	25508	23665	20230	17708
Passenger Cars	LPG cars	Euro IV	2006	2010										13953	26497	23106	20696
Passenger Cars	2-Stroke	Conventional	0	9999	13027	12291	12154	11891	11609								
Passenger Cars	Electric cars	Conventional	0	9999	13435	12364	12487	12254	11681	10761	9887	8459	9257	8288	9118	7368	8120
Passenger Cars	Gasoline <0,8 l	PRE ECE	0	1969							6621	6513	6184	5900	5575	5378	5144
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	1970	1978							7611	7532	7117	6784	6456	6266	6039
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980								9128	8663	8229	7771	7539	7229
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985						11385	9948	10021	9507	9069	8583	8109	7883
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990							11614	11488	10868	10306	9799	9473	9000
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996						14585	13495	13229	12578	12032	11408	11046	10567
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000	13907	18697	18487	18086	17658	16460	15353	15127	14287	13621	12890	12497	11976
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005		9687	13912	15384	15170	14401	17114	16890	15972	15228	14408	13917	13368
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010							9067	12702	12193	14852	15507	15582	14979
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014												8403	12424
Passenger Cars	Diesel <1,4 l	Conventional	0	1990						27755	25870	20195	22357	20190	19276	19727	17962
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996						29641	27891	22719	24739	22721	21814	21622	20127
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000	27578	38048	37220	38424	38221	34809	31433	31584	29436	26541	25851	25907	24498
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005		19592	26227	32202	33707	32256	34314	34528	32138	28977	28231	28300	26835
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010							18213	24839	28556	30318	30212	30946	29282
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014							18213	22062	22285	26396	25958	27381	26805
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	15170	16229	15923	15590	15077	13995	13045	14073	11585	10837	10352	9636	9103
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998	19114	20185	19629	19084	18392	17019	15867	17181	14296	13550	13216	12643	12341
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001	16055	18632	21916	21295	20510	18964	17677	19124	15905	15061	14682	14031	13689
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006			11722	16961	17824	17877	18004	22096	18384	17401	16968	16226	15847
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011								12110	18383	19066	18217	17550	17871
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015													10247
Light Duty Vehicles	Diesel <3,5t	Conventional	0	1994	25182	23519	22569	22795	22397	20777	19686	20754	18207	16802	16322	16011	15471
Light Duty Vehicles	Diesel <3,5t	Euro I	1995	1998	33622	31006	29494	29561	28903	26692	25300	26687	23438	21646	21092	20806	20248
Light Duty Vehicles	Diesel <3,5t	Euro II	1999	2001	27919	29302	33883	33943	33169	30594	28989	30560	26835	24753	24119	23778	23156
Light Duty Vehicles	Diesel <3,5t	Euro III	2002	2006			18355	27898	29513	29155	29500	36603	32181	29692	28947	28540	27815

Light Duty Vehicles	Diesel <3,5t	Euro IV	2007	2011								20289	30220	32943	31675	28960	32828
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	2015							18478	24202	27928	32447	29400	33302	27218
Light Duty Vehicles	LPG <3,5t	Conventional	0	1994	16708	15378	14693	13669	12032	10422	10437	10453	8462	8231	7815	7487	7278
Light Duty Vehicles	LPG <3,5t	Euro I	1995	1998	29696	26882											
Light Duty Vehicles	LPG <3,5t	Euro II	1999	2001	16111				26621	24311	23755	24769	22124	20658	19613	19295	18756
Light Duty Vehicles	LPG <3,5t	Euro III	2002	2006							22160	28203	25620	24746	23736	22863	22356
Light Duty Vehicles	LPG <3,5t	Euro IV	2007	2011								15822	23749	27665	26444	25420	24960
Light Duty Vehicles	Electric <3,5t	Conventional	0	9999	11034								11736	9258	11038	8068	8018
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	0	9999	14866	15637	16704	15797	15284	14526	15520	17127	15235	14799	15095	14421	11319
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	0	1993	16450	17555	15899	15373	15109	11852	10381	9304	7564	6067	5630	5475	4760
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	1994	1996	30112	31797	28690	27720	27193	21469	19223	17600	14718	12188	11720	11483	10300
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	1997	2001	36148	41424	39193	37869	37116	29441	26408	24062	20163	16699	16054	15776	14373
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2002	2006		26608	33528	40593	44021	36845	36376	35890	30122	24977	24046	23673	21401
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2007	2009							24022	26634	30074	31205	32784	33057	29985
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2010	2013								23745	28756	22683	22963	30032	31238
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2014	9999													21027
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	0	1993	19695	20999	19041	18508	18160	14262	12574	11252	9064	7309	6670	6230	5295
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	1994	1996	36691	38573	34845	33447	32780	25793	23049	20966	17472	14586	13965	13732	12337
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	1997	2001	43237	49590	47514	46026	45324	35868	32101	29250	24606	20551	19609	19376	17399
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2002	2006		32748	41535	50625	52691	44235	43099	43431	36868	30995	29704	29326	26389
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2007	2009		32085	57865	47772	46787	34531	29689	34165	37414	39679	39794	39506	35578
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2010	2013				47115	46144	36317	29099	29348	31124	33722	36569	39808	38722
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2014	9999													36845
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	0	1993	17020	17197	15678	15125	14591	13337	11853	10777	8964	7339	7081	6970	6432
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	1994	1996	30408	30573	27575	26659	25571	23430	21009	18951	15864	13086	12536	12350	11316
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	1997	2001	37280	39786	36339	35219	33898	31293	28220	25609	21631	17653	17084	16969	15734
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2002	2006		25939	33136	40304	41075	39536	40367	40247	33971	28018	27300	27002	24780
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2007	2009					43872	40215	30758	28175	33932	34265	38047	37386	34580
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2010	2013									24386	34805	28377	37228	39941
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	0	1993	31119	31354	28485	27785	26718	24659	21953	19799	16454	13399	12849	12500	11184
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	1994	1996	53993	54048	48968	47659	45903	42077	37638	34149	28425	23384	22682	22263	20511
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	1997	2001	63606	70424	66757	64879	62491	57474	51562	47035	39361	32492	31628	31177	28888
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2002	2006		46965	60842	68989	74458	72743	70620	71117	59772	49349	48258	47464	44004
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2007	2009		45403	70832	71755	79578	62868	52425	54598	63084	63136	64166	63437	58695
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2010	2013						48862	53801	54097	55630	55557	60808	64497	63200
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2014	9999													42804
Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	0	1993	50550	44699	41095	40144	38234	34823	31048	28241	23423	19199	18217	17701	15824
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	1994	1996	84574	73953	67587	65983	62312	56632	50601	46253	38537	31950	30592	29937	26861

Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	1997	2001	99869	96014	91503	89421	84683	77053	68994	63254	52904	43999	42249	41678	37384
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2002	2006		63686	80427	97199	100972	97719	95376	98317	82562	68864	66537	65879	59414
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2007	2009		62376	106351	110845	98270	69114	76473	74125	85219	85664	86853	85925	77330
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2010	2013						66080	81296	73989	76168	74942	81123	86260	82628
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2014	9999													56353
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	0	1993	52379	44939	42151	40044	37721	34306	30520	27764	23315	18204	18548	18059	17251
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	1994	1996	86401	72870	66888	64932	59815	59846	52832	48061	39945	35123	32924		28450
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	1997	2001	107624	94817	86528	83997	79987	72997	64442	58166	51037	40222	44120	42955	36535
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2002	2006				66051	81831	110192	109123	99270	82506	68531	69828	67985	60359
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2007	2009								63653	94454	91708	92144	90976	84108
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2010	2013								63653	105808	87886	93442	92240	82462
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	0	1993	58442	51503	46870	45155	43125	39576	35629	31681	26713	21646	22642	20693	19388
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	1994	1996	85349	74915	69088	67408	63266	57637	50834	46085	38227	32045	32473	32020	28983
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	1997	2001	96195	97370	96270	93945	88835	81258	72107	65910	55034	46003	47142	45909	40821
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2002	2006		63397	82736	96181	100949	98168	93655	100171	84589	70681	72224	70649	63020
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2007	2009			62598	84545	121119	69919	83240	75075	85403	85633	92136	90551	80466
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2010	2013							64373	71114	76710	76054	88349	87216	83841
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2014	9999													58702
Heavy Duty Vehicles	Diesel RT >32t	Conventional	0	1993	59903	56213	51599	27663	26136	23942	18917	17209	14303				
Heavy Duty Vehicles	Diesel RT >32t	Euro I	1994	1996	78093	69998	70083	68033	64086	58485	51631	46969	39037	32425	35787	34843	30924
Heavy Duty Vehicles	Diesel RT >32t	Euro II	1997	2001	82426	110824	105966										
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2002	2006		62740	115180	99028	102706	87264	82996	79418	73115	76652	78102	87628	75316
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2007	2009								63653	105808	87886			77379
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2010	2013										87886	68183	76657	85692
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	0	1993	34196	32408	29399	28876	28262	25969	24016	22207	19350	14701	15343	15300	12788
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	1994	1996	58763	55334	50097	49153	48215	44114	40820	38016	33435	25869	27385	27566	23565
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	1997	2001	69272	72203	68380	66970	65637	60193	55632	52022	45994	35734	38112	38572	33017
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2002	2006		48050	62204	71092	78113	76128	76146	78699	69796	54228	58113	58572	50405
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2007	2009		46453	72418	73947	83437	65671	56567	60589	74099	69595	77672	78573	67077
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2010	2013						51040	57911	59688	64900	61096	73121	79322	72081
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2014	9999													48737
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	0	1993	56625	48112	43717	43168	41964	38857	36802	34493	31072	24481	27010	27845	23502
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	1994	1996	90683	78398	71204	70175	67791	62711	58875	54932	48850	38263	42357	44087	37833
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	1997	2001	102103	101183	96985	96677	94115	88121	83090	76632	68056	53129	58008	59761	50589
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2002	2006		68252	86315	101701	108823	110400	117037	121430	110059	86927	96562	97733	82177
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2007	2009		64138	96872	118439	91155	80530	89003	87231	109795	104049	121515	125950	104924
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2010	2013		63626	116998	116736		74047	89476	89628	108189	100922	122305	130457	122488
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2014	9999													87962



Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	0	1993	72670	76003	68799	65556	61140	56358	51174	45518	37602	33403	31045	30957	27664
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	1994	1996	105682	110697	100642	96515	90471	84051	76201	69347	57944	54294	52829	54976	51885
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	1997	2001	115340	139916	136798	132096	124360	116363	104944	94121	77669	71987	67695	68312	65525
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2002	2006		90191	111040	129803	134683	136396	135797	140801	119475	112999	108722	109974	103805
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2007	2009		87910	102529	148583	155594	93826	105539	96872	114685	132657	134987	139813	132813
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2010	2013		87910	123254	159991	151244	138321	90278	93461	110193	123151	126984	133242	137653
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2014	9999													95740
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro I	1994	1996	104015	113754	103723	99758	94304	89492							
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	1997	2001	129314	141422	128952	124022	117242	111259	101197	91076	77175	73318	71764	74183	70542
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2007	2009								87504	148296	140884	137898		135551
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2002	2006													126062
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro V	2010	2013									79729	104793		95279	
Buses	Gasoline Urban Buses	Conventional	0	9999	16034	15579	15526	14611	13087	17997	18361	33302	31424	35250	30704	26962	24419
Buses	Diesel Urban Buses <15t	Conventional	0	1993	73676	69484	65605	63013	59405	53446	48573	44675	43353	38028	34078	31692	30675
Buses	Diesel Urban Buses <15t	Euro I	1994	1996	116914	108582	100999	96838	91737	81466	75670	71538	66510	59167	53603	50460	47829
Buses	Diesel Urban Buses <15t	Euro II	1997	2001	132924	131860	127923	123406	117254	103905	97082	91902	85181	77538	71842	68695	65658
Buses	Diesel Urban Buses <15t	Euro III	2002	2006			81916	110773	130640	123957	126569	136452	126717	111962	102346	98407	93387
Buses	Diesel Urban Buses <15t	Euro IV	2007	2009								83706	114450	119020	136850	129204	121754
Buses	Diesel Urban Buses <15t	Euro V	2010	2013											78390	122673	122988
Buses	Diesel Urban Buses 15 - 18t	Conventional	0	1993	72412	67883	64392	62326	59190	52698	50100	47644	44933	40538	37823	36127	34126
Buses	Diesel Urban Buses 15 - 18t	Euro I	1994	1996	115649	106807	98967	94505	89761	79737	74702	70868	65776	58629	53817	50245	47377
Buses	Diesel Urban Buses 15 - 18t	Euro II	1997	2001	129338	130498	130636	125521	119264	105683	98725	93769	87636	78039	71684	68015	64388
Buses	Diesel Urban Buses 15 - 18t	Euro III	2002	2006			81916	130578	137019	128466	120209	135041	125675	111742	102106	96158	91852
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2007	2009								83706	107894	114047	138735	131097	123765
Buses	Diesel Urban Buses 15 - 18t	Euro V	2010	2013											78390	116290	126633
Buses	Diesel Urban Buses >18t	Conventional	0	1993	86260	80649	76134	73463	69148	62605	58948	53947	52718	44128	38307	38724	37862
Buses	Diesel Urban Buses >18t	Euro I	1994	1996	112266	104754	99766	95738	90872	80750	75344	73092	62172	54820	49093	46397	47071
Buses	Diesel Urban Buses >18t	Euro II	1997	2001	103154	119246	142861	137074	129796	115282	107308	101977	94686	84801	77314	73770	68718
Buses	Diesel Urban Buses >18t	Euro III	2002	2006			81916	127231	131471	133178	127581	131055	122668	109347	99994	94649	89982
Buses	Diesel Urban Buses >18t	Euro IV	2007	2009								83706	120106	126273	134902	127556	120401
Buses	Diesel Urban Buses >18t	Euro V	2010	2013											78390	120260	116928
Buses	Gasoline Coaches	Conventional	0	9999	15711	15044	14923	14430	14037	13151	12332	11849	11112	10252	9833	9326	8687
Buses	Diesel Coaches <15t	Conventional	0	1993	27553	26929	26143	26488	26584	24194	22527	21780	20015	17658	17261	16601	15240
Buses	Diesel Coaches <15t	Euro I	1994	1996	35550	34244	32950	33080	33021	29955	27774	26785	24638	21787	21352	20586	19041
Buses	Diesel Coaches <15t	Euro II	1997	2001	37435	38045	40184	40224	40093	36410	33850	32709	30136	26671	26137	25170	23283
Buses	Diesel Coaches <15t	Euro III	2002	2006			23581	37335	40695	39914	39191	42182	38766	34269	33591	32378	29767
Buses	Diesel Coaches <15t	Euro IV	2007	2009								24584	33549	33826	41249	39652	36681
Buses	Diesel Coaches <15t	Euro V	2010	2013											22802	35400	37408

Buses	Diesel Coaches 15 - 18t	Conventional	0	1993	37182	36133	35369	35855	36061	33280	31113	30305	28188	25296	25031	24576	23214
Buses	Diesel Coaches 15 - 18t	Euro I	1994	1996	58754	56477	54178	54405	54233	49181	45474	43832	40202	35668	34826	33482	30934
Buses	Diesel Coaches 15 - 18t	Euro II	1997	2001	60185	63385	66182	66524	66237	59825	55332	53359	49175	43470	42712	41296	38227
Buses	Diesel Coaches 15 - 18t	Euro III	2002	2006			38794	56152	71971	68771	65364	68179	62399	54978	53761	51665	47702
Buses	Diesel Coaches 15 - 18t	Euro IV	2007	2009								40443	50246	54782	68555	65943	60884
Buses	Diesel Coaches 15 - 18t	Euro V	2010	2013											37512	66509	61184
Buses	Diesel Coaches >18t	Conventional	0	1993	72220	69827	67704	68423	68914	62540	58112	56472	52345	45744	45422	44120	40841
Buses	Diesel Coaches >18t	Euro I	1994	1996	93701	90378	87280	87323	86828	78439	73096	70302	64768	57216	56129	53788	49629
Buses	Diesel Coaches >18t	Euro II	1997	2001	95313	97615	107547	108048	107837	97310	89693	86222	79492	70671	69284	66957	62392
Buses	Diesel Coaches >18t	Euro III	2002	2006			61716	86146	105183	102584	104553	110765	101831	90059	88406	84731	78412
Buses	Diesel Coaches >18t	Euro IV	2007	2009								64341	91238	94128	107323	103438	95682
Buses	Diesel Coaches >18t	Euro V	2010	2013											59678	90780	90893
Mopeds	2-stroke <50 cm³	Conventional	0	1999	2010	1565	1591	1581	1545	1518	1516	1511	1487	1472	1430	1395	1343
Mopeds	2-stroke <50 cm³	Euro I	2000	2003	1076	1330	1516	1594	1703	1672	1670	1664	1638	1621	1575	1536	1479
Mopeds	2-stroke <50 cm³	Euro II	2004	2014					914	1315	1498	1600	1664	1716	1701	1688	1661
Mopeds	4-stroke <50 cm³	Euro II	2004	2014					914	1315	1498	1600	1664	1716	1701	1688	1661
Motorcycles	2-stroke >50 cm³	Conventional	0	1999	5740	5282	5050	4710	4284	3891	3541	3280	2996	2759	2725	2667	2613
Motorcycles	2-stroke >50 cm³	Euro I	2000	2003	4322	6296	6494	6371	6664	6007	5412	4965	4513	4151	4097	4007	3923
Motorcycles	2-stroke >50 cm³	Euro II	2004	2006					3554	4496	4601	5465	4967	4568	4508	4408	4315
Motorcycles	2-stroke >50 cm³	Euro III	2007	9999								2858	4149	4381	4530	4548	4513
Motorcycles	4-stroke <250 cm³	Conventional	0	1999	5740	5282	5050	4710	4284	3891	3541	3280	2996	2759	2725	2667	2613
Motorcycles	4-stroke <250 cm³	Euro I	2000	2003	4322	6296	6494	6371	6664	6007	5412	4965	4513	4151	4097	4007	3923
Motorcycles	4-stroke <250 cm³	Euro II	2004	2006					3554	4496	4601	5465	4967	4568	4508	4408	4315
Motorcycles	4-stroke <250 cm³	Euro III	2007	9999								2858	4149	4381	4530	4548	4513
Motorcycles	4-stroke 250 - 750 cm³	Conventional	0	1999	5740	5282	5050	4710	4284	3891	3541	3280	2996	2759	2725	2667	2613
Motorcycles	4-stroke 250 - 750 cm³	Euro I	2000	2003	4322	6296	6494	6371	6664	6007	5412	4965	4513	4151	4097	4007	3923
Motorcycles	4-stroke 250 - 750 cm³	Euro II	2004	2006					3554	4496	4601	5465	4967	4568	4508	4408	4315
Motorcycles	4-stroke 250 - 750 cm³	Euro III	2007	9999								2858	4149	4381	4530	4548	4513
Motorcycles	4-stroke >750 cm³	Conventional	0	1999	5740	5282	5050	4710	4284	3891	3541	3280	2996	2759	2725	2667	2613
Motorcycles	4-stroke >750 cm³	Euro I	2000	2003	4322	6296	6494	6371	6664	6007	5412	4965	4513	4151	4097	4007	3923
Motorcycles	4-stroke >750 cm³	Euro II	2004	2006					3554	4496	4601	5465	4967	4568	4508	4408	4315
Motorcycles	4-stroke >750 cm³	Euro III	2007	9999								2858	4149	4381	4530	4548	4513

### Annex 3B-3 EU directive emission limits for road transportation vehicles

Private cars and light duty vehicles I (<1305 kg).

G pr km		EURO 1	EURO 2	EURO 3 <sup>1)</sup>	EURO 4	EURO 5	EURO 6
<u>Normal temp.</u>							
CO	Gasoline	2.72	2.2	2.3	1.0	1.0	1.0
	Diesel	2.72	1.0	0.64	0.5	0.5	0.5
HC	Gasoline	-	-	0.20	0.10	0.1	0.1
NMHC	Gasoline	-	-	-	-	0.068	0.068
NO <sub>x</sub>	Gasoline	-	-	0.15	0.08	0.06	0.06
	Diesel	-	-	0.5	0.25	0.18	0.08
HC+NO <sub>x</sub>	Gasoline	0.97	0.5	-	-	-	-
	Diesel	0.97	0.7/0.9 <sup>2)</sup>	0.56	0.30	0.23	0.17
Particulates	Diesel	0.14	0.08/0.10 <sup>2)</sup>	0.05	0.025	0.005	0.005
Particulates (#)		-	-	-	-	-	6x10 <sup>11 4)</sup>
<u>Low temp.</u>							
CO	Gasoline	-	-	-	15	15	15
HC	Gasoline	-	-	-	1.8	1.8	1.8
<u>Evaporation</u>							
HC <sup>3)</sup>	Gasoline	2.0	2.0	2.0	2.0	2.0	2.0

<sup>1)</sup> Changed test procedure at normal temperatures (40 s warm-up phase omitted) and for evaporation measurements. <sup>2)</sup> Less stringent emission limits for direct injection diesel engines. <sup>3)</sup> Unit: g/test. <sup>4)</sup> Applicable for diesel and gasoline direct injection (GDI). 6x10<sup>12</sup> within first three years of Euro 6 effective dates

Light duty vehicles II (1305-1760 kg)

G pr km		EURO 1	EURO 2	EURO 3 <sup>1)</sup>	EURO 4	EURO 5	EURO 6
<u>Normal temp.</u>							
CO	Gasoline	5.17	4.0	4.17	1.81	1.81	1.81
	Diesel	5.17	1.25	0.80	0.63	0.63	0.63
HC	Gasoline	-	-	0.25	0.13	0.13	0.13
NMHC	Gasoline	-	-	-	-	0.9	0.9
NO <sub>x</sub>	Gasoline	-	-	0.18	0.10	0.75	0.75
	Diesel	-	-	0.65	0.33	0.235	0.105
HC+NO <sub>x</sub>	Gasoline	1.4	0.6	-	-	-	-
	Diesel	1.4	1.0/1.3 <sup>2)</sup>	0.72	0.39	0.295	0.195
Particulates	Gasoline					0.005	0.005
	Diesel	0.19	0.12/0.14 <sup>2)</sup>	0.07	0.04	0.005	0.005
Particulates (#)		-	-	-	-	-	6x10 <sup>11 4)</sup>
<u>Low temp.</u>							
CO	Gasoline	-	-	-	24	24	24
HC	Gasoline	-	-		2.7	2.7	2.7
<u>Evaporation</u>							
HC <sup>3)</sup>	Gasoline	2.0	2.0	2.0	2.0	2.0	2.0

<sup>1)</sup> Changed test procedure at normal temperatures (40 s warm-up phase omitted) and for evaporation measurements. <sup>2)</sup> Less stringent emission limits for direct injection diesel engines. <sup>3)</sup> Unit: g/test. <sup>4)</sup> Applicable for diesel and gasoline direct injection (GDI). 6x10<sup>12</sup> within first three years of Euro 6 effective dates

Light duty vehicles III (>1760 kg).

G pr km		EURO 1	EURO 2	EURO 3 <sup>1)</sup>	EURO 4	EURO 5	EURO 6
<u>Normal temp.</u>							
CO	Gasoline	6.9	5.0	5.22	2.27	2.27	2.27
	Diesel	6.9	1.5	0.95	0.74	0.74	0.74
HC	Gasoline	-	-	0.29	0.16	0.16	0.16
NMHC	Gasoline					0.108	0.108
NO <sub>x</sub>	Gasoline	-	-	0.21	0.11	0.082	0.082
	Diesel	-	-	0.78	0.39	0.28	0.125
HC+NO <sub>x</sub>	Gasoline	1.7	0.7	-	-	-	-
	Diesel	1.7	1.2/1.6 <sup>2)</sup>	0.86	0.46	0.35	0.215
Particulates	Gasoline					0.005	0.005
	Diesel	0.25	0.17/0.20 <sup>2)</sup>	0.10	0.06	0.005	0.005
Particulates (#)		-	-	-	-	-	6x10 <sup>11 4)</sup>
<u>Low temp.</u>							
CO	Gasoline	-	-	-	30	30	30
HC	Gasoline	-	-	-	3.2	3.2	3.2
<u>Evaporation</u>							
HC <sup>3)</sup>	Gasoline	2.0	2.0	2.0	2.0	2.0	2.0

<sup>1)</sup> Changed test procedure at normal temperatures (40 s warm-up phase omitted) and for evaporation measurements. <sup>2)</sup> Less stringent emission limits for direct injection diesel engines. <sup>3)</sup> Unit: g/test. <sup>4)</sup> Applicable for diesel and gasoline direct injection (GDI). 6x10<sup>12</sup> within first three years of Euro 6 effective dates.

Heavy duty diesel vehicles.

(g pr kWh)		EURO						
Test <sup>1)</sup>		EURO I	EURO II	EURO III	IV	EURO V	EURO VI	EEV <sup>2)</sup>
		1993	1996	2001	2006	2009	2014	2000
CO	ECE/ESC	4.5	4.0	2.1	1.5	1.5	1.5	1.5
	ETC	-	-	(5.45)	4.0	4.0	4.0	3.0
HC	ECE/ESC	1.1	1.1	0.66	0.46	0.46	0.13	0.25
	ETC	-	-	(0.78)	0.55	0.55	0.16	0.40
NO <sub>x</sub>	ECE/ESC	8.0	7.0	5.0	3.5	2.0	0.4	2.0
	ETC	-	-	(5.0)	3.5	2.0	0.4	2.0
Particulates <sup>3)</sup>	ECE/ESC	0.36/0.61	0.15/0.25	0.10/0.13	0.02	0.02	0.01	0.02
	ETC	-	-	(0.16/0.21)	0.03	0.03	0.01	0.02
	ELR	-	-	0.8	0.5	0.5		0.15
NH <sub>3</sub>	ECE/ESC						10 (ppm)	
	ETC						10 (ppm)	

<sup>1)</sup> 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)

<sup>2)</sup> EEV: Emission limits for extra environmental friendly vehicles, used as a basis for economical incitements (gas fueled vehicles).

<sup>3)</sup> 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 3B-4 Basis emission factors (g pr km)

Sector	Subsector	Tech 2	FYear	LYear	FCu	FCr	FCh	COu	COr	COh	PMu	PMr	PMh	NOxu	NOxr	NOxh
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	0	1969	67,499	55,000	62,743	27,505	19,333	15,520	0,063	0,044	0,041	1,849	2,062	2,023
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	1970	1978	58,240	44,460	48,600	18,966	14,480	18,620	0,063	0,044	0,041	1,849	2,062	2,023
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1979	1980	53,248	45,170	51,200	15,859	8,200	8,260	0,063	0,044	0,041	1,619	2,102	2,909
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1981	1985	53,248	45,170	51,200	16,752	8,793	7,620	0,042	0,029	0,029	1,680	2,253	3,276
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1986	1990	51,420	43,440	47,700	9,087	4,956	4,292	0,030	0,020	0,020	1,691	2,089	2,662
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1991	1996	47,399	41,954	46,055	1,765	1,372	1,765	0,003	0,002	0,002	0,273	0,281	0,458
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1997	2000	46,486	39,509	44,016	0,659	0,575	0,749	0,003	0,002	0,002	0,154	0,154	0,181
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2001	2005	48,687	42,255	45,323	0,519	0,691	1,148	0,001	0,001	0,001	0,076	0,060	0,052
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2006	2010	50,038	44,193	48,285	0,195	0,287	0,529	0,001	0,001	0,001	0,054	0,030	0,019
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2011	2014	50,038	44,193	48,285	0,195	0,287	0,529	0,001	0,001	0,001	0,041	0,023	0,014
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	0	1969	79,277	67,000	76,386	27,505	19,333	15,520	0,063	0,044	0,041	2,164	2,683	3,130
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	1970	1978	67,779	51,090	60,300	18,966	14,480	18,620	0,063	0,044	0,041	2,164	2,683	3,130
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1979	1980	61,731	50,686	59,680	15,859	8,200	8,260	0,063	0,044	0,041	1,831	2,377	3,283
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1981	1985	61,731	50,686	59,680	16,752	8,793	7,620	0,042	0,029	0,029	1,917	2,580	3,472
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1986	1990	61,652	49,112	52,052	9,087	4,956	4,292	0,030	0,020	0,020	2,122	2,757	3,524
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1991	1996	57,521	48,522	51,518	1,765	1,372	1,765	0,003	0,002	0,002	0,273	0,281	0,458
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1997	2000	56,324	47,687	48,786	0,659	0,575	0,749	0,003	0,002	0,002	0,154	0,154	0,181
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2001	2005	58,259	49,897	53,092	0,519	0,691	1,148	0,001	0,001	0,001	0,076	0,060	0,052
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2006	2010	60,486	52,793	55,293	0,195	0,287	0,529	0,001	0,001	0,001	0,054	0,030	0,019
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2011	2014	60,486	52,793	55,293	0,195	0,287	0,529	0,001	0,001	0,001	0,041	0,023	0,014
Passenger Cars	Gasoline >2,0 l	PRE ECE	0	1969	96,536	80,000	88,267	27,505	19,333	15,520	0,063	0,044	0,041	2,860	4,090	5,500
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	1970	1978	73,798	57,090	66,300	18,966	14,480	18,620	0,063	0,044	0,041	2,860	4,090	5,500
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1979	1980	75,270	63,260	70,700	15,859	8,200	8,260	0,063	0,044	0,041	2,066	2,675	3,680
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1981	1985	75,270	63,260	70,700	16,752	8,793	7,620	0,042	0,029	0,029	2,806	3,441	4,604
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1986	1990	71,055	58,080	69,900	9,087	4,956	4,292	0,030	0,020	0,020	2,293	2,750	3,687
Passenger Cars	Gasoline >2,0 l	Euro I	1991	1996	74,616	61,902	65,020	1,765	1,372	1,765	0,003	0,002	0,002	0,273	0,281	0,458
Passenger Cars	Gasoline >2,0 l	Euro II	1997	2000	76,837	65,226	66,732	0,659	0,575	0,749	0,003	0,002	0,002	0,154	0,154	0,181
Passenger Cars	Gasoline >2,0 l	Euro III	2001	2005	70,798	57,424	56,826	0,519	0,691	1,148	0,001	0,001	0,001	0,076	0,060	0,052
Passenger Cars	Gasoline >2,0 l	Euro IV	2006	2010	86,099	67,877	65,859	0,195	0,287	0,529	0,001	0,001	0,001	0,054	0,030	0,019
Passenger Cars	Gasoline >2,0 l	Euro V	2011	2014	86,099	67,877	65,859	0,195	0,287	0,529	0,001	0,001	0,001	0,041	0,023	0,014
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	57,529	41,209	50,089	0,651	0,472	0,384	0,199	0,132	0,170	0,520	0,433	0,528
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996	47,836	42,807	48,388	0,419	0,215	0,208	0,057	0,062	0,107	0,603	0,562	0,663
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000	50,442	44,117	48,779	0,343	0,110	0,035	0,047	0,039	0,050	0,651	0,555	0,665

Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005	48,920	43,427	45,585	0,099	0,041	0,012	0,029	0,030	0,045	0,716	0,665	0,750
Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010	48,920	43,427	45,585	0,083	0,034	0,021	0,029	0,024	0,026	0,539	0,424	0,576
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014	48,889	43,371	45,487	0,083	0,034	0,021	0,006	0,005	0,005	0,663	0,521	0,708
Passenger Cars	Diesel >2,0 l	Conventional	0	1990	57,529	41,209	50,089	0,651	0,472	0,384	0,199	0,132	0,170	0,824	0,723	0,861
Passenger Cars	Diesel >2,0 l	Euro I	1991	1996	65,267	58,299	64,360	0,419	0,215	0,208	0,057	0,062	0,107	0,603	0,562	0,663
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000	65,267	58,299	64,360	0,343	0,110	0,035	0,047	0,039	0,050	0,651	0,555	0,665
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005	65,267	58,299	64,360	0,099	0,041	0,012	0,029	0,030	0,045	0,716	0,665	0,750
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010	65,267	58,299	64,360	0,083	0,034	0,021	0,029	0,024	0,026	0,539	0,424	0,576
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014	65,315	58,336	64,394	0,083	0,034	0,021	0,006	0,005	0,005	0,663	0,521	0,708
Passenger Cars	LPG cars	Conventional	0	1990	59,000	45,000	54,000	2,043	2,373	9,723	0,040	0,030	0,025	2,203	2,584	2,861
Passenger Cars	LPG cars	Euro I	1991	1996	49,145	45,155	54,125	1,310	1,445	3,560	0,040	0,030	0,025	0,340	0,283	0,298
Passenger Cars	LPG cars	Euro II	1997	2000	49,145	45,155	54,125	0,891	0,982	2,421	0,040	0,030	0,025	0,122	0,102	0,107
Passenger Cars	LPG cars	Euro III	2001	2005	49,145	45,155	54,125	0,733	0,809	1,993	0,040	0,030	0,025	0,082	0,068	0,071
Passenger Cars	LPG cars	Euro IV	2006	2010	49,145	45,155	54,125	0,445	0,491	1,210	0,040	0,030	0,025	0,044	0,037	0,039
Passenger Cars	Gasoline <0,8 l	PRE ECE	0	1969	52,252	46,235	56,545	27,505	19,333	15,520	0,063	0,044	0,041	1,849	2,062	2,023
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	1970	1978	45,084	37,374	43,799	18,966	14,480	18,620	0,063	0,044	0,041	1,849	2,062	2,023
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980	41,220	37,971	46,142	15,859	8,200	8,260	0,063	0,044	0,041	1,619	2,102	2,909
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985	41,220	37,971	46,142	16,752	8,793	7,620	0,042	0,029	0,029	1,680	2,253	3,276
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990	39,805	36,517	42,988	9,087	4,956	4,292	0,030	0,020	0,020	1,691	2,089	2,662
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996	36,693	35,268	41,505	1,765	1,372	1,765	0,003	0,002	0,002	0,273	0,281	0,458
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000	35,985	33,213	39,668	0,659	0,575	0,749	0,003	0,002	0,002	0,154	0,154	0,181
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005	37,689	35,521	40,846	0,519	0,691	1,148	0,001	0,001	0,001	0,076	0,060	0,052
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010	38,735	37,150	43,515	0,195	0,287	0,529	0,001	0,001	0,001	0,054	0,030	0,019
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014	38,735	37,150	43,515	0,195	0,287	0,529	0,001	0,001	0,001	0,041	0,023	0,014
Passenger Cars	Diesel <1,4 l	Conventional	0	1990	36,565	30,792	40,702	0,651	0,472	0,384	0,199	0,132	0,170	0,520	0,433	0,528
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996	30,404	31,986	39,319	0,419	0,215	0,208	0,057	0,062	0,107	0,603	0,562	0,663
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000	32,060	32,965	39,637	0,343	0,110	0,035	0,047	0,039	0,050	0,651	0,555	0,665
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005	31,093	32,450	37,042	0,099	0,041	0,012	0,029	0,030	0,045	0,716	0,665	0,750
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010	31,093	32,450	37,042	0,083	0,034	0,021	0,029	0,024	0,026	0,539	0,424	0,576
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014	31,073	32,408	36,962	0,083	0,034	0,021	0,006	0,005	0,005	0,663	0,521	0,708
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	82,270	59,883	56,470	14,925	6,075	7,389	0,040	0,040	0,040	2,671	3,118	3,387
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998	96,450	70,388	66,450	4,187	0,862	1,087	0,003	0,002	0,002	0,427	0,400	0,429
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001	96,450	70,388	66,450	2,554	0,526	0,663	0,003	0,002	0,002	0,145	0,136	0,146
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006	96,450	70,388	66,450	2,177	0,448	0,565	0,001	0,001	0,001	0,090	0,084	0,090
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011	96,450	70,388	66,450	1,172	0,241	0,304	0,001	0,001	0,001	0,043	0,040	0,043
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015	96,450	70,388	66,450	1,172	0,241	0,304	0,001	0,001	0,001	0,032	0,030	0,032
Light Duty Vehicles	Diesel <3,5t	Conventional	0	1994	76,718	65,934	72,142	1,124	1,009	1,060	0,285	0,303	0,322	1,673	0,843	0,834

Light Duty Vehicles	Diesel <3,5t	Euro I	1995	1998	68,860	58,185	63,660	0,393	0,328	0,423	0,070	0,066	0,090	1,138	0,975	1,022
Light Duty Vehicles	Diesel <3,5t	Euro II	1999	2001	68,860	58,185	63,660	0,393	0,328	0,423	0,070	0,066	0,090	1,138	0,975	1,022
Light Duty Vehicles	Diesel <3,5t	Euro III	2002	2006	68,860	58,185	63,660	0,322	0,269	0,347	0,047	0,044	0,061	0,956	0,819	0,859
Light Duty Vehicles	Diesel <3,5t	Euro IV	2007	2011	68,860	58,185	63,660	0,255	0,213	0,275	0,024	0,023	0,032	0,774	0,663	0,695
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	2015	68,860	58,185	63,660	0,255	0,213	0,275	0,001	0,001	0,002	0,558	0,478	0,501
Light Duty Vehicles	LPG <3,5t	Conventional	0	1994	88,500	67,500	81,000	3,064	3,559	14,584	0,060	0,045	0,038	3,305	3,876	4,291
Light Duty Vehicles	LPG <3,5t	Euro II	1999	2001	73,718	67,733	81,188	1,336	1,474	3,631	0,060	0,045	0,038	0,183	0,153	0,161
Light Duty Vehicles	LPG <3,5t	Euro III	2002	2006	73,718	67,733	81,188	1,100	1,214	2,990	0,060	0,045	0,038	0,122	0,102	0,107
Light Duty Vehicles	LPG <3,5t	Euro IV	2007	2011	73,718	67,733	81,188	0,668	0,737	1,815	0,060	0,045	0,038	0,066	0,055	0,058
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	0	9999	225,000	150,000	165,000	70,000	55,000	55,000	0,400	0,400	0,400	4,500	7,500	7,500
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	0	1993	125,002	110,985	112,984	2,060	1,509	1,351	0,321	0,240	0,216	4,211	4,104	4,476
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	1994	1996	100,036	91,682	104,222	0,668	0,501	0,546	0,126	0,095	0,090	2,939	2,938	3,316
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	1997	2001	94,988	88,592	101,003	0,534	0,466	0,461	0,059	0,053	0,061	3,223	3,118	3,414
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2002	2006	101,379	92,883	105,924	0,660	0,481	0,452	0,067	0,048	0,041	2,499	2,300	2,498
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2007	2009	98,559	92,910	106,610	0,342	0,270	0,258	0,015	0,013	0,014	1,707	1,645	1,801
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2010	2013	99,641	93,536	106,995	0,344	0,270	0,259	0,015	0,013	0,014	1,012	0,972	1,062
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2014	9999	98,248	91,130	103,414	0,355	0,276	0,260	0,001	0,001	0,001	0,233	0,097	0,060
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	0	1993	183,253	153,117	150,068	2,358	1,698	1,525	0,330	0,236	0,207	7,928	7,236	7,499
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	1994	1996	155,870	135,518	136,666	1,086	0,817	0,766	0,201	0,144	0,131	4,729	4,306	4,464
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	1997	2001	148,625	131,263	133,537	0,868	0,727	0,717	0,094	0,080	0,093	5,152	4,593	4,682
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2002	2006	157,573	137,771	138,996	1,084	0,771	0,733	0,104	0,073	0,063	3,997	3,536	3,485
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2007	2009	151,450	136,152	138,554	0,553	0,418	0,369	0,023	0,019	0,019	2,728	2,512	2,488
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2010	2013	153,617	137,425	139,289	0,560	0,421	0,374	0,023	0,019	0,019	1,647	1,483	1,468
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2014	9999	151,539	134,140	134,852	0,583	0,431	0,373	0,002	0,002	0,002	0,384	0,154	0,096
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	0	1993	198,513	163,310	159,212	2,546	1,876	1,693	0,351	0,254	0,233	8,826	7,718	7,748
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	1994	1996	170,171	144,307	143,334	1,200	0,918	0,866	0,218	0,159	0,147	5,321	4,638	4,638
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	1997	2001	163,223	140,030	139,590	0,985	0,820	0,804	0,103	0,087	0,103	5,815	4,975	4,889
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2002	2006	172,146	146,082	144,611	1,176	0,873	0,835	0,109	0,078	0,071	4,745	3,881	3,702
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2007	2009	163,114	142,925	143,274	0,599	0,448	0,410	0,024	0,020	0,020	3,208	2,754	2,620
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2010	2013	165,111	144,096	144,035	0,606	0,452	0,413	0,025	0,020	0,020	1,909	1,634	1,552
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	0	1993	261,662	205,735	193,152	3,512	2,514	2,221	0,483	0,341	0,298	11,287	9,455	9,120
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	1994	1996	212,834	172,142	164,411	1,612	1,206	1,117	0,298	0,209	0,181	6,721	5,601	5,385
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	1997	2001	204,313	167,263	160,324	1,267	1,025	1,002	0,129	0,105	0,122	7,473	6,118	5,804
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2002	2006	215,351	173,802	164,914	1,601	1,150	1,096	0,153	0,106	0,090	6,139	4,859	4,431
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2007	2009	201,093	168,074	161,976	0,829	0,602	0,523	0,031	0,024	0,023	4,079	3,400	3,171
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2010	2013	205,393	169,743	162,354	0,869	0,625	0,536	0,032	0,025	0,023	2,460	2,028	1,883
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2014	9999	200,654	165,826	158,608	0,870	0,625	0,536	0,003	0,002	0,002	0,694	0,262	0,135

Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	0	1993	315,898	243,280	222,355	2,558	1,885	1,712	0,482	0,353	0,319	12,251	9,862	9,114
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	1994	1996	269,815	211,940	195,827	2,068	1,563	1,437	0,383	0,264	0,231	8,634	6,952	6,468
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	1997	2001	261,049	207,213	191,812	1,620	1,285	1,399	0,172	0,137	0,157	9,465	7,549	6,947
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2002	2006	272,733	213,630	195,690	2,025	1,487	1,403	0,189	0,130	0,113	7,649	6,024	5,545
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2007	2009	257,598	207,458	192,565	1,003	0,728	0,628	0,041	0,031	0,028	5,146	4,223	3,967
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2010	2013	260,560	209,253	193,919	1,015	0,735	0,634	0,041	0,031	0,028	3,062	2,508	2,353
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2014	9999	255,823	204,120	188,510	1,045	0,753	0,646	0,004	0,003	0,003	0,710	0,287	0,164
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	0	1993	333,975	257,930	233,499	2,703	1,987	1,810	0,512	0,375	0,336	12,868	10,379	9,526
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	1994	1996	286,465	225,388	206,076	2,162	1,647	1,535	0,398	0,281	0,244	9,122	7,308	6,742
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	1997	2001	276,892	220,156	201,909	1,682	1,346	1,457	0,185	0,148	0,167	9,876	7,848	7,164
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2002	2006	289,328	227,449	206,788	2,121	1,582	1,481	0,201	0,141	0,118	7,733	6,089	5,633
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2007	2009	277,178	222,906	203,989	1,044	0,752	0,640	0,044	0,033	0,029	5,258	4,284	4,029
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2010	2013	280,496	224,942	205,435	1,056	0,760	0,647	0,044	0,033	0,029	3,127	2,544	2,388
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	0	1993	369,813	292,229	265,715	2,928	2,149	2,047	0,567	0,415	0,376	14,515	11,942	11,008
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	1994	1996	324,707	259,936	238,178	2,377	1,862	1,795	0,436	0,314	0,281	10,453	8,509	7,843
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	1997	2001	313,359	251,467	240,101	1,930	1,574	1,563	0,211	0,172	0,195	11,232	9,043	8,280
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2002	2006	327,617	262,877	239,852	2,325	1,732	1,685	0,214	0,153	0,135	8,883	7,017	6,445
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2007	2009	316,735	259,706	237,679	1,145	0,834	0,714	0,049	0,038	0,034	5,978	5,101	4,533
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2010	2013	320,475	262,095	239,548	1,159	0,844	0,722	0,049	0,038	0,034	3,554	3,030	2,690
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2014	9999	314,526	255,828	233,053	1,191	0,863	0,736	0,005	0,004	0,003	0,638	0,290	0,191
Heavy Duty Vehicles	Diesel RT >32t	Euro I	1994	1996	328,394	256,124	232,416	2,482	1,894	1,795	0,453	0,317	0,286	10,614	8,446	7,666
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2002	2006	330,977	257,873	232,502	2,398	1,789	1,725	0,219	0,153	0,135	9,225	7,224	6,550
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2007	2009	316,444	252,503	229,586	1,151	0,839	0,723	0,049	0,037	0,033	6,270	5,071	4,708
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2010	2013	319,806	254,559	231,118	1,166	0,847	0,729	0,049	0,037	0,033	3,735	3,012	2,790
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	0	1993	332,114	254,391	227,288	2,560	1,899	1,804	0,488	0,361	0,339	13,305	10,460	9,286
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	1994	1996	297,033	229,431	205,352	2,173	1,665	1,602	0,380	0,277	0,261	9,509	7,408	6,570
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	1997	2001	280,137	219,605	203,132	1,746	1,372	1,500	0,191	0,152	0,174	10,046	7,771	6,867
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2002	2006	294,936	228,574	203,723	2,067	1,559	1,515	0,184	0,132	0,120	8,110	6,154	5,397
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2007	2009	283,202	224,159	200,624	0,990	0,709	0,618	0,043	0,031	0,028	5,531	4,329	3,837
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2010	2013	286,144	226,034	202,156	1,002	0,717	0,625	0,043	0,032	0,028	3,297	2,575	2,277
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2014	9999	280,404	220,395	196,620	1,033	0,738	0,629	0,004	0,003	0,003	0,531	0,245	0,167
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	0	1993	385,216	290,623	255,748	3,006	2,216	2,091	0,579	0,419	0,384	15,378	11,908	10,419
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	1994	1996	338,164	257,767	227,915	2,561	1,946	1,861	0,464	0,324	0,293	10,891	8,408	7,387
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	1997	2001	329,707	253,289	223,868	2,056	1,607	1,775	0,227	0,177	0,201	11,695	8,978	7,885
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2002	2006	341,490	259,512	227,377	2,453	1,826	1,775	0,223	0,155	0,136	9,414	7,197	6,354
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2007	2009	327,133	254,126	224,236	1,157	0,830	0,704	0,050	0,036	0,032	6,398	5,061	4,523
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2010	2013	330,656	256,284	225,882	1,168	0,837	0,715	0,050	0,037	0,032	3,814	3,008	2,681



Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2014	9999	323,739	249,678	219,585	1,202	0,857	0,727	0,005	0,004	0,003	0,610	0,285	0,191
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	0	1993	427,609	323,566	283,490	3,242	2,400	2,283	0,622	0,462	0,425	17,311	13,363	11,617
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	1994	1996	376,029	287,195	252,542	2,823	2,135	2,079	0,500	0,358	0,333	12,142	9,377	8,189
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	1997	2001	364,063	281,631	253,871	2,313	1,826	1,823	0,257	0,201	0,227	12,955	9,936	8,683
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2002	2006	380,024	289,287	252,570	2,675	1,999	1,959	0,240	0,170	0,146	10,432	7,969	6,995
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2007	2009	367,275	285,007	249,788	1,241	0,894	0,759	0,054	0,040	0,035	7,035	5,657	4,952
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2010	2013	371,248	287,356	251,512	1,256	0,902	0,765	0,055	0,040	0,035	4,187	3,365	2,944
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2014	9999	363,184	279,711	244,208	1,288	0,921	0,779	0,006	0,004	0,004	0,564	0,294	0,214
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	1997	2001	439,443	338,240	299,997	2,783	2,192	2,191	0,317	0,246	0,275	15,566	11,836	10,222
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2007	2009	440,973	342,585	300,013	1,445	1,038	0,878	0,064	0,047	0,041	8,477	6,746	5,764
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2002	2006	451,915	343,013	304,759	3,169	2,369	2,341	0,278	0,194	0,184	12,548	9,501	8,223
Buses	Gasoline Urban Buses	Conventional	0	9999	225,000	150,000	165,000	70,000	55,000	55,000	0,400	0,400	0,400	4,500	7,500	7,500
Buses	Diesel Urban Buses <15t	Conventional	0	1993	265,880	211,064	197,424	4,479	3,144	2,830	0,729	0,490	0,413	9,347	7,678	7,133
Buses	Diesel Urban Buses <15t	Euro I	1994	1996	214,880	174,564	162,024	1,568	1,120	0,981	0,261	0,199	0,178	6,945	5,531	4,861
Buses	Diesel Urban Buses <15t	Euro II	1997	2001	207,395	170,373	158,652	1,391	0,958	0,806	0,129	0,107	0,103	7,552	5,971	5,224
Buses	Diesel Urban Buses <15t	Euro III	2002	2006	219,770	179,899	167,027	1,509	1,028	0,926	0,130	0,100	0,093	6,425	4,515	3,631
Buses	Diesel Urban Buses <15t	Euro IV	2007	2009	204,146	174,431	172,127	0,800	0,542	0,422	0,032	0,025	0,022	4,076	3,101	2,593
Buses	Diesel Urban Buses <15t	Euro V	2010	2013	207,620	176,864	174,491	0,813	0,551	0,430	0,032	0,025	0,023	2,432	1,845	1,545
Buses	Diesel Urban Buses 15 - 18t	Conventional	0	1993	338,177	261,819	230,080	4,720	3,242	2,606	0,656	0,439	0,351	15,108	12,139	10,803
Buses	Diesel Urban Buses 15 - 18t	Euro I	1994	1996	288,515	228,326	202,771	2,204	1,612	1,330	0,359	0,258	0,226	9,289	7,392	6,426
Buses	Diesel Urban Buses 15 - 18t	Euro II	1997	2001	279,657	224,821	202,070	1,892	1,310	1,120	0,179	0,146	0,137	9,989	7,828	6,822
Buses	Diesel Urban Buses 15 - 18t	Euro III	2002	2006	293,115	235,088	211,025	2,070	1,382	1,257	0,174	0,132	0,115	8,427	6,044	4,919
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2007	2009	276,404	230,306	217,637	1,045	0,709	0,556	0,044	0,033	0,028	5,452	4,181	3,521
Buses	Diesel Urban Buses 15 - 18t	Euro V	2010	2013	280,396	232,974	220,038	1,057	0,716	0,563	0,044	0,033	0,029	3,250	2,486	2,089
Buses	Diesel Urban Buses >18t	Conventional	0	1993	424,462	330,433	285,157	6,145	4,310	3,420	0,833	0,575	0,455	19,310	15,492	13,433
Buses	Diesel Urban Buses >18t	Euro I	1994	1996	369,176	292,254	253,780	2,882	2,132	1,965	0,451	0,336	0,311	11,840	9,361	8,043
Buses	Diesel Urban Buses >18t	Euro II	1997	2001	358,097	288,482	265,154	2,541	1,716	1,467	0,241	0,194	0,178	12,472	9,751	8,334
Buses	Diesel Urban Buses >18t	Euro III	2002	2006	373,469	299,269	262,705	2,691	1,778	1,703	0,209	0,151	0,142	10,561	7,685	6,305
Buses	Diesel Urban Buses >18t	Euro IV	2007	2009	359,379	300,406	272,408	1,287	0,869	0,664	0,054	0,039	0,032	7,106	5,505	4,635
Buses	Diesel Urban Buses >18t	Euro V	2010	2013	363,797	303,565	275,335	1,297	0,877	0,671	0,054	0,039	0,033	4,234	3,275	2,755
Buses	Gasoline Coaches	Conventional	0	9999	225,000	150,000	165,000	70,000	55,000	55,000	0,400	0,400	0,400	4,500	7,500	7,500
Buses	Diesel Coaches <15t	Conventional	0	1993	306,332	225,195	199,049	2,712	1,738	1,372	0,490	0,328	0,269	11,324	8,822	8,156
Buses	Diesel Coaches <15t	Euro I	1994	1996	280,973	207,851	184,178	2,199	1,466	1,186	0,395	0,260	0,209	8,768	6,699	6,147
Buses	Diesel Coaches <15t	Euro II	1997	2001	279,483	208,488	184,973	1,775	1,203	1,092	0,186	0,137	0,120	10,033	7,549	6,840
Buses	Diesel Coaches <15t	Euro III	2002	2006	303,872	224,218	197,656	2,308	1,464	1,283	0,223	0,145	0,115	8,591	6,046	5,368
Buses	Diesel Coaches <15t	Euro IV	2007	2009	290,989	221,962	197,681	1,241	0,813	0,689	0,048	0,034	0,030	5,666	4,225	3,842
Buses	Diesel Coaches <15t	Euro V	2010	2013	298,215	226,393	200,893	1,288	0,842	0,696	0,049	0,034	0,030	3,434	2,544	2,291

Buses	Diesel Coaches 15 - 18t	Conventional	0	1993	306,332	225,195	199,049	2,712	1,738	1,372	0,490	0,328	0,269	11,324	8,822	8,156
Buses	Diesel Coaches 15 - 18t	Euro I	1994	1996	280,973	207,851	184,178	2,199	1,466	1,186	0,395	0,260	0,209	8,768	6,699	6,147
Buses	Diesel Coaches 15 - 18t	Euro II	1997	2001	279,483	208,488	184,973	1,775	1,203	1,092	0,186	0,137	0,120	10,033	7,549	6,840
Buses	Diesel Coaches 15 - 18t	Euro III	2002	2006	303,872	224,218	197,656	2,308	1,464	1,283	0,223	0,145	0,115	8,591	6,046	5,368
Buses	Diesel Coaches 15 - 18t	Euro IV	2007	2009	290,989	221,962	197,681	1,241	0,813	0,689	0,048	0,034	0,030	5,666	4,225	3,842
Buses	Diesel Coaches 15 - 18t	Euro V	2010	2013	298,215	226,393	200,893	1,288	0,842	0,696	0,049	0,034	0,030	3,434	2,544	2,291
Buses	Diesel Coaches >18t	Conventional	0	1993	371,932	272,817	240,539	3,104	2,042	1,732	0,572	0,388	0,331	14,084	10,772	9,735
Buses	Diesel Coaches >18t	Euro I	1994	1996	329,598	243,565	215,080	2,511	1,722	1,458	0,452	0,302	0,246	10,737	8,049	7,206
Buses	Diesel Coaches >18t	Euro II	1997	2001	323,939	241,571	213,608	2,031	1,395	1,290	0,214	0,161	0,143	11,883	8,817	7,837
Buses	Diesel Coaches >18t	Euro III	2002	2006	335,657	242,331	211,644	2,557	1,669	1,439	0,242	0,156	0,126	9,681	6,781	5,889
Buses	Diesel Coaches >18t	Euro IV	2007	2009	319,737	238,136	211,184	1,328	0,875	0,742	0,052	0,036	0,032	6,428	4,728	4,226
Buses	Diesel Coaches >18t	Euro V	2010	2013	328,400	243,537	215,269	1,363	0,896	0,758	0,053	0,037	0,032	3,881	2,845	2,536
Mopeds	2-stroke <50 cm <sup>3</sup>	Conventional	0	1999	25,000	25,000	0,000	14,700	14,700	0,000	0,176	0,176	0,000	0,056	0,056	0,000
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro I	2000	2003	20,000	20,000	0,000	4,600	4,600	0,000	0,045	0,045	0,000	0,180	0,180	0,000
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro II	2004	2014	20,000	20,000	0,000	2,800	2,800	0,000	0,026	0,026	0,000	0,170	0,170	0,000
Mopeds	4-stroke <50 cm <sup>3</sup>	Euro II	2004	2014	20,000	20,000	0,000	4,200	4,200	0,000	0,007	0,007	0,000	0,170	0,170	0,000
Motorcycles	2-stroke >50 cm <sup>3</sup>	Conventional	0	1999	27,115	28,317	39,640	15,605	19,285	28,470	0,200	0,200	0,200	0,029	0,030	0,035
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro I	2000	2003	27,115	28,317	39,640	10,315	12,786	18,933	0,080	0,080	0,080	0,029	0,030	0,035
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro II	2004	2006	24,892	25,627	35,438	8,146	10,067	14,890	0,040	0,040	0,040	0,040	0,050	0,060
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro III	2007	9999	24,892	25,627	35,438	4,510	5,593	8,342	0,012	0,012	0,012	0,048	0,058	0,069
Motorcycles	4-stroke <250 cm <sup>3</sup>	Conventional	0	1999	24,800	27,499	36,055	15,258	17,209	24,960	0,020	0,020	0,020	0,237	0,428	0,655
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro I	2000	2003	27,015	30,386	40,330	10,391	14,456	24,910	0,020	0,020	0,020	0,304	0,424	0,567
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro II	2004	2006	22,260	25,160	33,756	3,708	5,765	9,135	0,005	0,005	0,005	0,323	0,447	0,598
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro III	2007	9999	19,262	20,359	25,932	2,060	3,201	5,092	0,005	0,005	0,005	0,253	0,382	0,612
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Conventional	0	1999	26,648	23,766	26,620	20,461	19,486	22,990	0,020	0,020	0,020	0,196	0,300	0,548
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro I	2000	2003	37,374	35,472	41,400	10,599	9,003	10,460	0,020	0,020	0,020	0,258	0,400	0,610
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro II	2004	2006	34,197	33,450	41,276	2,230	2,436	6,092	0,005	0,005	0,005	0,257	0,390	0,577
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro III	2007	9999	30,983	30,719	38,129	1,228	1,345	3,357	0,005	0,005	0,005	0,076	0,132	0,265
Motorcycles	4-stroke >750 cm <sup>3</sup>	Conventional	0	1999	35,731	35,542	43,748	20,461	19,486	22,990	0,020	0,020	0,020	0,019	0,030	0,086
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro I	2000	2003	43,101	41,041	47,500	10,599	9,003	10,460	0,020	0,020	0,020	0,125	0,178	0,392
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro II	2004	2006	42,110	38,004	41,895	2,230	2,436	6,092	0,005	0,005	0,005	0,143	0,244	0,459
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro III	2007	9999	40,343	37,470	43,083	1,228	1,345	3,357	0,005	0,005	0,005	0,104	0,200	0,484

Sector	Subsector	Tech 2	FYear	LYear	CH4u	CH4r	CH4h	N2Ou	N2Or	N2Oh	NH3u	NH3r	NH3h	VOCu	VOCr	VOCh
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	0	1969	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	2,354	1,597	1,247
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	1970	1978	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,862	1,256	1,121
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1979	1980	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1981	1985	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1986	1990	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,480	0,895	0,698
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1991	1996	0,026	0,016	0,014	0,026	0,011	0,005	0,070	0,133	0,074	0,177	0,121	0,111
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1997	2000	0,017	0,013	0,011	0,013	0,005	0,003	0,180	0,150	0,084	0,071	0,047	0,042
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2001	2005	0,003	0,002	0,004	0,001	0,000	0,000	0,002	0,030	0,065	0,015	0,015	0,025
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2006	2010	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,029	0,065	0,012	0,014	0,017
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2011	2014	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,029	0,065	0,012	0,014	0,017
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	0	1969	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	2,354	1,597	1,247
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	1970	1978	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,862	1,256	1,121
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1979	1980	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1981	1985	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1986	1990	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,480	0,895	0,698
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1991	1996	0,026	0,016	0,014	0,026	0,011	0,005	0,070	0,133	0,074	0,177	0,121	0,111
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1997	2000	0,017	0,013	0,011	0,013	0,005	0,003	0,188	0,150	0,084	0,071	0,047	0,042
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2001	2005	0,003	0,002	0,004	0,002	0,000	0,000	0,002	0,030	0,065	0,015	0,015	0,025
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2006	2010	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,029	0,065	0,012	0,014	0,017
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2011	2014	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,029	0,065	0,012	0,014	0,017
Passenger Cars	Gasoline >2,0 l	PRE ECE	0	1969	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	2,354	1,597	1,247
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	1970	1978	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,862	1,256	1,121
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1979	1980	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1981	1985	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1986	1990	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,480	0,895	0,698
Passenger Cars	Gasoline >2,0 l	Euro I	1991	1996	0,026	0,016	0,014	0,026	0,011	0,005	0,070	0,133	0,074	0,177	0,121	0,111
Passenger Cars	Gasoline >2,0 l	Euro II	1997	2000	0,017	0,013	0,011	0,013	0,005	0,003	0,190	0,150	0,084	0,071	0,047	0,042
Passenger Cars	Gasoline >2,0 l	Euro III	2001	2005	0,003	0,002	0,004	0,002	0,000	0,000	0,002	0,030	0,065	0,015	0,015	0,025
Passenger Cars	Gasoline >2,0 l	Euro IV	2006	2010	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,030	0,065	0,012	0,014	0,017
Passenger Cars	Gasoline >2,0 l	Euro V	2011	2014	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,029	0,065	0,012	0,014	0,017
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	0,028	0,012	0,008	0,000	0,000	0,000	0,001	0,001	0,001	0,145	0,086	0,062
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996	0,011	0,009	0,003	0,002	0,004	0,004	0,001	0,001	0,001	0,053	0,031	0,026
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000	0,007	0,003	0,002	0,004	0,006	0,006	0,001	0,001	0,001	0,034	0,021	0,015
Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005	0,003	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,018	0,011	0,009
Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,011	0,006	0,006
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,011	0,006	0,006

Passenger Cars	Diesel >2,0 l	Conventional	0	1990	0,028	0,012	0,008	0,000	0,000	0,000	0,001	0,001	0,001	0,145	0,086	0,062
Passenger Cars	Diesel >2,0 l	Euro I	1991	1996	0,011	0,009	0,003	0,002	0,004	0,004	0,001	0,001	0,001	0,080	0,046	0,034
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000	0,007	0,003	0,002	0,004	0,006	0,006	0,001	0,001	0,001	0,098	0,058	0,038
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005	0,003	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,038	0,017	0,012
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,011	0,006	0,006
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,011	0,006	0,006
Passenger Cars	LPG cars	Conventional	0	1990	0,080	0,035	0,025	0,000	0,000	0,000	0,000	0,000	0,000	1,082	0,667	0,490
Passenger Cars	LPG cars	Euro I	1991	1996	0,080	0,035	0,025	0,021	0,013	0,008	0,000	0,000	0,000	0,239	0,071	0,083
Passenger Cars	LPG cars	Euro II	1997	2000	0,019	0,008	0,006	0,013	0,003	0,002	0,000	0,000	0,000	0,050	0,015	0,017
Passenger Cars	LPG cars	Euro III	2001	2005	0,013	0,006	0,004	0,005	0,002	0,001	0,000	0,000	0,000	0,036	0,011	0,012
Passenger Cars	LPG cars	Euro IV	2006	2010	0,004	0,002	0,001	0,005	0,002	0,001	0,000	0,000	0,000	0,007	0,002	0,002
Passenger Cars	Gasoline <0,8 l	PRE ECE	0	1969	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	2,354	1,597	1,247
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	1970	1978	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,862	1,256	1,121
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,849	1,061	0,950
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990	0,092	0,029	0,026	0,010	0,007	0,007	0,002	0,002	0,002	1,480	0,895	0,698
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996	0,026	0,016	0,014	0,023	0,009	0,004	0,070	0,132	0,074	0,177	0,121	0,111
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000	0,017	0,013	0,011	0,012	0,005	0,003	0,173	0,149	0,084	0,071	0,047	0,042
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005	0,003	0,002	0,004	0,001	0,000	0,000	0,002	0,030	0,065	0,015	0,015	0,025
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,029	0,065	0,012	0,014	0,017
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014	0,003	0,003	0,005	0,002	0,000	0,000	0,002	0,029	0,065	0,012	0,014	0,017
Passenger Cars	Diesel <1,4 l	Conventional	0	1990	0,028	0,012	0,008	0,000	0,000	0,000	0,001	0,001	0,001	0,145	0,086	0,062
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996	0,011	0,009	0,003	0,002	0,004	0,004	0,001	0,001	0,001	0,053	0,031	0,026
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000	0,007	0,003	0,002	0,004	0,006	0,006	0,001	0,001	0,001	0,034	0,021	0,015
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005	0,003	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,018	0,011	0,009
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,011	0,006	0,006
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,011	0,006	0,006
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	0,150	0,040	0,025	0,010	0,007	0,007	0,002	0,002	0,002	1,877	0,729	0,446
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998	0,026	0,016	0,014	0,045	0,027	0,013	0,070	0,133	0,074	0,220	0,109	0,078
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001	0,017	0,013	0,011	0,028	0,016	0,010	0,181	0,150	0,084	0,053	0,026	0,019
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006	0,003	0,002	0,004	0,008	0,001	0,001	0,002	0,030	0,065	0,031	0,015	0,011
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011	0,002	0,002	0,000	0,001	0,000	0,000	0,002	0,029	0,065	0,013	0,007	0,005
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015	0,002	0,002	0,000	0,001	0,000	0,000	0,002	0,029	0,065	0,013	0,007	0,005
Light Duty Vehicles	Diesel <3,5t	Conventional	0	1994	0,028	0,012	0,008	0,000	0,000	0,000	0,001	0,001	0,001	0,131	0,106	0,101
Light Duty Vehicles	Diesel <3,5t	Euro I	1995	1998	0,011	0,009	0,003	0,002	0,004	0,004	0,001	0,001	0,001	0,131	0,106	0,101
Light Duty Vehicles	Diesel <3,5t	Euro II	1999	2001	0,007	0,003	0,002	0,004	0,006	0,006	0,001	0,001	0,001	0,131	0,106	0,101
Light Duty Vehicles	Diesel <3,5t	Euro III	2002	2006	0,003	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,081	0,065	0,063

Light Duty Vehicles	Diesel <3,5t	Euro IV	2007	2011	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,030	0,024	0,023
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	2015	0,000	0,000	0,000	0,009	0,004	0,004	0,001	0,001	0,001	0,030	0,024	0,023
Light Duty Vehicles	LPG <3,5t	Conventional	0	1994	0,120	0,053	0,038	0,000	0,000	0,000	0,000	0,000	0,000	1,623	1,000	0,735
Light Duty Vehicles	LPG <3,5t	Euro II	1999	2001	0,029	0,013	0,009	0,020	0,005	0,003	0,000	0,000	0,000	0,075	0,022	0,026
Light Duty Vehicles	LPG <3,5t	Euro III	2002	2006	0,019	0,008	0,006	0,008	0,003	0,002	0,000	0,000	0,000	0,054	0,016	0,019
Light Duty Vehicles	LPG <3,5t	Euro IV	2007	2011	0,006	0,003	0,002	0,008	0,003	0,002	0,000	0,000	0,000	0,011	0,003	0,004
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	0	9999	0,140	0,110	0,070	0,006	0,006	0,006	0,002	0,002	0,002	7,000	5,500	3,500
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	0	1993	0,085	0,023	0,020	0,030	0,030	0,030	0,003	0,003	0,003	1,298	0,789	0,576
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	1994	1996	0,085	0,023	0,020	0,030	0,030	0,030	0,003	0,003	0,003	0,253	0,167	0,130
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	1997	2001	0,054	0,020	0,019	0,030	0,030	0,030	0,003	0,003	0,003	0,171	0,111	0,086
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2002	2006	0,048	0,021	0,018	0,030	0,030	0,030	0,003	0,003	0,003	0,162	0,102	0,077
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2007	2009	0,003	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,022	0,017	0,017
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2010	2013	0,003	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,022	0,017	0,017
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2014	9999	0,001	0,000	0,000	0,030	0,030	0,030	0,003	0,003	0,003	0,011	0,008	0,007
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	0	1993	0,085	0,023	0,020	0,030	0,030	0,030	0,003	0,003	0,003	0,957	0,589	0,449
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	1994	1996	0,085	0,023	0,020	0,030	0,030	0,030	0,003	0,003	0,003	0,389	0,258	0,208
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	1997	2001	0,054	0,020	0,019	0,030	0,030	0,030	0,003	0,003	0,003	0,263	0,172	0,137
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2002	2006	0,048	0,021	0,018	0,030	0,030	0,030	0,003	0,003	0,003	0,252	0,157	0,120
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2007	2009	0,003	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,035	0,025	0,022
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2010	2013	0,003	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,035	0,026	0,022
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2014	9999	0,001	0,000	0,000	0,030	0,030	0,030	0,003	0,003	0,003	0,017	0,012	0,010
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	0	1993	0,085	0,023	0,020	0,030	0,030	0,030	0,003	0,003	0,003	1,012	0,646	0,509
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	1994	1996	0,085	0,023	0,020	0,030	0,030	0,030	0,003	0,003	0,003	0,429	0,279	0,229
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	1997	2001	0,054	0,020	0,019	0,030	0,030	0,030	0,003	0,003	0,003	0,281	0,186	0,150
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2002	2006	0,048	0,021	0,018	0,030	0,030	0,030	0,003	0,003	0,003	0,260	0,168	0,134
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2007	2009	0,003	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,034	0,025	0,024
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2010	2013	0,003	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,034	0,025	0,024
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	1,510	0,971	0,768
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,606	0,403	0,325
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,409	0,267	0,213
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,378	0,243	0,196
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,046	0,032	0,028
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,047	0,033	0,029
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2014	9999	0,002	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,024	0,017	0,015
Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,819	0,517	0,406
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,728	0,476	0,380
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,489	0,314	0,248

Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,453	0,287	0,225
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,059	0,040	0,035
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,059	0,041	0,035
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2014	9999	0,002	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,030	0,021	0,017
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,842	0,541	0,430
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,736	0,488	0,394
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,499	0,327	0,262
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,467	0,304	0,243
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,064	0,045	0,037
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,065	0,045	0,037
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,874	0,560	0,444
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,778	0,518	0,419
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,523	0,344	0,276
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,491	0,317	0,252
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,070	0,051	0,043
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,071	0,051	0,043
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2014	9999	0,002	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,034	0,024	0,020
Heavy Duty Vehicles	Diesel RT >32t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,812	0,527	0,419
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,496	0,316	0,249
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,070	0,048	0,041
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,070	0,049	0,041
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,736	0,476	0,380
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,678	0,450	0,363
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,450	0,296	0,238
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,415	0,269	0,215
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,059	0,041	0,036
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,060	0,042	0,036
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2014	9999	0,002	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,029	0,021	0,017
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,877	0,555	0,438
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,805	0,524	0,420
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,538	0,343	0,270
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,494	0,312	0,244
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,071	0,048	0,041
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,072	0,049	0,041
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2014	9999	0,002	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,035	0,024	0,020
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,901	0,570	0,450
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,844	0,546	0,433

Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,558	0,358	0,282
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,510	0,323	0,253
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,077	0,053	0,045
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2010	2013	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,078	0,053	0,045
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2014	9999	0,002	0,002	0,001	0,030	0,030	0,030	0,003	0,003	0,003	0,038	0,026	0,022
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	1997	2001	0,112	0,070	0,065	0,030	0,030	0,030	0,003	0,003	0,003	0,626	0,406	0,323
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2007	2009	0,005	0,006	0,004	0,030	0,030	0,030	0,003	0,003	0,003	0,090	0,063	0,053
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2002	2006	0,098	0,074	0,064	0,030	0,030	0,030	0,003	0,003	0,003	0,568	0,364	0,288
Buses	Gasoline Urban Buses	Conventional	0	9999	0,140	0,110	0,070	0,006	0,006	0,006	0,002	0,002	0,002	7,000	5,500	3,500
Buses	Diesel Urban Buses <15t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	2,628	1,738	1,490
Buses	Diesel Urban Buses <15t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,507	0,364	0,312
Buses	Diesel Urban Buses <15t	Euro II	1997	2001	0,114	0,052	0,046	0,030	0,030	0,030	0,003	0,003	0,003	0,350	0,245	0,209
Buses	Diesel Urban Buses <15t	Euro III	2002	2006	0,103	0,047	0,041	0,030	0,030	0,030	0,003	0,003	0,003	0,318	0,220	0,199
Buses	Diesel Urban Buses <15t	Euro IV	2007	2009	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,043	0,034	0,032
Buses	Diesel Urban Buses <15t	Euro V	2010	2013	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,044	0,034	0,033
Buses	Diesel Urban Buses 15 - 18t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	1,602	0,977	0,762
Buses	Diesel Urban Buses 15 - 18t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,659	0,431	0,351
Buses	Diesel Urban Buses 15 - 18t	Euro II	1997	2001	0,114	0,052	0,046	0,030	0,030	0,030	0,003	0,003	0,003	0,451	0,296	0,248
Buses	Diesel Urban Buses 15 - 18t	Euro III	2002	2006	0,103	0,047	0,041	0,030	0,030	0,030	0,003	0,003	0,003	0,416	0,269	0,232
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2007	2009	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,061	0,045	0,040
Buses	Diesel Urban Buses 15 - 18t	Euro V	2010	2013	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,061	0,046	0,040
Buses	Diesel Urban Buses >18t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	1,666	1,018	0,791
Buses	Diesel Urban Buses >18t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,720	0,477	0,386
Buses	Diesel Urban Buses >18t	Euro II	1997	2001	0,114	0,052	0,046	0,030	0,030	0,030	0,003	0,003	0,003	0,491	0,332	0,263
Buses	Diesel Urban Buses >18t	Euro III	2002	2006	0,103	0,047	0,041	0,030	0,030	0,030	0,003	0,003	0,003	0,446	0,291	0,241
Buses	Diesel Urban Buses >18t	Euro IV	2007	2009	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,074	0,055	0,047
Buses	Diesel Urban Buses >18t	Euro V	2010	2013	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,075	0,056	0,048
Buses	Gasoline Coaches	Conventional	0	9999	0,140	0,110	0,070	0,006	0,006	0,006	0,002	0,002	0,002	7,000	5,500	3,500
Buses	Diesel Coaches <15t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,907	0,533	0,393
Buses	Diesel Coaches <15t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,830	0,516	0,397
Buses	Diesel Coaches <15t	Euro II	1997	2001	0,114	0,052	0,046	0,030	0,030	0,030	0,003	0,003	0,003	0,586	0,359	0,272
Buses	Diesel Coaches <15t	Euro III	2002	2006	0,103	0,047	0,041	0,030	0,030	0,030	0,003	0,003	0,003	0,577	0,351	0,271
Buses	Diesel Coaches <15t	Euro IV	2007	2009	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,072	0,048	0,039
Buses	Diesel Coaches <15t	Euro V	2010	2013	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,074	0,049	0,039
Buses	Diesel Coaches 15 - 18t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,907	0,533	0,393
Buses	Diesel Coaches 15 - 18t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,830	0,516	0,397
Buses	Diesel Coaches 15 - 18t	Euro II	1997	2001	0,114	0,052	0,046	0,030	0,030	0,030	0,003	0,003	0,003	0,586	0,359	0,272

Buses	Diesel Coaches 15 - 18t	Euro III	2002	2006	0,103	0,047	0,041	0,030	0,030	0,030	0,003	0,003	0,003	0,577	0,351	0,271
Buses	Diesel Coaches 15 - 18t	Euro IV	2007	2009	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,072	0,048	0,039
Buses	Diesel Coaches 15 - 18t	Euro V	2010	2013	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,074	0,049	0,039
Buses	Diesel Coaches >18t	Conventional	0	1993	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	1,013	0,623	0,482
Buses	Diesel Coaches >18t	Euro I	1994	1996	0,175	0,080	0,070	0,030	0,030	0,030	0,003	0,003	0,003	0,915	0,581	0,457
Buses	Diesel Coaches >18t	Euro II	1997	2001	0,114	0,052	0,046	0,030	0,030	0,030	0,003	0,003	0,003	0,630	0,392	0,305
Buses	Diesel Coaches >18t	Euro III	2002	2006	0,103	0,047	0,041	0,030	0,030	0,030	0,003	0,003	0,003	0,608	0,371	0,286
Buses	Diesel Coaches >18t	Euro IV	2007	2009	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,076	0,050	0,042
Buses	Diesel Coaches >18t	Euro V	2010	2013	0,005	0,002	0,002	0,030	0,030	0,030	0,003	0,003	0,003	0,078	0,051	0,042
Mopeds	2-stroke <50 cm <sup>3</sup>	Conventional	0	1999	0,219	0,219	0,000	0,001	0,001	0,001	0,001	0,001	0,001	8,400	8,400	0,000
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro I	2000	2003	0,044	0,044	0,000	0,001	0,001	0,001	0,001	0,001	0,001	3,400	3,400	0,000
Mopeds	2-stroke <50 cm <sup>3</sup>	Euro II	2004	2014	0,024	0,024	0,000	0,001	0,001	0,001	0,001	0,001	0,001	2,600	2,600	0,000
Mopeds	4-stroke <50 cm <sup>3</sup>	Euro II	2004	2014	0,024	0,024	0,000	0,001	0,001	0,001	0,001	0,001	0,001	0,790	0,790	0,000
Motorcycles	2-stroke >50 cm <sup>3</sup>	Conventional	0	1999	0,150	0,150	0,150	0,002	0,002	0,002	0,002	0,002	0,002	8,393	7,078	9,800
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro I	2000	2003	0,099	0,107	0,098	0,002	0,002	0,002	0,002	0,002	0,002	8,393	7,078	9,800
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro II	2004	2006	0,030	0,032	0,030	0,002	0,002	0,002	0,002	0,002	0,002	2,593	2,569	4,155
Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro III	2007	9999	0,012	0,014	0,012	0,002	0,002	0,002	0,002	0,002	0,002	1,385	1,380	2,244
Motorcycles	4-stroke <250 cm <sup>3</sup>	Conventional	0	1999	0,200	0,200	0,200	0,002	0,002	0,002	0,002	0,002	0,002	0,128	0,104	0,138
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro I	2000	2003	0,142	0,144	0,132	0,002	0,002	0,002	0,002	0,002	0,002	1,242	0,866	0,976
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro II	2004	2006	0,136	0,092	0,092	0,002	0,002	0,002	0,002	0,002	0,002	1,042	0,843	0,965
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro III	2007	9999	0,082	0,032	0,028	0,002	0,002	0,002	0,002	0,002	0,002	0,456	0,441	0,511
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Conventional	0	1999	0,200	0,200	0,200	0,002	0,002	0,002	0,002	0,002	0,002	0,545	0,487	0,361
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro I	2000	2003	0,148	0,174	0,156	0,002	0,002	0,002	0,002	0,002	0,002	2,390	1,522	1,079
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro II	2004	2006	0,156	0,120	0,122	0,002	0,002	0,002	0,002	0,002	0,002	1,326	0,925	0,828
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro III	2007	9999	0,094	0,042	0,036	0,002	0,002	0,002	0,002	0,002	0,002	0,598	0,499	0,615
Motorcycles	4-stroke >750 cm <sup>3</sup>	Conventional	0	1999	0,200	0,200	0,200	0,002	0,002	0,002	0,002	0,002	0,002	0,392	0,337	0,556
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro I	2000	2003	0,092	0,092	0,154	0,002	0,002	0,002	0,002	0,002	0,002	2,495	1,643	1,554
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro II	2004	2006	0,084	0,062	0,102	0,002	0,002	0,002	0,002	0,002	0,002	1,088	0,674	0,656
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro III	2007	9999	0,050	0,022	0,030	0,002	0,002	0,002	0,002	0,002	0,002	0,384	0,309	0,416



## Annex 3B-5 Reduction factors

Sector	Subsector	Tech 2	FYear	LYear	FCuR	FCrR	FChR	COuR	COrR	COhR	PMuR	PMrR	PMhR	NOxuR	NOxrR	NOxhR	VOCuR	VOCrR	VOChR
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	0	1969	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	1970	1978	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1979	1980	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1981	1985	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1986	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1997	2000	1,93	5,83	4,43	62,65	58,10	57,55	0,00	0,00	0,00	43,59	45,20	60,45	60,19	61,27	62,09
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2001	2005	-2,72	-0,72	1,59	70,59	49,62	34,95	60,25	54,57	37,37	72,16	78,49	88,69	91,74	87,53	77,02
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2006	2010	-5,57	-5,34	-4,84	88,95	79,10	70,06	60,25	54,57	37,37	80,12	89,24	95,86	93,34	88,71	84,51
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2011	2014	-5,57	-5,34	-4,84	88,95	79,10	70,06	60,25	54,57	37,37	85,09	91,93	96,90	93,34	88,71	84,51
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	0	1969	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	1970	1978	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1979	1980	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1981	1985	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1986	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1997	2000	2,08	1,72	5,30	62,65	58,10	57,55	0,00	0,00	0,00	43,59	45,20	60,45	60,19	61,27	62,09
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2001	2005	-1,28	-2,83	-3,05	70,59	49,62	34,95	60,25	54,57	37,37	72,16	78,49	88,69	91,74	87,53	77,02
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2006	2010	-5,15	-8,80	-7,33	88,95	79,10	70,06	60,25	54,57	37,37	80,12	89,24	95,86	93,34	88,71	84,51
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2011	2014	-5,15	-8,80	-7,33	88,95	79,10	70,06	60,25	54,57	37,37	85,09	91,93	96,90	93,34	88,71	84,51
Passenger Cars	Gasoline >2,0 l	PRE ECE	0	1969	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	1970	1978	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1979	1980	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1981	1985	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1986	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline >2,0 l	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline >2,0 l	Euro II	1997	2000	-2,98	-5,37	-2,63	62,65	58,10	57,55	0,00	0,00	0,00	43,59	45,20	60,45	60,19	61,27	62,09
Passenger Cars	Gasoline >2,0 l	Euro III	2001	2005	5,12	7,23	12,60	70,59	49,62	34,95	60,25	54,57	37,37	72,16	78,49	88,69	91,74	87,53	77,02
Passenger Cars	Gasoline >2,0 l	Euro IV	2006	2010	-15,39	-9,65	-1,29	88,95	79,10	70,06	60,25	54,57	37,37	80,12	89,24	95,86	93,34	88,71	84,51
Passenger Cars	Gasoline >2,0 l	Euro V	2011	2014	-15,39	-9,65	-1,29	88,95	79,10	70,06	60,25	54,57	37,37	85,09	91,93	96,90	93,34	88,71	84,51
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000	-5,45	-3,06	-0,81	18,08	48,77	83,05	17,92	36,92	53,22	-7,94	1,18	-0,20	34,81	33,43	41,61

Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005	-2,27	-1,45	5,79	76,38	81,12	94,30	48,53	51,90	58,32	-18,71	-18,46	-12,98	65,94	63,35	66,25
Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010	-2,27	-1,45	5,79	80,09	84,22	89,72	49,02	60,57	75,83	10,60	24,53	13,19	79,38	79,24	77,57
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014	-2,20	-1,32	5,99	80,09	84,22	89,72	89,80	92,11	95,17	-9,96	7,17	-6,78	79,38	79,24	77,57
Passenger Cars	Diesel >2,0 l	Conventional	0	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Diesel >2,0 l	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000	0,00	0,00	0,00	18,08	48,77	83,05	17,92	36,92	53,22	-7,94	1,18	-0,20	-22,14	-25,38	-11,51
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005	0,00	0,00	0,00	76,38	81,12	94,30	48,53	51,90	58,32	-18,71	-18,46	-12,98	52,23	62,67	63,93
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010	0,00	0,00	0,00	80,09	84,22	89,72	49,02	60,57	75,83	10,60	24,53	13,19	86,39	86,10	83,20
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014	-0,07	-0,06	-0,05	80,09	84,22	89,72	89,80	92,11	95,17	-9,96	7,17	-6,78	86,39	86,10	83,20
Passenger Cars	LPG cars	Conventional	0	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	LPG cars	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	LPG cars	Euro II	1997	2000	0,00	0,00	0,00	32,00	32,00	32,00	0,00	0,00	0,00	64,00	64,00	64,00	79,00	79,00	79,00
Passenger Cars	LPG cars	Euro III	2001	2005	0,00	0,00	0,00	44,00	44,00	44,00	0,00	0,00	0,00	76,00	76,00	76,00	85,00	85,00	85,00
Passenger Cars	LPG cars	Euro IV	2006	2010	0,00	0,00	0,00	66,00	66,00	66,00	0,00	0,00	0,00	87,00	87,00	87,00	97,00	97,00	97,00
Passenger Cars	Electric cars	Conventional	0	9999	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline <0,8 l	PRE ECE	0	1969	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	1970	1978	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000	1,93	5,83	4,43	62,65	58,10	57,55	0,00	0,00	0,00	43,59	45,20	60,45	60,19	61,27	62,09
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005	-2,72	-0,72	1,59	70,59	49,62	34,95	60,25	54,57	37,37	72,16	78,49	88,69	91,74	87,53	77,02
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010	-5,57	-5,34	-4,84	88,95	79,10	70,06	60,25	54,57	37,37	80,12	89,24	95,86	93,34	88,71	84,51
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014	-5,57	-5,34	-4,84	88,95	79,10	70,06	60,25	54,57	37,37	85,09	91,93	96,90	93,34	88,71	84,51
Passenger Cars	Diesel <1,4 l	Conventional	0	1990	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000	-5,45	-3,06	-0,81	18,08	48,77	83,05	17,92	36,92	53,22	-7,94	1,18	-0,20	34,81	33,43	41,61
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005	-2,27	-1,45	5,79	76,38	81,12	94,30	48,53	51,90	58,32	-18,71	-18,46	-12,98	65,94	63,35	66,25
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010	-2,27	-1,45	5,79	80,09	84,22	89,72	49,02	60,57	75,83	10,60	24,53	13,19	79,38	79,24	77,57
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014	-2,20	-1,32	5,99	80,09	84,22	89,72	89,80	92,11	95,17	-9,96	7,17	-6,78	79,38	79,24	77,57
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001	0,00	0,00	0,00	39,00	39,00	39,00	0,00	0,00	0,00	66,00	66,00	66,00	76,00	76,00	76,00
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006	0,00	0,00	0,00	48,00	48,00	48,00	60,25	54,57	37,37	79,00	79,00	79,00	86,00	86,00	86,00
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011	0,00	0,00	0,00	72,00	72,00	72,00	60,25	54,57	37,37	90,00	90,00	90,00	94,00	94,00	94,00
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015	0,00	0,00	0,00	72,00	72,00	72,00	60,25	54,57	37,37	92,50	92,50	92,50	94,00	94,00	94,00

Light Duty Vehicles	Diesel <3,5t	Conventional	0	1994	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Light Duty Vehicles	Diesel <3,5t	Euro I	1995	1998	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Light Duty Vehicles	Diesel <3,5t	Euro II	1999	2001	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Light Duty Vehicles	Diesel <3,5t	Euro III	2002	2006	0,00	0,00	0,00	18,00	18,00	18,00	33,00	33,00	33,00	16,00	16,00	16,00	38,00	38,00	38,00
Light Duty Vehicles	Diesel <3,5t	Euro IV	2007	2011	0,00	0,00	0,00	35,00	35,00	35,00	65,00	65,00	65,00	32,00	32,00	32,00	77,00	77,00	77,00
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	2015	0,00	0,00	0,00	35,00	35,00	35,00	98,25	98,25	98,25	51,00	51,00	51,00	77,00	77,00	77,00
Light Duty Vehicles	LPG <3,5t	Conventional	0	1994	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Light Duty Vehicles	LPG <3,5t	Euro II	1999	2001	0,00	0,00	0,00	32,00	32,00	32,00	0,00	0,00	0,00	64,00	64,00	64,00	79,00	79,00	79,00
Light Duty Vehicles	LPG <3,5t	Euro III	2002	2006	0,00	0,00	0,00	44,00	44,00	44,00	0,00	0,00	0,00	76,00	76,00	76,00	85,00	85,00	85,00
Light Duty Vehicles	LPG <3,5t	Euro IV	2007	2011	0,00	0,00	0,00	66,00	66,00	66,00	0,00	0,00	0,00	87,00	87,00	87,00	97,00	97,00	97,00
Light Duty Vehicles	Electric <3,5t	Conventional	0	9999	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	0	9999	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	1994	1996	19,97	17,39	7,76	67,55	66,82	59,55	60,69	60,33	58,47	30,21	28,42	25,92	80,53	78,89	77,38
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	1997	2001	24,01	20,18	10,60	74,08	69,13	65,86	81,61	77,85	71,87	23,47	24,02	23,73	86,86	85,98	85,16
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2002	2006	18,90	16,31	6,25	67,98	68,13	66,52	79,28	80,07	80,84	40,66	43,96	44,20	87,56	87,06	86,71
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2007	2009	21,15	16,29	5,64	83,37	82,11	80,91	95,44	94,65	93,58	59,45	59,91	59,77	98,28	97,79	97,11
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2010	2013	20,29	15,72	5,30	83,30	82,11	80,82	95,45	94,62	93,60	75,97	76,32	76,28	98,27	97,79	97,13
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2014	9999	21,40	17,89	8,47	82,75	81,73	80,76	99,54	99,46	99,36	94,47	97,63	98,67	99,16	98,98	98,77
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	1994	1996	14,94	11,49	8,93	53,96	51,87	49,75	39,18	39,03	36,52	40,35	40,49	40,47	59,34	56,17	53,69
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	1997	2001	18,90	14,27	11,02	63,18	57,16	53,02	71,53	66,12	55,10	35,02	36,53	37,57	72,55	70,85	69,48
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2002	2006	14,01	10,02	7,38	54,03	54,57	51,94	68,40	69,00	69,32	49,58	51,13	53,53	73,67	73,28	73,21
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2007	2009	17,35	11,08	7,67	76,57	75,39	75,78	93,10	92,09	90,79	65,60	65,29	66,82	96,38	95,67	95,13
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2010	2013	16,17	10,25	7,18	76,27	75,18	75,47	93,04	92,07	90,83	79,22	79,51	80,43	96,34	95,66	95,14
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2014	9999	17,31	12,39	10,14	75,26	74,61	75,54	99,29	99,20	99,09	95,16	97,87	98,72	98,22	97,93	97,71
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	1994	1996	14,28	11,64	9,97	52,86	51,03	48,87	37,82	37,42	37,06	39,71	39,91	40,14	57,63	56,88	54,97
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	1997	2001	17,78	14,26	12,32	61,29	56,29	52,49	70,72	65,68	55,94	34,11	35,54	36,90	72,19	71,22	70,63
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2002	2006	13,28	10,55	9,17	53,81	53,44	50,67	68,93	69,17	69,39	46,23	49,71	52,23	74,33	74,00	73,71
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2007	2009	17,83	12,48	10,01	76,48	76,13	75,80	93,03	92,25	91,58	63,65	64,32	66,18	96,64	96,09	95,32
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2010	2013	16,83	11,77	9,53	76,18	75,91	75,63	92,99	92,24	91,61	78,37	78,82	79,97	96,61	96,08	95,34
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	1994	1996	18,66	16,33	14,88	54,10	52,05	49,69	38,29	38,82	39,43	40,46	40,76	40,96	59,89	58,50	57,65
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	1997	2001	21,92	18,70	17,00	63,94	59,22	54,89	73,27	69,36	59,06	33,79	35,29	36,36	72,92	72,50	72,28
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2002	2006	17,70	15,52	14,62	54,42	54,24	50,66	68,29	69,01	69,76	45,61	48,61	51,42	74,94	75,03	74,44
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2007	2009	23,15	18,31	16,14	76,40	76,04	76,43	93,48	92,87	92,25	63,86	64,05	65,23	96,97	96,70	96,31

Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2010	2013	21,50	17,49	15,95	75,25	75,14	75,86	93,36	92,81	92,21	78,21	78,55	79,35	96,86	96,61	96,25
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2014	9999	23,32	19,40	17,88	75,24	75,14	75,87	99,34	99,28	99,22	93,85	97,23	98,52	98,43	98,28	98,07
Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	1994	1996	14,59	12,88	11,93	19,16	17,09	16,07	20,49	25,29	27,75	29,52	29,51	29,03	11,17	8,06	6,45
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	1997	2001	17,36	14,83	13,74	36,69	31,82	18,28	64,44	61,13	50,94	22,74	23,45	23,78	40,30	39,31	39,01
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2002	2006	13,66	12,19	11,99	20,84	21,10	18,05	60,89	63,32	64,58	37,56	38,91	39,16	44,75	44,58	44,64
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2007	2009	18,46	14,72	13,40	60,80	61,35	63,31	91,59	91,35	91,18	58,00	57,18	56,47	92,84	92,20	91,51
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2010	2013	17,52	13,99	12,79	60,33	61,00	62,95	91,54	91,32	91,17	75,01	74,57	74,18	92,77	92,15	91,47
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2014	9999	19,02	16,10	15,22	59,13	60,04	62,26	99,14	99,13	99,11	94,21	97,09	98,20	96,40	96,02	95,71
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	1994	1996	14,23	12,62	11,74	20,03	17,07	15,21	22,33	25,06	27,38	29,11	29,59	29,23	12,60	9,85	8,38
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	1997	2001	17,09	14,65	13,53	37,76	32,22	19,50	63,87	60,48	50,30	23,25	24,39	24,79	40,81	39,59	39,01
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2002	2006	13,37	11,82	11,44	21,52	20,38	18,17	60,68	62,36	64,94	39,91	41,33	40,87	44,52	43,89	43,54
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2007	2009	17,01	13,58	12,64	61,39	62,14	64,62	91,49	91,19	91,37	59,14	58,72	57,71	92,39	91,72	91,36
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2010	2013	16,01	12,79	12,02	60,92	61,74	64,28	91,43	91,15	91,35	75,70	75,49	74,93	92,31	91,66	91,32
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	1994	1996	12,20	11,05	10,36	18,82	13,37	12,31	23,04	24,44	25,14	27,98	28,75	28,76	10,90	7,44	5,56
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	1997	2001	15,27	13,95	9,64	34,08	26,77	23,67	62,75	58,53	48,13	22,62	24,28	24,79	40,10	38,55	37,82
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2002	2006	11,41	10,04	9,73	20,60	19,39	17,71	62,16	63,07	64,05	38,80	41,24	41,46	43,86	43,33	43,19
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2007	2009	14,35	11,13	10,55	60,90	61,17	65,11	91,34	90,97	90,96	58,81	57,29	58,82	91,98	90,92	90,30
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2010	2013	13,34	10,31	9,85	60,41	60,74	64,74	91,27	90,91	90,93	75,51	74,62	75,57	91,91	90,86	90,25
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2014	9999	14,95	12,46	12,29	59,32	59,85	64,03	99,11	99,08	99,09	95,61	97,57	98,26	96,11	95,65	95,39
Heavy Duty Vehicles	Diesel RT >32t	Euro I	1994	1996	12,62	11,53	10,93	16,13	13,50	12,48	20,12	23,79	25,25	28,73	28,95	28,74	8,76	5,59	4,01
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2002	2006	11,93	10,92	10,90	18,97	18,29	15,90	61,41	63,24	64,69	38,06	39,23	39,11	44,27	43,43	42,99
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2007	2009	15,80	12,78	12,01	61,10	61,71	64,74	91,36	91,17	91,27	57,90	57,34	56,23	92,18	91,31	90,51
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2010	2013	14,90	12,07	11,43	60,60	61,33	64,46	91,29	91,12	91,26	74,92	74,66	74,06	92,09	91,27	90,50
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	1994	1996	10,56	9,81	9,65	15,13	12,34	11,18	22,12	23,23	22,95	28,53	29,18	29,25	7,82	5,31	4,45
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	1997	2001	15,65	13,67	10,63	31,82	27,73	16,83	60,81	57,94	48,69	24,49	25,71	26,04	38,86	37,80	37,36
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2002	2006	11,19	10,15	10,37	19,25	17,89	15,99	62,26	63,46	64,44	39,05	41,17	41,88	43,54	43,44	43,48
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2007	2009	14,73	11,88	11,73	61,31	62,64	65,74	91,27	91,29	91,77	58,43	58,62	58,68	91,95	91,29	90,55
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2010	2013	13,84	11,15	11,06	60,85	62,25	65,37	91,19	91,23	91,73	75,22	75,38	75,48	91,88	91,23	90,51
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2014	9999	15,57	13,36	13,49	59,64	61,13	65,11	99,10	99,11	99,16	96,01	97,66	98,20	96,03	95,67	95,44
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	1994	1996	12,21	11,31	10,88	14,79	12,18	10,98	19,78	22,63	23,62	29,18	29,40	29,10	8,18	5,48	4,19
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	1997	2001	14,41	12,85	12,47	31,60	27,45	15,10	60,77	57,68	47,54	23,95	24,61	24,32	38,67	38,17	38,36
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2002	2006	11,35	10,70	11,09	18,41	17,61	15,12	61,53	63,00	64,68	38,79	39,57	39,01	43,62	43,84	44,36

Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2007	2009	15,08	12,56	12,32	61,51	62,53	66,34	91,40	91,31	91,63	58,39	57,50	56,59	91,92	91,32	90,66
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2010	2013	14,16	11,82	11,68	61,16	62,20	65,81	91,32	91,25	91,60	75,20	74,74	74,26	91,84	91,26	90,62
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2014	9999	15,96	14,09	14,14	60,02	61,34	65,21	99,12	99,11	99,15	96,03	97,61	98,17	96,02	95,69	95,45
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	1994	1996	12,06	11,24	10,92	12,93	11,05	8,95	19,65	22,36	21,85	29,86	29,82	29,51	6,26	4,20	3,76
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	1997	2001	14,86	12,96	10,45	28,66	23,92	20,16	58,75	56,55	46,55	25,17	25,64	25,26	38,00	37,21	37,26
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2002	2006	11,13	10,59	10,91	17,51	16,69	14,19	61,42	63,23	65,66	39,74	40,37	39,79	43,37	43,37	43,77
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2007	2009	14,11	11,92	11,89	61,73	62,77	66,78	91,26	91,37	91,76	59,36	57,67	57,38	91,47	90,74	89,97
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2010	2013	13,18	11,19	11,28	61,26	62,40	66,49	91,17	91,30	91,72	75,82	74,82	74,66	91,38	90,68	89,95
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2014	9999	15,07	13,55	13,86	60,29	61,63	65,88	99,10	99,12	99,16	96,74	97,80	98,16	95,81	95,44	95,19
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	1997	2001	15,12	13,22	11,08	27,35	21,99	18,67	57,33	55,25	45,19	26,42	26,84	26,77	38,07	36,01	34,82
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2007	2009	14,82	12,10	11,08	62,26	63,07	67,40	91,40	91,54	91,89	59,93	58,30	58,71	91,05	90,11	89,38
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2002	2006	12,71	11,99	9,67	17,25	15,70	13,12	62,64	64,66	63,21	40,69	41,27	41,10	43,87	42,68	41,90
Buses	Gasoline Urban Buses	Conventional	0	9999	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Urban Buses <15t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Urban Buses <15t	Euro I	1994	1996	19,18	17,29	17,93	64,98	64,38	65,34	64,18	59,36	56,81	25,70	27,96	31,85	80,69	79,04	79,08
Buses	Diesel Urban Buses <15t	Euro II	1997	2001	22,00	19,28	19,64	68,95	69,53	71,53	82,28	78,21	74,97	19,20	22,23	26,76	86,68	85,91	86,00
Buses	Diesel Urban Buses <15t	Euro III	2002	2006	17,34	14,77	15,40	66,31	67,30	67,27	82,14	79,67	77,43	31,27	41,19	49,10	87,89	87,33	86,64
Buses	Diesel Urban Buses <15t	Euro IV	2007	2009	23,22	17,36	12,81	82,13	82,75	85,07	95,64	94,92	94,57	56,39	59,61	63,64	98,36	98,06	97,83
Buses	Diesel Urban Buses <15t	Euro V	2010	2013	21,91	16,20	11,62	81,85	82,49	84,81	95,57	94,91	94,51	73,98	75,97	78,34	98,34	98,04	97,80
Buses	Diesel Urban Buses 15 - 18t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Urban Buses 15 - 18t	Euro I	1994	1996	14,69	12,79	11,87	53,30	50,29	48,97	45,25	41,27	35,52	38,51	39,11	40,52	58,83	55,91	53,90
Buses	Diesel Urban Buses 15 - 18t	Euro II	1997	2001	17,30	14,13	12,17	59,92	59,59	57,00	72,71	66,78	60,84	33,88	35,52	36,86	71,87	69,67	67,40
Buses	Diesel Urban Buses 15 - 18t	Euro III	2002	2006	13,33	10,21	8,28	56,14	57,37	51,77	73,49	70,02	67,33	44,22	50,21	54,47	74,05	72,45	69,52
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2007	2009	18,27	12,04	5,41	77,87	78,14	78,66	93,34	92,51	91,91	63,91	65,56	67,41	96,21	95,37	94,76
Buses	Diesel Urban Buses 15 - 18t	Euro V	2010	2013	17,09	11,02	4,36	77,61	77,91	78,39	93,29	92,44	91,82	78,49	79,52	80,66	96,18	95,33	94,71
Buses	Diesel Urban Buses >18t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Urban Buses >18t	Euro I	1994	1996	13,02	11,55	11,00	53,10	50,54	42,55	45,84	41,58	31,51	38,69	39,58	40,12	56,81	53,19	51,17
Buses	Diesel Urban Buses >18t	Euro II	1997	2001	15,64	12,70	7,01	58,65	60,18	57,11	71,05	66,18	60,82	35,41	37,06	37,96	70,55	67,39	66,73
Buses	Diesel Urban Buses >18t	Euro III	2002	2006	12,01	9,43	7,87	56,20	58,74	50,21	74,88	73,79	68,82	45,31	50,39	53,06	73,26	71,41	69,52
Buses	Diesel Urban Buses >18t	Euro IV	2007	2009	15,33	9,09	4,47	79,06	79,83	80,58	93,56	93,24	92,92	63,20	64,47	65,49	95,53	94,57	94,05
Buses	Diesel Urban Buses >18t	Euro V	2010	2013	14,29	8,13	3,44	78,89	79,66	80,38	93,49	93,15	92,82	78,07	78,86	79,49	95,49	94,52	93,98
Buses	Gasoline Coaches	Conventional	0	9999	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Coaches <15t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Coaches <15t	Euro I	1994	1996	8,28	7,70	7,47	18,93	15,68	13,60	19,31	20,59	22,44	22,57	24,07	24,64	8,47	3,14	-1,19
Buses	Diesel Coaches <15t	Euro II	1997	2001	8,76	7,42	7,07	34,56	30,80	20,45	62,13	58,30	55,34	11,40	14,43	16,14	35,38	32,63	30,64
Buses	Diesel Coaches <15t	Euro III	2002	2006	0,80	0,43	0,70	14,91	15,75	6,50	54,54	55,87	57,10	24,13	31,47	34,19	36,41	34,05	30,99

Buses	Diesel Coaches <15t	Euro IV	2007	2009	5,01	1,44	0,69	54,25	53,24	49,77	90,25	89,66	88,99	49,96	52,11	52,89	92,04	91,07	90,12
Buses	Diesel Coaches <15t	Euro V	2010	2013	2,65	-0,53	-0,93	52,50	51,58	49,26	90,05	89,49	88,84	69,67	71,16	71,91	91,83	90,88	89,96
Buses	Diesel Coaches 15 - 18t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Coaches 15 - 18t	Euro I	1994	1996	8,28	7,70	7,47	18,93	15,68	13,60	19,31	20,59	22,44	22,57	24,07	24,64	8,47	3,14	-1,19
Buses	Diesel Coaches 15 - 18t	Euro II	1997	2001	8,76	7,42	7,07	34,56	30,80	20,45	62,13	58,30	55,34	11,40	14,43	16,14	35,38	32,63	30,64
Buses	Diesel Coaches 15 - 18t	Euro III	2002	2006	0,80	0,43	0,70	14,91	15,75	6,50	54,54	55,87	57,10	24,13	31,47	34,19	36,41	34,05	30,99
Buses	Diesel Coaches 15 - 18t	Euro IV	2007	2009	5,01	1,44	0,69	54,25	53,24	49,77	90,25	89,66	88,99	49,96	52,11	52,89	92,04	91,07	90,12
Buses	Diesel Coaches 15 - 18t	Euro V	2010	2013	2,65	-0,53	-0,93	52,50	51,58	49,26	90,05	89,49	88,84	69,67	71,16	71,91	91,83	90,88	89,96
Buses	Diesel Coaches >18t	Conventional	0	1993	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Buses	Diesel Coaches >18t	Euro I	1994	1996	11,38	10,72	10,58	19,11	15,65	15,87	21,00	21,97	25,46	23,77	25,28	25,99	9,71	6,78	5,13
Buses	Diesel Coaches >18t	Euro II	1997	2001	12,90	11,45	11,20	34,56	31,66	25,53	62,65	58,54	56,71	15,63	18,15	19,50	37,83	37,12	36,81
Buses	Diesel Coaches >18t	Euro III	2002	2006	9,75	11,17	12,01	17,62	18,24	16,92	57,74	59,71	61,98	31,26	37,05	39,51	39,99	40,51	40,69
Buses	Diesel Coaches >18t	Euro IV	2007	2009	14,03	12,71	12,20	57,22	57,13	57,19	90,88	90,59	90,41	54,36	56,11	56,59	92,52	91,99	91,37
Buses	Diesel Coaches >18t	Euro V	2010	2013	11,70	10,73	10,51	56,10	56,11	56,24	90,69	90,43	90,28	72,44	73,59	73,96	92,33	91,84	91,19
Mopeds	2-stroke <50 cm³	Conventional	0	1999	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Mopeds	2-stroke <50 cm³	Euro I	2000	2003	20,00	20,00	20,00	68,71	68,71	68,71	74,43	74,43	74,43	-221,43	-221,43	-221,43	59,52	59,52	59,52
Mopeds	2-stroke <50 cm³	Euro II	2004	2014	20,00	20,00	20,00	80,95	80,95	80,95	85,23	85,23	85,23	-203,57	-203,57	-203,57	69,05	69,05	69,05
Mopeds	4-stroke <50 cm³	Euro II	2004	2014	20,00	20,00	20,00	71,43	71,43	71,43	96,02	96,02	96,02	-203,57	-203,57	-203,57	90,60	90,60	90,60
Motorcycles	2-stroke >50 cm³	Conventional	0	1999	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Motorcycles	2-stroke >50 cm³	Euro I	2000	2003	0,00	0,00	0,00	33,90	33,70	33,50	60,00	60,00	60,00	0,00	0,00	0,00	0,00	0,00	0,00
Motorcycles	2-stroke >50 cm³	Euro II	2004	2006	8,20	9,50	10,60	47,80	47,80	47,70	80,00	80,00	80,00	-38,70	-68,10	-70,70	69,10	63,70	57,60
Motorcycles	2-stroke >50 cm³	Euro III	2007	9999	8,20	9,50	10,60	71,10	71,00	70,70	94,00	94,00	94,00	-64,90	-93,70	-98,30	83,50	80,50	77,10
Motorcycles	4-stroke <250 cm³	Conventional	0	1999	8,20	9,50	10,60	0,00	0,00	0,00	0,00	0,00	0,00	22,10	-0,90	-15,50	89,70	88,00	85,90
Motorcycles	4-stroke <250 cm³	Euro I	2000	2003	0,00	0,00	0,00	31,90	16,00	0,20	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Motorcycles	4-stroke <250 cm³	Euro II	2004	2006	17,60	17,20	16,30	75,70	66,50	63,40	75,00	75,00	75,00	-6,10	-5,40	-5,50	16,10	2,60	1,10
Motorcycles	4-stroke <250 cm³	Euro III	2007	9999	28,70	33,00	35,70	86,50	81,40	79,60	75,00	75,00	75,00	16,90	9,90	-7,90	63,30	49,10	47,60
Motorcycles	4-stroke 250 - 750 cm³	Conventional	0	1999	28,70	33,00	35,70	0,00	0,00	0,00	0,00	0,00	0,00	24,10	24,90	10,10	77,20	68,00	66,50
Motorcycles	4-stroke 250 - 750 cm³	Euro I	2000	2003	0,00	0,00	0,00	48,20	53,80	54,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Motorcycles	4-stroke 250 - 750 cm³	Euro II	2004	2006	8,50	5,70	0,30	89,10	87,50	73,50	75,00	75,00	75,00	0,20	2,50	5,40	44,50	39,20	23,30
Motorcycles	4-stroke 250 - 750 cm³	Euro III	2007	9999	17,10	13,40	7,90	94,00	93,10	85,40	75,00	75,00	75,00	70,40	67,00	56,50	75,00	67,20	43,00
Motorcycles	4-stroke >750 cm³	Conventional	0	1999	17,10	13,40	7,90	0,00	0,00	0,00	0,00	0,00	0,00	85,00	83,20	78,10	84,30	79,50	64,20
Motorcycles	4-stroke >750 cm³	Euro I	2000	2003	0,00	0,00	0,00	48,20	53,80	54,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Motorcycles	4-stroke >750 cm³	Euro II	2004	2006	2,30	7,40	11,80	89,10	87,50	73,50	75,00	75,00	75,00	-14,20	-37,30	-17,00	56,40	59,00	57,80
Motorcycles	4-stroke >750 cm³	Euro III	2007	9999	6,40	8,70	9,30	94,00	93,10	85,40	75,00	75,00	75,00	16,90	-12,40	-23,50	84,60	81,20	73,20

## Annex 3B-6 Deterioration factors in 2012

Sector	Subsector	Tech 2	FYear	LYear	COU	COR	COH	NOxU	NOxR	NOxH	VOCU	VOCR	VOCH
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	0	1969	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	1970	1978	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	1979	1980	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	1981	1985	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	1986	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	1991	1996	2,45676364	2,5358	2,5358	2,050881818	1,888	1,888	1,862736364	1,5974	1,5974
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	1997	2000	2,45676364	2,5358	2,5358	2,050881818	1,888	1,888	1,862736364	1,5974	1,5974
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2001	2005	1,43682734	1,1507381	1,1507381	1	1	1	1,175928207	1	1
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2006	2010	1,14113537	1,05078521	1,05078521	1	1	1	1,056995935	1	1
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2011	2014	0,93262402	0,98030202	0,98030202	1	1	1	0,973129172	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	0	1969	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	1970	1978	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	1979	1980	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	1981	1985	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	1986	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	1991	1996	1,84864636	1,76984	1,76984	2,050881818	1,888	1,888	1,891659091	1,7868	1,7868
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	1997	2000	1,84864636	1,76984	1,76984	2,050881818	1,888	1,888	1,891659091	1,7868	1,7868
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2001	2005	1,18858397	1	1	1,281105214	1	1	1	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2006	2010	1,10408306	1	1	1,154955172	1	1	1	1	1
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2011	2014	1,00889333	1	1	1,012847962	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	PRE ECE	0	1969	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	1970	1978	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	ECE 15/02	1979	1980	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	ECE 15/03	1981	1985	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	ECE 15/04	1986	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	Euro I	1991	1996	1,44665364	1,19748	1,19748	2,050881818	1,888	1,888	1,677460909	1,45388	1,45388
Passenger Cars	Gasoline >2,0 l	Euro II	1997	2000	1,44665364	1,19748	1,19748	2,050881818	1,888	1,888	1,677460909	1,45388	1,45388
Passenger Cars	Gasoline >2,0 l	Euro III	2001	2005	1,19577486	1	1	1,291840383	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	Euro IV	2006	2010	1,12718711	1	1	1,189446828	1	1	1	1	1
Passenger Cars	Gasoline >2,0 l	Euro V	2011	2014	1,01466181	1	1	1,02145962	1	1	1	1	1
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	0	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	1991	1996	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	1997	2000	1	1	1	1	1	1	1	1	1

Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2001	2005	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2006	2010	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2011	2014	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel >2,0 l	Conventional	0	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel >2,0 l	Euro I	1991	1996	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel >2,0 l	Euro II	1997	2000	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel >2,0 l	Euro III	2001	2005	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel >2,0 l	Euro IV	2006	2010	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel >2,0 l	Euro V	2011	2014	1	1	1	1	1	1	1	1	1
Passenger Cars	LPG cars	Conventional	0	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	LPG cars	Euro I	1991	1996	1	1	1	1	1	1	1	1	1
Passenger Cars	LPG cars	Euro II	1997	2000	1	1	1	1	1	1	1	1	1
Passenger Cars	LPG cars	Euro III	2001	2005	1	1	1	1	1	1	1	1	1
Passenger Cars	LPG cars	Euro IV	2006	2010	1	1	1	1	1	1	1	1	1
Passenger Cars	Electric cars	Conventional	0	9999	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline <0,8 l	PRE ECE	0	1969	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	1970	1978	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline <0,8 l	ECE 15/02	1979	1980	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline <0,8 l	ECE 15/03	1981	1985	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline <0,8 l	ECE 15/04	1986	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	Gasoline <0,8 l	Euro I	1991	1996	1,8900476	1,938392	1,938392	1,549472614	1,456479718	1,456479718	1,52718272	1,365015717	1,365015717
Passenger Cars	Gasoline <0,8 l	Euro II	1997	2000	2,36122605	2,43508833	2,43508833	1,966353722	1,815253853	1,815253853	1,806168374	1,558224411	1,558224411
Passenger Cars	Gasoline <0,8 l	Euro III	2001	2005	1,43155293	1,14895519	1,14895519	1	1	1	1,173806751	1	1
Passenger Cars	Gasoline <0,8 l	Euro IV	2006	2010	1,15421885	1,05520782	1,05520782	1	1	1	1,062258331	1	1
Passenger Cars	Gasoline <0,8 l	Euro V	2011	2014	0,93830805	0,98222339	0,98222339	1	1	1	0,975415386	1	1
Passenger Cars	Diesel <1,4 l	Conventional	0	1990	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel <1,4 l	Euro I	1991	1996	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel <1,4 l	Euro II	1997	2000	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel <1,4 l	Euro III	2001	2005	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel <1,4 l	Euro IV	2006	2010	1	1	1	1	1	1	1	1	1
Passenger Cars	Diesel <1,4 l	Euro V	2011	2014	1	1	1	1	1	1	1	1	1
Light Duty Vehicles	Gasoline <3,5t	Conventional	0	1994	1	1	1	1	1	1	1	1	1
Light Duty Vehicles	Gasoline <3,5t	Euro I	1995	1998	2,45676364	2,5358	2,5358	2,050881818	1,888	1,888	1,862736364	1,5974	1,5974
Light Duty Vehicles	Gasoline <3,5t	Euro II	1999	2001	2,45676364	2,5358	2,5358	2,050881818	1,888	1,888	1,862736364	1,5974	1,5974
Light Duty Vehicles	Gasoline <3,5t	Euro III	2002	2006	1,16742689	1	1	1,249520161	1	1	1	1	1
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2007	2011	1,08932894	1	1	1,132928986	1	1	1	1	1
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	2015	0,98987251	1	1	0,984452072	1	1	1	1	1



## Annex 3B-7 Final fuel consumption factors (MJ/km) and emission factors (g/km) in 2012

Sector	Subsector	Tech 2	ForecastYear	Milu	Milr	MilH	FCu_MJ	FCr_MJ	FCh_MJ	FCu_g	FCr_g	FCh_g	CO2_u	CO2_r	CO2_h	NOx_u	NOx_r	NOx_h
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	2012	6948	17596	10159	4,336	2,409	2,748	101	56	64	305	170	194	2,051	2,062	2,023
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	2012	5025	12724	7347	3,741	1,947	2,129	87	45	50	263	137	150	2,051	2,062	2,023
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	2012	680	1722	994	3,420	1,978	2,243	80	46	52	241	139	158	1,796	2,102	2,909
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	2012	3957	10022	5786	3,420	1,978	2,243	80	46	52	241	139	158	1,864	2,253	3,276
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	2012	17966	45496	26269	3,303	1,903	2,089	77	44	49	233	134	147	1,876	2,089	2,662
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	2012	143072	362319	209195	3,045	1,838	2,017	71	43	47	214	129	142	1,148	0,531	0,864
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	2012	227787	576853	333062	3,005	1,731	1,928	70	40	45	212	122	136	0,739	0,291	0,342
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2012	335153	848750	490049	3,101	1,851	1,985	72	43	46	218	130	140	0,264	0,060	0,052
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2012	679359	1720425	993334	2,739	1,563	1,708	64	36	40	193	110	120	0,160	0,030	0,019
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2012	363791	921273	531922	2,625	1,463	1,598	61	34	37	185	103	113	0,146	0,023	0,014
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	2012	14599	36971	21346	5,093	2,935	3,346	119	69	78	359	207	236	2,401	2,683	3,130
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	2012	8722	22087	12752	4,354	2,238	2,641	102	52	62	307	158	186	2,401	2,683	3,130
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	2012	1131	2864	1654	3,965	2,220	2,614	93	52	61	279	156	184	2,031	2,377	3,283
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	2012	7136	18072	10434	3,965	2,220	2,614	93	52	61	279	156	184	2,126	2,580	3,472
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	2012	34941	88484	51089	3,960	2,151	2,280	92	50	53	279	151	161	2,354	2,757	3,524
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	2012	365004	924345	533695	3,695	2,125	2,257	86	50	53	260	150	159	1,131	0,531	0,864
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	2012	742835	1881173	1086146	3,643	2,089	2,137	85	49	50	257	147	150	0,727	0,291	0,342
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2012	754314	1910243	1102930	3,727	2,185	2,325	87	51	54	262	154	164	0,280	0,060	0,052
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2012	558941	1415476	817263	3,635	2,147	2,249	85	50	52	256	151	158	0,166	0,030	0,019
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2012	82516	208965	120652	3,503	2,031	2,127	82	47	50	247	143	150	0,144	0,023	0,014
Passenger Cars	Gasoline >2,0 l	PRE ECE	2012	6241	15805	9125	6,201	3,504	3,866	145	82	90	437	247	272	3,173	4,090	5,500
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	2012	4864	12318	7112	4,741	2,501	2,904	111	58	68	334	176	205	3,173	4,090	5,500
Passenger Cars	Gasoline >2,0 l	ECE 15/02	2012	537	1359	785	4,835	2,771	3,097	113	65	72	341	195	218	2,292	2,675	3,680
Passenger Cars	Gasoline >2,0 l	ECE 15/03	2012	1626	4119	2378	4,835	2,771	3,097	113	65	72	341	195	218	3,113	3,441	4,604
Passenger Cars	Gasoline >2,0 l	ECE 15/04	2012	5823	14747	8514	4,564	2,544	3,062	107	59	71	321	179	216	2,543	2,750	3,687
Passenger Cars	Gasoline >2,0 l	Euro I	2012	28584	72387	41795	4,793	2,711	2,848	112	63	66	338	191	201	0,993	0,531	0,864
Passenger Cars	Gasoline >2,0 l	Euro II	2012	59066	149579	86364	4,890	2,857	2,923	114	67	68	344	201	206	0,627	0,291	0,342
Passenger Cars	Gasoline >2,0 l	Euro III	2012	118155	299220	172762	4,626	2,515	2,489	108	59	58	326	177	175	0,237	0,060	0,052
Passenger Cars	Gasoline >2,0 l	Euro IV	2012	84269	213406	123216	5,586	3,202	3,107	130	75	73	393	225	219	0,142	0,030	0,019
Passenger Cars	Gasoline >2,0 l	Euro V	2012	4209	10659	6154	5,517	3,147	3,053	129	73	71	389	222	215	0,119	0,023	0,014
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	2012	48565	122988	71011	2,705	1,828	2,066	64	43	49	188	127	143	0,743	0,562	0,663
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	2012	147906	374561	216263	2,852	1,884	2,083	67	44	49	198	131	144	0,803	0,555	0,665
Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2012	625682	1584491	914849	2,766	1,854	1,946	65	44	46	192	129	135	0,883	0,665	0,750

Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2012	714935	1810517	1045350	2,715	1,809	1,899	64	43	45	188	125	132	0,665	0,424	0,576
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2012	1415407	3584409	2069555	2,578	1,687	1,769	61	40	42	179	117	123	0,818	0,521	0,708
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	2012	22421	56780	32784	3,253	1,760	2,139	77	42	51	226	122	148	0,641	0,433	0,528
Passenger Cars	Diesel >2,0 l	Euro I	2012	16926	42865	24749	3,691	2,489	2,748	87	59	65	256	173	191	0,743	0,562	0,663
Passenger Cars	Diesel >2,0 l	Euro II	2012	60694	153704	88745	3,691	2,489	2,748	87	59	65	256	173	191	0,803	0,555	0,665
Passenger Cars	Diesel >2,0 l	Euro III	2012	157901	399873	230877	3,691	2,489	2,748	87	59	65	256	173	191	0,883	0,665	0,750
Passenger Cars	Diesel >2,0 l	Euro IV	2012	146877	371956	214759	4,007	2,772	3,060	95	65	72	278	192	212	0,665	0,424	0,576
Passenger Cars	Diesel >2,0 l	Euro V	2012	202435	512650	295992	3,653	2,455	2,710	86	58	64	253	170	188	0,818	0,521	0,708
Passenger Cars	Diesel >2,0 l	Conventional	2012	5063	12821	7402	3,253	1,760	2,139	77	42	51	226	122	148	1,016	0,723	0,861
Passenger Cars	LPG cars	Euro I	2012	7	19	11	3,316	2,077	2,490	72	45	54	209	131	157	0,314	0,283	0,298
Passenger Cars	LPG cars	Euro II	2012	14	34	20	3,316	2,077	2,490	72	45	54	209	131	157	0,104	0,102	0,107
Passenger Cars	LPG cars	Euro III	2012	11	27	16	3,316	2,077	2,490	72	45	54	209	131	157	0,073	0,068	0,071
Passenger Cars	LPG cars	Euro IV	2012	17	42	24	3,316	2,077	2,490	72	45	54	209	131	157	0,039	0,037	0,039
Passenger Cars	LPG cars	Conventional	2012	11	27	16	3,980	2,070	2,484	87	45	54	251	131	157	2,034	2,584	2,861
Passenger Cars	Gasoline <0,8 l	PRE ECE	2012	220	558	322	3,357	2,025	2,477	78	47	58	236	143	174	2,051	2,062	2,023
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	2012	198	502	290	2,896	1,637	1,918	68	38	45	204	115	135	2,051	2,062	2,023
Passenger Cars	Gasoline <0,8 l	ECE 15/02	2012	6	15	8	2,648	1,663	2,021	62	39	47	186	117	142	1,796	2,102	2,909
Passenger Cars	Gasoline <0,8 l	ECE 15/03	2012	51	128	74	2,648	1,663	2,021	62	39	47	186	117	142	1,864	2,253	3,276
Passenger Cars	Gasoline <0,8 l	ECE 15/04	2012	63	160	92	2,557	1,599	1,883	60	37	44	180	113	133	1,876	2,089	2,662
Passenger Cars	Gasoline <0,8 l	Euro I	2012	138	348	201	2,357	1,545	1,818	55	36	42	166	109	128	1,011	0,410	0,666
Passenger Cars	Gasoline <0,8 l	Euro II	2012	572	1450	837	2,326	1,455	1,737	54	34	41	164	102	122	0,726	0,280	0,329
Passenger Cars	Gasoline <0,8 l	Euro III	2012	1988	5034	2907	2,401	1,556	1,789	56	36	42	169	110	126	0,264	0,060	0,052
Passenger Cars	Gasoline <0,8 l	Euro IV	2012	6034	15281	8823	2,222	1,412	1,653	52	33	39	156	99	116	0,160	0,030	0,019
Passenger Cars	Gasoline <0,8 l	Euro V	2012	515	1305	753	1,973	1,173	1,374	46	27	32	139	83	97	0,146	0,023	0,014
Passenger Cars	Diesel <1,4 l	Euro I	2012	347	878	507	1,719	1,366	1,679	41	32	40	119	95	116	0,743	0,562	0,663
Passenger Cars	Diesel <1,4 l	Euro II	2012	6688	16936	9779	1,813	1,408	1,692	43	33	40	126	98	117	0,803	0,555	0,665
Passenger Cars	Diesel <1,4 l	Euro III	2012	91206	230972	133358	1,758	1,386	1,582	42	33	37	122	96	110	0,883	0,665	0,750
Passenger Cars	Diesel <1,4 l	Euro IV	2012	140834	356652	205923	1,889	1,522	1,737	45	36	41	131	106	121	0,665	0,424	0,576
Passenger Cars	Diesel <1,4 l	Euro V	2012	273197	691850	399458	1,820	1,450	1,653	43	34	39	126	101	115	0,818	0,521	0,708
Passenger Cars	Diesel <1,4 l	Conventional	2012	40	100	58	2,068	1,315	1,738	49	31	41	143	91	121	0,641	0,433	0,528
Light Duty Vehicles	Gasoline <3,5t	Conventional	2012	5692	14238	7724	5,239	2,623	2,473	122	61	58	369	185	174	2,955	3,118	3,387
Light Duty Vehicles	Gasoline <3,5t	Euro I	2012	18381	45976	24940	6,142	3,083	2,911	143	72	68	433	217	205	1,532	0,755	0,810
Light Duty Vehicles	Gasoline <3,5t	Euro II	2012	14801	37022	20083	6,142	3,083	2,911	143	72	68	433	217	205	0,771	0,257	0,276
Light Duty Vehicles	Gasoline <3,5t	Euro III	2012	35902	89798	48713	6,142	3,083	2,911	143	72	68	433	217	205	0,322	0,084	0,090
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2012	13538	33861	18368	6,142	3,083	2,911	143	72	68	433	217	205	0,167	0,040	0,043
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	491	1229	667	6,142	3,083	2,911	143	72	68	433	217	205	0,150	0,030	0,032
Light Duty Vehicles	Diesel <3,5t	Conventional	2012	23203	58037	31483	4,309	2,815	3,080	102	66	73	299	195	214	2,052	0,843	0,834

Light Duty Vehicles	Diesel <3,5t	Euro I	2012	109438	273730	148489	3,868	2,484	2,718	91	59	64	268	172	189	1,396	0,975	1,022
Light Duty Vehicles	Diesel <3,5t	Euro II	2012	132946	332530	180386	3,868	2,484	2,718	91	59	64	268	172	189	1,396	0,975	1,022
Light Duty Vehicles	Diesel <3,5t	Euro III	2012	590213	1476262	800824	3,868	2,484	2,718	91	59	64	268	172	189	1,173	0,819	0,859
Light Duty Vehicles	Diesel <3,5t	Euro IV	2012	497535	1244453	675075	3,868	2,484	2,718	91	59	64	268	172	189	0,949	0,663	0,695
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	280459	701493	380537	3,868	2,484	2,718	91	59	64	268	172	189	0,684	0,478	0,501
Light Duty Vehicles	LPG <3,5t	Conventional	2012	6	15	8	5,919	3,105	3,726	129	68	81	373	196	235	3,058	3,876	4,291
Light Duty Vehicles	LPG <3,5t	Euro II	2012	8	19	10	4,930	3,116	3,735	107	68	81	311	197	236	0,171	0,153	0,161
Light Duty Vehicles	LPG <3,5t	Euro III	2012	32	81	44	4,930	3,116	3,735	107	68	81	311	197	236	0,115	0,102	0,107
Light Duty Vehicles	LPG <3,5t	Euro IV	2012	15	39	21	4,930	3,116	3,735	107	68	81	311	197	236	0,059	0,055	0,058
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	2012	582	2117	1092	9,855	6,570	7,227	230	153	169	694	463	509	4,500	7,500	7,500
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	2012	321	1168	603	5,338	4,739	4,824	126	112	114	370	329	335	4,211	4,104	4,476
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	2012	222	808	417	4,272	3,915	4,450	101	92	105	296	272	309	2,939	2,938	3,316
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	2012	1417	5150	2657	4,056	3,783	4,313	96	89	102	281	262	299	3,223	3,118	3,414
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2012	3616	13144	6781	4,329	3,966	4,523	102	94	107	300	275	314	2,499	2,300	2,498
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2012	4336	15759	8129	4,208	3,967	4,552	99	94	108	292	275	316	1,707	1,645	1,801
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2012	2380	8651	4463	4,076	3,810	4,362	96	90	103	283	264	303	1,957	0,821	0,447
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2012	3	12	6	4,195	3,891	4,416	99	92	104	291	270	306	0,233	0,097	0,060
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	2012	838	3045	1571	7,825	6,538	6,408	185	154	151	543	454	444	7,928	7,236	7,499
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	2012	679	2469	1274	6,656	5,787	5,836	157	137	138	462	401	405	4,729	4,306	4,464
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	2012	2288	8316	4290	6,346	5,605	5,702	150	132	135	440	389	396	5,152	4,593	4,682
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2012	5636	20485	10567	6,728	5,883	5,935	159	139	140	467	408	412	3,997	3,536	3,485
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2012	5143	18693	9643	6,467	5,814	5,916	153	137	140	449	403	410	2,728	2,512	2,488
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2012	5289	19226	9918	6,317	5,629	5,702	149	133	135	438	390	396	3,114	1,405	0,778
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2012	6	21	11	6,471	5,728	5,758	153	135	136	449	397	399	0,384	0,154	0,096
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	2012	110	400	207	8,477	6,973	6,798	200	165	161	588	484	472	8,826	7,718	7,748
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	2012	83	300	155	7,266	6,162	6,120	172	146	145	504	427	425	5,321	4,638	4,638
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	2012	263	955	493	6,970	5,979	5,961	165	141	141	483	415	413	5,815	4,975	4,889
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2012	270	982	507	7,351	6,238	6,175	174	147	146	510	433	428	4,745	3,881	3,702
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2012	303	1101	568	6,965	6,103	6,118	164	144	144	483	423	424	3,208	2,754	2,620
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2012	351	1277	659	6,828	5,922	5,890	161	140	139	474	411	409	3,478	1,582	0,881
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	2012	446	1620	836	11,173	8,785	8,248	264	207	195	775	609	572	11,287	9,455	9,120
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	2012	473	1718	886	9,088	7,350	7,020	215	174	166	630	510	487	6,721	5,601	5,385
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	2012	2391	8690	4483	8,724	7,142	6,846	206	169	162	605	495	475	7,473	6,118	5,804
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2012	6355	23099	11916	9,195	7,421	7,042	217	175	166	638	515	488	6,139	4,859	4,431
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2012	6370	23154	11944	8,587	7,177	6,916	203	170	163	596	498	480	4,079	3,400	3,171
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2012	8415	30586	15778	8,572	7,045	6,710	202	166	158	595	489	465	4,749	2,641	1,675
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2012	10	36	18	8,568	7,081	6,773	202	167	160	594	491	470	0,694	0,262	0,135

Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	2012	277	1008	520	13,489	10,388	9,495	319	245	224	936	721	659	12,251	9,862	9,114
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	2012	531	1931	996	11,521	9,050	8,362	272	214	197	799	628	580	8,634	6,952	6,468
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	2012	3222	11710	6041	11,147	8,848	8,190	263	209	193	773	614	568	9,465	7,549	6,947
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2012	10842	39406	20328	11,646	9,122	8,356	275	215	197	808	633	580	7,649	6,024	5,545
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2012	11186	40657	20973	10,999	8,858	8,223	260	209	194	763	614	570	5,146	4,223	3,967
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2012	14725	53523	27610	10,804	8,631	7,974	255	204	188	749	599	553	5,824	2,914	1,627
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2012	9	31	16	10,924	8,716	8,049	258	206	190	758	605	558	0,710	0,287	0,164
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	2012	3	10	5	14,261	11,014	9,970	337	260	235	989	764	692	12,868	10,379	9,526
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	2012	2	8	4	12,232	9,624	8,799	289	227	208	848	668	610	9,122	7,308	6,742
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	2012	3	10	5	11,823	9,401	8,622	279	222	204	820	652	598	9,876	7,848	7,164
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2012	19	67	35	12,354	9,712	8,830	292	229	209	857	674	612	7,733	6,089	5,633
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2012	13	47	24	11,835	9,518	8,710	280	225	206	821	660	604	5,258	4,284	4,029
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2012	32	115	59	11,469	9,153	8,338	271	216	197	796	635	578	6,554	3,004	1,426
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	2012	14	50	26	15,791	12,478	11,346	373	295	268	1095	866	787	14,515	11,942	11,008
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	2012	59	214	111	13,865	11,099	10,170	327	262	240	962	770	705	10,453	8,509	7,843
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	2012	1135	4125	2128	13,380	10,738	10,252	316	254	242	928	745	711	11,232	9,043	8,280
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2012	7107	25832	13326	13,989	11,225	10,242	330	265	242	970	779	710	8,883	7,017	6,445
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2012	8262	30029	15491	13,525	11,089	10,149	319	262	240	938	769	704	5,978	5,101	4,533
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2012	9313	33852	17463	13,087	10,653	9,720	309	252	230	908	739	674	6,484	2,684	1,391
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2012	9	33	17	13,430	10,924	9,951	317	258	235	932	758	690	0,638	0,290	0,191
Heavy Duty Vehicles	Diesel RT >32t	Euro I	2012	2	9	4	14,022	10,936	9,924	331	258	234	973	759	688	10,614	8,446	7,666
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2012	29	105	54	14,133	11,011	9,928	334	260	234	980	764	689	9,225	7,224	6,550
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2012	12	43	22	13,512	10,782	9,803	319	255	232	937	748	680	6,270	5,071	4,708
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2012	53	191	99	13,145	10,402	9,416	310	246	222	912	722	653	6,646	2,837	1,521
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	2012	146	1471	1953	14,181	10,863	9,705	335	257	229	984	753	673	13,305	10,460	9,286
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	2012	145	1468	1951	12,683	9,797	8,769	300	231	207	880	680	608	9,509	7,408	6,570
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	2012	728	7355	9770	11,962	9,377	8,674	283	221	205	830	650	602	10,046	7,771	6,867
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2012	1944	19642	26091	12,594	9,760	8,699	297	231	205	874	677	603	8,110	6,154	5,397
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2012	1938	19586	26016	12,093	9,572	8,567	286	226	202	839	664	594	5,531	4,329	3,837
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2012	2556	25828	34308	11,833	9,300	8,288	279	220	196	821	645	575	5,295	2,493	1,513
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2012	3	30	40	11,973	9,411	8,396	283	222	198	831	653	582	0,531	0,245	0,167
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	2012	180	1822	2420	16,449	12,410	10,920	388	293	258	1141	861	758	15,378	11,908	10,419
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	2012	274	2770	3680	14,440	11,007	9,732	341	260	230	1002	763	675	10,891	8,408	7,387
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	2012	1551	15673	20819	14,078	10,815	9,559	333	255	226	977	750	663	11,695	8,978	7,885
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2012	6038	61004	81032	14,582	11,081	9,709	344	262	229	1011	769	673	9,414	7,197	6,354
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2012	6168	62317	82777	13,969	10,851	9,575	330	256	226	969	753	664	6,398	5,061	4,523
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2012	16507	166787	221545	13,690	10,560	9,283	323	249	219	950	733	644	6,079	2,869	1,752

Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2012	25	254	337	13,824	10,661	9,376	326	252	221	959	740	650	0,610	0,285	0,191
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	2012	57	574	763	18,259	13,816	12,105	431	326	286	1267	958	840	17,311	13,363	11,617
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	2012	145	1464	1945	16,056	12,263	10,784	379	290	255	1114	851	748	12,142	9,377	8,189
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	2012	1137	11486	15258	15,545	12,026	10,840	367	284	256	1078	834	752	12,955	9,936	8,683
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2012	10842	109550	145517	16,227	12,353	10,785	383	292	255	1126	857	748	10,432	7,969	6,995
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2012	17764	179492	238421	15,683	12,170	10,666	370	287	252	1088	844	740	7,035	5,657	4,952
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2012	27152	274346	364417	15,260	11,749	10,255	360	277	242	1059	815	711	6,358	2,665	1,525
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2012	62	631	838	15,508	11,944	10,428	366	282	246	1076	828	723	0,564	0,294	0,214
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	2012	3	29	39	18,764	14,443	12,810	443	341	303	1302	1002	889	15,566	11,836	10,222
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2012	6	56	74	18,830	14,628	12,811	445	345	303	1306	1015	889	8,477	6,746	5,764
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2012	5	52	69	19,297	14,647	13,013	456	346	307	1339	1016	903	12,548	9,501	8,223
Buses	Gasoline Urban Buses	Conventional	2012	123	126	19	9,855	6,570	7,227	230	153	169	694	463	509	4,500	7,500	7,500
Buses	Diesel Urban Buses <15t	Conventional	2012	99	101	16	11,353	9,012	8,430	268	213	199	788	625	585	9,347	7,678	7,133
Buses	Diesel Urban Buses <15t	Euro I	2012	220	224	35	9,175	7,454	6,918	217	176	163	636	517	480	6,945	5,531	4,861
Buses	Diesel Urban Buses <15t	Euro II	2012	1599	1629	251	8,856	7,275	6,774	209	172	160	614	505	470	7,552	5,971	5,224
Buses	Diesel Urban Buses <15t	Euro III	2012	10945	11148	1721	9,384	7,682	7,132	222	181	168	651	533	495	6,425	4,515	3,631
Buses	Diesel Urban Buses <15t	Euro IV	2012	27476	27985	4320	8,717	7,448	7,350	206	176	174	605	517	510	4,076	3,101	2,593
Buses	Diesel Urban Buses <15t	Euro V	2012	22441	22857	3528	8,470	7,314	6,949	200	173	164	588	507	482	4,841	2,676	1,933
Buses	Diesel Urban Buses 15 - 18t	Conventional	2012	2368	2412	372	14,440	11,180	9,824	341	264	232	1002	775	681	15,108	12,139	10,803
Buses	Diesel Urban Buses 15 - 18t	Euro I	2012	3440	3504	541	12,320	9,750	8,658	291	230	204	855	676	601	9,289	7,392	6,426
Buses	Diesel Urban Buses 15 - 18t	Euro II	2012	15359	15643	2415	11,941	9,600	8,628	282	227	204	828	666	599	9,989	7,828	6,822
Buses	Diesel Urban Buses 15 - 18t	Euro III	2012	36728	37408	5775	12,516	10,038	9,011	296	237	213	868	696	625	8,427	6,044	4,919
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2012	35723	36385	5617	11,802	9,834	9,293	279	232	219	819	682	645	5,452	4,181	3,521
Buses	Diesel Urban Buses 15 - 18t	Euro V	2012	32710	33315	5143	11,432	9,470	8,955	270	224	212	793	657	621	6,085	2,796	2,156
Buses	Diesel Urban Buses >18t	Conventional	2012	17	18	3	18,125	14,109	12,176	428	333	288	1257	979	845	19,310	15,492	13,433
Buses	Diesel Urban Buses >18t	Euro I	2012	22	22	3	15,764	12,479	10,836	372	295	256	1093	866	752	11,840	9,361	8,043
Buses	Diesel Urban Buses >18t	Euro II	2012	1516	1544	238	15,291	12,318	11,322	361	291	267	1061	854	785	12,472	9,751	8,334
Buses	Diesel Urban Buses >18t	Euro III	2012	13813	14069	2172	15,947	12,779	11,217	377	302	265	1106	886	778	10,561	7,685	6,305
Buses	Diesel Urban Buses >18t	Euro IV	2012	18428	18769	2897	15,345	12,827	11,632	362	303	275	1064	890	807	7,106	5,505	4,635
Buses	Diesel Urban Buses >18t	Euro V	2012	15048	15326	2366	14,836	12,376	11,243	350	292	266	1029	858	780	5,523	2,620	1,912
Buses	Gasoline Coaches	Conventional	2012	1872	3581	1228	9,855	6,570	7,227	230	153	169	694	463	509	4,500	7,500	7,500
Buses	Diesel Coaches <15t	Conventional	2012	4254	8136	2789	13,080	9,616	8,499	309	227	201	907	667	590	11,324	8,822	8,156
Buses	Diesel Coaches <15t	Euro I	2012	2604	4981	1707	11,998	8,875	7,864	283	210	186	832	616	546	8,768	6,699	6,147
Buses	Diesel Coaches <15t	Euro II	2012	11020	21079	7226	11,934	8,902	7,898	282	210	187	828	618	548	10,033	7,549	6,840
Buses	Diesel Coaches <15t	Euro III	2012	10135	19386	6646	12,975	9,574	8,440	306	226	199	900	664	585	8,591	6,046	5,368
Buses	Diesel Coaches <15t	Euro IV	2012	7627	14589	5001	12,425	9,478	8,441	293	224	199	862	657	586	5,666	4,225	3,842
Buses	Diesel Coaches <15t	Euro V	2012	4004	7660	2626	12,141	9,185	8,144	287	217	192	842	637	565	7,922	3,947	2,471

Buses	Diesel Coaches 15 - 18t	Conventional	2012	2075	3969	1361	13,080	9,616	8,499	309	227	201	907	667	590	11,324	8,822	8,156
Buses	Diesel Coaches 15 - 18t	Euro I	2012	1170	2239	767	11,998	8,875	7,864	283	210	186	832	616	546	8,768	6,699	6,147
Buses	Diesel Coaches 15 - 18t	Euro II	2012	3042	5819	1995	11,934	8,902	7,898	282	210	187	828	618	548	10,033	7,549	6,840
Buses	Diesel Coaches 15 - 18t	Euro III	2012	1591	3043	1043	12,975	9,574	8,440	306	226	199	900	664	585	8,591	6,046	5,368
Buses	Diesel Coaches 15 - 18t	Euro IV	2012	1092	2089	716	12,425	9,478	8,441	293	224	199	862	657	586	5,666	4,225	3,842
Buses	Diesel Coaches 15 - 18t	Euro V	2012	1012	1935	663	12,141	9,185	8,144	287	217	192	842	637	565	7,922	3,947	2,471
Buses	Diesel Coaches >18t	Conventional	2012	298	569	195	15,881	11,649	10,271	375	275	243	1102	808	712	14,084	10,772	9,735
Buses	Diesel Coaches >18t	Euro I	2012	278	532	182	14,074	10,400	9,184	332	246	217	976	721	637	10,737	8,049	7,206
Buses	Diesel Coaches >18t	Euro II	2012	2343	4481	1536	13,832	10,315	9,121	327	244	215	959	716	633	11,883	8,817	7,837
Buses	Diesel Coaches >18t	Euro III	2012	7075	13534	4639	14,333	10,348	9,037	339	244	213	994	718	627	9,681	6,781	5,889
Buses	Diesel Coaches >18t	Euro IV	2012	5175	9899	3393	13,653	10,168	9,018	322	240	213	947	705	626	6,428	4,728	4,226
Buses	Diesel Coaches >18t	Euro V	2012	2853	5457	1871	13,421	9,918	8,750	317	234	207	931	688	607	8,476	4,163	2,596
Mopeds	2-stroke <50 cm³	Conventional	2012	40304	26869	0	1,095	1,095		26	26		77	77		0,056	0,056	
Mopeds	2-stroke <50 cm³	Euro I	2012	22486	14991	0	0,876	0,876		20	20		62	62		0,180	0,180	
Mopeds	2-stroke <50 cm³	Euro II	2012	53127	35418	0	0,876	0,876		20	20		62	62		0,170	0,170	
Mopeds	4-stroke <50 cm³	Euro II	2012	17709	11806	0	0,876	0,876		20	20		62	62		0,170	0,170	
Motorcycles	2-stroke >50 cm³	Conventional	2012	10671	9188	3477	1,188	1,240	1,736	28	29	41	84	87	122	0,029	0,030	0,035
Motorcycles	2-stroke >50 cm³	Euro I	2012	2038	1755	664	1,188	1,240	1,736	28	29	41	84	87	122	0,029	0,030	0,035
Motorcycles	2-stroke >50 cm³	Euro II	2012	2617	2254	853	1,090	1,122	1,552	25	26	36	77	79	109	0,040	0,050	0,060
Motorcycles	2-stroke >50 cm³	Euro III	2012	4228	3640	1378	1,090	1,122	1,552	25	26	36	77	79	109	0,048	0,058	0,069
Motorcycles	4-stroke <250 cm³	Conventional	2012	21578	18579	7032	1,086	1,204	1,579	25	28	37	76	85	111	0,237	0,428	0,655
Motorcycles	4-stroke <250 cm³	Euro I	2012	4121	3548	1343	1,183	1,331	1,766	28	31	41	83	94	124	0,304	0,424	0,567
Motorcycles	4-stroke <250 cm³	Euro II	2012	5293	4557	1725	0,975	1,102	1,479	23	26	35	69	78	104	0,323	0,447	0,598
Motorcycles	4-stroke <250 cm³	Euro III	2012	8549	7361	2786	0,844	0,892	1,136	20	21	27	59	63	80	0,253	0,382	0,612
Motorcycles	4-stroke 250 - 750 cm³	Conventional	2012	59341	51093	19337	1,167	1,041	1,166	27	24	27	82	73	82	0,196	0,300	0,548
Motorcycles	4-stroke 250 - 750 cm³	Euro I	2012	11332	9757	3693	1,637	1,554	1,813	38	36	42	115	109	128	0,258	0,400	0,610
Motorcycles	4-stroke 250 - 750 cm³	Euro II	2012	14555	12532	4743	1,498	1,465	1,808	35	34	42	105	103	127	0,257	0,390	0,577
Motorcycles	4-stroke 250 - 750 cm³	Euro III	2012	23511	20243	7661	1,357	1,345	1,670	32	31	39	96	95	118	0,076	0,132	0,265
Motorcycles	4-stroke >750 cm³	Conventional	2012	26973	23224	8790	1,565	1,557	1,916	37	36	45	110	110	135	0,019	0,030	0,086
Motorcycles	4-stroke >750 cm³	Euro I	2012	5151	4435	1679	1,888	1,798	2,081	44	42	49	133	127	147	0,125	0,178	0,392
Motorcycles	4-stroke >750 cm³	Euro II	2012	6616	5697	2156	1,844	1,665	1,835	43	39	43	130	117	129	0,143	0,244	0,459
Motorcycles	4-stroke >750 cm³	Euro III	2012	10687	9201	3482	1,767	1,641	1,887	41	38	44	124	116	133	0,104	0,200	0,484

Sector	Subsector	Tech 2	ForecastYear	CO			VOC		VOC_h	TSP_u	TSP_r	TSP_h	CH4		CH4_h	NMVOC_u	NMVOC_r	NMVOC_h	N2O_u	N2O_r	N2O_h
				CO_u	CO_r	CO_h	VOC_u	VOC_r					CH4_u	CH4_r							
Passenger Cars	Gasoline 0,8 - 1,4 l	PRE ECE	2012	91,825	19,333	15,520	10,514	1,991	1,285	0,063	0,044	0,041	0,219	0,029	0,026	10,295	1,962	1,259	0,010	0,007	0,007
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/00-01	2012	63,319	14,480	18,620	9,073	1,634	1,158	0,063	0,044	0,041	0,219	0,029	0,026	8,854	1,605	1,132	0,010	0,007	0,007
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/02	2012	52,946	8,200	8,260	8,928	1,429	0,985	0,063	0,044	0,041	0,219	0,029	0,026	8,709	1,400	0,959	0,010	0,007	0,007
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/03	2012	55,927	8,793	7,620	8,852	1,423	0,985	0,042	0,029	0,029	0,219	0,029	0,026	8,633	1,394	0,959	0,010	0,007	0,007
Passenger Cars	Gasoline 0,8 - 1,4 l	ECE 15/04	2012	30,337	4,956	4,292	7,844	1,251	0,732	0,030	0,020	0,020	0,219	0,029	0,026	7,625	1,222	0,706	0,010	0,007	0,007
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro I	2012	26,783	3,478	4,477	2,524	0,204	0,178	0,003	0,002	0,002	0,048	0,016	0,014	2,475	0,188	0,164	0,018	0,011	0,005
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro II	2012	17,782	1,457	1,901	1,401	0,084	0,068	0,003	0,002	0,002	0,067	0,013	0,011	1,334	0,071	0,057	0,013	0,005	0,003
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro III	2012	14,663	0,795	1,322	0,778	0,024	0,026	0,001	0,001	0,001	0,033	0,002	0,004	0,745	0,022	0,022	0,004	0,000	0,000
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro IV	2012	4,263	0,301	0,555	0,474	0,021	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,460	0,019	0,013	0,003	0,000	0,000
Passenger Cars	Gasoline 0,8 - 1,4 l	Euro V	2012	4,222	0,281	0,518	0,492	0,023	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,478	0,020	0,013	0,003	0,000	0,000
Passenger Cars	Gasoline 1,4 - 2,0 l	PRE ECE	2012	91,825	19,333	15,520	10,331	1,975	1,283	0,063	0,044	0,041	0,219	0,029	0,026	10,112	1,946	1,257	0,010	0,007	0,007
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/00-01	2012	63,319	14,480	18,620	8,932	1,622	1,157	0,063	0,044	0,041	0,219	0,029	0,026	8,713	1,593	1,131	0,010	0,007	0,007
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/02	2012	52,946	8,200	8,260	8,804	1,418	0,984	0,063	0,044	0,041	0,219	0,029	0,026	8,585	1,389	0,958	0,010	0,007	0,007
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/03	2012	55,927	8,793	7,620	8,746	1,413	0,984	0,042	0,029	0,029	0,219	0,029	0,026	8,527	1,384	0,958	0,010	0,007	0,007
Passenger Cars	Gasoline 1,4 - 2,0 l	ECE 15/04	2012	30,337	4,956	4,292	7,747	1,243	0,731	0,030	0,020	0,020	0,219	0,029	0,026	7,528	1,213	0,705	0,010	0,007	0,007
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro I	2012	19,478	2,427	3,124	2,797	0,225	0,199	0,003	0,002	0,002	0,048	0,016	0,014	2,749	0,209	0,185	0,018	0,011	0,005
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro II	2012	12,894	1,017	1,326	1,548	0,092	0,076	0,003	0,002	0,002	0,067	0,013	0,011	1,481	0,079	0,065	0,013	0,005	0,003
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro III	2012	10,670	0,691	1,148	0,854	0,022	0,026	0,001	0,001	0,001	0,033	0,002	0,004	0,821	0,020	0,022	0,004	0,000	0,000
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro IV	2012	3,134	0,287	0,529	0,514	0,020	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,500	0,018	0,013	0,003	0,000	0,000
Passenger Cars	Gasoline 1,4 - 2,0 l	Euro V	2012	3,115	0,287	0,529	0,521	0,021	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,507	0,018	0,013	0,003	0,000	0,000
Passenger Cars	Gasoline >2,0 l	PRE ECE	2012	91,825	19,333	15,520	10,241	1,967	1,283	0,063	0,044	0,041	0,219	0,029	0,026	10,022	1,938	1,257	0,010	0,007	0,007
Passenger Cars	Gasoline >2,0 l	ECE 15/00-01	2012	63,319	14,480	18,620	8,862	1,616	1,156	0,063	0,044	0,041	0,219	0,029	0,026	8,643	1,587	1,130	0,010	0,007	0,007
Passenger Cars	Gasoline >2,0 l	ECE 15/02	2012	52,946	8,200	8,260	8,742	1,413	0,984	0,063	0,044	0,041	0,219	0,029	0,026	8,523	1,384	0,958	0,010	0,007	0,007
Passenger Cars	Gasoline >2,0 l	ECE 15/03	2012	55,927	8,793	7,620	8,699	1,409	0,984	0,042	0,029	0,029	0,219	0,029	0,026	8,480	1,380	0,958	0,010	0,007	0,007
Passenger Cars	Gasoline >2,0 l	ECE 15/04	2012	30,337	4,956	4,292	7,697	1,238	0,731	0,030	0,020	0,020	0,219	0,029	0,026	7,478	1,209	0,705	0,010	0,007	0,007
Passenger Cars	Gasoline >2,0 l	Euro I	2012	13,524	1,642	2,114	1,928	0,184	0,162	0,003	0,002	0,002	0,048	0,016	0,014	1,880	0,168	0,148	0,018	0,011	0,005
Passenger Cars	Gasoline >2,0 l	Euro II	2012	8,853	0,688	0,897	1,064	0,076	0,062	0,003	0,002	0,002	0,067	0,013	0,011	0,997	0,063	0,051	0,013	0,005	0,003
Passenger Cars	Gasoline >2,0 l	Euro III	2012	7,422	0,691	1,148	0,584	0,022	0,026	0,001	0,001	0,001	0,033	0,002	0,004	0,551	0,020	0,022	0,004	0,000	0,000
Passenger Cars	Gasoline >2,0 l	Euro IV	2012	2,195	0,287	0,529	0,360	0,020	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,345	0,017	0,013	0,003	0,000	0,000
Passenger Cars	Gasoline >2,0 l	Euro V	2012	2,173	0,287	0,529	0,364	0,020	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,349	0,018	0,013	0,003	0,000	0,000
Passenger Cars	Diesel 1,4 - 2,0 l	Euro I	2012	0,746	0,215	0,208	0,140	0,031	0,026	0,145	0,062	0,107	0,019	0,009	0,003	0,120	0,022	0,023	0,002	0,004	0,004
Passenger Cars	Diesel 1,4 - 2,0 l	Euro II	2012	0,611	0,110	0,035	0,091	0,021	0,015	0,119	0,039	0,050	0,006	0,003	0,002	0,085	0,018	0,013	0,003	0,006	0,006
Passenger Cars	Diesel 1,4 - 2,0 l	Euro III	2012	0,176	0,041	0,012	0,048	0,011	0,009	0,075	0,030	0,045	0,003	0,000	0,000	0,045	0,011	0,009	0,016	0,004	0,004
Passenger Cars	Diesel 1,4 - 2,0 l	Euro IV	2012	0,148	0,034	0,021	0,029	0,006	0,006	0,074	0,024	0,026	0,000	0,000	0,000	0,029	0,006	0,006	0,016	0,004	0,004
Passenger Cars	Diesel 1,4 - 2,0 l	Euro V	2012	0,148	0,034	0,021	0,029	0,006	0,006	0,015	0,005	0,005	0,000	0,000	0,000	0,029	0,006	0,006	0,016	0,004	0,004
Passenger Cars	Diesel 1,4 - 2,0 l	Conventional	2012	1,158	0,472	0,384	0,384	0,086	0,062	0,507	0,132	0,170	0,021	0,012	0,008	0,363	0,074	0,054	0,000	0,000	0,000

Passenger Cars	Diesel >2,0 l	Euro I	2012	0,746	0,215	0,208	0,211	0,046	0,034	0,145	0,062	0,107	0,019	0,009	0,003	0,192	0,037	0,031	0,002	0,004	0,004
Passenger Cars	Diesel >2,0 l	Euro II	2012	0,611	0,110	0,035	0,258	0,058	0,038	0,119	0,039	0,050	0,006	0,003	0,002	0,252	0,055	0,036	0,003	0,006	0,006
Passenger Cars	Diesel >2,0 l	Euro III	2012	0,176	0,041	0,012	0,101	0,017	0,012	0,075	0,030	0,045	0,003	0,000	0,000	0,098	0,017	0,012	0,016	0,004	0,004
Passenger Cars	Diesel >2,0 l	Euro IV	2012	0,148	0,034	0,021	0,029	0,006	0,006	0,074	0,024	0,026	0,000	0,000	0,000	0,029	0,006	0,006	0,016	0,004	0,004
Passenger Cars	Diesel >2,0 l	Euro V	2012	0,148	0,034	0,021	0,029	0,006	0,006	0,015	0,005	0,005	0,000	0,000	0,000	0,029	0,006	0,006	0,016	0,004	0,004
Passenger Cars	Diesel >2,0 l	Conventional	2012	1,158	0,472	0,384	0,384	0,086	0,062	0,507	0,132	0,170	0,021	0,012	0,008	0,363	0,074	0,054	0,000	0,000	0,000
Passenger Cars	LPG cars	Euro I	2012	4,312	1,445	3,560	0,456	0,071	0,083	0,040	0,030	0,025	0,080	0,035	0,025	0,376	0,036	0,058	0,041	0,013	0,008
Passenger Cars	LPG cars	Euro II	2012	3,052	0,982	2,421	0,172	0,015	0,017	0,040	0,030	0,025	0,019	0,008	0,006	0,152	0,007	0,011	0,021	0,003	0,002
Passenger Cars	LPG cars	Euro III	2012	2,595	0,809	1,993	0,105	0,011	0,012	0,040	0,030	0,025	0,013	0,006	0,004	0,092	0,005	0,008	0,006	0,002	0,001
Passenger Cars	LPG cars	Euro IV	2012	0,986	0,491	1,210	0,046	0,002	0,002	0,040	0,030	0,025	0,004	0,002	0,001	0,042	0,000	0,001	0,006	0,002	0,001
Passenger Cars	LPG cars	Conventional	2012	6,725	2,373	9,723	2,063	0,667	0,490	0,040	0,030	0,025	0,080	0,035	0,025	1,983	0,632	0,465	0,000	0,000	0,000
Passenger Cars	Gasoline <0,8 l	PRE ECE	2012	91,825	19,333	15,520	10,501	1,990	1,285	0,063	0,044	0,041	0,219	0,029	0,026	10,283	1,961	1,259	0,010	0,007	0,007
Passenger Cars	Gasoline <0,8 l	ECE 15/00-01	2012	63,319	14,480	18,620	9,099	1,636	1,158	0,063	0,044	0,041	0,219	0,029	0,026	8,880	1,607	1,132	0,010	0,007	0,007
Passenger Cars	Gasoline <0,8 l	ECE 15/02	2012	52,946	8,200	8,260	8,931	1,430	0,985	0,063	0,044	0,041	0,219	0,029	0,026	8,713	1,400	0,959	0,010	0,007	0,007
Passenger Cars	Gasoline <0,8 l	ECE 15/03	2012	55,927	8,793	7,620	8,875	1,425	0,985	0,042	0,029	0,029	0,219	0,029	0,026	8,656	1,395	0,959	0,010	0,007	0,007
Passenger Cars	Gasoline <0,8 l	ECE 15/04	2012	30,337	4,956	4,292	7,853	1,252	0,732	0,030	0,020	0,020	0,219	0,029	0,026	7,634	1,223	0,706	0,010	0,007	0,007
Passenger Cars	Gasoline <0,8 l	Euro I	2012	25,783	2,659	3,422	2,465	0,176	0,152	0,003	0,002	0,002	0,048	0,016	0,014	2,416	0,160	0,138	0,016	0,009	0,004
Passenger Cars	Gasoline <0,8 l	Euro II	2012	17,719	1,399	1,825	1,396	0,082	0,066	0,003	0,002	0,002	0,067	0,013	0,011	1,329	0,069	0,055	0,012	0,005	0,003
Passenger Cars	Gasoline <0,8 l	Euro III	2012	14,660	0,794	1,320	0,778	0,024	0,026	0,001	0,001	0,001	0,033	0,002	0,004	0,745	0,022	0,022	0,004	0,000	0,000
Passenger Cars	Gasoline <0,8 l	Euro IV	2012	4,266	0,303	0,558	0,474	0,021	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,460	0,019	0,013	0,003	0,000	0,000
Passenger Cars	Gasoline <0,8 l	Euro V	2012	4,223	0,282	0,519	0,487	0,023	0,018	0,001	0,001	0,001	0,014	0,003	0,005	0,473	0,020	0,013	0,003	0,000	0,000
Passenger Cars	Diesel <1,4 l	Euro I	2012	0,746	0,215	0,208	0,140	0,031	0,026	0,057	0,062	0,107	0,019	0,009	0,003	0,120	0,022	0,023	0,002	0,004	0,004
Passenger Cars	Diesel <1,4 l	Euro II	2012	0,611	0,110	0,035	0,091	0,021	0,015	0,047	0,039	0,050	0,006	0,003	0,002	0,085	0,018	0,013	0,003	0,006	0,006
Passenger Cars	Diesel <1,4 l	Euro III	2012	0,176	0,041	0,012	0,048	0,011	0,009	0,029	0,030	0,045	0,003	0,000	0,000	0,045	0,011	0,009	0,016	0,004	0,004
Passenger Cars	Diesel <1,4 l	Euro IV	2012	0,148	0,034	0,021	0,029	0,006	0,006	0,029	0,024	0,026	0,000	0,000	0,000	0,029	0,006	0,006	0,016	0,004	0,004
Passenger Cars	Diesel <1,4 l	Euro V	2012	0,148	0,034	0,021	0,029	0,006	0,006	0,006	0,005	0,005	0,000	0,000	0,000	0,029	0,006	0,006	0,016	0,004	0,004
Passenger Cars	Diesel <1,4 l	Conventional	2012	1,158	0,472	0,384	0,384	0,086	0,062	0,199	0,132	0,170	0,021	0,012	0,008	0,363	0,074	0,054	0,000	0,000	0,000
Light Duty Vehicles	Gasoline <3,5t	Conventional	2012	48,873	6,075	7,389	8,118	1,030	0,477	0,040	0,040	0,040	0,208	0,040	0,025	7,910	0,990	0,452	0,010	0,007	0,007
Light Duty Vehicles	Gasoline <3,5t	Euro I	2012	35,603	2,186	2,756	2,364	0,184	0,125	0,003	0,002	0,002	0,048	0,016	0,014	2,316	0,168	0,111	0,047	0,027	0,013
Light Duty Vehicles	Gasoline <3,5t	Euro II	2012	24,502	1,333	1,681	1,229	0,050	0,031	0,003	0,002	0,002	0,066	0,013	0,011	1,163	0,037	0,020	0,074	0,016	0,010
Light Duty Vehicles	Gasoline <3,5t	Euro III	2012	18,238	0,448	0,565	0,706	0,023	0,012	0,001	0,001	0,001	0,032	0,002	0,004	0,674	0,021	0,008	0,011	0,001	0,001
Light Duty Vehicles	Gasoline <3,5t	Euro IV	2012	5,834	0,241	0,304	0,422	0,013	0,005	0,001	0,001	0,001	0,013	0,002	0,000	0,409	0,011	0,005	0,004	0,000	0,000
Light Duty Vehicles	Gasoline <3,5t	Euro V	2012	5,717	0,241	0,304	0,462	0,017	0,006	0,001	0,001	0,001	0,013	0,002	0,000	0,449	0,015	0,006	0,003	0,000	0,000
Light Duty Vehicles	Diesel <3,5t	Conventional	2012	1,976	1,009	1,060	0,339	0,106	0,101	0,715	0,303	0,322	0,021	0,012	0,008	0,318	0,094	0,093	0,000	0,000	0,000
Light Duty Vehicles	Diesel <3,5t	Euro I	2012	0,691	0,328	0,423	0,339	0,106	0,101	0,175	0,066	0,090	0,019	0,009	0,003	0,320	0,097	0,098	0,002	0,004	0,004
Light Duty Vehicles	Diesel <3,5t	Euro II	2012	0,691	0,328	0,423	0,339	0,106	0,101	0,175	0,066	0,090	0,006	0,003	0,002	0,333	0,103	0,099	0,003	0,006	0,006
Light Duty Vehicles	Diesel <3,5t	Euro III	2012	0,566	0,269	0,347	0,210	0,065	0,063	0,117	0,044	0,061	0,003	0,000	0,000	0,207	0,065	0,063	0,016	0,004	0,004



Light Duty Vehicles	Diesel <3,5t	Euro IV	2012	0,449	0,213	0,275	0,078	0,024	0,023	0,061	0,023	0,032	0,000	0,000	0,000	0,078	0,024	0,023	0,016	0,004	0,004
Light Duty Vehicles	Diesel <3,5t	Euro V	2012	0,449	0,213	0,275	0,078	0,024	0,023	0,003	0,001	0,002	0,000	0,000	0,000	0,078	0,024	0,023	0,016	0,004	0,004
Light Duty Vehicles	LPG <3,5t	Conventional	2012	9,896	3,559	14,584	3,055	1,000	0,735	0,060	0,045	0,038	0,120	0,053	0,038	2,935	0,948	0,697	0,000	0,000	0,000
Light Duty Vehicles	LPG <3,5t	Euro II	2012	4,052	1,474	3,631	0,177	0,022	0,026	0,060	0,045	0,038	0,029	0,013	0,009	0,148	0,010	0,017	0,025	0,005	0,003
Light Duty Vehicles	LPG <3,5t	Euro III	2012	1,889	1,214	2,990	0,111	0,016	0,019	0,060	0,045	0,038	0,019	0,008	0,006	0,092	0,008	0,013	0,009	0,003	0,002
Light Duty Vehicles	LPG <3,5t	Euro IV	2012	1,456	0,737	1,815	0,068	0,003	0,004	0,060	0,045	0,038	0,006	0,003	0,002	0,062	0,001	0,002	0,009	0,003	0,002
Heavy Duty Vehicles	Gasoline >3,5t	Conventional	2012	70,000	55,000	55,000	7,000	5,500	3,500	0,400	0,400	0,400	0,140	0,110	0,070	6,860	5,390	3,430	0,006	0,006	0,006
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Conventional	2012	2,060	1,509	1,351	1,298	0,789	0,576	0,321	0,240	0,216	0,085	0,023	0,020	1,213	0,766	0,556	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro I	2012	0,668	0,501	0,546	0,253	0,167	0,130	0,126	0,095	0,090	0,085	0,023	0,020	0,168	0,144	0,110	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro II	2012	0,534	0,466	0,461	0,171	0,111	0,086	0,053	0,048	0,055	0,054	0,020	0,019	0,116	0,091	0,067	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro III	2012	0,660	0,481	0,452	0,162	0,102	0,077	0,062	0,045	0,039	0,048	0,021	0,018	0,114	0,081	0,058	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro IV	2012	0,342	0,270	0,258	0,022	0,017	0,017	0,015	0,013	0,014	0,003	0,002	0,001	0,020	0,016	0,015	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro V	2012	0,642	0,591	0,589	0,011	0,008	0,007	0,014	0,010	0,009	0,003	0,002	0,001	0,009	0,007	0,006	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 3,5 - 7,5t	Euro VI	2012	0,355	0,276	0,260	0,011	0,008	0,007	0,001	0,001	0,001	0,001	0,000	0,000	0,010	0,008	0,007	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Conventional	2012	2,358	1,698	1,525	0,957	0,589	0,449	0,330	0,236	0,207	0,085	0,023	0,020	0,872	0,566	0,429	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro I	2012	1,086	0,817	0,766	0,389	0,258	0,208	0,201	0,144	0,131	0,085	0,023	0,020	0,304	0,235	0,188	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro II	2012	0,868	0,727	0,717	0,263	0,172	0,137	0,085	0,072	0,083	0,054	0,020	0,019	0,208	0,152	0,118	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro III	2012	1,084	0,771	0,733	0,252	0,157	0,120	0,096	0,067	0,058	0,048	0,021	0,018	0,204	0,136	0,102	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro IV	2012	0,553	0,418	0,369	0,035	0,025	0,022	0,023	0,019	0,019	0,003	0,002	0,001	0,032	0,024	0,021	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro V	2012	1,003	0,820	0,772	0,019	0,014	0,012	0,024	0,017	0,015	0,003	0,002	0,001	0,017	0,012	0,011	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 7,5 - 12t	Euro VI	2012	0,583	0,431	0,373	0,017	0,012	0,010	0,002	0,002	0,002	0,001	0,000	0,000	0,016	0,012	0,010	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Conventional	2012	2,546	1,876	1,693	1,012	0,646	0,509	0,351	0,254	0,233	0,085	0,023	0,020	0,927	0,623	0,489	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro I	2012	1,200	0,918	0,866	0,429	0,279	0,229	0,218	0,159	0,147	0,085	0,023	0,020	0,344	0,256	0,209	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro II	2012	0,985	0,820	0,804	0,281	0,186	0,150	0,101	0,086	0,101	0,054	0,020	0,019	0,227	0,166	0,131	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro III	2012	1,176	0,873	0,835	0,260	0,168	0,134	0,104	0,075	0,068	0,048	0,021	0,018	0,212	0,147	0,116	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro IV	2012	0,599	0,448	0,410	0,034	0,025	0,024	0,024	0,020	0,020	0,003	0,002	0,001	0,031	0,024	0,023	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 12 - 14 t	Euro V	2012	1,137	0,900	0,821	0,019	0,014	0,013	0,024	0,017	0,016	0,003	0,002	0,001	0,017	0,013	0,012	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 14 - 20t	Conventional	2012	3,512	2,514	2,221	1,510	0,971	0,768	0,483	0,341	0,298	0,175	0,080	0,070	1,335	0,891	0,698	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro I	2012	1,612	1,206	1,117	0,606	0,403	0,325	0,298	0,209	0,181	0,175	0,080	0,070	0,431	0,323	0,255	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro II	2012	1,267	1,025	1,002	0,409	0,267	0,213	0,117	0,095	0,111	0,112	0,070	0,065	0,297	0,197	0,148	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro III	2012	1,601	1,150	1,096	0,378	0,243	0,196	0,141	0,097	0,083	0,098	0,074	0,064	0,280	0,168	0,133	0,030	0,030	0,030

Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro IV	2012	0,829	0,602	0,523	0,046	0,032	0,028	0,031	0,024	0,023	0,005	0,006	0,004	0,041	0,026	0,024	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro V	2012	1,365	1,029	0,901	0,031	0,022	0,019	0,032	0,022	0,019	0,005	0,006	0,004	0,026	0,016	0,015	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 14 - 20t	Euro VI	2012	0,870	0,625	0,536	0,024	0,017	0,015	0,003	0,002	0,002	0,002	0,002	0,001	0,022	0,015	0,014	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 20 - 26t	Conventional	2012	2,558	1,885	1,712	0,819	0,517	0,406	0,482	0,353	0,319	0,175	0,080	0,070	0,644	0,437	0,336	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro I	2012	2,068	1,563	1,437	0,728	0,476	0,380	0,383	0,264	0,231	0,175	0,080	0,070	0,553	0,396	0,310	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro II	2012	1,620	1,285	1,399	0,489	0,314	0,248	0,160	0,128	0,146	0,112	0,070	0,065	0,377	0,244	0,183	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro III	2012	2,025	1,487	1,403	0,453	0,287	0,225	0,171	0,117	0,102	0,098	0,074	0,064	0,355	0,212	0,161	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro IV	2012	1,003	0,728	0,628	0,059	0,040	0,035	0,041	0,031	0,028	0,005	0,006	0,004	0,053	0,035	0,030	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro V	2012	1,787	1,376	1,225	0,034	0,024	0,020	0,041	0,028	0,024	0,005	0,006	0,004	0,029	0,018	0,016	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 20 - 26t	Euro VI	2012	1,045	0,753	0,646	0,030	0,021	0,017	0,004	0,003	0,003	0,002	0,002	0,001	0,028	0,019	0,016	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 26 - 28t	Conventional	2012	2,703	1,987	1,810	0,842	0,541	0,430	0,512	0,375	0,336	0,175	0,080	0,070	0,667	0,461	0,360	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro I	2012	2,162	1,647	1,535	0,736	0,488	0,394	0,398	0,281	0,244	0,175	0,080	0,070	0,561	0,408	0,324	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro II	2012	1,682	1,346	1,457	0,499	0,327	0,262	0,185	0,148	0,167	0,112	0,070	0,065	0,387	0,257	0,197	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro III	2012	2,121	1,582	1,481	0,467	0,304	0,243	0,201	0,141	0,118	0,098	0,074	0,064	0,369	0,229	0,179	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro IV	2012	1,044	0,752	0,640	0,064	0,045	0,037	0,044	0,033	0,029	0,005	0,006	0,004	0,059	0,039	0,033	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 26 - 28t	Euro V	2012	2,008	1,531	1,359	0,031	0,022	0,018	0,046	0,030	0,025	0,005	0,006	0,004	0,025	0,016	0,014	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 28 - 32t	Conventional	2012	2,928	2,149	2,047	0,874	0,560	0,444	0,567	0,415	0,376	0,175	0,080	0,070	0,699	0,480	0,374	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro I	2012	2,377	1,862	1,795	0,778	0,518	0,419	0,436	0,314	0,281	0,175	0,080	0,070	0,603	0,438	0,349	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro II	2012	1,930	1,574	1,563	0,523	0,344	0,276	0,182	0,148	0,168	0,112	0,070	0,065	0,411	0,275	0,211	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro III	2012	2,325	1,732	1,685	0,491	0,317	0,252	0,189	0,135	0,119	0,098	0,074	0,064	0,393	0,243	0,188	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro IV	2012	1,145	0,834	0,714	0,070	0,051	0,043	0,049	0,038	0,034	0,005	0,006	0,004	0,065	0,045	0,039	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro V	2012	2,312	1,748	1,527	0,033	0,024	0,020	0,052	0,035	0,029	0,005	0,006	0,004	0,028	0,018	0,016	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT 28 - 32t	Euro VI	2012	1,191	0,863	0,736	0,034	0,024	0,020	0,005	0,004	0,003	0,002	0,002	0,001	0,033	0,023	0,019	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT >32t	Euro I	2012	2,482	1,894	1,795	0,812	0,527	0,419	0,453	0,317	0,286	0,175	0,080	0,070	0,637	0,447	0,349	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT >32t	Euro III	2012	2,398	1,789	1,725	0,496	0,316	0,249	0,219	0,153	0,135	0,098	0,074	0,064	0,398	0,241	0,185	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT >32t	Euro IV	2012	1,151	0,839	0,723	0,070	0,048	0,041	0,049	0,037	0,033	0,005	0,006	0,004	0,064	0,043	0,037	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel RT >32t	Euro V	2012	2,346	1,790	1,602	0,034	0,024	0,020	0,050	0,034	0,030	0,005	0,006	0,004	0,029	0,018	0,015	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Conventional	2012	2,560	1,899	1,804	0,736	0,476	0,380	0,488	0,361	0,339	0,175	0,080	0,070	0,561	0,396	0,310	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro I	2012	2,173	1,665	1,602	0,678	0,450	0,363	0,380	0,277	0,261	0,175	0,080	0,070	0,503	0,370	0,293	0,030	0,030	0,030

Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro II	2012	1,746	1,372	1,500	0,450	0,296	0,238	0,174	0,138	0,158	0,112	0,070	0,065	0,338	0,226	0,173	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro III	2012	2,067	1,559	1,515	0,415	0,269	0,215	0,169	0,121	0,111	0,098	0,074	0,064	0,317	0,195	0,151	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro IV	2012	0,990	0,709	0,618	0,059	0,041	0,036	0,043	0,031	0,028	0,005	0,006	0,004	0,054	0,036	0,032	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro V	2012	1,844	1,384	1,147	0,034	0,024	0,020	0,044	0,030	0,026	0,005	0,006	0,004	0,029	0,018	0,016	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 28 - 34t	Euro VI	2012	1,033	0,738	0,629	0,029	0,021	0,017	0,004	0,003	0,003	0,002	0,002	0,001	0,028	0,019	0,016	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Conventional	2012	3,006	2,216	2,091	0,877	0,555	0,438	0,579	0,419	0,384	0,175	0,080	0,070	0,702	0,475	0,368	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro I	2012	2,561	1,946	1,861	0,805	0,524	0,420	0,464	0,324	0,293	0,175	0,080	0,070	0,630	0,444	0,350	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro II	2012	2,056	1,607	1,775	0,538	0,343	0,270	0,211	0,165	0,188	0,112	0,070	0,065	0,426	0,274	0,205	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro III	2012	2,453	1,826	1,775	0,494	0,312	0,244	0,200	0,139	0,122	0,098	0,074	0,064	0,396	0,237	0,180	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro IV	2012	1,157	0,830	0,704	0,071	0,048	0,041	0,050	0,036	0,032	0,005	0,006	0,004	0,066	0,043	0,037	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro V	2012	2,113	1,626	1,379	0,041	0,028	0,023	0,052	0,035	0,030	0,005	0,006	0,004	0,035	0,022	0,019	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 34 - 40t	Euro VI	2012	1,202	0,857	0,727	0,035	0,024	0,020	0,005	0,004	0,003	0,002	0,002	0,001	0,033	0,022	0,019	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Conventional	2012	3,242	2,400	2,283	0,901	0,570	0,450	0,622	0,462	0,425	0,175	0,080	0,070	0,726	0,490	0,380	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro I	2012	2,823	2,135	2,079	0,844	0,546	0,433	0,500	0,358	0,333	0,175	0,080	0,070	0,669	0,466	0,363	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro II	2012	2,313	1,826	1,823	0,558	0,358	0,282	0,225	0,176	0,199	0,112	0,070	0,065	0,446	0,288	0,217	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro III	2012	2,675	1,999	1,959	0,510	0,323	0,253	0,208	0,147	0,127	0,098	0,074	0,064	0,412	0,248	0,189	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro IV	2012	1,241	0,894	0,759	0,077	0,053	0,045	0,054	0,040	0,035	0,005	0,006	0,004	0,072	0,047	0,041	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro V	2012	2,525	1,942	1,648	0,037	0,026	0,021	0,058	0,039	0,033	0,005	0,006	0,004	0,032	0,020	0,017	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 40 - 50t	Euro VI	2012	1,288	0,921	0,779	0,038	0,026	0,022	0,006	0,004	0,004	0,002	0,002	0,001	0,036	0,024	0,020	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro II	2012	2,783	2,192	2,191	0,626	0,406	0,323	0,317	0,246	0,275	0,112	0,070	0,065	0,514	0,337	0,258	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT 50 - 60t	Euro IV	2012	1,445	1,038	0,878	0,090	0,063	0,053	0,064	0,047	0,041	0,005	0,006	0,004	0,085	0,057	0,048	0,030	0,030	0,030
Heavy Duty Vehicles	Diesel TT/AT >60t	Euro III	2012	3,169	2,369	2,341	0,568	0,364	0,288	0,278	0,194	0,184	0,098	0,074	0,064	0,470	0,290	0,224	0,030	0,030	0,030
Buses	Gasoline Urban Buses	Conventional	2012	70,000	55,000	55,000	7,000	5,500	3,500	0,400	0,400	0,400	0,140	0,110	0,070	6,860	5,390	3,430	0,006	0,006	0,006
Buses	Diesel Urban Buses <15t	Conventional	2012	4,479	3,144	2,830	2,628	1,738	1,490	0,729	0,490	0,413	0,175	0,080	0,070	2,453	1,658	1,420	0,030	0,030	0,030
Buses	Diesel Urban Buses <15t	Euro I	2012	1,568	1,120	0,981	0,507	0,364	0,312	0,178	0,136	0,121	0,175	0,080	0,070	0,332	0,284	0,242	0,030	0,030	0,030
Buses	Diesel Urban Buses <15t	Euro II	2012	1,391	0,958	0,806	0,350	0,245	0,209	0,076	0,063	0,061	0,114	0,052	0,046	0,236	0,193	0,163	0,030	0,030	0,030
Buses	Diesel Urban Buses <15t	Euro III	2012	1,509	1,028	0,926	0,318	0,220	0,199	0,094	0,072	0,067	0,103	0,047	0,041	0,215	0,173	0,158	0,030	0,030	0,030
Buses	Diesel Urban Buses <15t	Euro IV	2012	0,800	0,542	0,422	0,043	0,034	0,032	0,032	0,025	0,022	0,005	0,002	0,002	0,038	0,031	0,030	0,030	0,030	0,030
Buses	Diesel Urban Buses <15t	Euro V	2012	1,784	1,211	0,942	0,020	0,016	0,016	0,029	0,019	0,019	0,005	0,002	0,002	0,015	0,014	0,014	0,030	0,030	0,030
Buses	Diesel Urban Buses 15 - 18t	Conventional	2012	4,720	3,242	2,606	1,602	0,977	0,762	0,656	0,439	0,351	0,175	0,080	0,070	1,427	0,897	0,692	0,030	0,030	0,030
Buses	Diesel Urban Buses 15 - 18t	Euro I	2012	2,204	1,612	1,330	0,659	0,431	0,351	0,247	0,177	0,155	0,175	0,080	0,070	0,484	0,351	0,281	0,030	0,030	0,030

Buses	Diesel Urban Buses 15 - 18t	Euro II	2012	1,892	1,310	1,120	0,451	0,296	0,248	0,122	0,099	0,093	0,114	0,052	0,046	0,337	0,244	0,203	0,030	0,030	0,030
Buses	Diesel Urban Buses 15 - 18t	Euro III	2012	2,070	1,382	1,257	0,416	0,269	0,232	0,147	0,111	0,097	0,103	0,047	0,041	0,312	0,222	0,191	0,030	0,030	0,030
Buses	Diesel Urban Buses 15 - 18t	Euro IV	2012	1,045	0,709	0,556	0,061	0,045	0,040	0,044	0,033	0,028	0,005	0,002	0,002	0,055	0,043	0,038	0,030	0,030	0,030
Buses	Diesel Urban Buses 15 - 18t	Euro V	2012	2,396	1,601	1,221	0,028	0,021	0,019	0,042	0,027	0,025	0,005	0,002	0,002	0,022	0,018	0,017	0,030	0,030	0,030
Buses	Diesel Urban Buses >18t	Conventional	2012	6,145	4,310	3,420	1,666	1,018	0,791	0,833	0,575	0,455	0,175	0,080	0,070	1,491	0,938	0,721	0,030	0,030	0,030
Buses	Diesel Urban Buses >18t	Euro I	2012	2,882	2,132	1,965	0,720	0,477	0,386	0,451	0,336	0,311	0,175	0,080	0,070	0,545	0,397	0,316	0,030	0,030	0,030
Buses	Diesel Urban Buses >18t	Euro II	2012	2,541	1,716	1,467	0,491	0,332	0,263	0,102	0,082	0,076	0,114	0,052	0,046	0,377	0,280	0,218	0,030	0,030	0,030
Buses	Diesel Urban Buses >18t	Euro III	2012	2,691	1,778	1,703	0,446	0,291	0,241	0,171	0,123	0,116	0,103	0,047	0,041	0,342	0,244	0,200	0,030	0,030	0,030
Buses	Diesel Urban Buses >18t	Euro IV	2012	1,287	0,869	0,664	0,074	0,055	0,047	0,054	0,039	0,032	0,005	0,002	0,002	0,069	0,053	0,045	0,030	0,030	0,030
Buses	Diesel Urban Buses >18t	Euro V	2012	2,964	1,878	1,405	0,034	0,024	0,023	0,054	0,034	0,032	0,005	0,002	0,002	0,028	0,022	0,021	0,030	0,030	0,030
Buses	Gasoline Coaches	Conventional	2012	70,000	55,000	55,000	7,000	5,500	3,500	0,400	0,400	0,400	0,140	0,110	0,070	6,860	5,390	3,430	0,006	0,006	0,006
Buses	Diesel Coaches <15t	Conventional	2012	2,712	1,738	1,372	0,907	0,533	0,393	0,490	0,328	0,269	0,175	0,080	0,070	0,732	0,453	0,323	0,030	0,030	0,030
Buses	Diesel Coaches <15t	Euro I	2012	2,199	1,466	1,186	0,830	0,516	0,397	0,395	0,260	0,209	0,175	0,080	0,070	0,655	0,436	0,327	0,030	0,030	0,030
Buses	Diesel Coaches <15t	Euro II	2012	1,775	1,203	1,092	0,586	0,359	0,272	0,159	0,117	0,103	0,114	0,052	0,046	0,472	0,307	0,227	0,030	0,030	0,030
Buses	Diesel Coaches <15t	Euro III	2012	2,308	1,464	1,283	0,577	0,351	0,271	0,187	0,122	0,097	0,103	0,047	0,041	0,474	0,304	0,230	0,030	0,030	0,030
Buses	Diesel Coaches <15t	Euro IV	2012	1,241	0,813	0,689	0,072	0,048	0,039	0,048	0,034	0,030	0,005	0,002	0,002	0,067	0,045	0,037	0,030	0,030	0,030
Buses	Diesel Coaches <15t	Euro V	2012	2,375	1,556	1,345	0,036	0,024	0,019	0,049	0,027	0,019	0,005	0,002	0,002	0,030	0,021	0,017	0,030	0,030	0,030
Buses	Diesel Coaches 15 - 18t	Conventional	2012	2,712	1,738	1,372	0,907	0,533	0,393	0,490	0,328	0,269	0,175	0,080	0,070	0,732	0,453	0,323	0,030	0,030	0,030
Buses	Diesel Coaches 15 - 18t	Euro I	2012	2,199	1,466	1,186	0,830	0,516	0,397	0,395	0,260	0,209	0,175	0,080	0,070	0,655	0,436	0,327	0,030	0,030	0,030
Buses	Diesel Coaches 15 - 18t	Euro II	2012	1,775	1,203	1,092	0,586	0,359	0,272	0,162	0,120	0,105	0,114	0,052	0,046	0,472	0,307	0,227	0,030	0,030	0,030
Buses	Diesel Coaches 15 - 18t	Euro III	2012	2,308	1,464	1,283	0,577	0,351	0,271	0,195	0,127	0,101	0,103	0,047	0,041	0,474	0,304	0,230	0,030	0,030	0,030
Buses	Diesel Coaches 15 - 18t	Euro IV	2012	1,241	0,813	0,689	0,072	0,048	0,039	0,048	0,034	0,030	0,005	0,002	0,002	0,067	0,045	0,037	0,030	0,030	0,030
Buses	Diesel Coaches 15 - 18t	Euro V	2012	2,375	1,556	1,345	0,036	0,024	0,019	0,049	0,027	0,019	0,005	0,002	0,002	0,030	0,021	0,017	0,030	0,030	0,030
Buses	Diesel Coaches >18t	Conventional	2012	3,104	2,042	1,732	1,013	0,623	0,482	0,572	0,388	0,331	0,175	0,080	0,070	0,838	0,543	0,412	0,030	0,030	0,030
Buses	Diesel Coaches >18t	Euro I	2012	2,511	1,722	1,458	0,915	0,581	0,457	0,452	0,302	0,246	0,175	0,080	0,070	0,740	0,501	0,387	0,030	0,030	0,030
Buses	Diesel Coaches >18t	Euro II	2012	2,031	1,395	1,290	0,630	0,392	0,305	0,169	0,127	0,113	0,114	0,052	0,046	0,516	0,340	0,259	0,030	0,030	0,030
Buses	Diesel Coaches >18t	Euro III	2012	2,557	1,669	1,439	0,608	0,371	0,286	0,190	0,123	0,099	0,103	0,047	0,041	0,505	0,324	0,245	0,030	0,030	0,030
Buses	Diesel Coaches >18t	Euro IV	2012	1,328	0,875	0,742	0,076	0,050	0,042	0,052	0,036	0,032	0,005	0,002	0,002	0,071	0,048	0,040	0,030	0,030	0,030
Buses	Diesel Coaches >18t	Euro V	2012	2,597	1,719	1,483	0,038	0,025	0,021	0,055	0,031	0,023	0,005	0,002	0,002	0,033	0,023	0,019	0,030	0,030	0,030
Mopeds	2-stroke <50 cm³	Conventional	2012	14,700	14,700		8,881	8,569		0,176	0,176		0,219	0,219		8,662	8,350		0,001	0,001	
Mopeds	2-stroke <50 cm³	Euro I	2012	4,600	4,600		3,858	3,561		0,045	0,045		0,044	0,044		3,814	3,517		0,001	0,001	
Mopeds	2-stroke <50 cm³	Euro II	2012	2,800	2,800		3,034	2,753		0,026	0,026		0,024	0,024		3,009	2,728		0,001	0,001	
Mopeds	4-stroke <50 cm³	Euro II	2012	4,200	4,200		1,224	0,943		0,007	0,007		0,024	0,024		1,199	0,918		0,001	0,001	
Motorcycles	2-stroke >50 cm³	Conventional	2012	15,605	19,285	28,470	9,341	7,323	9,836	0,200	0,200	0,200	0,150	0,150	0,150	9,191	7,173	9,686	0,002	0,002	0,002
Motorcycles	2-stroke >50 cm³	Euro I	2012	10,315	12,786	18,933	9,230	7,294	9,832	0,080	0,080	0,080	0,099	0,107	0,098	9,131	7,187	9,734	0,002	0,002	0,002
Motorcycles	2-stroke >50 cm³	Euro II	2012	8,146	10,067	14,890	3,410	2,780	4,186	0,040	0,040	0,040	0,030	0,032	0,030	3,380	2,749	4,156	0,002	0,002	0,002

Motorcycles	2-stroke >50 cm <sup>3</sup>	Euro III	2012	4,510	5,593	8,342	2,193	1,589	2,275	0,012	0,012	0,012	0,012	0,014	0,012	2,181	1,575	2,263	0,002	0,002	0,002
Motorcycles	4-stroke <250 cm <sup>3</sup>	Conventional	2012	15,258	17,209	24,960	1,075	0,348	0,174	0,020	0,020	0,020	0,200	0,200	0,200	0,875	0,148	-0,026	0,002	0,002	0,002
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro I	2012	10,391	14,456	24,910	2,079	1,082	1,008	0,020	0,020	0,020	0,142	0,144	0,132	1,937	0,938	0,876	0,002	0,002	0,002
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro II	2012	3,708	5,765	9,135	1,859	1,054	0,996	0,005	0,005	0,005	0,136	0,092	0,092	1,723	0,962	0,904	0,002	0,002	0,002
Motorcycles	4-stroke <250 cm <sup>3</sup>	Euro III	2012	2,060	3,201	5,092	1,264	0,649	0,542	0,005	0,005	0,005	0,082	0,032	0,028	1,182	0,617	0,514	0,002	0,002	0,002
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Conventional	2012	20,461	19,486	22,990	1,492	0,732	0,397	0,020	0,020	0,020	0,200	0,200	0,200	1,292	0,532	0,197	0,002	0,002	0,002
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro I	2012	10,599	9,003	10,460	3,227	1,738	1,111	0,020	0,020	0,020	0,148	0,174	0,156	3,079	1,564	0,955	0,002	0,002	0,002
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro II	2012	2,230	2,436	6,092	2,143	1,136	0,859	0,005	0,005	0,005	0,156	0,120	0,122	1,987	1,016	0,737	0,002	0,002	0,002
Motorcycles	4-stroke 250 - 750 cm <sup>3</sup>	Euro III	2012	1,228	1,345	3,357	1,405	0,708	0,646	0,005	0,005	0,005	0,094	0,042	0,036	1,311	0,666	0,610	0,002	0,002	0,002
Motorcycles	4-stroke >750 cm <sup>3</sup>	Conventional	2012	20,461	19,486	22,990	1,339	0,581	0,592	0,020	0,020	0,020	0,200	0,200	0,200	1,139	0,381	0,392	0,002	0,002	0,002
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro I	2012	10,599	9,003	10,460	3,332	1,859	1,586	0,020	0,020	0,020	0,092	0,092	0,154	3,240	1,767	1,432	0,002	0,002	0,002
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro II	2012	2,230	2,436	6,092	1,904	0,884	0,687	0,005	0,005	0,005	0,084	0,062	0,102	1,820	0,822	0,585	0,002	0,002	0,002
Motorcycles	4-stroke >750 cm <sup>3</sup>	Euro III	2012	1,228	1,345	3,357	1,192	0,517	0,447	0,005	0,005	0,005	0,050	0,022	0,030	1,142	0,495	0,417	0,002	0,002	0,002

## Annex 3B-8 Fuel consumption (GJ) and emissions (tonnes) per vehicle category and as totals

Sector	Year	FC (PJ)	SO <sub>2</sub>	NO <sub>x</sub>	NM VOC	CH <sub>4</sub>	CO	CO <sub>2</sub>	N <sub>2</sub> O	NH <sub>3</sub>	TSP
Passenger Cars	1985	66	1714	57216	68940	1576	543043	4847	164	48	1689
Passenger Cars	1986	67	1152	58346	68917	1599	515315	4901	166	49	1719
Passenger Cars	1987	67	1149	59333	68717	1621	492705	4914	168	50	1690
Passenger Cars	1988	68	1169	61147	68768	1645	455881	4975	173	51	1641
Passenger Cars	1989	67	848	61153	67298	1631	423852	4932	172	51	1602
Passenger Cars	1990	72	908	65510	70690	1737	431213	5235	183	54	1667
Passenger Cars	1991	76	953	68046	73286	1823	450464	5567	197	146	1704
Passenger Cars	1992	80	672	67915	72817	1838	436546	5816	214	339	1614
Passenger Cars	1993	82	365	66179	70395	1824	423024	5966	225	529	1557
Passenger Cars	1994	85	385	63881	67374	1774	391546	6197	241	807	1498
Passenger Cars	1995	86	387	59513	62856	1679	371759	6256	250	1073	1396
Passenger Cars	1996	86	391	55400	58678	1590	360862	6320	259	1323	1312
Passenger Cars	1997	89	398	52173	53954	1513	324514	6479	270	1663	1183
Passenger Cars	1998	90	407	48139	48596	1435	301585	6608	271	2013	1070
Passenger Cars	1999	91	317	43763	42860	1332	265548	6644	270	2291	984
Passenger Cars	2000	90	207	40012	35465	1237	241082	6603	267	2473	902
Passenger Cars	2001	89	204	36872	32566	1143	230578	6505	258	2479	838
Passenger Cars	2002	90	207	34667	29210	1057	210434	6592	255	2495	787
Passenger Cars	2003	92	211	32642	26639	981	200641	6749	252	2472	796
Passenger Cars	2004	93	213	30307	22720	881	175387	6804	245	2444	764
Passenger Cars	2005	92	42	27004	20423	776	167079	6703	230	2309	730
Passenger Cars	2006	92	42	24371	17301	681	147053	6749	220	2202	699
Passenger Cars	2007	97	44	23359	15080	616	133106	7077	222	2124	702
Passenger Cars	2008	98	45	22085	13224	541	122310	7168	218	1969	723
Passenger Cars	2009	96	44	20585	11501	482	109132	7021	210	1836	665
Passenger Cars	2010	96	44	19951	10345	427	102701	6934	206	1670	666
Passenger Cars	2011	96	43	19933	8517	375	84379	6814	208	1548	621
Passenger Cars	2012	96	42	19535	7537	333	77006	6723	204	1410	589
Light Duty Vehicles	1985	12	2488	5442	1851	81	13182	918	4	4	1383
Light Duty Vehicles	1986	14	1741	6187	2034	92	14486	1059	4	5	1595
Light Duty Vehicles	1987	15	1828	6505	2146	96	15339	1112	5	5	1684
Light Duty Vehicles	1988	15	1883	6663	2158	99	15137	1144	5	6	1676
Light Duty Vehicles	1989	16	1316	6845	2158	102	15084	1189	5	6	1731
Light Duty Vehicles	1990	17	1414	7313	2282	108	15974	1275	5	6	1854
Light Duty Vehicles	1991	18	1462	7623	2425	112	17120	1322	5	6	1960
Light Duty Vehicles	1992	18	936	7672	2505	115	17473	1312	6	6	1903
Light Duty Vehicles	1993	18	372	7946	2636	118	18674	1350	6	7	1992
Light Duty Vehicles	1994	20	400	8446	2778	126	19447	1445	6	7	2110
Light Duty Vehicles	1995	20	402	8344	2693	122	18847	1448	8	11	2045
Light Duty Vehicles	1996	20	411	8293	2567	117	18071	1475	11	19	1957
Light Duty Vehicles	1997	20	417	8186	2373	113	16226	1494	15	28	1737
Light Duty Vehicles	1998	21	424	8193	2265	110	15566	1525	19	38	1591
Light Duty Vehicles	1999	21	240	8161	2126	103	14284	1553	24	48	1432
Light Duty Vehicles	2000	21	50	8182	1939	96	13511	1581	29	58	1287
Light Duty Vehicles	2001	22	51	8292	1988	91	14006	1617	35	72	1184
Light Duty Vehicles	2002	23	53	8356	1873	84	13102	1669	40	78	1062
Light Duty Vehicles	2003	25	57	8788	1849	77	12940	1810	45	79	1036
Light Duty Vehicles	2004	27	62	9256	1759	74	12316	1970	52	80	953
Light Duty Vehicles	2005	28	13	9533	1736	64	12171	2100	58	78	918
Light Duty Vehicles	2006	31	15	10202	1694	57	11671	2319	65	77	900

Light Duty Vehicles	2007	34	16	10722	1632	50	11049	2502	71	73	885
Light Duty Vehicles	2008	31	15	9559	1349	39	9173	2320	67	59	741
Light Duty Vehicles	2009	29	13	8509	1147	32	7920	2110	62	53	629
Light Duty Vehicles	2010	27	13	7989	1065	27	7397	2028	60	48	579
Light Duty Vehicles	2011	26	12	7358	878	22	6060	1847	57	40	489
Light Duty Vehicles	2012	24	11	6687	757	18	5218	1674	53	34	424
Heavy Duty Vehicles	1985	25	5735	24022	1429	180	5850	1819	75	7	884
Heavy Duty Vehicles	1986	28	3881	27058	1579	203	6469	2050	83	8	994
Heavy Duty Vehicles	1987	27	3804	26499	1531	198	6300	2009	81	8	973
Heavy Duty Vehicles	1988	27	3734	25996	1473	195	6108	1972	79	8	953
Heavy Duty Vehicles	1989	28	2593	27058	1520	203	6297	2053	82	8	991
Heavy Duty Vehicles	1990	29	2664	27736	1506	208	6346	2110	83	8	1013
Heavy Duty Vehicles	1991	29	2706	28201	1540	211	6476	2143	85	8	1030
Heavy Duty Vehicles	1992	28	1727	27644	1481	208	6321	2103	82	8	1008
Heavy Duty Vehicles	1993	27	641	26586	1386	201	6027	2032	78	8	969
Heavy Duty Vehicles	1994	29	682	27825	1440	215	6254	2159	83	8	1017
Heavy Duty Vehicles	1995	29	685	27113	1432	220	6182	2169	86	9	999
Heavy Duty Vehicles	1996	30	702	26773	1384	227	6109	2220	88	9	987
Heavy Duty Vehicles	1997	30	713	26566	1316	229	5998	2254	90	9	940
Heavy Duty Vehicles	1998	31	725	26685	1237	231	5913	2292	93	9	877
Heavy Duty Vehicles	1999	32	416	27536	1189	238	5985	2390	98	10	841
Heavy Duty Vehicles	2000	31	73	26453	1064	226	5654	2316	95	10	759
Heavy Duty Vehicles	2001	32	76	26939	1032	231	5760	2403	99	10	726
Heavy Duty Vehicles	2002	32	76	25965	956	225	5706	2392	98	10	673
Heavy Duty Vehicles	2003	34	80	26293	937	233	5955	2513	103	10	658
Heavy Duty Vehicles	2004	35	82	26281	919	239	6121	2595	106	11	633
Heavy Duty Vehicles	2005	36	17	26299	899	244	6316	2690	108	11	613
Heavy Duty Vehicles	2006	38	18	26414	887	248	6541	2801	112	11	598
Heavy Duty Vehicles	2007	39	18	25325	799	223	6432	2879	115	12	539
Heavy Duty Vehicles	2008	36	17	21282	599	164	5497	2672	107	11	405
Heavy Duty Vehicles	2009	32	15	17192	442	117	4626	2345	94	9	302
Heavy Duty Vehicles	2010	33	15	16515	397	103	4705	2427	97	10	260
Heavy Duty Vehicles	2011	34	15	15688	353	90	4866	2426	101	10	240
Heavy Duty Vehicles	2012	32	14	13372	277	70	4580	2209	95	9	199
Buses	1985	7	1683	7284	744	77	3022	541	18	2	312
Buses	1986	8	1087	7830	793	83	3187	581	19	2	335
Buses	1987	8	1065	7674	778	81	3114	569	19	2	329
Buses	1988	8	1069	7710	780	82	3103	572	19	2	330
Buses	1989	8	730	7890	794	83	3132	585	19	2	338
Buses	1990	8	780	8414	845	89	3362	625	21	2	360
Buses	1991	8	781	8430	848	89	3389	626	21	2	361
Buses	1992	8	484	8049	816	85	3314	598	20	2	344
Buses	1993	8	189	8142	828	86	3401	605	20	2	348
Buses	1994	9	200	8526	865	93	3769	645	22	2	362
Buses	1995	9	206	8559	852	97	4034	667	23	2	359
Buses	1996	9	216	8733	843	103	4222	700	24	2	362
Buses	1997	9	215	8523	790	102	4070	695	24	2	343
Buses	1998	9	210	8231	725	97	3865	679	24	2	312
Buses	1999	9	113	7915	655	92	3601	662	24	2	282
Buses	2000	9	20	7567	594	86	3383	640	23	2	254
Buses	2001	9	20	7493	561	84	3242	639	23	2	229
Buses	2002	9	20	7296	523	81	3134	638	23	2	213
Buses	2003	9	21	7454	505	81	3072	672	25	3	200
Buses	2004	9	22	7417	483	80	2977	686	25	3	193
Buses	2005	9	4	6965	437	74	2734	658	24	2	170
Buses	2006	9	4	6762	407	71	2572	654	24	2	159

Buses	2007	9	4	6608	378	67	2426	662	25	2	149
Buses	2008	9	4	6105	328	57	2172	644	24	2	129
Buses	2009	8	4	5536	273	47	1899	619	23	2	108
Buses	2010	8	4	5315	240	41	1780	627	24	2	95
Buses	2011	8	4	5019	206	35	1680	601	24	2	84
Buses	2012	8	4	4580	169	29	1539	558	23	2	72
Mopeds	1985	0	1	12	1832	47	3144	17	0	0	38
Mopeds	1986	0	0	11	1645	42	2821	15	0	0	34
Mopeds	1987	0	0	10	1522	39	2611	14	0	0	31
Mopeds	1988	0	0	9	1435	37	2453	13	0	0	29
Mopeds	1989	0	0	9	1364	35	2326	13	0	0	28
Mopeds	1990	0	0	9	1386	35	2366	13	0	0	28
Mopeds	1991	0	0	9	1419	36	2428	13	0	0	29
Mopeds	1992	0	0	9	1426	36	2441	13	0	0	29
Mopeds	1993	0	0	9	1408	36	2418	13	0	0	29
Mopeds	1994	0	0	9	1390	35	2383	13	0	0	29
Mopeds	1995	0	0	10	1564	40	2683	15	0	0	32
Mopeds	1996	0	1	12	1801	46	3102	17	0	0	37
Mopeds	1997	0	1	15	2220	57	3822	21	0	0	46
Mopeds	1998	0	1	17	2655	68	4587	25	0	0	55
Mopeds	1999	0	1	17	2575	66	4435	24	0	0	53
Mopeds	2000	0	1	19	2507	64	4323	24	0	0	52
Mopeds	2001	0	1	19	1951	48	3310	19	0	0	39
Mopeds	2002	0	1	23	1972	48	3297	20	0	0	39
Mopeds	2003	0	1	25	1901	45	3153	20	0	0	37
Mopeds	2004	0	1	25	1785	42	2940	19	0	0	34
Mopeds	2005	0	0	27	1682	38	2740	19	0	0	32
Mopeds	2006	0	0	29	1606	36	2589	19	0	0	29
Mopeds	2007	0	0	31	1524	33	2437	19	0	0	27
Mopeds	2008	0	0	31	1419	30	2255	18	0	0	25
Mopeds	2009	0	0	32	1323	28	2085	18	0	0	23
Mopeds	2010	0	0	31	1193	24	1872	16	0	0	20
Mopeds	2011	0	0	30	1089	22	1687	15	0	0	18
Mopeds	2012	0	0	31	1001	19	1532	15	0	0	16
Motorcycles	1985	0	1	57	507	53	5437	25	1	1	13
Motorcycles	1986	0	1	57	508	53	5439	25	1	1	13
Motorcycles	1987	0	1	55	494	52	5299	25	1	1	13
Motorcycles	1988	0	1	56	506	53	5365	25	1	1	13
Motorcycles	1989	0	1	55	501	52	5284	25	1	1	13
Motorcycles	1990	0	1	59	536	56	5670	27	1	1	14
Motorcycles	1991	0	1	61	549	57	5839	27	1	1	14
Motorcycles	1992	0	1	65	588	61	6234	29	1	1	15
Motorcycles	1993	0	1	69	614	65	6599	31	1	1	16
Motorcycles	1994	0	1	74	662	69	7041	33	1	1	17
Motorcycles	1995	0	1	76	683	71	7275	34	1	1	17
Motorcycles	1996	0	1	78	692	73	7418	35	1	1	18
Motorcycles	1997	0	1	82	736	76	7784	36	1	1	19
Motorcycles	1998	1	1	85	757	79	8069	38	1	1	19
Motorcycles	1999	1	1	87	780	80	8222	38	1	1	20
Motorcycles	2000	1	1	87	751	79	8078	39	1	1	19
Motorcycles	2001	1	1	90	762	79	7929	39	1	1	19
Motorcycles	2002	1	1	94	788	80	7976	41	1	1	18
Motorcycles	2003	1	1	96	795	79	7880	41	1	1	18
Motorcycles	2004	1	1	97	784	78	7622	41	1	1	17
Motorcycles	2005	1	0	102	792	77	7420	42	1	1	16
Motorcycles	2006	1	0	110	821	79	7360	45	1	1	16



Motorcycles	2007	1	0	117	839	81	7341	48	1	1	15
Motorcycles	2008	1	0	117	811	78	6997	49	1	1	14
Motorcycles	2009	1	0	112	765	73	6538	47	1	1	13
Motorcycles	2010	1	0	113	742	73	6463	47	1	1	13
Motorcycles	2011	1	0	112	726	71	6285	46	1	1	12
Motorcycles	2012	1	0	111	699	70	6148	45	1	1	12
Total	1985	111	11621	94032	75302	2015	573678	8167	261	63	4320
Total	1986	118	7862	99488	75477	2072	547717	8632	274	65	4690
Total	1987	118	7847	100077	75187	2088	525368	8644	274	66	4721
Total	1988	118	7857	101581	75121	2110	488047	8702	276	67	4643
Total	1989	120	5488	103010	73635	2105	455974	8797	279	68	4701
Total	1990	126	5767	109042	77245	2233	464930	9284	292	72	4936
Total	1991	132	5903	112371	80067	2329	485715	9699	308	163	5097
Total	1992	134	3820	111354	79633	2343	472329	9872	322	356	4913
Total	1993	136	1569	108932	77266	2330	460142	9997	330	546	4910
Total	1994	143	1669	108761	74509	2312	430439	10493	353	825	5033
Total	1995	144	1682	103616	70081	2230	410780	10589	368	1096	4849
Total	1996	147	1721	99289	65965	2155	399783	10766	383	1354	4672
Total	1997	149	1744	95544	61389	2090	362414	10979	401	1703	4268
Total	1998	152	1768	91350	56235	2020	339585	11167	409	2063	3924
Total	1999	154	1088	87478	50185	1912	302074	11313	417	2352	3611
Total	2000	153	352	82320	42322	1788	276031	11203	415	2544	3273
Total	2001	153	353	79704	38860	1676	264825	11223	417	2565	3035
Total	2002	155	357	76400	35321	1574	243650	11352	417	2586	2793
Total	2003	161	371	75298	32626	1497	233641	11806	426	2565	2745
Total	2004	165	381	73383	28450	1393	207364	12115	430	2538	2595
Total	2005	166	77	69930	25969	1274	198459	12214	422	2402	2479
Total	2006	171	79	67887	22716	1172	177787	12587	423	2294	2403
Total	2007	179	83	66162	20251	1070	162791	13187	434	2212	2318
Total	2008	175	81	59179	17728	909	148403	12870	417	2043	2038
Total	2009	166	77	51966	15452	778	132200	12160	390	1902	1740
Total	2010	165	76	49914	13982	695	124918	12080	388	1731	1632
Total	2011	165	74	48140	11769	616	104957	11748	391	1602	1464
Total	2012	161	71	44316	10439	538	96022	11224	376	1456	1311

# Annex 3B-9 COPERT IV:DEA statistics fuel use ratios and mileage adjustment factors

Sales			1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Fuel ratio	Gasoline	DEA:COPERT IV	1,06	1,01	1,05	1,10	1,13	1,16	1,14	1,12	1,13	1,14	1,12	1,13	1,12	1,13	1,13	1,11	1,10	1,10	1,12	1,11	1,11	1,10	1,08	1,07
	Diesel	DEA:COPERT IV	1,22	1,33	1,36	1,32	1,32	1,40	1,39	1,40	1,42	1,41	1,40	1,35	1,36	1,35	1,42	1,44	1,40	1,40	1,43	1,40	1,34	1,37	1,38	1,37
Consumption																										
Fuel ratio	Gasoline	DEA:COPERT IV	1,11	1,11	1,10	1,11	1,12	1,13	1,13	1,13	1,14	1,15	1,17	1,19	1,16	1,17	1,16	1,14	1,13	1,12	1,12	1,11	1,11	1,13	1,11	1,10
	Diesel	DEA:COPERT IV	1,13	1,22	1,30	1,27	1,26	1,30	1,27	1,28	1,29	1,28	1,28	1,26	1,27	1,25	1,28	1,29	1,26	1,27	1,29	1,26	1,22	1,25	1,24	1,23

**Annex 3B-10 Actual vs. representative aircraft types, no. of LTO's from Danish airports, no. of flights between Denmark and Greenland/Faroe Islands, LTO and average cruise fuel consumption and emission factors**

Correspondence table between actual aircraft type codes and representative aircraft types

ICAO code	Representative aircraft	Type	ICAO code	Representative aircraft	Type	ICAO code	Representative aircraft	Type
B73	B737 400	L2J	BN2T	Cessna 208 Caravan	L2T	H60	S61	H2T
739	B737 400	L2J	BSTP	S61	H2T	HA4T	RJ 100	L2J
7474	B737 400	L2J	C10T	Cessna 208 Caravan	L1T	HEL	Shorts 360 300	
757	B757	L2J	C130	Lockheed C-130H Hercules	L4T	HF20	RJ 100	L2J
A109	S61	H2T	C141	DC10-30	L4J	HR16	F50	L2T
A124	B747 400	L4J	C160	F50	L2T	HS25	RJ 100	L2J
A139	S61	H2T	C17	A340	L4J	HS74	F50	L2T
A300	A310	L2J	C17C	A340	L4J	HTA0	BAe Jetstream 31	L2T
A304	A310	L2J	C208	Cessna 208 Caravan	L1T	HU30	S61	H1P
A306	A310	L2J	C20A	Shorts 360 300	L2T	HU50	Shorts 360 300	L2T
A30B	A310	L2J	C212	Shorts 360 300	L2T	IL18	Lockheed P-3B Orion	L4T
A310	A310	L2J	C25A	RJ 100	L2J	IL62	B767 300 ER	L4J
A318	A320	L2J	C25B	RJ 100	L2J	IL76	B767 300 ER	L4J
A319	A320	L2J	C27J	Dash8 400	L2T	IL86	A340	L4J
A320	A320	L2J	C30J	Lockheed C-130H Hercules	L4T	IL96	A340	L4J
A321	A320	L2J	C406	Shorts 360 300	L2T	J32	BAe Jetstream 31	L2T
A322	A320	L2J	C425	Reims F406 Caravan II	L2T	J328	RJ 100	L2J
A330	A330	L2J	C441	Reims F406 Caravan II	L2T	JET	RJ 100	
A332	A330	L2J	C5	DC10-30	L4J	JS20	BAe Jetstream 31	L2T
A333	A330	L2J	C500	RJ 100	L2J	JS31	BAe Jetstream 31	L2T
A340	A340	L4J	C501	RJ 100	L2J	JS32	BAe Jetstream 31	L2T
A343	A340	L4J	C510	RJ 100	L2J	JS41	BAe Jetstream 41	L2T
A550	S61	H1P	C525	RJ 100	L2J	JSTA	Shorts 360 300	L2T
A748	Shorts 360 300	L2T	C550	RJ 100	L2J	JSTB	Shorts 360 300	L2T
AB30	A310	L2J	C551	RJ 100	L2J	KA27	S61	H2T
AC14	Shorts 360 300	L2T	C560	RJ 100	L2J	KODI	De Havilland DHC-3 Turbo-Otter	L1T
AC6T	Shorts 360 300	L2T	C56X	RJ 100	L2J	L101	DC10-30	L3J
AC90	Shorts 360 300	L2T	C650	RJ 100	L2J	L188	Dash8 400	L4T
AC95	Shorts 360 300	L2T	C680	RJ 100	L2J	L29A	BAe146	L4J
ALO3	S61	H1T	C750	RJ 100	L2J	L29B	BAe146	L4J
AN12	Dash8 400	L4T	CL3	RJ 100	L2J	L329	BAe146	L4J
AN22	Lockheed C-130H Hercules	L4T	CL30	RJ 100	L2J	L382	Shorts 360 300	L2T

AN24	F50	L2T	CL60	RJ 100	L2J	LJ24	RJ 100	L2J
AN26	Antonov 26	L2T	CL65	RJ 100	L2J	LJ25	RJ 100	L2J
AN28	Shorts 360 300	L2T	CN35	F50	L2T	LJ31	RJ 100	L2J
AN30	Antonov 26	L2T	CRJ	RJ 100	L2J	LJ35	RJ 100	L2J
AN32	Antonov 26	L2T	CRJ1	RJ 100	L2J	LJ36	RJ 100	L2J
AN7	BAC1-11	L2J	CRJ2	RJ 100	L2J	LJ40	RJ 100	L2J
AN72	BAC1-11	L2J	CRJ7	RJ 100	L2J	LJ45	RJ 100	L2J
AN74	BAC1-11	L2J	CRJ9	CRJ9	L2J	LJ55	RJ 100	L2J
ANF	Dash8 400	L4T	CV44	Dash8 400	L2T	LJ60	RJ 100	L2J
APF	ATR 42-320	L2T	CV58	Dash8 400	L2T	LR24	RJ 100	L2J
AS32	S61	H2T	CVLT	Dash8 400	L2T	LR25	RJ 100	L2J
AS35	S61	H1T	D228	Dornier 328-110	L2T	LR31	RJ 100	L2J
AS50	S61	H1T	D328	Shorts 360 300	L2T	LR35	RJ 100	L2J
AS55	S61	H2T	DA10	RJ 100	L2J	LR36	RJ 100	L2J
AS65	S61	H2T	DA20	RJ 100	L2J	LR55	RJ 100	L2J
ASJ	Shorts 360 300	L2T	DA30	RJ 100	L2J	LR60	RJ 100	L2J
ASTR	RJ 100	L2J	DA50	RJ 100	L3J	LYNX	S61	H2T
AT42	ATR 42-320	L2T	DA90	RJ 100	L3J	M20K	Shorts 360 300	L2T
AT43	ATR 42-320	L2T	DC10	DC10-30	L3J	M7T	Cessna 208 Caravan	L1T
AT44	ATR 42-320	L2T	DC8	B767 300 ER	L2J	MD11	DC10-30	L3J
AT45	ATR 42-320	L2T	DC85	B767 300 ER	L4J	MD52	S61	H1T
AT5	ATR 42-320	L2T	DC86	B767 300 ER	L4J	MD80	MD 82	L2J
AT72	ATR 72-200	L2T	DC87	B767 300 ER	L4J	MD81	MD 82	L2J
ATP	S2000	L2T	DC8F	B767 300 ER	L2J	MD82	MD 82	L2J
ATR	ATR 42-320	L2T	DC8S	B767 300 ER	L4J	MD83	MD 82	L2J
ATR4	ATR 42-320	L2T	DC9	DC9	L2J	MD87	MD 82	L2J
ATR7	ATR 72-200	L2T	DC93	RJ 100	L2J	MD88	MD 82	L2J
AVRO	BAe146	L4J	DC94	DC9	L2J	MD90	B737 400	L2J
AW13	S61	H2T	DC95	DC9	L2J	MI14	S61	H2T
B06	S61	H1T	DF2	RJ 100	L2J	MI2	S61	H2T
B105	S61	H2T	DH 7	DHC7	L2T	MI8	S61	H2T
B12	S61	H2T	DH2T	De Havilland DHC-3 Turbo-Otter	L1T	MU2	Shorts 360 300	L2T
B190	Beech 1900C Airliner	L2T	DH4	Dash8 400	L2T	MU20	Shorts 360 300	L2T
B200	Shorts 360 300	L2T	DH6	Shorts 360 300	L2T	MU30	RJ 100	L2J
B206	S61	H1T	DH7	DHC7	L2T	N24A	Shorts 360 300	L2T
B212	S61	H2T	DH8	Dash8 400	L2T	N262	Shorts 360 300	L2T
B222	S61	H2T	DH8A	Dash8 400	L2T	ND26	Shorts 360 300	L2T

B321	A320	L2J	DH8C	Dash8 400	L2T	NH90	S61	L1P
B350	Beech Super King Air 350	L2T	DH8D	Dash8 400	L2T	NOMA	Shorts 360 300	L2T
B378	B737 400	L2J	DHC6	Shorts 360 300	L2T	OTH	F50	L2T
B407	S61	H1T	DHC8	Dash8 400	L2T	P180	Embraer 110P2A	L2T
B412	S61	H2T	E110	Embraer 110P2A	L2T	P46T	Cessna 208 Caravan	L1T
B429	S61	H2T	E120	Shorts 360 300	L2T	P750	Cessna 208 Caravan	L1T
B430	S61	H2T	E121	Embraer 110P2A	L2T	PA42	Reims F406 Caravan II	L2T
B461	BAe146	L4J	E135	RJ 100	L2J	PA60	Cessna 208 Caravan	L2T
B462	BAe146	L4J	E145	RJ 100	L2J	PAT4	Shorts 360 300	L2T
B463	BAe146	L4J	E170	CRJ9	L2J	PAY1	Reims F406 Caravan II	L2T
B46C	BAe146	L4J	E175	CRJ9	L2J	PAY2	Reims F406 Caravan II	L2T
B703	B757	L4J	E19	B737 100	L2J	PAY3	Reims F406 Caravan II	L2T
B707	B757	L2J	E190	B737 100	L2J	PAY4	Shorts 360 300	L2T
B712	B737 100	L2J	E195	B737 100	L2J	PAZT	Shorts 360 300	L2T
B717	DC9	L2J	E70	CRJ9	L2J	PC12	Cessna 208 Caravan	L1T
B720	B757	L4J	E90	B737 100	L2J	PC7	Cessna 208 Caravan	L1T
B721	B727	L3J	EA19	A320	L2J	PC9	Cessna 208 Caravan	L1T
B722	B727	L3J	EA30	A310	L2J	PRM1	RJ 100	L2J
B727	B727	L2J	EA31	A310	L2J	PUMA	S61	H2T
B72S	B727	L3J	EA32	A320	L2J	R22	S61	H1P
B732	B737 400	L2J	EA33	A330	L2J	R44	S61	H1P
B733	B737 400	L2J	EA34	A340	L4J	RH22	Shorts 360 300	L2T
B734	B737 400	L2J	EA50	RJ 100	L2J	RH44	S61	H1P
B735	B737 400	L2J	EC12	S61	H1P	RJ1H	BAe146	L4J
B736	B737 400	L2J	EC20	S61	H1T	RJ70	RJ 100	L4J
B737	B737 400	L2J	EC25	S61	H2T	RJ85	RJ 100	L4J
B738	B737 400	L2J	EC30	S61	H1T	S210	DC9	L2J
B739	B737 400	L2J	EC35	S61	H2T	S269	S61	H1P
B73A	B737 100	L2J	EC45	S61	H2T	S330	S61	H1T
B73B	B737 400	L2J	EC55	S61	H2T	S350	F50	L2T
B73C	B737 400	L2J	EH10	S61	H3T	S355	S61	H1T
B73E	B737 400	L2J	EMB	Shorts 360 300	L2T	S365	S61	H1T
B73G	B737 400	L2J	EN28	S61	H1P	S601	RJ 100	L2J
B73S	B737 400	L2J	ER3	RJ 100	L2J	S61	S61	H2T
B741	B747 100-300	L4J	EXPL	S61	H2T	S65C	S61	H2T
B742	B747 100-300	L4J	F100	F100	L2J	S76	S61	H2T
B743	B747 100-300	L4J	F26T	Cessna 208 Caravan	L1T	S893	Shorts 360 300	L2T

B744	B747 400	L4J	F27	Fokker 27 Friendship	L2T	S92	S61	H2T
B747	B747 400	L4J	F28	F28	L2T	SA22	Shorts 360 300	L2T
B74A	B747 400	L4J	F2TH	RJ 100	L2J	SB05	RJ 100	L2J
B74B	B747 400	L4J	F406	Reims F406 Caravan II	L2T	SB20	S2000	L2T
B74D	B747 400	L4J	F50	F50	L2T	SBR1	RJ 100	L2J
B74F	B747 400	L4J	F70	F28	L2T	SC7	Shorts SC.7 Srs3M-200	L2T
B74S	B747 100-300	L4J	F71	F28	L2J	SF34	Saab 340B	L2T
B752	B757	L2J	F900	RJ 100	L3J	SH33	Shorts 330	L2T
B757	B757	L2J	FA10	RJ 100	L2J	SH36	Shorts 360 300	L2T
B762	B767 300 ER	L2J	FA20	RJ 100	L2J	SH60	S61	H2T
B763	B767 300 ER	L2J	FA50	RJ 100	L3J	SH7	Shorts 360 300	L2T
B764	B767 300 ER	L2J	FA7X	RJ 100	L3J	SK61	S61	H2T
B767	B767 300 ER	L2J	FK10	F100	L2J	SK76	S61	H2T
B772	B777	L2J	FK27	F50	L2T	STAR	Shorts 360 300	L2T
B773	B777	L2J	FK28	F28	L2J	SW2	Swearingen Metro III	L2T
B777	B777	L2J	FK50	F50	L2T	SW3	Swearingen Metro III	L2T
BA11	BAC1-11	L2J	FK70	F28	L2J	SW4	Swearingen Metro III	L2T
BA14	BAe146	L4J	FOUG	RJ 100	L2J	SW4A	S61	H1T
BA31	Shorts 360 300	L2T	G159	Shorts 360 300	L2T	SW4B	S61	H1T
BA32	Shorts 360 300	L2T	G2	Shorts 360 300	L2T	T134	F100	L2J
BA41	Shorts 360 300	L2T	G222	F28	L2T	T154	B727	L3J
BA46	BAe146	L4J	G3	F50	L2T	T204	B757	L2J
BAE1	BAe146	L4J	G4	CRJ9	L2J	TB21	Shorts 360 300	L2T
BATP	F50	L2T	GALX	RJ 100	L2J	TB9	Shorts 360 300	L2T
BE02	Shorts 360 300	L2T	GAZL	S61	H1T	TBM7	Cessna 208 Caravan	L1T
BE10	Beech Super King Air 200B	L2T	GIV	CRJ9	L2J	TBM8	Cessna 208 Caravan	L1T
BE20	Beech Super King Air 200B	L2T	GLEX	RJ 100	L2J	TEX2	Cessna 208 Caravan	L1T
BE30	Beech Super King Air 350	L2T	GLF2	RJ 100	L2J	TOR	RJ 100	L2J
BE40	RJ 100	L2J	GLF3	RJ 100	L2J	TU34	F100	L2J
BE90	Beech Super King Air 200B	L2T	GLF4	RJ 100	L2J	TU54	B757	L2J
BE99	Beech Super King Air 200B	L2T	GLF5	RJ 100	L2J	UH1	S61	H1T
BE9L	Reims F406 Caravan II	L2T	GULF	F50	L2T	VC10	B757	L4J
BE9T	Reims F406 Caravan II	L2T	H25A	RJ 100	L2J	VF14	RJ 100	L2J
BH06	S61	H1T	H25B	RJ 100	L2J	W3	S61	H2T
BH12	S61	H1T	H25C	RJ 100	L2J	WW24	RJ 100	L2J
BH21	S61	H1T	H269	S61	H1P	WW25	F50	L2T
BH41	S61	H1T	H36	S61	H1P	Y12	Shorts 360 300	L2T

BK17	S61	H2T	H46	S61	H2T	YK40	RJ 100	L3J
BN2	Shorts 360 300	L2T	H500	S61	H1T	YK42	DC9	L3J

LTO no. per representative aircraft type for domestic and int. flights (Copenhagen and other airports).

Flight	Airport name	Rep Aircraft	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Domestic	Copenhagen	A310	37	1	1	3	1	1		1	1			
Domestic	Copenhagen	A320	71	83	110	77	115	237	263	554	536	497	590	1121
Domestic	Copenhagen	A330	4	28	213	228	228	228	232	211	225	223	237	251
Domestic	Copenhagen	A340	7	3	5	1				1			2	1
Domestic	Copenhagen	Antonov 26				91	284	246	253	253	249	63		
Domestic	Copenhagen	ATR 42-320	4494	5333	4951	2933	804	3320	3393	3820	2455	2925	2799	889
Domestic	Copenhagen	ATR 72-200	2358	2783	4495	5218	6664	5775	5449	7005	5697	6763	8108	4238
Domestic	Copenhagen	B727		1										
Domestic	Copenhagen	B737 400	2264	1722	2212	959	514	549	1258	1376	2240	3521	3172	3108
Domestic	Copenhagen	B747 400					1		1			1		
Domestic	Copenhagen	B757	227	264	152	146	100	101	141	154	112	85	4	
Domestic	Copenhagen	B767 300 ER	206	182	24	1			1	24	15	1	4	4
Domestic	Copenhagen	BAC1-11												1
Domestic	Copenhagen	BAe146	491	532	581	665	1034	1286	1078	1171	1032	934	607	171
Domestic	Copenhagen	Beech Super King Air 200B	3	12	5	9	8	7	2	5	7	10	7	4
Domestic	Copenhagen	Cessna 208 Caravan				1		2	1	1				
Domestic	Copenhagen	CRJ9	2	3	2	3	1	1		65	1890	2792	2596	1488
Domestic	Copenhagen	Dash8 400	2016	3849	4188	8107	6686	4152	2462		1	1		210
Domestic	Copenhagen	DC10-30				1		1						
Domestic	Copenhagen	DC9	113	5										
Domestic	Copenhagen	Dornier 328-110						1						
Domestic	Copenhagen	F100					1		39	10				
Domestic	Copenhagen	F28									2			
Domestic	Copenhagen	F50	292	167	20	3	7	1	54	74				108
Domestic	Copenhagen	MD 82	4498	3131	1571	469	1345	1783	2686	2974	2130	1161	941	1646
Domestic	Copenhagen	Reims F406 Caravan II	2	2	8	11	6	3	1	1	1			1
Domestic	Copenhagen	RJ 100	2318	1048	325	327	560	882	1674	1802	1531	1472	1925	1062
Domestic	Copenhagen	S2000	19	10										
Domestic	Copenhagen	S61		1	1	8	3	3	3		4	15	16	12
Domestic	Copenhagen	Shorts 330	7											

Domestic	Copenhagen	Shorts 360 300	948	525	471	378	431	453	19	8	13	7	15	13
Domestic	Copenhagen	Swearingen Metro III	29	27	29	14	13	19	31	10	6	15	29	26
Domestic	Copenhagen	Saab 340B		6	4		16		15	93	372	313		

Flight	Airport name	Rep Aircraft	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
International	Copenhagen	A310	2488	1900	1179	1081	1142	1318	1181	1164	747	614	711	464
International	Copenhagen	A320	3895	7851	11850	17052	16184	18835	21042	24157	22594	24778	27104	28153
International	Copenhagen	A330	363	306	692	804	783	884	854	818	803	841	1043	881
International	Copenhagen	A340	456	1807	1845	2049	2028	1939	1752	1756	1488	1436	1696	1895
International	Copenhagen	Antonov 26	702	516	517	521	552	549	592	542	416	269	254	253
International	Copenhagen	ATR 42-320	2817	1097	1226	666	312	196	1020	821	1160	802	390	326
International	Copenhagen	ATR 72-200	1311	1059	1235	791	571	461	434	651	291	273	712	856
International	Copenhagen	B727	2051	1143	109	2	1	1	1		4	1		1
International	Copenhagen	B737 100						4	219	288	345	448	1557	4955
International	Copenhagen	B737 400	29665	25656	27987	25883	24782	19369	20690	25053	22285	25416	24361	22613
International	Copenhagen	B747 400	718	556	612	726	900	1084	1055	970	922	872	884	823
International	Copenhagen	B757	1701	2062	2285	2189	2011	2082	2625	2228	1867	1840	1644	1369
International	Copenhagen	B767 300 ER	3026	1103	546	91	151	285	414	678	639	731	670	643
International	Copenhagen	B777	40	266	150	157	168	171	242	264	267	394	431	764
International	Copenhagen	BAC1-11	1	1	5		5	4	3	5	1	1	1	1
International	Copenhagen	BAe146	4510	5849	5131	3878	4540	4098	3723	7660	3202	2280	1077	792
International	Copenhagen	Beech Super King Air 200B	13	12	16	16	48	37	60	37	37	30	54	40
International	Copenhagen	Cessna 208 Caravan	6	1		1	4	5	6	10	1	3	8	22
International	Copenhagen	CRJ9	56	48	43	70	443	1054	1398	1451	7235	12981	13811	15662
International	Copenhagen	Dash8 400	8122	10809	13457	14213	13972	14831	11580	630	1620	2071	3157	3671
International	Copenhagen	DC10-30	147	51	154	157	151	69	131	158	148	28	2	4
International	Copenhagen	DC9	5424	277	91	6	15	3	10	2	27	3		
International	Copenhagen	Dornier 328-110		3	6	9		1		1	2	1	1	
International	Copenhagen	Embraer 110P2A												2
International	Copenhagen	F100	625	464	6	307	666	664	750	1250	626	447	389	450
International	Copenhagen	F28	1433	832	716	727	554	648	390	539	430	128	43	83
International	Copenhagen	F50	6511	3335	6075	5107	4292	3268	2901	2634	794	679	767	193
International	Copenhagen	MD 82	32740	32219	23211	28009	28432	26979	24648	22120	15547	11841	13432	12890
International	Copenhagen	Reims F406 Caravan II	6	19	16	12	23	17	24	19	8	8	2	3
International	Copenhagen	RJ 100	5925	6637	7266	8647	8941	9060	9934	13795	12301	9836	9446	7251



International	Copenhagen	S2000	386	1029	346	496	1426	331	33	2	4	203	559	317
International	Copenhagen	S61	3541	3121	3	1	1	2	3	1	4		2	1
International	Copenhagen	Shorts 330	125			1								
International	Copenhagen	Shorts 360 300	545	89	154	137	280	63	73	224	201	157	25	27
International	Copenhagen	Swearingen Metro III	723	963	943	453	459	462	488	468	453	181	12	15
International	Copenhagen	Saab 340B	71	801	1145	1670	509	21	265	695	843	1303	738	1309

Flight	Airport name	Rep Aircraft	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Domestic	Other airports	A310	31	3			6		1					
Domestic	Other airports	A320	115	126	98	38	156	357	342	573	552	541	635	719
Domestic	Other airports	A330	9	5	2	7	4		2	1	3	1	1	2
Domestic	Other airports	A340	6	2	1		1							1
Domestic	Other airports	Antonov 26		1		83	274	249	254	252	252	63		
Domestic	Other airports	ATR 42-320	3182	4143	5143	3189	1773	3966	3714	3875	2579	3289	3588	1714
Domestic	Other airports	ATR 72-200	2342	2751	4629	5446	7368	5649	5324	6082	5506	6103	7369	4250
Domestic	Other airports	B727						1			1			
Domestic	Other airports	B737 400	2754	1755	2236	798	505	501	1295	1443	2246	3500	3075	3144
Domestic	Other airports	B747 400		1										
Domestic	Other airports	B757	46	41	50	43	16	17	21	9	4	2	2	
Domestic	Other airports	B767 300 ER	3	6	7		1		3	19	19	1	2	1
Domestic	Other airports	BAe Jetstream 31	249	328	349	331	626	699	582	331	147	89	33	51
Domestic	Other airports	BAe Jetstream 41	46	67	43	49	7		1				1	
Domestic	Other airports	BAe146	46	60	62	100	231	261	259	281	173	94	110	80
Domestic	Other airports	Beech 1900C Airliner	135	370	668	928	651	35	5	3	1			
Domestic	Other airports	Beech Super King Air 200B	194	155	245	241	218	231	153	118	80	66	81	78
Domestic	Other airports	Beech Super King Air 350	18	2	6	7	3	1	86	46	11	9	11	28
Domestic	Other airports	Cessna 208 Caravan	11	24	58	86	98	155	101	129	104	75	106	72
Domestic	Other airports	CRJ9								49	1899	2792	2600	1474
Domestic	Other airports	Dash8 400	2038	3828	4192	8105	6705	4157	2462					235
Domestic	Other airports	DC10-30				3								
Domestic	Other airports	DC9	113	6										
Domestic	Other airports	De Havilland DHC-3 Turbo-Otter				1	2							
Domestic	Other airports	Dornier 328-110				2		1	1					1
Domestic	Other airports	Embraer 110P2A	132	118	455	371	457	638	20	47	30	36	43	24
Domestic	Other airports	F100							37	1				
Domestic	Other airports	F50	140	183	9	2	2	1	53	69	4	1		105

Domestic	Other airports	Fokker 27 Friendship	63	1			1	3		8				
Domestic	Other airports	Lockheed C-130H Hercules	17	12	13	46	54	27	46	38	44	69	49	45
Domestic	Other airports	MD 82	4505	3140	1567	454	1358	1782	2692	3033	2155	1265	1148	1803
Domestic	Other airports	Reims F406 Caravan II	264	298	262	159	134	68	109	71	53	21	12	13
Domestic	Other airports	RJ 100	3160	2387	1930	1618	1107	1639	2718	2754	2403	2235	2379	1738
Domestic	Other airports	S2000	93	91	86	41	26	18	2	1				3
Domestic	Other airports	S61	220	3018	4452	4432	4209	4760	5451	4744	4995	4562	4272	4525
Domestic	Other airports	Shorts 330	7											
Domestic	Other airports	Shorts 360 300	389	207	144	63	145	131	317	465	530	266	39	47
Domestic	Other airports	Shorts SC.7 Srs3M-200	173			1		6	4				1	
Domestic	Other airports	Swearingen Metro III	135	155	263	97	124	211	172	89	93	67	155	173
Domestic	Other airports	Saab 340B		510	389		401	892	925	1015	973	888	167	3

Flight	Airport name	Rep Aircraft	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
International	Other airports	A310	151	19	28	20	9	12	13	4	1	2	6	1
International	Other airports	A320	937	1004	834	849	924	1192	1090	1156	1038	1307	1413	1422
International	Other airports	A330	60	11	3	13	3	7	10	5	2	13	17	12
International	Other airports	A340				2	3							
International	Other airports	Antonov 26	2	2		2	12	11	42	17	18	11	4	2
International	Other airports	ATR 42-320	161	242	403	527	1122	715	463	122	109	415	728	616
International	Other airports	ATR 72-200	15	45	82	46	140	264	363	458	431	451	356	218
International	Other airports	B727	82	90	77	26	26	46	1					
International	Other airports	B737 100	6					7	2		2	252	868	931
International	Other airports	B737 400	6906	6492	6680	6839	6734	4575	5592	6866	6179	7698	7544	7321
International	Other airports	B747 100-300		1		2	10		1		2	5	3	1
International	Other airports	B747 400	2	7	10	16	10	5	15	8	8	6	7	10
International	Other airports	B757	107	137	188	150	79	114	88	64	70	266	316	318
International	Other airports	B767 300 ER	48	71	55	69	37	15	19	39	52	51	43	52
International	Other airports	BAC1-11		1	2	2	2	1						
International	Other airports	BAe Jetstream 31	1885	1802	2124	2718	2298	1811	1099	792	876	757	681	992
International	Other airports	BAe Jetstream 41	739	905	983	689	118	2		5	2	3	2	1
International	Other airports	BAe146	284	229	414	229	335	538	506	974	979	225	186	165
International	Other airports	Beech 1900C Airliner	92	1083	579	548	441	32	8	7	6	4	7	3
International	Other airports	Beech Super King Air 200B	89	123	281	288	339	404	349	361	231	203	177	207
International	Other airports	Beech Super King Air 350	162	28	26	22	34	22	30	38	36	52	33	42
International	Other airports	Cessna 208 Caravan	27	33	164	201	208	227	202	391	360	180	162	142

International	Other airports	CRJ9						443	874	261		1	8	6
International	Other airports	Dash8 400	19	147	498	68	97	62	38	31	43	78	174	282
International	Other airports	DC10-30		1	1	1	6	3		1		1		4
International	Other airports	DC9		1	3	6			2		1			
International	Other airports	De Havilland DHC-3 Turbo-Otter			5	2	2		3					
International	Other airports	Dornier 328-110	1	3	7	6	7	9	12	8	26	10	6	5
International	Other airports	Embraer 110P2A	43	24	127	23	18	68	46	94	78	83	110	109
International	Other airports	F100	10		1	2	3	751	838	150	64	62	53	111
International	Other airports	F28						7	254	257	228	261	577	1200
International	Other airports	F50	241	164	59	2	7	38	5	44	300	48	72	10
International	Other airports	Fokker 27 Friendship	551	359	4	1	10	150	5	3	1		1	
International	Other airports	Lockheed C-130H Hercules	4	1	4	4	7	13	8	5	6	3	5	8
International	Other airports	MD 82	141	168	140	227	461	513	979	963	704	411	340	277
International	Other airports	Reims F406 Caravan II	195	410	394	267	268	197	254	131	94	45	34	39
International	Other airports	RJ 100	2740	3047	4544	5980	4083	4827	5706	6999	5866	7296	8466	7173
International	Other airports	S2000	430	472	651	760	811	101	10	14	3	31	119	239
International	Other airports	S61	33	55	108	120	106	163	168	136	104	95	94	92
International	Other airports	Shorts 330	12											
International	Other airports	Shorts 360 300	564	538	127	78	1680	2894	3074	2264	2044	1592	985	1405
International	Other airports	Shorts SC.7 Srs3M-200			5	4	5	7	1	3				
International	Other airports	Swearingen Metro III	290	309	328	290	374	453	481	427	249	306	341	240
International	Other airports	Saab 340B	6	56	112	11	222	713	637	790	407	312	97	66

No. of flights between Danish airports and airports in Greenland and Faroe Islands

Area	Destination	Airport name	Distance NM	Rep Aircraft	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Greenland	Narsarsuaq	Billund	1694,92	RJ 100											1	
Greenland	Narsarsuaq	Copenhagen	1796,98	B737 400	2	9	10	7	4	5		5	1		26	27
Greenland	Narsarsuaq	Copenhagen	1796,98	B757	68	73	65	63	61	66	77	72	50	39		
Greenland	Narsarsuaq	Copenhagen	1796,98	F50				1								
Greenland	Narsarsuaq	Copenhagen	1796,98	MD 82	4											
Greenland	Narsarsuaq	Copenhagen	1796,98	RJ 100					1	1	1			1	2	
Greenland	Narsarsuaq	Karup	1675,49	B737 400												1
Greenland	Narsarsuaq	Roskilde	1783,48	Lockheed C-130H Hercules										1		
Greenland	Narsarsuaq	Roskilde	1783,48	RJ 100								1				
Greenland	Narsarsuaq	Sønderborg	1739,20	RJ 100										1		1
Greenland	Narsarsuaq	Aalborg	1670,63	A320						1						

Greenland	Narsarsuaq	Aalborg	1670,63	B737 400						1	5	12	12	2	3	2
Greenland	Narsarsuaq	Aalborg	1670,63	B757			1	7	6	8	2					
Greenland	Narsarsuaq	Aalborg	1670,63	MD 82									2	11	14	12
Greenland	Narsarsuaq	Aalborg	1670,63	RJ 100				1								
Greenland	Narsarsuaq	Aarhus	1717,06	RJ 100	1											
Greenland	Søndre Strømfjord	Billund	1766,74	B737 400										1		
Greenland	Søndre Strømfjord	Billund	1766,74	MD 82										1		2
Greenland	Søndre Strømfjord	Billund	1766,74	RJ 100	1	1			1							1
Greenland	Søndre Strømfjord	Copenhagen	1852,59	A310								1				
Greenland	Søndre Strømfjord	Copenhagen	1852,59	A320						47	44					1
Greenland	Søndre Strømfjord	Copenhagen	1852,59	A330		25	209	207	212	212	219	196	222	219	233	247
Greenland	Søndre Strømfjord	Copenhagen	1852,59	A340			1					1			2	
Greenland	Søndre Strømfjord	Copenhagen	1852,59	B737 400	1	12		1		34	3	2	6	3	31	25
Greenland	Søndre Strømfjord	Copenhagen	1852,59	B757	112	136	22	30	30	26	51	77	57	45	4	
Greenland	Søndre Strømfjord	Copenhagen	1852,59	B767 300 ER	191	167	8					8	1		4	3
Greenland	Søndre Strømfjord	Copenhagen	1852,59	DC10-30						1						
Greenland	Søndre Strømfjord	Copenhagen	1852,59	MD 82									1			
Greenland	Søndre Strømfjord	Copenhagen	1852,59	RJ 100		2	1	1	3	1	4	2	2		2	1
Greenland	Søndre Strømfjord	Copenhagen	1852,59	Shorts 360 300								1				
Greenland	Søndre Strømfjord	Roskilde	1842,33	F50								1				
Greenland	Søndre Strømfjord	Roskilde	1842,33	Lockheed C-130H Hercules							1		1			
Greenland	Søndre Strømfjord	Roskilde	1842,33	RJ 100				1					1			
Greenland	Søndre Strømfjord	Sønderborg	1815,87	RJ 100			13	6	6	4	1	13	11	13	19	11
Greenland	Søndre Strømfjord	Aalborg	1724,62	B737 400						1						
Greenland	Søndre Strømfjord	Aalborg	1724,62	RJ 100								4				
Greenland	Thule	Copenhagen	2084,23	A330				12	13	13	12	12				
Greenland	Thule	Copenhagen	2084,23	A340			4	1								
Greenland	Thule	Copenhagen	2084,23	B767 300 ER	12	13	11									
Greenland	Thule	Copenhagen	2084,23	MD 82	1											
Greenland	Thule	Copenhagen	2084,23	RJ 100					1							
Greenland	Thule	Roskilde	2078,83	RJ 100					1							
Greenland	Thule	Sønderborg	2081,53	RJ 100					1							
Faroe Islands	Vagar	Billund	632,83	A320												1
Faroe Islands	Vagar	Billund	632,83	ATR 42-320	2											
Faroe Islands	Vagar	Billund	632,83	ATR 72-200				1								
Faroe Islands	Vagar	Billund	632,83	B737 400	140	132	153	104		1						
Faroe Islands	Vagar	Billund	632,83	BAe146	34	46	56	97	208	214	215	162	119	57	79	20

[illegible]

LTO fuel consumption and emission factors per representative aircraft type for Copenhagen Airport and other airports.

Origin	Representative aircraft	Fuel kg_LTO	Fuel GJ_LTO	SO <sub>2</sub> kg_LTO	NO <sub>x</sub> kg_LTO	VOC kg_LTO	NM VOC kg_LTO	CH <sub>4</sub> kg_LTO	CO kg_LTO	CO <sub>2</sub> tons_LTO	N <sub>2</sub> O kg_LTO	TSP kg_LTO
EKCH	A310	1200,971	52,242	1,201	21,747	2,417	2,175	0,242	11,518	3,761	0,100	0,070
EKCH	A320	609,300	26,505	0,609	9,940	1,595	1,436	0,160	11,029	1,908	0,100	0,070
EKCH	A330	1727,520	75,147	1,728	33,754	0,974	0,877	0,097	9,860	5,411	0,100	0,070
EKCH	A340	1573,488	68,447	1,573	33,462	8,487	7,638	0,849	22,757	4,928	0,100	0,070
EKCH	Antonov 26	143,310	6,234	0,143	0,202	7,559	6,803	0,756	10,907	0,449	0,100	0,070
EKCH	ATR 42-320	120,720	5,251	0,121	1,056	0,000	0,000	0,000	0,926	0,378	0,100	0,070
EKCH	ATR 72-200	144,130	6,270	0,144	1,514	0,000	0,000	0,000	0,775	0,451	0,100	0,070
EKCH	B727	1028,975	44,760	1,029	11,222	3,366	3,029	0,337	12,941	3,223	0,100	0,070
EKCH	B737 100	669,320	29,115	0,669	7,107	0,340	0,306	0,034	2,456	2,096	0,100	0,070
EKCH	B737 400	613,619	26,692	0,614	7,350	0,296	0,267	0,030	5,455	1,922	0,100	0,070
EKCH	B747 100-300	2603,373	113,247	2,603	53,265	16,181	14,563	1,618	34,464	8,154	0,100	0,070

EKCH	B747 400	2638,978	114,796	2,639	52,985	1,170	1,053	0,117	9,011	8,265	0,100	0,070
EKCH	B757	957,844	41,666	0,958	18,518	0,566	0,509	0,057	5,729	3,000	0,100	0,070
EKCH	B767 300 ER	1270,887	55,284	1,271	24,567	0,448	0,403	0,045	3,019	3,980	0,100	0,070
EKCH	B777	2022,840	87,994	2,023	50,760	10,356	9,320	1,036	27,738	6,336	0,100	0,070
EKCH	BAC1-11	474,566	20,644	0,475	4,466	9,648	8,684	0,965	17,460	1,486	0,100	0,070
EKCH	BAe Jetstream 31	47,110	2,049	0,047	0,381	0,048	0,043	0,005	0,551	0,148	0,100	0,070
EKCH	BAe Jetstream 41	64,920	2,824	0,065	0,483	0,096	0,087	0,010	0,884	0,203	0,100	0,070
EKCH	BAe146	422,117	18,362	0,422	3,590	0,528	0,475	0,053	4,714	1,322	0,100	0,070
EKCH	Beech 1900C Airliner	62,630	2,724	0,063	0,262	0,677	0,609	0,068	2,366	0,196	0,100	0,070
EKCH	Beech Super King Air 200B	54,170	2,356	0,054	0,251	0,140	0,126	0,014	0,814	0,170	0,100	0,070
EKCH	Beech Super King Air 350	60,770	2,643	0,061	0,252	0,251	0,226	0,025	2,001	0,190	0,100	0,070
EKCH	Cessna 208 Caravan	29,710	1,292	0,030	0,158	0,028	0,025	0,003	0,306	0,093	0,100	0,070
EKCH	CRJ9	365,221	15,887	0,365	3,877	0,020	0,018	0,002	2,028	1,144	0,100	0,070
EKCH	Dash8 400	124,022	5,395	0,124	0,884	0,605	0,545	0,061	1,432	0,388	0,100	0,070
EKCH	DC10-30	1836,099	79,870	1,836	39,603	10,300	9,270	1,030	27,670	5,751	0,100	0,070
EKCH	DC9	634,784	27,613	0,635	6,463	0,422	0,380	0,042	2,698	1,988	0,100	0,070
EKCH	De Havilland Dash 7	146,920	6,391	0,147	0,781	0,206	0,186	0,021	1,600	0,460	0,100	0,070
EKCH	De Havilland DHC-3 Turbo-Otter	32,400	1,409	0,032	0,177	0,018	0,016	0,002	0,284	0,101	0,100	0,070
EKCH	Dornier 328-110	130,990	5,698	0,131	1,246	0,000	0,000	0,000	0,757	0,410	0,100	0,070
EKCH	Embraer 110P2A	50,490	2,196	0,050	0,284	0,026	0,024	0,003	0,400	0,158	0,100	0,070
EKCH	F100	532,667	23,171	0,533	5,442	0,719	0,647	0,072	6,527	1,668	0,100	0,070
EKCH	F28	468,141	20,364	0,468	4,669	14,505	13,055	1,451	15,260	1,466	0,100	0,070
EKCH	F50	130,370	5,671	0,130	1,293	0,000	0,000	0,000	0,777	0,408	0,100	0,070
EKCH	Fokker 27 Friendship	169,480	7,372	0,169	0,346	1,862	1,676	0,186	8,035	0,531	0,100	0,070
EKCH	Lockheed C-130H Hercules	287,800	12,519	0,288	1,975	0,945	0,851	0,095	2,021	0,901	0,100	0,070
EKCH	Lockheed P-3B Orion	265,340	11,542	0,265	1,792	0,907	0,817	0,091	1,926	0,831	0,100	0,070
EKCH	MD 82	758,573	32,998	0,759	11,365	1,065	0,958	0,106	3,433	2,376	0,100	0,070
EKCH	Reims F406 Caravan II	42,010	1,827	0,042	0,216	0,040	0,036	0,004	0,475	0,132	0,100	0,070
EKCH	RJ 100	161,020	7,004	0,161	1,122	0,236	0,213	0,024	2,542	0,504	0,100	0,070
EKCH	S2000	103,169	4,488	0,103	0,593	0,038	0,034	0,004	0,734	0,323	0,100	0,070
EKCH	S61	48,676	2,117	0,049	0,385	0,028	0,025	0,003	0,378	0,152	0,100	0,070
EKCH	Shorts 330	73,080	3,179	0,073	0,389	0,126	0,113	0,013	0,851	0,229	0,100	0,070
EKCH	Shorts 360 300	86,790	3,775	0,087	0,412	0,738	0,664	0,074	3,440	0,272	0,100	0,070
EKCH	Shorts SC.7 Srs3M-200	25,060	1,090	0,025	0,181	0,714	0,643	0,071	0,529	0,078	0,100	0,070
EKCH	Swearingen Metro III	47,650	2,073	0,048	0,390	0,047	0,043	0,005	0,544	0,149	0,100	0,070
EKCH	Saab 340B	78,190	3,401	0,078	0,510	0,238	0,214	0,024	0,456	0,245	0,100	0,070

Origin	Representative aircraft	Fuel kg_LTO	Fuel GJ_LTO	SO <sub>2</sub> kg_LTO	NO <sub>x</sub> kg_LTO	VOC kg_LTO	NM VOC kg_LTO	CH <sub>4</sub> kg_LTO	CO kg_LTO	CO <sub>2</sub> tons_LTO	N <sub>2</sub> O kg_LTO	TSP kg_LTO
Other airports	A310	1065,140	46,334	1,065	21,167	1,166	1,050	0,117	5,789	3,336	0,100	0,070
Other airports	A320	532,087	23,146	0,532	9,582	1,464	1,317	0,146	8,403	1,666	0,100	0,070
Other airports	A330	1525,920	66,378	1,526	32,805	0,519	0,467	0,052	5,204	4,779	0,100	0,070
Other airports	A340	1394,928	60,679	1,395	32,697	4,380	3,942	0,438	11,634	4,369	0,100	0,070
Other airports	Antonov 26	105,450	4,587	0,105	0,164	3,701	3,331	0,370	5,980	0,330	0,100	0,070
Other airports	ATR 42-320	89,400	3,889	0,089	0,849	0,000	0,000	0,000	0,557	0,280	0,100	0,070
Other airports	ATR 72-200	107,950	4,696	0,108	1,243	0,000	0,000	0,000	0,475	0,338	0,100	0,070
Other airports	B727	875,431	38,081	0,875	10,682	1,832	1,649	0,183	7,569	2,742	0,100	0,070
Other airports	B737 100	569,168	24,759	0,569	6,760	0,244	0,220	0,024	1,511	1,783	0,100	0,070
Other airports	B737 400	528,911	23,008	0,529	6,988	0,148	0,133	0,015	2,905	1,657	0,100	0,070
Other airports	B747 100-300	2279,174	99,144	2,279	52,194	7,752	6,976	0,775	16,956	7,138	0,100	0,070
Other airports	B747 400	2333,706	101,516	2,334	51,524	0,899	0,809	0,090	4,817	7,309	0,100	0,070
Other airports	B757	839,780	36,530	0,840	18,033	0,299	0,269	0,030	3,002	2,630	0,100	0,070
Other airports	B767 300 ER	1132,405	49,260	1,132	23,981	0,275	0,248	0,028	1,796	3,547	0,100	0,070
Other airports	B777	1806,840	78,598	1,807	49,609	5,389	4,850	0,539	14,282	5,659	0,100	0,070
Other airports	BAC1-11	391,766	17,042	0,392	4,280	4,950	4,455	0,495	9,347	1,227	0,100	0,070
Other airports	BAe Jetstream 31	36,250	1,577	0,036	0,330	0,027	0,024	0,003	0,317	0,114	0,100	0,070
Other airports	BAe Jetstream 41	48,600	2,114	0,049	0,401	0,049	0,044	0,005	0,484	0,152	0,100	0,070
Other airports	BAe146	363,161	15,798	0,363	3,348	0,334	0,301	0,033	2,723	1,137	0,100	0,070
Other airports	Beech 1900C Airliner	47,450	2,064	0,047	0,218	0,364	0,328	0,036	1,409	0,149	0,100	0,070
Other airports	Beech Super King Air 200B	42,350	1,842	0,042	0,212	0,066	0,059	0,007	0,472	0,133	0,100	0,070
Other airports	Beech Super King Air 350	47,150	2,051	0,047	0,210	0,125	0,112	0,012	1,214	0,148	0,100	0,070
Other airports	Cessna 208 Caravan	24,250	1,055	0,024	0,138	0,014	0,012	0,001	0,168	0,076	0,100	0,070
Other airports	CRJ9	318,925	13,873	0,319	3,664	0,014	0,013	0,001	1,184	0,999	0,100	0,070
Other airports	Dash8 400	78,842	3,430	0,079	0,712	0,302	0,272	0,030	0,732	0,247	0,100	0,070
Other airports	DC10-30	1618,066	70,386	1,618	38,762	5,286	4,757	0,529	14,088	5,068	0,100	0,070
Other airports	DC9	538,259	23,414	0,538	6,142	0,281	0,253	0,028	1,636	1,686	0,100	0,070
Other airports	De Havilland Dash 7	115,600	5,029	0,116	0,668	0,097	0,087	0,010	0,909	0,362	0,100	0,070
Other airports	De Havilland DHC-3 Turbo-Otter	26,400	1,148	0,026	0,153	0,008	0,008	0,001	0,156	0,083	0,100	0,070
Other airports	Dornier 328-110	93,850	4,082	0,094	0,968	0,000	0,000	0,000	0,456	0,294	0,100	0,070
Other airports	Embraer 110P2A	40,350	1,755	0,040	0,239	0,014	0,013	0,001	0,227	0,126	0,100	0,070
Other airports	F100	447,982	19,487	0,448	5,301	0,440	0,396	0,044	3,666	1,403	0,100	0,070
Other airports	F28	388,971	16,920	0,389	4,460	7,163	6,447	0,716	8,274	1,218	0,100	0,070
Other airports	F50	95,750	4,165	0,096	1,043	0,000	0,000	0,000	0,466	0,300	0,100	0,070
Other airports	Fokker 27 Friendship	132,400	5,759	0,132	0,320	0,977	0,879	0,098	4,649	0,415	0,100	0,070
Other airports	Lockheed C-130H Hercules	214,000	9,309	0,214	1,555	0,501	0,450	0,050	1,170	0,670	0,100	0,070

Other airports	Lockheed P-3B Orion	194,300	8,452	0,194	1,389	0,479	0,431	0,048	1,107	0,609	0,100	0,070
Other airports	MD 82	660,780	28,744	0,661	10,974	0,725	0,652	0,072	2,198	2,070	0,100	0,070
Other airports	Reims F406 Caravan II	32,950	1,433	0,033	0,180	0,021	0,019	0,002	0,270	0,103	0,100	0,070
Other airports	RJ 100	130,900	5,694	0,131	1,007	0,117	0,105	0,012	1,257	0,410	0,100	0,070
Other airports	S2000	64,769	2,817	0,065	0,439	0,018	0,016	0,002	0,388	0,203	0,100	0,070
Other airports	S61	48,676	2,117	0,049	0,385	0,028	0,025	0,003	0,378	0,152	0,100	0,070
Other airports	Shorts 330	58,200	2,532	0,058	0,337	0,059	0,053	0,006	0,482	0,182	0,100	0,070
Other airports	Shorts 360 300	67,650	2,943	0,068	0,354	0,380	0,342	0,038	1,904	0,212	0,100	0,070
Other airports	Shorts SC.7 Srs3M-200	21,700	0,944	0,022	0,173	0,349	0,314	0,035	0,333	0,068	0,100	0,070
Other airports	Swearingen Metro III	37,150	1,616	0,037	0,341	0,027	0,024	0,003	0,319	0,116	0,100	0,070
Other airports	Saab 340B	58,450	2,543	0,058	0,448	0,151	0,136	0,015	0,278	0,183	0,100	0,070

Total distance flown (NM) and average cruise fuel consumption and emission factors per representative aircraft type for cruise flying.

Airport name	Flight	Rep Aircraft	NM total	Fuel kg_NM	Fuel GJ_NM	SO <sub>2</sub> g_NM	NO <sub>x</sub> g_NM	VOC g_NM	NMVOC g_NM	CH <sub>4</sub> g_NM	CO g_NM	CO <sub>2</sub> kg_NM	N <sub>2</sub> O g_NM	TSP g_NM
Copenhagen	Domestic	A320	74250,652	6,738	0,293	6,738	136,499	1,188	1,188	0	8,703	21,103	0,673	1,347
Copenhagen	Domestic	A330	494,598	14,886	0,647	14,886	415,692	16,039	16,039	0	32,448	46,624	1,488	2,977
Copenhagen	Domestic	A340	118,79	14,504	0,63	14,504	338,899	75,634	75,634	0	73,594	45,427	1,45	2,9
Copenhagen	Domestic	ATR 42-320	91366,085	1,746	0,075	1,746	15,257	0	0	0	17,36	5,469	0,174	0,349
Copenhagen	Domestic	ATR 72-200	423916,655	1,716	0,074	1,716	19,469	0	0	0	11,367	5,377	0,171	0,343
Copenhagen	Domestic	B737 400	381174,245	6,204	0,269	6,204	75,157	1,197	1,197	0	19,244	19,433	0,62	1,24
Copenhagen	Domestic	B767 300 ER	128,509	11,275	0,49	11,275	207,091	1,957	1,957	0	28,886	35,314	1,127	2,255
Copenhagen	Domestic	BAC1-11	118,79	5,698	0,247	5,698	78,988	1,409	1,409	0	11,393	17,846	0,569	1,139
Copenhagen	Domestic	BAe146	2453,552	5,399	0,234	5,399	69,36	2,812	2,812	0	11,466	16,91	0,539	1,079
Copenhagen	Domestic	Beech Super King Air 200B	234,339	0,789	0,034	0,789	3,832	2,352	2,352	0	14,024	2,473	0,078	0,157
Copenhagen	Domestic	CRJ9	159381,294	3,856	0,167	3,856	34,358	0,316	0,316	0	7,585	12,078	0,385	0,771
Copenhagen	Domestic	Dash8 400	20136,482	3,393	0,147	3,393	54,08	6,105	6,105	0	15,746	10,628	0,339	0,678
Copenhagen	Domestic	F50	11718,078	2,426	0,105	2,426	33,005	0	0	0	14,817	7,598	0,242	0,485
Copenhagen	Domestic	MD 82	182131,724	8,784	0,382	8,784	149,648	4,801	4,801	0	14,437	27,513	0,878	1,756
Copenhagen	Domestic	Reims F406 Caravan II	125,809	0,584	0,025	0,584	3,148	0,425	0,425	0	5,53	1,831	0,058	0,116
Copenhagen	Domestic	RJ 100	93295,911	2,954	0,128	2,954	29,167	2,361	2,361	0	22,389	9,251	0,295	0,59
Copenhagen	Domestic	S61	739,733	3,521	0,153	3,521	27,816	2,006	2,006	0	27,358	11,027	0,352	0,704
Copenhagen	Domestic	Shorts 360 300	711,658	1,612	0,07	1,612	9,34	7,665	7,665	0	40,802	5,05	0,161	0,322
Copenhagen	Domestic	Swearingen Metro III	3156,029	0,811	0,035	0,811	8,041	0,455	0,455	0	5,751	2,541	0,081	0,162
Copenhagen	International	A310	211613,648	8,994	0,391	8,994	142,038	1,563	1,563	0	7,885	28,171	0,899	1,798
Copenhagen	International	A320	17826903,56	5,477	0,238	5,477	80,851	0,956	0,956	0	5,311	17,154	0,547	1,095
Copenhagen	International	A330	2469946,022	11,97	0,52	11,97	158,439	11,473	11,473	0	16,245	37,49	1,197	2,394
Copenhagen	International	A340	7723021,202	12,795	0,556	12,795	209,498	10,021	10,021	0	13,542	40,076	1,279	2,559



Copenhagen	International	Antonov 26	76482,487	2,71	0,117	2,71	3,578	78,872	78,872	0	174,031	8,49	0,271	0,542
Copenhagen	International	ATR 42-320	96729,373	1,637	0,071	1,637	13,584	0	0	0	15,58	5,129	0,163	0,327
Copenhagen	International	ATR 72-200	301476,455	1,716	0,074	1,716	17,289	0	0	0	9,898	5,376	0,171	0,343
Copenhagen	International	B727	478,401	8,534	0,371	8,534	85,335	4,811	4,811	0	17,935	26,728	0,853	1,706
Copenhagen	International	B737 100	2391300,309	5,637	0,245	5,637	52,975	4,651	4,651	0	11,487	17,657	0,563	1,127
Copenhagen	International	B737 400	14477447,2	5,601	0,243	5,601	54,983	0,553	0,553	0	10	17,544	0,56	1,12
Copenhagen	International	B747 400	3199954,205	19,541	0,85	19,541	276,128	4,858	4,858	0	18,904	61,204	1,954	3,908
Copenhagen	International	B757	1861882,29	7,158	0,311	7,158	101,011	6,93	6,93	0	10,198	22,419	0,715	1,431
Copenhagen	International	B767 300 ER	1997777,181	9,718	0,422	9,718	127,81	4,748	4,748	0	10,992	30,437	0,971	1,943
Copenhagen	International	B777	2324122,056	13,908	0,605	13,908	218,791	13,28	13,28	0	17,285	43,56	1,39	2,781
Copenhagen	International	BAC1-11	1727,321	4,692	0,204	4,692	50,109	0,687	0,687	0	4,188	14,696	0,469	0,938
Copenhagen	International	BAe146	404392,758	5,107	0,222	5,107	40,203	1,924	1,924	0	6,728	15,995	0,51	1,021
Copenhagen	International	Beech Super King Air 200B	11013,476	0,751	0,032	0,751	3,119	3,342	3,342	0	18,848	2,353	0,075	0,15
Copenhagen	International	Cessna 208 Caravan	8748,908	0,55	0,023	0,55	3,189	0,066	0,066	0	1,971	1,725	0,055	0,11
Copenhagen	International	CRJ9	6143050,52	3,5	0,152	3,5	26,672	0,193	0,193	0	4,896	10,962	0,35	0,7
Copenhagen	International	Dash8 400	1079127,34	3,154	0,137	3,154	42,844	5,818	5,818	0	16,527	9,881	0,315	0,63
Copenhagen	International	DC10-30	4507,017	15,78	0,686	15,78	286,541	24,183	24,183	0	25,722	49,426	1,578	3,156
Copenhagen	International	Embraer 110P2A	981,1	0,923	0,04	0,923	5,345	0,199	0,199	0	3,571	2,893	0,092	0,184
Copenhagen	International	F100	222262,376	4,932	0,214	4,932	43,838	1,997	1,997	0	7,46	15,447	0,493	0,986
Copenhagen	International	F28	30325,554	4,731	0,205	4,731	50,654	9,729	9,729	0	9,592	14,817	0,473	0,946
Copenhagen	International	F50	45742,344	2,238	0,097	2,238	28,121	0	0	0	12,117	7,01	0,223	0,447
Copenhagen	International	MD 82	5617566,36	7,245	0,315	7,245	100,906	3,7	3,7	0	10,946	22,691	0,724	1,449
Copenhagen	International	Reims F406 Caravan II	974,081	0,582	0,025	0,582	2,855	0,683	0,683	0	8,114	1,825	0,058	0,116
Copenhagen	International	RJ 100	2919966,28	2,442	0,106	2,442	19,952	1,022	1,022	0	9,259	7,65	0,244	0,488
Copenhagen	International	S2000	132789,712	2,626	0,114	2,626	26,019	0,125	0,125	0	9,812	8,224	0,262	0,525
Copenhagen	International	S61	24,298	3,448	0,15	3,448	27,241	1,965	1,965	0	26,793	10,8	0,344	0,689
Copenhagen	International	Shorts 360 300	24683,032	1,463	0,063	1,463	7,181	4,926	4,926	0	34,542	4,584	0,146	0,292
Copenhagen	International	Swearingen Metro III	13392,54	0,793	0,034	0,793	7,862	0,497	0,497	0	6,958	2,484	0,079	0,158
Copenhagen	International	Saab 340B	268100,259	1,429	0,062	1,429	14,535	3,475	3,475	0	6,666	4,477	0,142	0,285
Other airports	Domestic	A320	80656,683	6,738	0,293	6,738	136,477	1,188	1,188	0	8,701	21,103	0,673	1,347
Other airports	Domestic	A330	237,58	14,897	0,648	14,897	416,925	16,044	16,044	0	32,433	46,657	1,489	2,979
Other airports	Domestic	A340	118,79	14,504	0,63	14,504	338,899	75,634	75,634	0	73,594	45,427	1,45	2,9
Other airports	Domestic	ATR 42-320	116993,431	1,745	0,075	1,745	15,252	0	0	0	17,355	5,468	0,174	0,349
Other airports	Domestic	ATR 72-200	418710,972	1,716	0,074	1,716	19,47	0	0	0	11,368	5,377	0,171	0,343
Other airports	Domestic	B737 400	387206,073	6,205	0,269	6,205	75,171	1,198	1,198	0	19,247	19,434	0,62	1,241
Other airports	Domestic	B767 300 ER	128,509	11,275	0,49	11,275	207,091	1,957	1,957	0	28,886	35,314	1,127	2,255
Other airports	Domestic	BAe Jetstream 31	3328,813	1,034	0,044	1,034	10,272	0,62	0,62	0	7,992	3,239	0,103	0,206

Other airports	Domestic	BAe146	3267,254	5,376	0,233	5,376	67,651	2,768	2,768	0	11,273	16,838	0,537	1,075
Other airports	Domestic	Beech Super King Air 200B	7749,417	0,788	0,034	0,788	3,82	2,368	2,368	0	14,103	2,471	0,078	0,157
Other airports	Domestic	Beech Super King Air 350	2056,68	0,865	0,037	0,865	3,554	4,357	4,357	0	33,972	2,71	0,086	0,173
Other airports	Domestic	Cessna 208 Caravan	6779,67	0,518	0,022	0,518	3,015	0,096	0,096	0	2,098	1,622	0,051	0,103
Other airports	Domestic	CRJ9	158337,026	3,856	0,167	3,856	34,357	0,316	0,316	0	7,585	12,078	0,385	0,771
Other airports	Domestic	Dash8 400	20791,441	3,393	0,147	3,393	54,08	6,105	6,105	0	15,746	10,628	0,339	0,678
Other airports	Domestic	Dornier 328-110	81,533	1,47	0,063	1,47	13,975	0	0	0	11,574	4,605	0,147	0,294
Other airports	Domestic	Embraer 110P2A	1510,784	0,846	0,036	0,846	5	0,183	0,183	0	3,276	2,65	0,084	0,169
Other airports	Domestic	F50	11374,667	2,426	0,105	2,426	33,003	0	0	0	14,816	7,598	0,242	0,485
Other airports	Domestic	Lockheed C-130H Hercules	5366,606	6,638	0,288	6,638	80,274	8,484	8,484	0	20,699	20,791	0,663	1,327
Other airports	Domestic	MD 82	196234,816	8,785	0,382	8,785	149,711	4,802	4,802	0	14,439	27,516	0,878	1,757
Other airports	Domestic	Reims F406 Caravan II	1041,029	0,584	0,025	0,584	3,151	0,423	0,423	0	5,506	1,831	0,058	0,116
Other airports	Domestic	RJ 100	147556,868	2,953	0,128	2,953	29,155	2,359	2,359	0	22,372	9,249	0,295	0,59
Other airports	Domestic	S2000	72,894	2,807	0,122	2,807	29,272	0,299	0,299	0	11,48	8,792	0,28	0,561
Other airports	Domestic	S61	481411,345	3,536	0,153	3,536	27,941	2,016	2,016	0	27,481	11,077	0,353	0,707
Other airports	Domestic	Shorts 360 300	2502,141	1,616	0,07	1,616	9,392	7,728	7,728	0	40,944	5,061	0,161	0,323
Other airports	Domestic	Swearingen Metro III	16364,914	0,811	0,035	0,811	8,044	0,455	0,455	0	5,735	2,542	0,081	0,162
Other airports	Domestic	Saab 340B	191,143	1,477	0,064	1,477	14,831	3,77	3,77	0	7,66	4,627	0,147	0,295
Other Airports	International	A310	1545,356	8,668	0,377	8,668	110,305	1,219	1,219	0	5,427	27,149	0,866	1,733
Other Airports	International	A320	2028122,379	5,084	0,221	5,084	67,477	0,884	0,884	0	4,191	15,923	0,508	1,016
Other Airports	International	A330	30263,493	12,459	0,541	12,459	170,214	11,908	11,908	0	16,681	39,021	1,245	2,491
Other Airports	International	Antonov 26	676,025	2,703	0,117	2,703	3,46	76,95	76,95	0	174,022	8,468	0,27	0,54
Other Airports	International	ATR 42-320	149127,674	1,656	0,072	1,656	13,87	0	0	0	15,884	5,187	0,165	0,331
Other Airports	International	ATR 72-200	69703,438	1,716	0,074	1,716	17,415	0	0	0	9,983	5,376	0,171	0,343
Other Airports	International	B737 100	282334,366	6,06	0,263	6,06	61,091	5,717	5,717	0	14,884	18,981	0,606	1,212
Other Airports	International	B737 400	6575224,668	5,593	0,243	5,593	53,685	0,469	0,469	0	8,842	17,52	0,559	1,118
Other Airports	International	B747 100-300	3110,691	21,107	0,918	21,107	366,338	6,182	6,182	0	19,092	66,11	2,11	4,221
Other Airports	International	B747 400	20271,053	18,845	0,819	18,845	264,175	6,356	6,356	0	22,75	59,024	1,884	3,769
Other Airports	International	B757	154359,99	7,689	0,334	7,689	145,989	7,743	7,743	0	13,061	24,084	0,768	1,537
Other Airports	International	B767 300 ER	110819,629	9,862	0,429	9,862	133,421	4,691	4,691	0	11,724	30,889	0,986	1,972
Other Airports	International	BAe Jetstream 31	245668,034	0,978	0,042	0,978	10,117	0,491	0,491	0	6,771	3,066	0,097	0,195
Other Airports	International	BAe Jetstream 41	743,52	1,355	0,058	1,355	13,563	0,418	0,418	0	7,1	4,246	0,135	0,271
Other Airports	International	BAe146	64998,853	5,129	0,223	5,129	43,716	2,035	2,035	0	7,381	16,066	0,512	1,025
Other Airports	International	Beech 1900C Airliner	1480,56	0,915	0,039	0,915	3,697	8,889	8,889	0	40,681	2,867	0,091	0,183
Other Airports	International	Beech Super King Air 200B	57431,313	0,752	0,032	0,752	3,129	3,329	3,329	0	18,785	2,355	0,075	0,15
Other Airports	International	Beech Super King Air 350	20978,917	0,831	0,036	0,831	3,102	4,059	4,059	0	34,91	2,602	0,083	0,166
Other Airports	International	Cessna 208 Caravan	65538,799	0,553	0,024	0,553	3,204	0,063	0,063	0	1,963	1,734	0,055	0,11

Other Airports	International	CRJ9	4008,636	3,482	0,151	3,482	25,192	0,144	0,144	0	3,901	10,907	0,348	0,696
Other Airports	International	Dash8 400	138736,982	3,084	0,134	3,084	39,518	5,733	5,733	0	16,761	9,661	0,308	0,616
Other Airports	International	DC10-30	8119,869	15,771	0,686	15,771	276,043	16,046	16,046	0	18,887	49,396	1,577	3,154
Other Airports	International	Dornier 328-110	3626,348	1,389	0,06	1,389	11,677	0	0	0	11,161	4,352	0,138	0,277
Other Airports	International	Embraer 110P2A	31467,005	0,905	0,039	0,905	5,266	0,196	0,196	0	3,504	2,837	0,09	0,181
Other Airports	International	F100	36292,094	5,146	0,223	5,146	50,806	2,32	2,32	0	9,293	16,118	0,514	1,029
Other Airports	International	F28	379250,424	4,785	0,208	4,785	51,621	10,639	10,639	0	10,857	14,989	0,478	0,957
Other Airports	International	F50	4612,308	2,136	0,092	2,136	25,468	0	0	0	10,645	6,69	0,213	0,427
Other Airports	International	Lockheed C-130H Hercules	4555,612	6,811	0,296	6,811	72,236	2,759	2,759	0	13,068	21,332	0,681	1,362
Other Airports	International	MD 82	341788,208	6,408	0,278	6,408	76,086	2,934	2,934	0	8,511	20,07	0,64	1,281
Other Airports	International	Reims F406 Caravan II	14881,194	0,582	0,025	0,582	2,825	0,708	0,708	0	8,374	1,824	0,058	0,116
Other Airports	International	RJ 100	3060615,06	2,427	0,105	2,427	19,675	0,982	0,982	0	8,861	7,602	0,242	0,485
Other Airports	International	S2000	43120,819	2,727	0,118	2,727	27,852	0,223	0,223	0	10,753	8,544	0,272	0,545
Other Airports	International	S61	19429,772	3,702	0,161	3,702	29,248	2,11	2,11	0	28,766	11,595	0,37	0,74
Other Airports	International	Shorts 360 300	477262,39	1,503	0,065	1,503	7,746	5,693	5,693	0	36,368	4,708	0,15	0,3
Other Airports	International	Swearingen Metro III	69133,787	0,799	0,034	0,799	7,921	0,483	0,483	0	6,541	2,504	0,079	0,159
Other Airports	International	Saab 340B	18340,692	1,409	0,061	1,409	14,416	3,354	3,354	0	6,257	4,415	0,14	0,281

# Annex 3B-11 Basis fuel consumption and emission factors, deterioration factors, transient factors stock and activity data 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 <sub>x</sub>	VOC	CO	N <sub>2</sub> O [g pr kWh]	NH <sub>3</sub>	TSP	Fuel
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 <sub>x</sub>	VOC	CO	N <sub>2</sub> O [g pr kWh]	NH <sub>3</sub>	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 <sub>x</sub>	VOC	CO	N <sub>2</sub> O [g pr kWh]	NH <sub>3</sub>	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 consumption and emission factors for LPG fork lifts.

NO <sub>x</sub>	VOC	CO	NH <sub>3</sub>	N <sub>2</sub> O	TSP	FC
[g pr kWh]	[g pr kWh]	[g pr kWh]	[g pr kWh]	[g pr kWh]	[g pr kWh]	[g pr kWh]
19	2.2	1.5	0.003	0.05	0.07	311

Fuel consumption and emission factors for All Terrain Vehicles (ATV's).

ATV type	NO <sub>x</sub>	VOC	CO	NH <sub>3</sub>	N <sub>2</sub> O	TSP	Fuel
	[g pr GJ]	[g pr GJ]	[g pr GJ]	[g pr GJ]	[g pr GJ]	[g pr GJ]	[kg pr hour]
Professional	108	1077	16306	2	2	32	1.125
Private	128	1527	22043	2	2	39	0.75

Fuel consumption and emission factors for recreational craft.

Fuel type	Vessel type	Engine	Engine type	Direktiv	Engine size	CO	VOC	N <sub>2</sub> O	NH <sub>3</sub>	NO <sub>x</sub>	TSP	Fuel
					[kW]	[g pr 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<sub>4</sub> shares of VOC for diesel, gasoline and LPG.

Fuel type	CH <sub>4</sub> 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 <sub>x</sub>	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 <sub>x</sub>	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 <sub>x</sub>	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 <sub>x</sub>	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

Annual working hours, load factors and lifetimes for agricultural tractors.

Tractor type	Annual working hours	Load factor	Lifetime (yrs)
Diesel	500 (0-7 years)	0.5	30
	500-100 (7-16 years)		
	100 (>16 years)		
Gasoline (certified)	100	0.4	37
Gasoline (non certified)	50	0.4	37

Annual working hours, load factors and lifetimes for harvesters.

Annual working hours	Load factor	Lifetime (yrs)
250-100 (linear decrease 0-24 years)	0.8	25

Annual working hours, load factors and lifetime for machine pool machinery.

Tractor type	Hours pr yr	Load factor	Lifetime (yrs)
Tractors	750	0.5	7
Harvesters	100	0.8	11
Self-propelled vehicles	500	0.75	6

Operational data for other machinery types in agriculture.

Machinery type	Fuel type	Load factor	Lifetime (yrs)	Hours	Size (kW)
ATV private	Gasoline	-	6	250	-
ATV professional	Gasoline	-	8	400	-
Bedding machines	Gasoline	0.3	10	50	3
Fodder trucks	Gasoline	0.4	10	200	8
Other (gasoline)	Gasoline	0.4	10	50	5
Scrapers	Gasoline	0.3	10	50	3
Self-propelled vehicles	Diesel	0.75	15	150	60
Sweepers	Gasoline	0.3	10	50	3

Annual working hours, load factors and lifetimes for forestry machinery.

Machinery type	Hours	Load factors	Lifetime
Chippers	1200	0.5	6
Tractors (other)	100 (1990)	0.5	15
	400 (2004)		
Tractors (silvicultural)	800	0.5	6
Harvesters	1200	0.5	8
Forwarders	1200	0.5	8
Chain saws (forestry)	800	0.4	3

Annual working hours, load factors and lifetime for fork lifts.

Hours pr yr	Load factor	Lifetime (yrs)
1200 ( $\geq 50$ kW and $\leq 10$ years old)	0.27	20
650 ( $\geq 50$ kW and $> 10$ years old)		
650 ( $< 50$ kW)		

Operational data for construction machinery.

Machinery type	Load factor	Lifetime	Hours	Size
Track type dozers	0.5	10	1100	140
Track type loaders	0.5	10	1100	100 (1990) 150 (2004)
Wheel loaders (0-5 tonnes)	0.5	10	1200	20
Wheel loaders (> 5,1 tonnes)	0.5	10	1200	120
Wheel type excavators	0.6	10	1200	100
Track type excavators (0-5 tonnes)	0.6	10	1100	20
Track type excavators (>5,1 tonnes)	0.6	10	1100	120
Excavators/Loaders	0.45	10	700	50
Dump trucks	0.4	10	900 (1990) 1200 (2004)	60 (1990) 180 (2004)
Mini loaders	0.5	14	700	30
Telescopic loaders	0.5	14	1000	35

Stock and operational data for other machinery types in industry.

Sector	Fuel type	Machinery type	Size (kW)	No Load Factor	Hours
Construction machinery	Diesel	Tampers/Land rollers	30	2800	0.45 600
Construction machinery	Diesel	Generators (diesel)	45	5000	0.5 200
Construction machinery	Diesel	Kompressors (diesel)	45	5000	0.5 500
Construction machinery	Diesel	Pumps (diesel)	75	1000	0.5 5
Construction machinery	Diesel	Asphalt pavers	80	300	0.35 700
Construction machinery	Diesel	Motor graders	100	100	0.4 700
Construction machinery	Diesel	Refuse compressors	160	100	0.25 1300
Construction machinery	Gasoline	Generators (gasoline)	2.5	11000	0.4 80
Construction machinery	Gasoline	Pumps (gasoline)	4	10000	0.4 300
Construction machinery	Gasoline	Kompressors (gasoline)	4	500	0.35 15
Industry	Diesel	Refrigerating units (distribution)	8	3000	0.5 1250
Industry	Diesel	Refrigerating units (long distance)	15	3500	0.5 200
Industry	Diesel	Tractors (transport, industry)	50	3000	0.4 500
Airport GSE and other	Diesel	Airport GSE and other (light duty)	100	500	0.5 400
Airport GSE and other	Diesel	Airport GSE and other (medium duty)	125	350	0.5 300
Airport GSE and other	Diesel	Airport GSE and other (Heavy duty)	175	650	0.5 200
Building and construction	Diesel	Vibratory plates	6	3500	0.6 300
Building and construction	Diesel	Aereal lifts (diesel)	30	150	0.4 400
Building and construction	Diesel	Sweepers (diesel)	30	200	0.4 300
Building and construction	Diesel	High pressure cleaners (diesel)	30	50	0.8 500
Building and construction	Gasoline	Rammers	2.5	3000	0.4 80
Building and construction	Gasoline	Drills	3	100	0.4 10
Building and construction	Gasoline	Vibratory plates (gasoline)	4	2500	0.5 200
Building and construction	Gasoline	Cutters	4	800	0.5 50
Building and construction	Gasoline	Other (gasoline)	5	1000	0.5 40
Building and construction	Gasoline	High pressure cleaners (gasoline)	5	500	0.6 200
Building and construction	Gasoline	Sweepers (gasoline)	10	500	0.4 150
Building and construction	Gasoline	Slicers	10	100	0.7 150
Building and construction	Gasoline	Aereal lifts (gasoline)	20	50	0.4 400

Operational data for the most important types of household and gardening machinery.

Machinery type	Engine	Size (kW)	Hours	Load factor	Lifetime (yrs)
Chain saws (private)	2-stroke	2	5	0.3	10
Chain saws (professional)	2-stroke	3	270	0.4	3
Cultivators (private-large)	4-stroke	3.7	5	0.6	5
Cultivators (private-small)	4-stroke	1	5	0.6	15
Cultivators (professional)	4-stroke	7	360	0.6	8
Hedge cutters (private)	2-stroke	0.9	10	0.5	10
Hedge cutters (professional)	2-stroke	2	300	0.5	4
		2.5	25		
		(2000)			
		3.5			
Lawn movers (private)	4-stroke	(2004)		0.4	8
		2.5	250		
		(2000)			
		3.5			
Lawn movers (professional)	4-stroke	(2004)		0.4	4
Riders (private)	4-stroke	11	50	0.5	12
Riders (professional)	4-stroke	13	330	0.5	5
Shrub clearers (private)	2-stroke	1	15	0.6	10
Shrub clearers (professional)	2-stroke	2	300	0.6	4
Trimmers (private)	2-stroke	0.9	20	0.5	10
Trimmers (professional)	2-stroke	0.9	200	0.5	4

Stock and operational data for other machines in household and gardening.

Machinery type	Engine	No.	Size (kW)	Hours	Load factor	Lifetime (yrs)
Chippers	2-stroke	200	10	100	0.7	10
Garden shredders	2-stroke	500	3	20	0.7	10
Other (gasoline)	2-stroke	200	2	20	0.5	10
Suction machines	2-stroke	300	4	80	0.5	10
Wood cutters	4-stroke	100	4	15	0.5	10

Operational data for recreational craft.

Fuel type	Vessel type	Engine type	Stroke	Hours	Lifetime	Load factor
Gasoline	Other boats (<20 ft)	Out board engine	2-stroke	30	10	0.5
Gasoline	Other boats (<20 ft)	Out board engine	4-stroke	30	10	0.5
Gasoline	Yawls and cabin boats	Out board engine	2-stroke	50	10	0.5
Gasoline	Yawls and cabin boats	Out board engine	4-stroke	50	10	0.5
Gasoline	Sailing boats (<26ft)	Out board engine	2-stroke	5	10	0.5
Gasoline	Sailing boats (<26ft)	Out board engine	4-stroke	5	10	0.5
Gasoline	Speed boats	In board engine	4-stroke	75	10	0.5
Gasoline	Speed boats	Out board engine	2-stroke	50	10	0.5
Gasoline	Speed boats	Out board engine	4-stroke	50	10	0.5
Gasoline	Water scooters	Built in	2-stroke	10	10	0.5
Gasoline	Water scooters	Built in	4-stroke	10	10	0.5
Diesel	Motor boats (27-34 ft)	In board engine		150	15	0.5
Diesel	Motor boats (>34 ft)	In board engine		100	15	0.5
Diesel	Motor boats (<27 ft)	In board engine		75	15	0.5
Diesel	Motor sailers	In board engine		75	15	0.5
Diesel	Sailing boats (<26ft)	In board engine		25	15	0.5

Stock data for diesel tractors 1985-2012.

Size (kW)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
37	<1981	3882	3792	3542	3543	3403	3234	3106	2922	2861	2610	2605	2273	2193	1918	1796
37	1981-1990	635	731	760	835	855	879	889	883	915	887	945	883	918	869	888
37	1991-Stage I							25	107	153	201	278	354	445	496	554
37	Stage I															
37	Stage II															
37	Stage IIIA															
45	<1981	25988	25387	23709	23718	22781	21650	20796	19563	19154	17475	17441	15219	14684	12840	12025
45	1981-1990	5740	6808	7263	8075	8476	8770	8867	8805	9128	8848	9419	8807	9151	8668	8856
45	1991-Stage I							203	202	209	203	216	202	210	199	203
49	1991-Stage I								154	281	485	602	618	702	749	765
52	1991-Stage I															247
52	Stage I															
52	Stage II															
52	Stage IIIA															
56	1991-Stage I								201	338	428	747	943	1181	1280	1307
60	<1981	54651	53387	49857	49877	47907	45529	43732	41140	40278	36747	36676	32004	30879	27001	25287
60	1981-1990	11751	14613	15795	17797	19395	20542	20770	20624	21380	20725	22063	20628	21434	20304	20744
60	1991-Stage I							863	857	888	861	917	857	891	844	862
63	1991-Stage I								468	855	1325	2014	2384	2837	3011	3076
67	1991-Stage I															671
67	Stage I															
67	Stage II															
67	Stage IIIA															
67	Stage IIIB															
71	1991-Stage I								411	715	1179	1949	2507	3344	3594	3672
78	<1981	14558	14221	13281	13286	12761	12128	11649	10959	10729	9789	9770	8525	8226	7192	6736
78	1981-1990	4592	6152	7196	8559	10026	11323	11448	11368	11785	11424	12162	11371	11815	11192	11434
78	1991-Stage I							1233	1503	1713	1945	2429	2561	2946	2994	3287
78	Stage I															
78	Stage II															
78	Stage IIIA															
78	Stage IIIB															
86	1991-Stage I								108	193	333	589	880	1364	1532	1718
86	Stage I															
86	Stage II															

86	Stage IIIA															
86	Stage IIIB															
93	1991-Stage I															149
93	Stage I															
93	Stage II															
93	Stage IIIA															
93	Stage IIIB															
97	1991-Stage I								71	175	443	962	1556	2327	2638	2695
101	<1981	4659	4551	4250	4252	4084	3881	3728	3507	3433	3132	3126	2728	2632	2302	2156
101	1981-1990	1158	1434	1618	1921	2156	2377	2403	2387	2474	2398	2553	2387	2480	2350	2400
101	1991-Stage I							266	264	274	266	283	264	275	260	696
101	Stage I															
101	Stage II															
101	Stage IIIA															
101	Stage IIIB															
112	1991-Stage I								63	114	166	252	422	690	790	978
112	Stage I															
112	Stage II															
112	Stage IIIA															
112	Stage IIIB															
127	1991-Stage I								12	36	81	193	279	408	457	590
127	Stage I															
127	Stage II															
127	Stage IIIA															
127	Stage IIIB															
131	<1981	798	780	728	728	700	665	639	601	588	537	536	467	451	394	369
131	1981-1990	288	421	500	651	753	887	897	890	923	895	952	890	925	876	895
131	1991-Stage I							97	97	100	97	103	97	100	95	97
157	1981-1990		2	3	6	11	15	15	15	16	15	16	15	16	15	15
157	1991-Stage I							9	23	39	102	232	357	545	648	784
157	Stage I															
157	Stage II															
157	Stage IIIA															
157	Stage IIIB															
186	1991-Stage I															23
186	Stage I															
186	Stage II															

186	Stage IIIA
186	Stage IIIB

Size (kW)	Emission Level	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
37	<1981	1601	1449	1298	1148	993	833	664	504	342	176			
37	1981-1990	871	876	882	892	900	906	903	914	930	959	991	834	667
37	1991-Stage I	568	572	576	582	587	592	590	597	607	626	647	667	688
37	Stage I		33	56	83	84	84	84	85	86	89	92	95	98
37	Stage II					23	53	162	324	330	340	351	362	374
37	Stage IIIA									109	205	333	491	626
45	<1981	10715	9700	8690	7685	6646	5577	4447	3376	2290	1180			
45	1981-1990	8681	8731	8800	8894	8974	9037	9006	9116	9274	9563	9883	8931	7919
45	1991-Stage I	199	200	202	204	206	207	207	209	213	219	227	234	241
49	1991-Stage I	750	754	760	768	775	780	778	787	801	826	853	880	908
52	1991-Stage I	358	360	363	367	370	373	372	376	383	395	408	421	434
52	Stage I		132	242	377	381	383	382	387	393	406	419	432	446
52	Stage II					68	147	241	347	353	364	377	388	401
52	Stage IIIA									86	133	202	290	345
56	1991-Stage I	1281	1289	1299	1313	1325	1334	1329	1346	1369	1412	1459	1504	1552
60	<1981	22533	20397	18273	16162	13976	11729	9351	7099	4815	2482			
60	1981-1990	20333	20451	20612	20834	21019	21167	21096	21353	21723	22401	23150	21220	19172
60	1991-Stage I	845	850	856	866	873	879	876	887	903	931	962	991	1023
63	1991-Stage I	3015	3033	3057	3090	3117	3139	3128	3167	3221	3322	3433	3539	3653
67	1991-Stage I	1343	1351	1361	1376	1388	1398	1393	1410	1435	1479	1529	1576	1627
67	Stage I		533	835	1113	1123	1131	1127	1141	1161	1197	1237	1275	1316
67	Stage II					375	729	1144	1524	1550	1599	1652	1703	1758
67	Stage IIIA									303	472	658	890	919
67	Stage IIIB													162
71	1991-Stage I	3600	3620	3649	3688	3721	3747	3735	3780	3846	3966	4098	4225	4360
78	<1981	6002	5433	4868	4305	3723	3124	2491	1891	1283	661			
78	1981-1990	11208	11273	11361	11484	11586	11668	11628	11770	11974	12348	12761	12450	12123
78	1991-Stage I	3436	3727	3756	3797	3830	3857	3844	3891	3959	4082	4219	4349	4489
78	Stage I			325	329	332	334	333	337	343	354	365	377	389
78	Stage II				227	310	400	463	469	477	492	508	524	541
78	Stage IIIA								63	121	147	183	226	233
78	Stage IIIB													41

86	1991-Stage I	1876	2023	2039	2061	2079	2094	2087	2112	2149	2216	2290	2361	2437
86	Stage I			134	136	137	138	137	139	142	146	151	156	161
86	Stage II				91	343	530	760	769	783	807	834	860	888
86	Stage IIIA								226	434	529	657	811	837
86	Stage IIIB													146
93	1991-Stage I	245	325	327	331	334	336	335	339	345	356	368	379	391
93	Stage I			114	115	116	117	116	118	120	123	128	132	136
93	Stage II				107	186	313	512	518	527	544	562	579	598
93	Stage IIIA								264	470	574	682	836	863
93	Stage IIIB													143
97	1991-Stage I	2642	2657	2678	2707	2731	2750	2741	2774	2822	2911	3008	3101	3200
101	<1981	1921	1739	1558	1378	1191	1000	797	605	410	212			
101	1981-1990	2353	2367	2385	2411	2432	2449	2441	2471	2514	2592	2679	2536	2385
101	1991-Stage I	1116	1567	1579	1596	1611	1622	1616	1636	1664	1716	1774	1828	1887
101	Stage I			232	234	236	238	237	240	244	252	260	268	277
101	Stage II				136	357	635	776	785	799	824	851	878	906
101	Stage IIIA								188	336	410	487	597	617
101	Stage IIIB													102
112	1991-Stage I	1265	1626	1639	1656	1671	1683	1677	1698	1727	1781	1841	1897	1958
112	Stage I			465	470	474	478	476	482	490	505	522	539	556
112	Stage II				337	732	1170	1763	1785	1815	1872	1935	1994	2059
112	Stage IIIA								378	663	823	971	1264	1304
112	Stage IIIB													248
127	1991-Stage I	707	847	854	863	871	877	874	884	900	928	959	988	1020
127	Stage I			152	154	155	156	156	158	161	166	171	176	182
127	Stage II				78	268	453	591	599	609	628	649	669	690
127	Stage IIIA								292	675	880	1048	1254	1295
127	Stage IIIB													166
131	<1981	329	298	267	236	204	171	137	104	70	36			
131	1981-1990	878	883	890	899	907	914	911	922	938	967	999	991	983
131	1991-Stage I	95	96	96	97	98	99	99	100	102	105	108	112	115
157	1981-1990	15	15	15	15	16	16	16	16	16	17	17	18	18
157	1991-Stage I	900	905	912	922	930	937	934	945	961	991	1025	1056	1090
157	Stage I		89	89	90	91	92	91	92	94	97	100	103	107
157	Stage II			149	415	695	1089	1085	1098	1117	1152	1191	1227	1267
157	Stage IIIA							623	1453	2140	2586	3047	3141	3242
157	Stage IIIB												388	826



186	1991-Stage I	53	54	54	55	55	56	55	56	57	59	61	63	65
186	Stage I		47	48	48	49	49	49	49	50	52	54	55	57
186	Stage II			68	207	320	481	480	486	494	509	526	543	560
186	Stage IIIA							272	685	1103	1427	1665	1717	1772
186	Stage IIIB												228	561

Stock data for gasoline tractors 1985-2005.

Size (kW)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Certified	<1981	13176	12541	11906	11270	10635	10000	9053	8148	7285	6465	5687	4951	4258	3607	2998
Non certified	<1981	26352	25082	23811	22541	21270	20000	19042	18041	16998	15913	14785	13616	12403	11149	9852
<i>Continued</i>		2000	2001	2002	2003	2004	2005									
Certified	<1981	2432	1908	1427	987	591	236									
Non certified	<1981	8512	7131	5707	4240	2732	1180									

Stock data for harvesters 1985-2012.

FSize	Size Group	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
0	0<S<=50	<1981	26601	24394	22599	22144	19842	18915	17241	15607	14575	12673	10700	9491	6966	5446	3589
0	0<S<=50	1981-1990	519	534	550	582	566	591	594	601	635	636	633	683	641	686	672
50	50<S<=60	<1981	2703	2648	2634	2785	2711	2828	2847	2876	3040	3044	3029	3271	3068	2930	2235
50	50<S<=60	1981-1990	853	1102	1164	1275	1258	1333	1341	1355	1432	1434	1427	1541	1446	1548	1516
50	50<S<=60	1991-Stage I							8	8	8	8	8	9	9	9	9
60	60<S<=70	<1981	1786	1750	1741	1841	1792	1869	1881	1901	2009	2012	2002	2162	2028	2171	2127
60	60<S<=70	1981-1990	1138	1679	1943	2237	2213	2348	2363	2388	2524	2527	2515	2716	2547	2727	2671
60	60<S<=70	1991-Stage I							8	16	18	21	22	24	23	24	24
70	70<S<=80	<1981	929	910	905	958	932	972	979	989	1045	1046	1041	1125	1055	1129	1106
70	70<S<=80	1981-1990	383	699	1026	1165	1318	1493	1502	1518	1604	1606	1598	1726	1619	1733	1698
70	70<S<=80	1991-Stage I							72	77	83	86	87	96	91	98	96
70	70<S<=80	Stage I															1
80	80<S<=90	<1981	323	317	315	333	324	338	340	344	363	364	362	391	367	393	385
80	80<S<=90	1981-1990	383	562	645	967	1107	1466	1475	1491	1575	1577	1570	1695	1590	1702	1667
80	80<S<=90	1991-Stage I							61	158	181	200	200	217	207	222	217
80	80<S<=90	Stage I															1
90	90<S<=100	1981-1990	89	175	235	387	515	670	674	681	720	721	717	775	726	778	762
90	90<S<=100	1991-Stage I							180	257	320	329	351	382	367	393	385
90	90<S<=100	Stage I															1
100	100<S<=120	1981-1990		54	106	219	334	589	592	599	633	634	630	681	639	684	670
100	100<S<=120	1991-Stage I							129	253	316	375	440	567	586	673	660

100	100<S<=120	Stage I													2
120	120<S<=140	1981-1990	4	69	183	184	186	197	197	196	212	199	213	208	
120	120<S<=140	1991-Stage I				70	148	189	215	319	484	626	804	860	
120	120<S<=140	Stage I													21
120	120<S<=140	Stage II													
120	120<S<=140	Stage IIIA													
120	120<S<=140	Stage IIIB													
140	140<S<=160	1991-Stage I					8	36	69	112	271	354	554	632	
140	140<S<=160	Stage II													
140	140<S<=160	Stage IIIA													
140	140<S<=160	Stage IIIB													
160	160<S<=180	1991-Stage I								26	69	200	374	440	
160	160<S<=180	Stage II													
160	160<S<=180	Stage IIIA													
160	160<S<=180	Stage IIIB													
180	180<S<=200	1991-Stage I									20	67	117	193	
180	180<S<=200	Stage II													
180	180<S<=200	Stage IIIA													
180	180<S<=200	Stage IIIB													
200	200<S<=220	1991-Stage I											45	92	
200	200<S<=220	Stage II													
200	200<S<=220	Stage IIIA													
200	200<S<=220	Stage IIIB													
220	220<S<=240	1991-Stage I													3
220	220<S<=240	Stage II													
220	220<S<=240	Stage IIIA													
220	220<S<=240	Stage IIIB													
240	240<S<=260	1991-Stage I													3
240	240<S<=260	Stage II													
240	240<S<=260	Stage IIIA													
240	240<S<=260	Stage IIIB													
260	260<S<=280	1991-Stage I													14
260	260<S<=280	Stage II													
260	260<S<=280	Stage IIIA													
260	260<S<=280	Stage IIIB													
280	280<S<=300	1991-Stage I													
280	280<S<=300	Stage II													

280	280<S<=300	Stage IIIA
280	280<S<=300	Stage IIIB
300	300<S<=320	Stage II
300	300<S<=320	Stage IIIA
300	300<S<=320	Stage IIIB

FSize	Size Group	Emission Level	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
0	0<S<=50	<1981	2873	1854	1275	754	269								
0	0<S<=50	1981-1990	715	758	778	816	882	913	779	628	448	268	78	38	
50	50<S<=60	<1981	1999	1570	1260	897	391								
50	50<S<=60	1981-1990	1612	1711	1755	1841	1990	2060	1856	1645	1335	1034	730	296	170
50	50<S<=60	1991-Stage I	10	10	10	11	12	12	12	12	12	12	13	15	16
60	60<S<=70	<1981	2073	1648	1340	981	482								
60	60<S<=70	1981-1990	2841	3014	3093	3243	3506	3630	3344	3062	2659	2284	1922	1053	539
60	60<S<=70	1991-Stage I	25	27	27	29	31	32	32	32	32	33	35	39	43
70	70<S<=80	<1981	1176	1248	1105	735	216								
70	70<S<=80	1981-1990	1806	1916	1966	2061	2229	2307	2164	2043	1939	1862	1813	1415	806
70	70<S<=80	1991-Stage I	102	109	112	117	126	131	130	129	131	134	141	161	175
70	70<S<=80	Stage I	1	1	1	1	1	1	1	1	1	1	2	2	2
80	80<S<=90	<1981	409	434	445	467	216								
80	80<S<=90	1981-1990	1773	1881	1931	2024	2189	2266	2123	2002	1897	1819	1768	1642	1592
80	80<S<=90	1991-Stage I	231	245	252	264	285	295	294	292	295	303	317	363	394
80	80<S<=90	Stage I	1	1	1	1	1	1	1	1	1	1	2	2	2
90	90<S<=100	1981-1990	810	860	882	925	1000	1035	1031	1023	986	964	957	915	860
90	90<S<=100	1991-Stage I	410	435	446	468	506	524	521	518	523	538	563	643	698
90	90<S<=100	Stage I	1	1	1	1	1	1	1	1	1	1	2	2	2
100	100<S<=120	1981-1990	712	756	775	813	879	910	906	900	909	934	978	1008	979
100	100<S<=120	1991-Stage I	702	744	764	801	866	896	892	886	896	920	963	1100	1195
100	100<S<=120	Stage I	2	2	2	3	3	3	3	3	3	3	3	4	4
120	120<S<=140	1981-1990	222	235	241	253	274	283	282	280	283	291	304	348	378
120	120<S<=140	1991-Stage I	918	977	1003	1051	1137	1177	1172	1163	1176	1208	1264	1444	1569
120	120<S<=140	Stage I	26	31	32	33	36	37	37	37	37	38	40	46	50
120	120<S<=140	Stage II					3	4	4	4	4	4	4	4	5
120	120<S<=140	Stage IIIA							1	1	1	4	5	5	6
120	120<S<=140	Stage IIIB												3	3
140	140<S<=160	1991-Stage I	715	795	816	855	925	957	953	946	957	983	1028	1175	1277
140	140<S<=160	Stage II			20	35	48	56	56	56	56	58	60	69	75

140	140<S<=160	Stage IIIA							5	8	12	16	18	21	23
140	140<S<=160	Stage IIIB												5	8
160	160<S<=180	1991-Stage I	533	602	618	648	700	725	722	716	724	744	779	890	967
160	160<S<=180	Stage II			40	70	91	105	105	104	105	108	113	129	140
160	160<S<=180	Stage IIIA							9	14	20	24	27	31	34
160	160<S<=180	Stage IIIB												4	9
180	180<S<=200	1991-Stage I	249	300	308	323	349	362	360	357	361	371	389	444	482
180	180<S<=200	Stage II			61	91	114	129	128	127	129	132	138	158	172
180	180<S<=200	Stage IIIA							9	14	20	24	27	31	34
180	180<S<=200	Stage IIIB												4	9
200	200<S<=220	1991-Stage I	142	187	192	201	218	225	224	223	225	231	242	277	301
200	200<S<=220	Stage II			40	70	91	105	105	104	105	108	113	129	140
200	200<S<=220	Stage IIIA							9	14	20	24	27	31	34
200	200<S<=220	Stage IIIB												4	9
220	220<S<=240	1991-Stage I	48	151	155	162	175	181	181	179	181	186	195	223	242
220	220<S<=240	Stage II			72	114	164	221	220	219	221	227	238	271	295
220	220<S<=240	Stage IIIA							61	123	196	237	276	315	342
220	220<S<=240	Stage IIIB												45	91
240	240<S<=260	1991-Stage I	71	142	145	152	165	170	170	169	170	175	183	209	227
240	240<S<=260	Stage II			72	125	201	301	299	297	301	309	323	369	401
240	240<S<=260	Stage IIIA							113	232	371	450	525	599	651
240	240<S<=260	Stage IIIB												85	172
260	260<S<=280	1991-Stage I	61	131	134	140	152	157	157	155	157	161	169	193	210
260	260<S<=280	Stage II			72	125	201	301	299	297	301	309	323	369	401
260	260<S<=280	Stage IIIA							113	232	371	450	525	599	651
260	260<S<=280	Stage IIIB												85	172
280	280<S<=300	1991-Stage I		33	34	36	39	40	40	40	40	41	43	49	53
280	280<S<=300	Stage II			72	125	201	301	299	297	301	309	323	369	401
280	280<S<=300	Stage IIIA							113	232	371	450	525	599	651
280	280<S<=300	Stage IIIB												85	172
300	300<S<=320	Stage II				25	60	108	108	107	108	111	116	133	145
300	300<S<=320	Stage IIIA							57	116	185	225	262	300	326
300	300<S<=320	Stage IIIB												43	86

Stock data for fork lifts 1985-2012.

FuelCode	Size (kW)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
205B	35	<1981	387	361	336	311	285	260	234	209	183	158	133	107	84	58	30
205B	35	1981-1990	120	162	202	239	270	297	297	297	297	297	297	297	297	297	297
205B	35	1991-Stage I							26	49	65	93	131	168	218	247	275
205B	35	Stage II															
205B	35	Stage IIIA															
205B	45	<1981	1612	1506	1400	1294	1188	1082	976	870	764	658	552	446	349	243	126
205B	45	1981-1990	499	674	839	994	1122	1233	1233	1233	1233	1233	1233	1233	1233	1233	1233
205B	45	1991-Stage I							108	203	270	386	544	699	905	1063	1063
205B	45	Stage I															151
205B	45	Stage II															
205B	45	Stage IIIA															
205B	50	<1981	2173	2031	1888	1745	1602	1459	1316	1174	1031	888	745	602	471	328	170
205B	50	1981-1990	673	909	1131	1340	1512	1662	1662	1662	1662	1662	1662	1662	1662	1662	1662
205B	50	1991-Stage I							145	273	363	519	732	940	1217	1469	1469
205B	50	Stage I															240
205B	50	Stage II															
205B	50	Stage IIIA															
205B	75	<1981	497	465	432	399	367	334	301	269	236	203	170	138	108	75	39
205B	75	1981-1990	154	208	259	307	347	382	382	382	382	382	382	382	382	382	382
205B	75	1991-Stage I							33	63	84	120	169	217	281	354	354
205B	75	Stage I															70
205B	75	Stage II															
205B	75	Stage IIIA															
205B	75	Stage IIIB															
205B	120	<1981	111	103	96	89	81	74	67	60	52	45	38	31	24	17	9
205B	120	1981-1990	34	46	57	68	77	85	85	85	85	85	85	85	85	85	85
205B	120	1991-Stage I							7	14	19	27	38	49	63	97	97
205B	120	Stage I															32
205B	120	Stage II															
205B	120	Stage IIIA															
205B	120	Stage IIIB															
3030	33		5420	5427	5390	5323	5265	5215	5156	5068	4947	4863	4835	4792	4732	4765	4712
3030	40		4917	4923	4889	4828	4775	4730	4676	4596	4486	4410	4384	4344	4289	4295	4223
3030	50		2149	2151	2137	2110	2087	2067	2044	2008	1960	1926	1915	1897	1874	1926	1941
3030	78		97	97	96	95	94	93	92	91	89	88	88	87	86	90	92

3030	120															1	2
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FuelCode	Size (kW)	Emission Level	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
205B	35	<1981													
205B	35	1981-1990	297	277	249	232	198	177	135	95	58	27			
205B	35	1991-Stage I	304	304	304	304	304	304	304	304	304	304	304	278	255
205B	35	Stage II		23	53	75	89	117	152	152	152	152	152	152	152
205B	35	Stage IIIA								41	76	92	99	126	153
205B	45	<1981													
205B	45	1981-1990	1233	1151	1036	964	820	734	559	394	239	111			
205B	45	1991-Stage I	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	1063	955	860
205B	45	Stage I	303	422	524	664	664	664	664	664	664	664	664	664	664
205B	45	Stage II					104	232	452	612	612	612	612	612	612
205B	45	Stage IIIA									126	181	225	346	467
205B	50	<1981													
205B	50	1981-1990	1662	1551	1396	1299	1105	989	753	531	322	150			
205B	50	1991-Stage I	1469	1469	1469	1469	1469	1469	1469	1469	1469	1469	1469	1324	1196
205B	50	Stage I	461	682	897	1135	1135	1135	1135	1135	1135	1135	1135	1135	1135
205B	50	Stage II					187	447	818	1134	1134	1134	1134	1134	1134
205B	50	Stage IIIA									181	275	354	562	770
205B	75	<1981													
205B	75	1981-1990	382	357	321	299	255	228	174	123	75	35			
205B	75	1991-Stage I	354	354	354	354	354	354	354	354	354	354	354	321	291
205B	75	Stage I	162	234	311	311	311	311	311	311	311	311	311	311	311
205B	75	Stage II				58	129	208	326	326	326	326	326	326	326
205B	75	Stage IIIA								142	213	252	294	376	376
205B	75	Stage IIIB													82
205B	120	<1981													
205B	120	1981-1990	85	80	72	67	57	51	39	28	17	8			
205B	120	1991-Stage I	97	97	97	97	97	97	97	97	97	97	97	90	83
205B	120	Stage I	71	89	118	118	118	118	118	118	118	118	118	118	118
205B	120	Stage II				16	38	58	112	112	112	112	112	112	112
205B	120	Stage IIIA								58	70	76	140	179	179
205B	120	Stage IIIB													39
3030	33		4718	4677	4655	4595	4494	4345	4220	4154	4043	3941	3746	3644	3572
3030	40		4218	4214	4244	4224	4166	4116	4048	4005	3951	3878	3723	3660	3624

3030	50	1897	1938	2003	2020	2018	2029	2061	2136	2198	2192	2142	2172	2214
3030	78	88	95	98	99	104	104	114	123	147	149	151	161	172
3030	120	2	2	3	3	3	3	3	3	3	3	7	8	9

Stock data for construction machinery 1985-2012.

EquipmentName (Eng)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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
Track type dozers	Stage II															
Track type dozers	Stage IIIA															
Track type dozers	Stage IIIB															
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
Track type loaders	Stage II															
Track type loaders	Stage IIIA															
Track type loaders	Stage IIIB															
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
Wheel loaders (0-5 tons)	Stage II															
Wheel loaders (0-5 tons)	Stage IIIA															
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
Wheel loaders (> 5,1 tons)	Stage I															228
Wheel loaders (> 5,1 tons)	Stage II															
Wheel loaders (> 5,1 tons)	Stage IIIA															
Wheel loaders (> 5,1 tons)	Stage IIIB															
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
Wheel type excavators	Stage I															62
Wheel type excavators	Stage II															
Wheel type excavators	Stage IIIA															
Wheel type excavators	Stage IIIB															

Track type excavators (0-5 tons)	1981-1990							459	816	1071	1224	1275	1224	1071	816	459
Track type excavators (0-5 tons)	1991-Stage I							51	204	459	816	1275	1837	2500	3265	4132
Track type excavators (0-5 tons)	Stage II															
Track type excavators (0-5 tons)	Stage IIIA															
Track type excavators (>5,1 tons)	<1981	1000	800	600	400	200										
Track type excavators (>5,1 tons)	1981-1990	1000	1200	1400	1600	1800	2000	1798	1596	1394	1194	993	794	594	396	198
Track type excavators (>5,1 tons)	1991-Stage I							200	399	598	796	993	1190	1387	1583	1581
Track type excavators (>5,1 tons)	Stage I															198
Track type excavators (>5,1 tons)	Stage II															
Track type excavators (>5,1 tons)	Stage IIIA															
Track type excavators (>5,1 tons)	Stage IIIB															
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
Excavators/Loaders	Stage I															447
Excavators/Loaders	Stage II															
Excavators/Loaders	Stage IIIA															
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
Dump trucks	Stage I															89
Dump trucks	Stage II															
Dump trucks	Stage IIIA															
Dump trucks	Stage IIIB															
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
Mini loaders	1991-Stage I							212	447	706	989	1296	1626	1980	2357	2758
Mini loaders	Stage II															
Mini loaders	Stage IIIA															
Telescopic loaders	1981-1990											149	265	348	398	414
Telescopic loaders	1991-Stage I											83	199	348	530	746
Telescopic loaders	Stage II															
Telescopic loaders	Stage IIIA															



EquipmentName (Eng)	Emission Level	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Track type dozers	<1981													
Track type dozers	1981-1990													
Track type dozers	1991-Stage I	206	201	177	154	132	128	125	116	95	59	27		
Track type dozers	Stage II			20	38	56	86	100	116	126	119	109	105	75
Track type dozers	Stage IIIA							25	58	95	119	137	132	126
Track type dozers	Stage IIIB												26	50
Track type loaders	<1981													
Track type loaders	1981-1990													
Track type loaders	1991-Stage I	91	91	81	71	62	61	71	68	55	38	19		
Track type loaders	Stage II			9	18	26	40	56	68	73	76	75	72	51
Track type loaders	Stage IIIA							14	34	55	76	94	90	85
Track type loaders	Stage IIIB												18	34
Wheel loaders (0-5 tons)	1981-1990													
Wheel loaders (0-5 tons)	1991-Stage I	2067	2046	1984	1881	1736	1444	1269	1045	726	353			
Wheel loaders (0-5 tons)	Stage II		227	496	806	1158	1444	1903	2090	2177	2117	2024	1644	1265
Wheel loaders (0-5 tons)	Stage IIIA								348	726	1058	1349	1644	1897
Wheel loaders (> 5,1 tons)	<1981													
Wheel loaders (> 5,1 tons)	1981-1990													
Wheel loaders (> 5,1 tons)	1991-Stage I	1802	1559	1322	1089	861	677	485	273					
Wheel loaders (> 5,1 tons)	Stage I	450	668	881	871	861	902	969	1092	1174	854	547	266	
Wheel loaders (> 5,1 tons)	Stage II				218	431	677	969	1092	1174	1138	1094	1062	1098
Wheel loaders (> 5,1 tons)	Stage IIIA								273	587	854	1094	1328	1372
Wheel loaders (> 5,1 tons)	Stage IIIB													274
Wheel type excavators	<1981													
Wheel type excavators	1981-1990													
Wheel type excavators	1991-Stage I	459	372	293	223	162	118	74	38					
Wheel type excavators	Stage I	115	160	196	179	162	157	148	152	146	103	62	31	
Wheel type excavators	Stage II				45	81	118	148	152	146	138	124	122	127
Wheel type excavators	Stage IIIA								38	73	103	124	153	159
Wheel type excavators	Stage IIIB													32
Track type excavators (0-5 tons)	1981-1990													
Track type excavators (0-5 tons)	1991-Stage I	5101	5050	4897	4642	4285	3889	3599	3027	2073	995			
Track type excavators (0-5 tons)	Stage II		561	1224	1990	2857	3889	5399	6054	6220	5968	5554	4398	3502
Track type excavators (0-5 tons)	Stage IIIA								1009	2073	2984	3702	4398	5252
Track type excavators (>5,1 tons)	<1981													
Track type excavators (>5,1 tons)	1981-1990													

Track type excavators (>5,1 tons)	1991-Stage I	1579	1380	1181	983	785	683	536	313							
Track type excavators (>5,1 tons)	Stage I	395	591	787	786	785	910	1073	1251	1338	980	623	303			
Track type excavators (>5,1 tons)	Stage II				197	393	683	1073	1251	1338	1307	1245	1213	1252		
Track type excavators (>5,1 tons)	Stage IIIA								313	669	980	1245	1516	1565		
Track type excavators (>5,1 tons)	Stage IIIB														313	
Excavators/Loaders	<1981															
Excavators/Loaders	1981-1990															
Excavators/Loaders	1991-Stage I	3599	3170	2735	2295	1848	1370	938	481							
Excavators/Loaders	Stage I	900	1359	1824	2295	2310	2283	2344	2403	2314	1688	1137	691	319		
Excavators/Loaders	Stage II					462	913	1406	1922	1851	1688	1516	1382	1278		
Excavators/Loaders	Stage IIIA									463	844	1137	1382	1597		
Dump trucks	<1981															
Dump trucks	1981-1990															
Dump trucks	1991-Stage I	745	682	611	530	442	385	301	176							
Dump trucks	Stage I	186	292	407	530	552	642	752	880	943	739	514	319	150		
Dump trucks	Stage II					110	257	451	704	754	739	685	637	600		
Dump trucks	Stage IIIA									189	369	514	637	600		
Dump trucks	Stage IIIB														150	
Mini loaders	<1981															
Mini loaders	1981-1990	1273	990	684	354											
Mini loaders	1991-Stage I	3183	3301	3419	3537	3656	3063	2540	2055	1599	1178	809	504	259		
Mini loaders	Stage II		330	684	1061	1462	1701	1905	1761	1599	1413	1214	1009	777		
Mini loaders	Stage IIIA								294	533	707	809	841	777		
Telescopic loaders	1981-1990	398	348	265	149											
Telescopic loaders	1991-Stage I	994	1160	1326	1491	1657	1740	1837	1846	1687	1343	1009	732	466		
Telescopic loaders	Stage II		116	265	447	663	966	1378	1582	1687	1612	1514	1464	1397		
Telescopic loaders	Stage IIIA								264	562	806	1009	1220	1397		

#### Stock data for machine pools 1985-2012

EquipmentName (Eng)	Emission Level	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Tractors (machine pools)	<1981	1236	627													
Tractors (machine pools)	1981-1990	3091	3763	4575	4515	4370	4100	3643	2808	2368	1786	1214	604			
Tractors (machine pools)	1991-Stage I							607	1123	1776	2382	3035	3624	4324	4210	4336
Tractors (machine pools)	Stage I															
Tractors (machine pools)	Stage II															
Tractors (machine pools)	Stage IIIA															

Tractors (machine pools)	Stage IIIB															
Harvesters (machine pools)	<1981	969	776	661	472	287	139									
Harvesters (machine pools)	1981-1990	807	932	1157	1257	1294	1385	1385	1197	927	794	712	512	421	282	162
Harvesters (machine pools)	1991-Stage I							139	266	348	454	593	615	737	751	729
Harvesters (machine pools)	Stage II															
Harvesters (machine pools)	Stage IIIA															
Harvesters (machine pools)	Stage IIIB															
Self-propelled vehicles (machine pools)	1981-1990									72	61	38				
Self-propelled vehicles (machine pools)	1991-Stage I									72	122	190	263	278	277	295
Self-propelled vehicles (machine pools)	Stage II															
Self-propelled vehicles (machine pools)	Stage IIIA															
Self-propelled vehicles (machine pools)	Stage IIIB															

EquipmentName (Eng)	Emission Level	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Tractors (machine pools)	<1981													
Tractors (machine pools)	1981-1990													
Tractors (machine pools)	1991-Stage I	3956	4069	3323	2566	2066	1421	927	487					
Tractors (machine pools)	Stage I			554	513	517	474	464	487	524				
Tractors (machine pools)	Stage II				513	1033	1421	1855	1946	2094	1985	1535	947	473
Tractors (machine pools)	Stage IIIA								487	1047	1488	2046	2366	2366
Tractors (machine pools)	Stage IIIB													473
Harvesters (machine pools)	<1981													
Harvesters (machine pools)	1981-1990	78												
Harvesters (machine pools)	1991-Stage I	778	779	651	531	472	300	257	211	169	127	85	42	
Harvesters (machine pools)	Stage II			65	118	177	171	172	169	169	169	169	169	169
Harvesters (machine pools)	Stage IIIA							43	85	127	169	211	211	211
Harvesters (machine pools)	Stage IIIB												42	85
Self-propelled vehicles (machine pools)	1981-1990													
Self-propelled vehicles (machine pools)	1991-Stage I	289	314	237	203	153	99	49						
Self-propelled vehicles (machine pools)	Stage II			47	102	153	199	194	189	142	94	47		
Self-propelled vehicles (machine pools)	Stage IIIA							49	94	142	189	236	236	189
Self-propelled vehicles (machine pools)	Stage IIIB												47	94

Stock data for household and gardening 1985-2012.

EquipmentName (Eng)	Emission Level	SNAPCode	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Lawn movers (private)	<1981	0809	253125	168750	84375												
Lawn movers (private)	1981-1990	0809	421875	506250	590625	675000	675000	675000	590625	506250	421875	337500	253125	168750	84375		
Lawn movers (private)	1991-Stage I	0809							84375	168750	253125	337500	421875	506250	590625	675000	675000
Lawn movers (private)	Stage I	0809															
Lawn movers (private)	Stage II	0809															
Cultivators (private-large)	<1981	0809	73333	66000	58667	51333	44000	36667	29333	22000	14667	7333					
Cultivators (private-large)	1981-1990	0809	36667	44000	51333	58667	66000	73333	73333	73333	73333	73333	73333	66000	58667	51333	44000
Cultivators (private-large)	1991-Stage I	0809							7333	14667	22000	29333	36667	44000	51333	58667	66000
Cultivators (private-large)	Stage II	0809															
Cultivators (private-small)	1981-1990	0809	10000	10000	10000	10000	10000	10000	8000	6000	4000	2000					
Cultivators (private-small)	1991-Stage I	0809							2000	4000	6000	8000	10000	10000	10000	10000	10000
Cultivators (private-small)	Stage II	0809															
Chain saws (private)	<1981	0809	125000	100000	75000	50000	25000										
Chain saws (private)	1981-1990	0809	125000	150000	175000	200000	225000	250000	227250	204000	180250	156000	131250	106000	80250	54000	27250
Chain saws (private)	1991-Stage I	0809							25250	51000	77250	104000	131250	159000	187250	216000	245250
Chain saws (private)	Stage I	0809															
Chain saws (private)	Stage II	0809															
Riders (private)	<1981	0809	40950	35100	29250	23400	17550	11700	5880								
Riders (private)	1981-1990	0809	29250	35100	40950	46800	52650	58500	58796	59388	54248	49167	44056	38828	33392	27660	21544
Riders (private)	1991-Stage I	0809							5880	11878	18083	24583	31469	38828	46748	55320	64631
Riders (private)	Stage I	0809															
Riders (private)	Stage II	0809															
Shrub clearers (private)	<1981	0809	24000	19200	14400	9600	4800										
Shrub clearers (private)	1981-1990	0809	24000	28800	33600	38400	43200	48000	47520	46080	43680	40320	36000	30720	24480	17280	9120
Shrub clearers (private)	1991-Stage I	0809							5280	11520	18720	26880	36000	46080	57120	69120	82080
Shrub clearers (private)	Stage I	0809															
Shrub clearers (private)	Stage II	0809															
Hedge cutters (private)	<1981	0809	6850	5480	4110	2740	1370										
Hedge cutters (private)	1981-1990	0809	6850	8220	9590	10960	12330	13700	15237	16128	16373	15972	14925	13232	10893	7908	4277
Hedge cutters (private)	1991-Stage I	0809							1693	4032	7017	10648	14925	19848	25417	31632	38493
Hedge cutters (private)	Stage I	0809															
Hedge cutters (private)	Stage II	0809															
Trimmers (private)	<1981	0809	25500	20400	15300	10200	5100										
Trimmers (private)	1981-1990	0809	25500	30600	35700	40800	45900	51000	48086	44686	40800	36429	31571	26229	20400	14086	7286
Trimmers (private)	1991-Stage I	0809							5343	11171	17486	24286	31571	39343	47600	56343	65571

Trimmers (private)	Stage I	0809															
Trimmers (private)	Stage II	0809															
Lawn movers (professional)	1981-1990	0811	25000	25000	25000	25000	25000	25000	18750	12500	6250						
Lawn movers (professional)	1991-Stage I	0811							6250	12500	18750	25000	25000	25000	25000	25000	25000
Lawn movers (professional)	Stage I	0811															
Lawn movers (professional)	Stage II	0811															
Cultivators (professional)	<1981	0811	3750	2500	1250												
Cultivators (professional)	1981-1990	0811	6250	7500	8750	10000	10000	10000	8750	7500	6250	5000	3750	2500	1250		
Cultivators (professional)	1991-Stage I	0811							1250	2500	3750	5000	6250	7500	8750	10000	10000
Cultivators (professional)	Stage I	0811															
Cultivators (professional)	Stage II	0811															
Chain saws (professional)	1981-1990	0811	10000	10000	10000	10000	10000	10000	7333	4000							
Chain saws (professional)	1991-Stage I	0811							3667	8000	13000	14000	15000	16000	17000	18000	19000
Chain saws (professional)	Stage I	0811															
Chain saws (professional)	Stage II	0811															
Riders (professional)	1981-1990	0811	4800	4800	4800	4800	4800	4800	3878	2966	2035	1056					
Riders (professional)	1991-Stage I	0811							970	1978	3053	4224	5520	5760	6000	6240	6480
Riders (professional)	Stage I	0811															
Riders (professional)	Stage II	0811															
Shrub clearers (professional)	1981-1990	0811	2000	2000	2000	2000	2000	2000	1650	1200	650						
Shrub clearers (professional)	1991-Stage I	0811							550	1200	1950	2800	3000	3200	3400	3600	3800
Shrub clearers (professional)	Stage I	0811															
Shrub clearers (professional)	Stage II	0811															
Hedge cutters (professional)	1981-1990	0811	1300	1300	1300	1300	1300	1300	1178	920	528						
Hedge cutters (professional)	1991-Stage I	0811							393	920	1583	2380	2650	2920	3190	3460	3730
Hedge cutters (professional)	Stage I	0811															
Hedge cutters (professional)	Stage II	0811															
Trimmers (professional)	1981-1990	0811	9000	9000	9000	9000	9000	9000	7071	4929	2571						
Trimmers (professional)	1991-Stage I	0811							2357	4929	7714	10714	11143	11571	12000	12429	12857
Trimmers (professional)	Stage I	0811															
Trimmers (professional)	Stage II	0811															

EquipmentName (Eng)	Emission Level	SNAPCode	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Lawn movers (private)	<1981	0809													
Lawn movers (private)	1981-1990	0809													
Lawn movers (private)	1991-Stage I	0809	675000	675000	675000	675000	675000	595000	513750	428125	342500	256875	171250	85625	

Lawn movers (private)	Stage I	0809							85000	171250	256875	256875	256875	256875	256875	256875
Lawn movers (private)	Stage II	0809										85625	171250	256875	342500	428125
Cultivators (private-large)	<1981	0809														
Cultivators (private-large)	1981-1990	0809	36667	29333	22000	14667	7333									
Cultivators (private-large)	1991-Stage I	0809	73333	80667	88000	95333	102667	102667	95333	88000	80667	73333	66000	58667	51333	
Cultivators (private-large)	Stage II	0809						7333	14667	22000	29333	36667	44000	51333	58667	
Cultivators (private-small)	1981-1990	0809														
Cultivators (private-small)	1991-Stage I	0809	10000	10000	10000	10000	10000	8000	6000	4000	2000					
Cultivators (private-small)	Stage II	0809						2000	4000	6000	8000	10000	10000	10000	10000	
Chain saws (private)	<1981	0809														
Chain saws (private)	1981-1990	0809														
Chain saws (private)	1991-Stage I	0809	275000	280750	286500	292250	298000	268200	238400	208600	178800	149000	119200	89400	59600	
Chain saws (private)	Stage I	0809						29800	59600	89400	89400	89400	89400	89400	89400	
Chain saws (private)	Stage II	0809									29800	59600	89400	119200	149000	
Riders (private)	<1981	0809														
Riders (private)	1981-1990	0809	14954	7910												
Riders (private)	1991-Stage I	0809	74771	87015	101775	109920	119360	117741	114313	107663	99047	86666	74285	61904	49523	
Riders (private)	Stage I	0809						10704	22863	23925	24762	24762	24762	24762	24762	
Riders (private)	Stage II	0809								11963	24762	37143	49523	61904	74285	
Shrub clearers (private)	<1981	0809														
Shrub clearers (private)	1981-1990	0809														
Shrub clearers (private)	1991-Stage I	0809	96000	107000	118000	129000	140000	126000	112000	98000	84000	70000	56000	42000	28000	
Shrub clearers (private)	Stage I	0809						14000	28000	42000	42000	42000	42000	42000	42000	
Shrub clearers (private)	Stage II	0809									14000	28000	42000	56000	70000	
Hedge cutters (private)	<1981	0809														
Hedge cutters (private)	1981-1990	0809														
Hedge cutters (private)	1991-Stage I	0809	46000	52900	59800	66700	73600	66240	58880	51520	44160	36800	29440	22080	14720	
Hedge cutters (private)	Stage I	0809						7360	14720	22080	22080	22080	22080	22080	22080	
Hedge cutters (private)	Stage II	0809									7360	14720	22080	29440	36800	
Trimmers (private)	<1981	0809														
Trimmers (private)	1981-1990	0809														
Trimmers (private)	1991-Stage I	0809	75286	77714	80143	82571	85000	76500	68000	59500	51000	42500	34000	25500	17000	
Trimmers (private)	Stage I	0809						8500	17000	25500	25500	25500	25500	25500	25500	
Trimmers (private)	Stage II	0809									8500	17000	25500	34000	42500	
Lawn movers (professional)	1981-1990	0811														
Lawn movers (professional)	1991-Stage I	0811	25000	25000	25000	25000	25000	18750	12500	6250						
Lawn movers (professional)	Stage I	0811						6250	12500	18750	18750	12500	6250			

Lawn movers (professional)	Stage II	0811									6250	12500	18750	25000	25000
Cultivators (professional)	<1981	0811													
Cultivators (professional)	1981-1990	0811													
Cultivators (professional)	1991-Stage I	0811	10000	10000	10000	10000	10000	8750	7500	6250	5000	3750	2500	1250	
Cultivators (professional)	Stage I	0811						1250	2500	3750	3750	3750	3750	3750	3750
Cultivators (professional)	Stage II	0811									1250	2500	3750	5000	6250
Chain saws (professional)	1981-1990	0811													
Chain saws (professional)	1991-Stage I	0811	20000	27500	35000	42500	50000	33333	16667						
Chain saws (professional)	Stage I	0811						16667	33333	50000	50000	33333	16667		
Chain saws (professional)	Stage II	0811										16667	33333	50000	50000
Riders (professional)	1981-1990	0811													
Riders (professional)	1991-Stage I	0811	6720	7802	9726	12492	16100	15728	13398	9444	4800				
Riders (professional)	Stage I	0811						3932	8932	9444	9600	9600	4800		
Riders (professional)	Stage II	0811								4722	9600	14400	19200	24000	24000
Shrub clearers (professional)	1981-1990	0811													
Shrub clearers (professional)	1991-Stage I	0811	4000	5500	7000	8500	10000	7500	5000	2500					
Shrub clearers (professional)	Stage I	0811						2500	5000	7500	7500	5000	2500		
Shrub clearers (professional)	Stage II	0811									2500	5000	7500	10000	10000
Hedge cutters (professional)	1981-1990	0811													
Hedge cutters (professional)	1991-Stage I	0811	4000	4600	5200	5800	6400	4800	3200	1600					
Hedge cutters (professional)	Stage I	0811						1600	3200	4800	4800	3200	1600		
Hedge cutters (professional)	Stage II	0811									1600	3200	4800	6400	6400
Trimmers (professional)	1981-1990	0811													
Trimmers (professional)	1991-Stage I	0811	13286	13714	14143	14571	15000	11250	7500	3750					
Trimmers (professional)	Stage I	0811						3750	7500	11250	11250	7500	3750		
Trimmers (professional)	Stage II	0811									3750	7500	11250	15000	15000

Stock data for small boats and pleasure crafts 1985-2012.

Brændstof	Motortakt	Boat type	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Diesel		Motor boats (27-34 ft)	1550	1550	1719	1889	2058	2228	2397	2567	2736	2906	3075	3244	3414	3583	3753
Diesel		Motor boats (> 34 ft)	450	450	503	556	608	661	714	767	819	872	925	978	1031	1083	1136
Diesel		Motor boats <(27 ft)	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
Diesel		Sailing boats (> 26 ft)	7500	7500	7917	8333	8750	9167	9583	10000	10417	10833	11250	11667	12083	12500	12917
Benzin	2-takt	Other boats (< 20 ft)	4000	4000	4056	4111	4167	4222	4278	4333	4389	4444	4500	4556	4565	4527	4439
Benzin	2-takt	Yawls and cabin boats	4000	4000	4056	4111	4167	4222	4278	4333	4389	4444	4500	4556	4565	4527	4439
Benzin	2-takt	Sailing boats (< 26 ft)	19000	19000	18778	18556	18333	18111	17889	17667	17444	17222	17000	16778	16390	15843	15144
Benzin	2-takt	Speed boats	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	2970	2910	2820
Benzin	2-takt	Water scooters	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	990	970	940
Benzin	4-takt	Other boats (< 20 ft)														46	140
Benzin	4-takt	Yawls and cabin boats														46	140
Benzin	4-takt	Sailing boats (< 26 ft)														166	490
Benzin	4-takt	Speed boats	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Benzin	4-takt	Speed boats														30	90
Benzin	4-takt	Water scooters														10	30

Brændstof	Motortakt	Boat type	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Diesel		Motor boats (27-34 ft)	3922	4092	4261	4431	4600	4600	4600	4600	4600	4600	4600	4600	4600
Diesel		Motor boats (> 34 ft)	1189	1242	1294	1347	1400	1400	1400	1400	1400	1400	1400	1400	1400
Diesel		Motor boats <(27 ft)	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Diesel		Motor sailors	4667	4750	4833	4917	5000	5000	5000	5000	5000	5000	5000	5000	5000
Diesel		Sailing boats (> 26 ft)	13333	13750	14167	14583	15000	15000	15000	15000	15000	15000	15000	15000	15000
Benzin	2-takt	Other boats (< 20 ft)	4300	4108	3862	3560	3200	2750	2250	1800	1400	1050	750	500	300
Benzin	2-takt	Yawls and cabin boats	4300	4108	3862	3560	3200	2750	2250	1800	1400	1050	750	500	300
Benzin	2-takt	Sailing boats (< 26 ft)	14300	13317	12201	10960	9600	8250	6750	5400	4200	3150	2250	1500	900
Benzin	2-takt	Speed boats	2700	2550	2370	2160	1920	1650	1350	1080	840	630	450	300	180
Benzin	2-takt	Water scooters	900	850	790	720	640	550	450	360	280	210	150	100	60
Benzin	4-takt	Other boats (< 20 ft)	478	725	1027	1384	1800	2250	2750	3200	3600	3950	4250	4500	4700
Benzin	4-takt	Yawls and cabin boats	478	725	1027	1384	1800	2250	2750	3200	3600	3950	4250	4500	4700
Benzin	4-takt	Sailing boats (< 26 ft)	1589	2350	3243	4262	5400	6750	8250	9600	10800	11850	12750	13500	14100
Benzin	4-takt	Speed boats	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Benzin	4-takt	Speed boats	300	450	630	840	1080	1350	1650	1920	2160	2370	2550	2700	2820
Benzin	4-takt	Water scooters	100	150	210	280	360	450	550	640	720	790	850	900	940



Engine sizes (kW) for recreational craft 1985-2012.

Motor type	Boat type	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004-2012
2-takt	Other boats (< 20 ft)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2-takt	Yawls and cabin boats	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
2-takt	Sailing boats (< 26 ft)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
2-takt	Speed boats	25	31	32	33	35	36	38	39	40	42	43	44	46	47	49	50
2-takt	Water scooters	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	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	55	58	60	63	65	68	70	73	75	78	80	83	85	88	90
4-takt	Speed boats (out board eng.)									40	42	43	44	46	47	49	50
4-takt	Water scooters									45	45	45	45	45	45	45	45
Diesel	Motor boats (27-34 ft)	70	88	92	97	101	106	110	114	119	123	128	132	137	141	146	150
Diesel	Motor boats (> 34 ft)	120	149	156	163	171	178	185	192	199	207	214	221	228	236	243	250
Diesel	Motor boats <(27 ft)	20	24	26	27	28	29	30	31	32	33	34	36	37	38	39	40
Diesel	Motor sailors	20	22	23	23	24	24	25	26	26	27	27	28	28	29	29	30
Diesel	Sailing boats (> 26 ft)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

## Annex 3B-12 Traffic data and different technical and operational data for Danish domestic ferries

Annual traffic data for ferries (no. of round trips) for Danish domestic ferries.

Domestic ferry lines	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999			
Korsør-Nyborg, DSB	9305	9167	9237	8959	8813	8789	8746	3258	0	0			
Korsør-Nyborg, Vognmandsruten	7512	7363	7468	7496	7502	7828	7917	8302	3576	0			
Halsskov-Knudshoved	10601	10582	11701	11767	12420	12970	13539	13612	5732	0			
Kalundborg-Juelsminde	0	1326	1733	1542	1541	1508	856	0	0	0			
Kalundborg-Århus	1907	2400	3162	2921	2913	3540	4962	4888	4483	1454			
Sjællands Odde-Ebeltoft	3908	3978	4008	3988	4325	4569	5712	8153	7851	7720			
Sjællands Odde-Århus	0	0	0	0	0	0	0	0	0	2339			
Hundested-Grenaa	1026	1025	1032	1030	718	602	67	0	0	0			
København-Rønne	558	545	484	412	427	426	437	465	458	506			
Køge-Rønne	0	0	0	0	0	0	0	0	0	0			
Kalundborg-Samsø	873	873	860	881	826	811	813	823	824	850			
Tårs-Spødsbjerg	7656	8835	9488	9535	9402	9562	9000	9129	7052	6442			
Hirtshals-Torshavn	0	0	0	0	0	0	0	0	0	0			
Hanstholm-Torshavn	0	14	15	0	0	0	0	0	0	48			
Esbjerg-Torshavn	9	9	9	15	14	13	0	0	0	0			
Local ferries	176891	179850	181834	178419	202445	209129	182750	197489	200027	202054			
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Korsør-Nyborg, DSB	0	0	0	0	0	0	0	0	0	0	0	0	0
Korsør-Nyborg, Vognmandsruten	0	0	0	0	0	0	0	0	0	0	0	0	0
Halsskov-Knudshoved	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalundborg-Juelsminde	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalundborg-Århus	1870	1804	2037	1800	1750	1725	1724	1695	1694	1668	1552	1158	845
Sjællands Odde-Ebeltoft	4775	4226	3597	3191	2906	2889	2690	2670	2577	2454	2409	1960	844
Sjællands Odde-Århus	1799	1817	1825	2359	2863	2795	2853	2810	2814	2810	2735	2796	2304
Hundested-Grenaa	0	0	0	0	0	0	0	0	0	0	0	0	0
København-Rønne	491	430	413	397	293	0	0	0	0	0	0	0	0
Køge-Rønne	0	0	0	0	154	488	436	399	428	407	459	365	370
Kalundborg-Samsø	828	817	833	831	841	867	862	887	921	969	937	919	927
Tårs-Spødsbjerg	6477	6498	6468	6516	6497	6494	6460	6493	6504	6474	6529	6185	6235
Hirtshals-Torshavn	0	0	0	0	0	0	0	0	0	0	13	63	58
Hanstholm-Torshavn	67	94	85	50	59	51	51	48	52	27	20	0	0
Esbjerg-Torshavn	0	0	0	0	0	0	0	0	0	35	30	0	0
Local ferries	201833	200130	208396	208501	206297	205564	203413	205260	210089	209082	205461	202510	204036

Ferry data: Service, name, engine year, main engine MCR (kW), engine type, specific fuel consumption (sfc), aux. engine (kW).

Ferry service	Ferry name	Engine year	Main engine MCR (kW)	Engine type	Sfc (g/kWh)	Fuel type	Aux engine (kW)
Esbjerg-Torshavn	Gamle Norrøna	1973	11768	Medium speed (4-stroke)	239	Diesel	2354
Esbjerg-Torshavn	Nye Norrøna	2003	21600	Medium speed (4-stroke)	190	Fuel	4320
Halsskov-Knudshoved	ARVEPRINS KNUD DRONNING MARGRETHE	1963	8238	Slow speed (2-stroke)	220	Fuel	1666
Halsskov-Knudshoved	II	1973	8826	Medium speed (4-stroke)	230	Diesel	1692
Halsskov-Knudshoved	HEIMDAL	1983	8309	Medium speed (4-stroke)	220	Diesel	740
Halsskov-Knudshoved	KNUDSHOVED	1961	6400	Slow speed (2-stroke)	220	Fuel	1840
Halsskov-Knudshoved	KONG FREDERIK IX	1954	6767	Slow speed (2-stroke)	225	Fuel	1426
Halsskov-Knudshoved	KRAKA	1982	8309	Medium speed (4-stroke)	220	Diesel	740
Halsskov-Knudshoved	LODBROG	1982	8309	Medium speed (4-stroke)	220	Diesel	740
Halsskov-Knudshoved	PRINSESSE ANNE-MARIE	1960	8238	Slow speed (2-stroke)	220	Fuel	1360
Halsskov-Knudshoved	PRINSESSE ELISABETH	1964	8238	Slow speed (2-stroke)	220	Fuel	1360
Halsskov-Knudshoved	ROMSØ	1973	8826	Medium speed (4-stroke)	230	Diesel	1728
Halsskov-Knudshoved	SPROGØ	1962	6400	Slow speed (2-stroke)	220	Fuel	1840
Hanstholm-Torshavn	Gamle Norrøna	1973	11768	Medium speed (4-stroke)	239	Diesel	2354
Hanstholm-Torshavn	Nye Norrøna	2003	21600	Medium speed (4-stroke)	190	Fuel	4320
Hirtshals-Torshavn	Nye Norrøna	2003	21600	Medium speed (4-stroke)	190	Fuel	4320
Hundested-Grenaa	DJURSLAND	1974	9856	Medium speed (4-stroke)	230	Diesel	900
Hundested-Grenaa	KATTEGAT	1995	23200	High speed (4-stroke)	205	Diesel	1223
Hundested-Grenaa	KONG FREDERIK IX	1954	6767	Slow speed (2-stroke)	235	Fuel	1375
Hundested-Grenaa	PRINSESSE ANNE-MARIE	1960	8238	Slow speed (2-stroke)	220	Fuel	1360
Kalundborg-Juelsminde	Mercandia I	1989	2950	High speed (4-stroke)	220	Diesel	0
Kalundborg-Juelsminde	Mercandia II	1989	2950	High speed (4-stroke)	220	Diesel	0
Kalundborg-Juelsminde	Mercandia III	1989	2950	High speed (4-stroke)	220	Diesel	0
Kalundborg-Juelsminde	Mercandia IV	1989	2950	High speed (4-stroke)	220	Diesel	0
Kalundborg-Samsø	HOLGER DANSKE	1976	2354	High speed (4-stroke)	225	Diesel	600
Kalundborg-Samsø	KALUNDBORG	1952	3825	Slow speed (2-stroke)	235	Fuel	570
Kalundborg-Samsø	KYHOLM	1998	2940	High speed (4-stroke)	195	Diesel	864
Kalundborg-Samsø	VESBORG	1995	1770	High speed (4-stroke)	200	Diesel	494
Kalundborg-Århus	ASK	1984	8826	Medium speed (4-stroke)	215	Diesel	2220
Kalundborg-Århus	ASK	1984	8826	Medium speed (4-stroke)	215	Diesel	3000
Kalundborg-Århus	ASK	1984	9840	Medium speed (4-stroke)	215	Diesel	3000
Kalundborg-Århus	CAT-LINK I	1995	17280	High speed (4-stroke)	205	Diesel	1160
Kalundborg-Århus	CAT-LINK II	1995	17280	High speed (4-stroke)	205	Diesel	1160
Kalundborg-Århus	CAT-LINK III	1995	22000	High speed (4-stroke)	205	Diesel	800
Kalundborg-Århus	CAT-LINK IV	1998	28320	High speed (4-stroke)	205	Diesel	920

Kalundborg-Århus	CAT-LINK V	1998	28320	High speed (4-stroke)	205	Diesel	920
Kalundborg-Århus	KATTEGAT SYD	1979	7650	Medium speed (4-stroke)	225	Diesel	1366
Kalundborg-Århus	KNUDSHOVED	1961	6400	Slow speed (2-stroke)	220	Fuel	1840
Kalundborg-Århus	KONG FREDERIK IX	1954	6767	Slow speed (2-stroke)	225	Fuel	1426
Kalundborg-Århus	KRAKA	1982	8309	Medium speed (4-stroke)	220	Diesel	740
Kalundborg-Århus	MAREN MOLS	1996	11700	Slow speed (2-stroke)	180	Diesel	2530
Kalundborg-Århus	METTE MOLS	1996	11700	Slow speed (2-stroke)	180	Diesel	2530
Kalundborg-Århus	NIELS KLIM	1986	12474	Slow speed (2-stroke)	215	Fuel	4440
Kalundborg-Århus	PEDER PAARS	1985	12474	Slow speed (2-stroke)	215	Fuel	4440
Kalundborg-Århus	PRINSESSE ELISABETH	1964	8238	Slow speed (2-stroke)	220	Fuel	1360
Kalundborg-Århus	ROSTOCK LINK	1975	8385	Medium speed (4-stroke)	230	Diesel	2500
Kalundborg-Århus	SØLØVEN/SØBJØRNEN	1992	4000	High speed (4-stroke)	210	Diesel	272
Kalundborg-Århus	URD	1981	8826	Medium speed (4-stroke)	215	Diesel	2220
Kalundborg-Århus	URD	1981	8826	Medium speed (4-stroke)	215	Diesel	3000
Kalundborg-Århus	URD	1981	9840	Medium speed (4-stroke)	215	Diesel	3000
Korsør-Nyborg, DSB	ASA-THOR	1965	6472	Slow speed (2-stroke)	220	Fuel	1305
Korsør-Nyborg, DSB	DRONNING INGRID DRONNING MARGRETHE II	1980	18720	Medium speed (4-stroke)	220	Diesel	2932
Korsør-Nyborg, DSB	II	1973	8826	Medium speed (4-stroke)	230	Diesel	1692
Korsør-Nyborg, DSB	KONG FREDERIK IX	1954	6767	Slow speed (2-stroke)	225	Fuel	1426
Korsør-Nyborg, DSB	KRONPRINS FREDERIK	1981	18720	Medium speed (4-stroke)	220	Diesel	2932
Korsør-Nyborg, DSB	PRINS JOACHIM	1980	18720	Medium speed (4-stroke)	220	Diesel	2932
Korsør-Nyborg, DSB	SPROGØ/KNUDSHOVED	1962	6400	Slow speed (2-stroke)	220	Fuel	1840
Korsør-Nyborg, Vognmandsruten	Superflex Alfa	1989	2950	High speed (4-stroke)	220	Diesel	0
Korsør-Nyborg, Vognmandsruten	Superflex Bravo	1989	2950	High speed (4-stroke)	220	Diesel	0
Korsør-Nyborg, Vognmandsruten	Superflex Charlie	1988	2950	High speed (4-stroke)	220	Diesel	0
København-Rønne	JENS KOFOED	1979	12950	Medium speed (4-stroke)	233	Fuel	2889
København-Rønne	POVL ANKER	1979	12950	Medium speed (4-stroke)	233	Fuel	2889
Køge-Rønne	DUEODDE	2005	8640	Medium speed (4-stroke)	190	Fuel	1545
Køge-Rønne	HAMMERODDE	2005	8640	Medium speed (4-stroke)	190	Fuel	1545
Køge-Rønne	JENS KOFOED	1979	12950	Medium speed (4-stroke)	233	Fuel	2889
Køge-Rønne	POVL ANKER	1979	12950	Medium speed (4-stroke)	233	Fuel	2889
Sjællands Odde-Ebeltoft	MAI MOLS	1996	24800	Gas turbine	263	Diesel	752
Sjællands Odde-Ebeltoft	MAREN MOLS	1975	12062	Medium speed (4-stroke)	230	Fuel	1986
Sjællands Odde-Ebeltoft	MAREN MOLS 2	1996	11700	Slow speed (2-stroke)	180	Diesel	2530
Sjællands Odde-Ebeltoft	MAX MOLS	1998	28320	High speed (4-stroke)	209	Diesel	920
Sjællands Odde-Ebeltoft	METTE MOLS	1975	12062	Medium speed (4-stroke)	230	Fuel	1986
Sjællands Odde-Ebeltoft	METTE MOLS 2	1996	11700	Slow speed (2-stroke)	180	Diesel	2530

Sjællands Odde-Ebeltoft	MIE MOLS	1971	5884	Medium speed (4-stroke)	230	Diesel	
Sjællands Odde-Ebeltoft	MIE MOLS 2	1996	24800	Gas turbine	263	Diesel	752
Sjællands Odde-Århus	KatExpress	2009	36000	High speed (4-stroke)	190	Diesel	1440
Sjællands Odde-Århus	MADS MOLS	1998	28320	High speed (4-stroke)	205	Diesel	920
Sjællands Odde-Århus	MAI MOLS	1996	24800	Gas turbine	263	Diesel	752
Sjællands Odde-Århus	MAX MOLS	1998	28320	High speed (4-stroke)	209	Diesel	920
Sjællands Odde-Århus	MIE MOLS	1996	24800	Gas turbine	263	Diesel	752
Tårs-Spødsbjerg	FRIGG SYDFYEN	1984	1300	Medium speed (4-stroke)	220	Diesel	780
Tårs-Spødsbjerg	Langeland	2011	875	High speed	210	Diesel	
Tårs-Spødsbjerg	Lolland	2011	875	High speed	210	Diesel	
Tårs-Spødsbjerg	ODIN SYDFYEN	1982	1180	Medium speed (4-stroke)	220	Diesel	780
Tårs-Spødsbjerg	SPODSBJERG	1972	1530	Medium speed (4-stroke)	225	Diesel	300
Tårs-Spødsbjerg	SPODSBJERG	2006	1530	Medium speed (4-stroke)	190	Diesel	300
Tårs-Spødsbjerg	THOR SYDFYEN	1978	1176	Medium speed (4-stroke)	225	Diesel	300

Ferry data: Sailing time (single trip).

Ferry service	Ferry name	1985-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Esbjerg-Torshavn	Gamle Norrøna	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860
Esbjerg-Torshavn	Nye Norrøna										
Halsskov-Knudshoved	ARVEPRINS KNUD	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	DRONNING MARGRETHE II	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	HEIMDAL	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	KNUDSHOVED	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	KONG FREDERIK IX	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	KRAKA	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	LODBROG	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	PRINSESSE ANNE-MARIE	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	PRINSESSE ELISABETH	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	ROMSØ	60	60	60	60	60	60	60	60	60	
Halsskov-Knudshoved	SPROGØ	60	60	60	60	60	60	60	60	60	
Hanstholm-Torshavn	Gamle Norrøna	1740	1740	1740	1740	1740	1740	1740	1740	1740	1740
Hanstholm-Torshavn	Nye Norrøna										
Hirtshals-Torshavn	Nye Norrøna										
Hundested-Grenaa	DJURLAND	160	160	160	160	160					
Hundested-Grenaa	KATTEGAT						90	90			
Hundested-Grenaa	KONG FREDERIK IX					170					
Hundested-Grenaa	PRINSESSE ANNE-MARIE					165					

Kalundborg-Juelsminde	Mercandia I	160	160	160	160	160	160	160			
Kalundborg-Juelsminde	Mercandia II	160	160	160	160	160	160	160			
Kalundborg-Juelsminde	Mercandia III	160	160	160	160	160	160	160			
Kalundborg-Juelsminde	Mercandia IV	160	160	160	160	160	160	160			
Kalundborg-Samsø	HOLGER DANSKE			120	120	120	120	120	120	120	
Kalundborg-Samsø	KALUNDBORG	120	120	120							
Kalundborg-Samsø	KYHOLM									110	110
Kalundborg-Samsø	VESBORG									120	
Kalundborg-Århus	ASK		195	195	195	195	195	195	195	195	195
Kalundborg-Århus	CAT-LINK I						80	85	90	95	
Kalundborg-Århus	CAT-LINK II						80	85	90	95	
Kalundborg-Århus	CAT-LINK III							85	90	95	
Kalundborg-Århus	CAT-LINK IV									80	80
Kalundborg-Århus	CAT-LINK V									80	80
Kalundborg-Århus	KATTEGAT SYD										195
Kalundborg-Århus	KNUDSHOVED		190								
Kalundborg-Århus	KONG FREDERIK IX		190	190	190	190	190	190			
Kalundborg-Århus	KRAKA									195	
Kalundborg-Århus	MAREN MOLS										
Kalundborg-Århus	METTE MOLS										
Kalundborg-Århus	NIELS KLIM	185	185								
Kalundborg-Århus	PEDER PAARS	185	185								
Kalundborg-Århus	PRINSESSE ELISABETH		185								
Kalundborg-Århus	ROSTOCK LINK										195
Kalundborg-Århus	SØLØVEN/SØBJØRNEN		90	90	90	90	90	90			
Kalundborg-Århus	URD		195	195	195	195	195	195	195	195	195
Korsør-Nyborg, DSB	ASA-THOR	65	65	65	65	65	65	65	65		
Korsør-Nyborg, DSB	DRONNING INGRID	65	65	65	65	65	65	65	65		
Korsør-Nyborg, DSB	DRONNING MARGRETHE II	65	65	65	65	65	65	65	65		
Korsør-Nyborg, DSB	KONG FREDERIK IX	75	75	75	75	75	75	75	75		
Korsør-Nyborg, DSB	KRONPRINS FREDERIK	65	65	65	65	65	65	65	65		
Korsør-Nyborg, DSB	PRINS JOACHIM	65	65	65	65	65	65	65	65		
Korsør-Nyborg, DSB	SPROGØ/KNUDSHOVED	75	75	75	75	75	75	75	75		
Korsør-Nyborg, Vognmandsruten	Superflex Alfa	70	70	70	70	70	70	70	70	70	
Korsør-Nyborg, Vognmandsruten	Superflex Bravo	70	70	70	70	70	70	70	70	70	
Korsør-Nyborg, Vognmandsruten	Superflex Charlie	70	70	70	70	70	70	70	70	70	
København-Rønne	JENS KOFOED	420	420	420	420	420	420	420	420	420	420

København-Rønne	POVL ANKER	420	420	420	420	420	420	420	420	420	420	420
Køge-Rønne	DUEODDE											
Køge-Rønne	HAMMERODDE											
Køge-Rønne	JENS KOFOED											
Køge-Rønne	POVL ANKER											
Sjællands Odde-Ebeltoft	MAI MOLS								45	45	45	45
Sjællands Odde-Ebeltoft	MAREN MOLS	100	100	100	100	100	100	100				
Sjællands Odde-Ebeltoft	MAREN MOLS 2								100	100	100	95
Sjællands Odde-Ebeltoft	MAX MOLS											
Sjællands Odde-Ebeltoft	METTE MOLS	100	100	100	100	100	100	100				
Sjællands Odde-Ebeltoft	METTE MOLS 2								100	100	100	95
Sjællands Odde-Ebeltoft	MIE MOLS	105	105	105	105	105	105	105				
Sjællands Odde-Ebeltoft	MIE MOLS 2								45	45	45	45
Sjællands Odde-Århus	KatExpress											
Sjællands Odde-Århus	MADS MOLS											60
Sjællands Odde-Århus	MAI MOLS											
Sjællands Odde-Århus	MAX MOLS											60
Sjællands Odde-Århus	MIE MOLS											
Tårs-Spødsbjerg	FRIGG SYDFYEN	45	45	45	45	45	45	45	45	45	45	45
Tårs-Spødsbjerg	Langeland											
Tårs-Spødsbjerg	Lolland											
Tårs-Spødsbjerg	ODIN SYDFYEN	45	45	45	45	45	45	45	45	45	45	45
Tårs-Spødsbjerg	SPODSBJERG	45	45	45	45	45	45	45	45	45	45	45
Tårs-Spødsbjerg	THOR SYDFYEN	45	45	45	45	45	17	45	45	45		

Ferry service	Ferry name	2000	2001	2002	2003	2004	2005	2006-2008	2009	2010	2011	2012
Esbjerg-Torshavn	Gamle Norrøna	1860	1860	1860								
Esbjerg-Torshavn	Nye Norrøna				1860	1860	1860		1860	1860	1860	1860
Halsskov-Knudshoved	ARVEPRINS KNUD											
Halsskov-Knudshoved	DRONNING MARGRETHE II											
Halsskov-Knudshoved	HEIMDAL											
Halsskov-Knudshoved	KNUDSHOVED											
Halsskov-Knudshoved	KONG FREDERIK IX											
Halsskov-Knudshoved	KRAKA											
Halsskov-Knudshoved	LODBROG											
Halsskov-Knudshoved	PRINSESSE ANNE-MARIE											

Halsskov-Knudshoved	PRINSESSE ELISABETH													
Halsskov-Knudshoved	ROMSØ													
Halsskov-Knudshoved	SPROGØ													
Hanstholm-Torshavn	Gamle Norrøna	1740	1740	1740										
Hanstholm-Torshavn	Nye Norrøna				1740	1740	1740		1740	1740	1740	1740	1740	
Hirtshals-Torshavn	Nye Norrøna										1740	1740	1740	
Hundested-Grenaa	DJURSLAND													
Hundested-Grenaa	KATTEGAT													
Hundested-Grenaa	KONG FREDERIK IX													
Hundested-Grenaa	PRINSESSE ANNE-MARIE													
Kalundborg-Juelsminde	Mercandia I													
Kalundborg-Juelsminde	Mercandia II													
Kalundborg-Juelsminde	Mercandia III													
Kalundborg-Juelsminde	Mercandia IV													
Kalundborg-Samsø	HOLGER DANSKE													
Kalundborg-Samsø	KALUNDBORG													
Kalundborg-Samsø	KYHOLM	110	110	110	110	110	110		110	110	110	110	110	
Kalundborg-Samsø	VESBORG													
Kalundborg-Århus	ASK													
Kalundborg-Århus	CAT-LINK I													
Kalundborg-Århus	CAT-LINK II													
Kalundborg-Århus	CAT-LINK III													
Kalundborg-Århus	CAT-LINK IV													
Kalundborg-Århus	CAT-LINK V													
Kalundborg-Århus	KATTEGAT SYD													
Kalundborg-Århus	KNUDSHOVED													
Kalundborg-Århus	KONG FREDERIK IX													
Kalundborg-Århus	KRAKA													
Kalundborg-Århus	MAREN MOLS	160	160	155	155	155	155		165	165	165	165	165	
Kalundborg-Århus	METTE MOLS	160	160	155	155	155	155		165	165	165	165	165	
Kalundborg-Århus	NIELS KLIM													
Kalundborg-Århus	PEDER PAARS													
Kalundborg-Århus	PRINSESSE ELISABETH													
Kalundborg-Århus	ROSTOCK LINK													
Kalundborg-Århus	SØLØVEN/SØBJØRNEN													
Kalundborg-Århus	URD													
Korsør-Nyborg, DSB	ASA-THOR													



Korsør-Nyborg, DSB	DRONNING INGRID													
Korsør-Nyborg, DSB	DRONNING MARGRETHE II													
Korsør-Nyborg, DSB	KONG FREDERIK IX													
Korsør-Nyborg, DSB	KRONPRINS FREDERIK													
Korsør-Nyborg, DSB	PRINS JOACHIM													
Korsør-Nyborg, DSB	SPROGØ/KNUDSHOVED													
Korsør-Nyborg, Vognmandsruten	Superflex Alfa													
Korsør-Nyborg, Vognmandsruten	Superflex Bravo													
Korsør-Nyborg, Vognmandsruten	Superflex Charlie													
København-Rønne	JENS KOFOED	420	420	420	420	420								
København-Rønne	POVL ANKER	420	420	420	420	420								
Køge-Rønne	DUEODDE							375	375	375	375			
Køge-Rønne	HAMMERODDE							375	375	375	375	375	375	
Køge-Rønne	JENS KOFOED						375	375						
Køge-Rønne	POVL ANKER						375	375	375					
Sjællands Odde-Ebeltoft	MAI MOLS	45	45	45	45	45	45		50	50	50	50	50	
Sjællands Odde-Ebeltoft	MAREN MOLS													
Sjællands Odde-Ebeltoft	MAREN MOLS 2													
Sjællands Odde-Ebeltoft	MAX MOLS													55
Sjællands Odde-Ebeltoft	METTE MOLS													
Sjællands Odde-Ebeltoft	METTE MOLS 2													
Sjællands Odde-Ebeltoft	MIE MOLS													
Sjællands Odde-Ebeltoft	MIE MOLS 2	45	45	45	45	45	45		50	50	50	50	50	
Sjællands Odde-Århus	KatExpress													72
Sjællands Odde-Århus	MADS MOLS	65	65	65	65	65	65							
Sjællands Odde-Århus	MAI MOLS			65	65	65	65		68	68	68	68	68	
Sjællands Odde-Århus	MAX MOLS	65	65	65	65	65	65		70	70	70	70	70	
Sjællands Odde-Århus	MIE MOLS			65	65	65	65		68	68	68	68	68	
Tårs-Spødsbjerg	FRIGG SYDFYEN	45	45	45	45	45	45		45	45	45	45	45	
Tårs-Spødsbjerg	Langeland													45
Tårs-Spødsbjerg	Lolland													45
Tårs-Spødsbjerg	ODIN SYDFYEN	45	45	45	45	45	45		45	45	45	45	45	
Tårs-Spødsbjerg	SPODSBJERG	45	45	45	45	45	45		45	45	45			
Tårs-Spødsbjerg	THOR SYDFYEN													

Ferry data: Load factor (% MCR).

Ferry service	Ferry name	1985-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Esbjerg-Torshavn	Gamle Norrøna	90	90	90	90	90	90	90	90	90	90
Esbjerg-Torshavn	Nye Norrøna										
Halsskov-Knudshoved	ARVEPRINS KNUD DRONNING MARGRETHE	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	II	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	HEIMDAL	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	KNUDSHOVED	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	KONG FREDERIK IX	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	KRAKA	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	LODBROG	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	PRINSESSE ANNE-MARIE	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	PRINSESSE ELISABETH	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	ROMSØ	85	85	85	85	85	85	85	85	85	
Halsskov-Knudshoved	SPROGØ	85	85	85	85	85	85	85	85	85	
Hanstholm-Torshavn	Gamle Norrøna	90	90	90	90	90	90	90	90	90	90
Hanstholm-Torshavn	Nye Norrøna										
Hirtshals-Torshavn	Nye Norrøna										
Hundested-Grenaa	DJURSLAND	80	80	80	80	80					
Hundested-Grenaa	KATTEGAT						85	85			
Hundested-Grenaa	KONG FREDERIK IX					65					
Hundested-Grenaa	PRINSESSE ANNE-MARIE					85					
Kalundborg-Juelsminde	Mercandia I	75	75	75	75	75	75	75			
Kalundborg-Juelsminde	Mercandia II	70	70	70	70	70	70	70			
Kalundborg-Juelsminde	Mercandia III	70	70	70	70	70	70	70			
Kalundborg-Juelsminde	Mercandia IV	70	70	70	70	70	70	70			
Kalundborg-Samsø	HOLGER DANSKE			85	85	85	85	85	85	85	
Kalundborg-Samsø	KALUNDBORG	80	80	80							
Kalundborg-Samsø	KYHOLM									85	85
Kalundborg-Samsø	VESBORG									95	
Kalundborg-Århus	ASK		85	85	85	80	80	80	80	80	80
Kalundborg-Århus	CAT-LINK I						95	90	90	85	
Kalundborg-Århus	CAT-LINK II						95	90	90	85	
Kalundborg-Århus	CAT-LINK III							95	95	90	
Kalundborg-Århus	CAT-LINK IV									95	95
Kalundborg-Århus	CAT-LINK V									95	95
Kalundborg-Århus	KATTEGAT SYD										85

Kalundborg-Århus	KNUDSHOVED	85									
Kalundborg-Århus	KONG FREDERIK IX	85	85	85	85	85	85				
Kalundborg-Århus	KRAKA									85	
Kalundborg-Århus	MAREN MOLS										
Kalundborg-Århus	METTE MOLS										
Kalundborg-Århus	NIELS KLIM	85	85								
Kalundborg-Århus	PEDER PAARS	85	85								
Kalundborg-Århus	PRINSESSE ELISABETH		80								
Kalundborg-Århus	ROSTOCK LINK										80
Kalundborg-Århus	SØLØVEN/SØBJØRNEN		90	90	90	90	90	90			
Kalundborg-Århus	URD		85	85	85	85	85	85	85	80	80
Korsør-Nyborg, DSB	ASA-THOR	85	85	85	85	85	85	85	85		
Korsør-Nyborg, DSB	DRONNING INGRID	60	60	60	60	60	60	60	60		
Korsør-Nyborg, DSB	DRONNING MARGRETHE II	85	85	85	85	85	85	85	85		
Korsør-Nyborg, DSB	KONG FREDERIK IX	70	70	70	70	70	70	70	70		
Korsør-Nyborg, DSB	KRONPRINS FREDERIK	60	60	60	60	60	60	60	60		
Korsør-Nyborg, DSB	PRINS JOACHIM	60	60	60	60	60	60	60	60		
Korsør-Nyborg, DSB	SPROGØ/KNUDSHOVED	70	70	70	70	70	70	70	70		
Korsør-Nyborg, Vognmandsruten	Superflex Alfa	70	70	70	70	70	70	70	70	70	
Korsør-Nyborg, Vognmandsruten	Superflex Bravo	70	70	70	70	70	70	70	70	70	
Korsør-Nyborg, Vognmandsruten	Superflex Charlie	70	70	70	70	70	70	70	70	70	
København-Rønne	JENS KOFOED	30,77	30,77	30,77	30,77	30,77	30,77	30,77	30,77	30,77	30,77
København-Rønne	POVL ANKER	30,77	30,77	30,77	30,77	30,77	30,77	30,77	30,77	30,77	30,77
Køge-Rønne	DUEODDE										
Køge-Rønne	HAMMERODDE										
Køge-Rønne	JENS KOFOED										
Køge-Rønne	POVL ANKER										
Sjællands Odde-Ebeltoft	MAI MOLS							80	80	80	80
Sjællands Odde-Ebeltoft	MAREN MOLS	75	75	75	75	75	75	75			
Sjællands Odde-Ebeltoft	MAREN MOLS 2							80	80	80	85
Sjællands Odde-Ebeltoft	MAX MOLS										
Sjællands Odde-Ebeltoft	METTE MOLS	75	75	75	75	75	75	75			
Sjællands Odde-Ebeltoft	METTE MOLS 2							80	80	80	85
Sjællands Odde-Ebeltoft	MIE MOLS	85	85	85	85	85	85	85			
Sjællands Odde-Ebeltoft	MIE MOLS 2							80	80	80	80
Sjællands Odde-Århus	KatExpress										
Sjællands Odde-Århus	MADS MOLS										90

Sjællands Odde-Århus	MAI MOLS													
Sjællands Odde-Århus	MAX MOLS													90
Sjællands Odde-Århus	MIE MOLS													
Tårs-Spodsbjerg	FRIGG SYDFYEN	80	80	80	80	80	80	80	80	80	80	80	80	
Tårs-Spodsbjerg	Langeland													
Tårs-Spodsbjerg	Lolland													
Tårs-Spodsbjerg	ODIN SYDFYEN	80	80	80	80	80	80	80	80	80	80	80	80	
Tårs-Spodsbjerg	SPODSBJERG	75	80	80	80	80	80	80	80	80	80	80	80	
Tårs-Spodsbjerg	THOR SYDFYEN	80	80	80	80	80	80	80	80	80	80	80	80	

Ferry service	Ferry name	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Esbjerg-Torshavn	Gamle Norrøna	90	90	90										
Esbjerg-Torshavn	Nye Norrøna				90	90	90	90	90	90	90	90	90	90
Halsskov-Knudshoved	ARVEPRINS KNUD DRONNING MARGRETHE II													
Halsskov-Knudshoved	HEIMDAL													
Halsskov-Knudshoved	KNUDSHOVED													
Halsskov-Knudshoved	KONG FREDERIK IX													
Halsskov-Knudshoved	KRAKA													
Halsskov-Knudshoved	LODBROG													
Halsskov-Knudshoved	PRINSESSE ANNE-MARIE													
Halsskov-Knudshoved	PRINSESSE ELISABETH													
Halsskov-Knudshoved	ROMSØ													
Halsskov-Knudshoved	SPROGØ													
Hanstholm-Torshavn	Gamle Norrøna	90	90	90										
Hanstholm-Torshavn	Nye Norrøna				90	90	90	90	90	90	90	90	90	90
Hirtshals-Torshavn	Nye Norrøna											90	90	90
Hundested-Grenaa	DJURSLAND													
Hundested-Grenaa	KATTEGAT													
Hundested-Grenaa	KONG FREDERIK IX													
Hundested-Grenaa	PRINSESSE ANNE-MARIE													
Kalundborg-Juelsminde	Mercandia I													
Kalundborg-Juelsminde	Mercandia II													
Kalundborg-Juelsminde	Mercandia III													
Kalundborg-Juelsminde	Mercandia IV													

Kalundborg-Samsø	HOLGER DANSKE														
Kalundborg-Samsø	KALUNDBORG														
Kalundborg-Samsø	KYHOLM	85	85	85	85	85	85	85	85	85	85	85	85	85	85
Kalundborg-Samsø	VESBORG														
Kalundborg-Århus	ASK														
Kalundborg-Århus	CAT-LINK I														
Kalundborg-Århus	CAT-LINK II														
Kalundborg-Århus	CAT-LINK III														
Kalundborg-Århus	CAT-LINK IV														
Kalundborg-Århus	CAT-LINK V														
Kalundborg-Århus	KATTEGAT SYD														
Kalundborg-Århus	KNUDSHOVED														
Kalundborg-Århus	KONG FREDERIK IX														
Kalundborg-Århus	KRAKA														
Kalundborg-Århus	MAREN MOLS	85	85	85	85	85	85	82	80	80	80	80	80	80	80
Kalundborg-Århus	METTE MOLS	85	85	85	85	85	85	82	80	80	80	80	80	80	80
Kalundborg-Århus	NIELS KLIM														
Kalundborg-Århus	PEDER PAARS														
Kalundborg-Århus	PRINSESSE ELISABETH														
Kalundborg-Århus	ROSTOCK LINK														
Kalundborg-Århus	SØLØVEN/SØBJØRNEN														
Kalundborg-Århus	URD														
Korsør-Nyborg, DSB	ASA-THOR														
Korsør-Nyborg, DSB	DRONNING INGRID														
Korsør-Nyborg, DSB	DRONNING MARGRETHE II														
Korsør-Nyborg, DSB	KONG FREDERIK IX														
Korsør-Nyborg, DSB	KRONPRINS FREDERIK														
Korsør-Nyborg, DSB	PRINS JOACHIM														
Korsør-Nyborg, DSB	SPROGØ/KNUDSHOVED														
Korsør-Nyborg, Vognmandsruten	Superflex Alfa														
Korsør-Nyborg, Vognmandsruten	Superflex Bravo														
Korsør-Nyborg, Vognmandsruten	Superflex Charlie														
København-Rønne	JENS KOFOED	30,77	30,77	30,77	30,77	30,77									
København-Rønne	POVL ANKER	30,77	30,77	30,77	30,77	30,77									
Køge-Rønne	DUEODDE						69,07	65	65	65	65	65			
Køge-Rønne	HAMMERODDE						69,07	65	65	65	65	65	65	65	65
Køge-Rønne	JENS KOFOED					31,34	31,34								

Køge-Rønne	POVL ANKER					31,34	31,34	45	49	49				
Sjællands Odde-Ebeltoft	MAI MOLS	80	80	80	80	80	80	79	78	75	74	77	78	83
Sjællands Odde-Ebeltoft	MAREN MOLS													
Sjællands Odde-Ebeltoft	MAREN MOLS 2													
Sjællands Odde-Ebeltoft	MAX MOLS													60
Sjællands Odde-Ebeltoft	METTE MOLS													
Sjællands Odde-Ebeltoft	METTE MOLS 2													
Sjællands Odde-Ebeltoft	MIE MOLS													
Sjællands Odde-Ebeltoft	MIE MOLS 2	80	80	80	80	80	80	79	78	75	74	77	78	83
Sjællands Odde-Århus	KatExpress													72
Sjællands Odde-Århus	MADS MOLS	85	85	85	85	85	85							
Sjællands Odde-Århus	MAI MOLS			75	75	75	75	69	69	69	68	71	70	73
Sjællands Odde-Århus	MAX MOLS	85	85	85	85	85	85	67	67	67	64	65	62	64
Sjællands Odde-Århus	MIE MOLS			75	75	75	75	69	69	69	68	71	70	73
Tårs-Spødsbjerg	FRIGG SYDFYEN	80	80	80	80	80	80	80	80	80	80	80	80	80
Tårs-Spødsbjerg	Langeland													80
Tårs-Spødsbjerg	Lolland													80
Tårs-Spødsbjerg	ODIN SYDFYEN	80	80	80	80	80	80	80	80	80	80	80	80	80
Tårs-Spødsbjerg	SPODSBJERG	80	80	80	80	80	80	80	80	80	80	80		
Tårs-Spødsbjerg	THOR SYDFYEN													

Ferry data: Round trip shares (%).

Ferry service	Ferry name	1985-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Esbjerg-Torshavn	Gamle Norrøna	100	100	100	100	100	100	100	100	100	100
Esbjerg-Torshavn	Nye Norrøna										
Halsskov-Knudshoved	ARVEPRINS KNUD	21	20	20	20	21	19	19	18	20	
Halsskov-Knudshoved	DRONNING MARGRETHE II	2	0	0	0	0	0	0	0	0	
Halsskov-Knudshoved	HEIMDAL	23	24	22	24	23	21	21	19	22	
Halsskov-Knudshoved	KNUDSHOVED	0	0	0	0	0	0	2	5	0	
Halsskov-Knudshoved	KONG FREDERIK IX	0	0	0	0	0	0	0	0	0	
Halsskov-Knudshoved	KRAKA	24	25	23	23	21	20	20	20	21	
Halsskov-Knudshoved	LODBROG	0	0	0	0	0	0	0	7	14	
Halsskov-Knudshoved	PRINSESSE ANNE-MARIE	0	0	0	0	0	6	2	0	0	
Halsskov-Knudshoved	PRINSESSE ELISABETH	0	0	0	3	0	0	0	0	0	
Halsskov-Knudshoved	ROMSØ	21	22	21	16	20	19	21	21	23	

Halsskov-Knudshoved	SPROGØ	9	9	15	14	15	15	14	11	1	
Hanstholm-Torshavn	Gamle Norrøna	100	100	100	100	100	100	100	100	100	100
Hanstholm-Torshavn	Nye Norrøna										
Hirtshals-Torshavn	Nye Norrøna										
Hundested-Grenaa	DJURSLAND	100	100	100	100	50					
Hundested-Grenaa	KATTEGAT						100	100			
Hundested-Grenaa	KONG FREDERIK IX					5					
Hundested-Grenaa	PRINSESSE ANNE-MARIE					45					
Kalundborg-Juelsminde	Mercandia I	25	25	25	25	25	25	25			
Kalundborg-Juelsminde	Mercandia II	25	25	25	25	25	25	25			
Kalundborg-Juelsminde	Mercandia III	25	25	25	25	25	25	25			
Kalundborg-Juelsminde	Mercandia IV	25	25	25	25	25	25	25			
Kalundborg-Samsø	HOLGER DANSKE			95	100	100	100	100	100	92	
Kalundborg-Samsø	KALUNDBORG	100	100	5							
Kalundborg-Samsø	KYHOLM									6	100
Kalundborg-Samsø	VESBORG									2	
Kalundborg-Århus	ASK		16	32	26	33	27	18	11	12	2
Kalundborg-Århus	CAT-LINK I						17	25	28	11	
Kalundborg-Århus	CAT-LINK II						1	23	28	8	
Kalundborg-Århus	CAT-LINK III							8	24	19	
Kalundborg-Århus	CAT-LINK IV									23	26
Kalundborg-Århus	CAT-LINK V									15	26
Kalundborg-Århus	KATTEGAT SYD										2
Kalundborg-Århus	KNUDSHOVED		4								
Kalundborg-Århus	KONG FREDERIK IX		4	0	7	0	0	2			
Kalundborg-Århus	KRAKA									2	
Kalundborg-Århus	MAREN MOLS										
Kalundborg-Århus	METTE MOLS										
Kalundborg-Århus	NIELS KLIM	50	20								
Kalundborg-Århus	PEDER PAARS	50	16								
Kalundborg-Århus	PRINSESSE ELISABETH		4								
Kalundborg-Århus	ROSTOCK LINK										22
Kalundborg-Århus	SØLØVEN/SØBJØRNEN		21	36	34	34	28	5			
Kalundborg-Århus	URD		16	32	33	33	27	18	11	9	22
Korsør-Nyborg, DSB	ASA-THOR	13	13	13	11	9	9	9	6		
Korsør-Nyborg, DSB	DRONNING INGRID	26	28	26	28	28	29	28	31		
Korsør-Nyborg, DSB	DRONNING MARGRETHE II	3	0	3	1	3	1	2	0		

Korsør-Nyborg, DSB	KONG FREDERIK IX	0	0	0	0	3	4	1	0		
Korsør-Nyborg, DSB	KRONPRINS FREDERIK	27	28	27	29	28	29	29	32		
Korsør-Nyborg, DSB	PRINS JOACHIM	25	27	25	27	27	27	27	28		
Korsør-Nyborg, DSB	SPROGØ/KNUDSHOVED	6	4	5	4	1	1	4	3		
Korsør-Nyborg, Vognmandsruten	Superflex Alfa	33	33	33	33	33	33	33	33	33	
Korsør-Nyborg, Vognmandsruten	Superflex Bravo	33	33	33	33	33	33	33	33	33	
Korsør-Nyborg, Vognmandsruten	Superflex Charlie	34	34	34	34	34	34	34	34	34	
København-Rønne	JENS KOFOED	50	50	50	50	50	50	50	50	50	50
København-Rønne	POVL ANKER	50	50	50	50	50	50	50	50	50	50
Køge-Rønne	DUEODDE										
Køge-Rønne	HAMMERODDE										
Køge-Rønne	JENS KOFOED										
Køge-Rønne	POVL ANKER										
Sjællands Odde-Ebeltoft	MAI MOLS							21	35	35	35
Sjællands Odde-Ebeltoft	MAREN MOLS	40	40	40	40	40	40	15			
Sjællands Odde-Ebeltoft	MAREN MOLS 2							18	15	15	15
Sjællands Odde-Ebeltoft	MAX MOLS										
Sjællands Odde-Ebeltoft	METTE MOLS	40	40	40	40	40	40	17			
Sjællands Odde-Ebeltoft	METTE MOLS 2							15	15	15	15
Sjællands Odde-Ebeltoft	MIE MOLS	20	20	20	20	20	20	5			
Sjællands Odde-Ebeltoft	MIE MOLS 2							9	35	35	35
Sjællands Odde-Århus	KatExpress										
Sjællands Odde-Århus	MADS MOLS										50
Sjællands Odde-Århus	MAI MOLS										
Sjællands Odde-Århus	MAX MOLS										50
Sjællands Odde-Århus	MIE MOLS										
Tårs-Spødsbjerg	FRIGG SYDFYEN	41	40	39	38	36	36	36	32	33	45
Tårs-Spødsbjerg	Langeland										
Tårs-Spødsbjerg	Lolland										
Tårs-Spødsbjerg	ODIN SYDFYEN	41	40	39	38	36	36	36	32	33	45
Tårs-Spødsbjerg	SPODSBJERG	4	2	8	8	9	8	8	19	20	10
Tårs-Spødsbjerg	THOR SYDFYEN	14	18	14	16	19	20	20	17	14	



Ferry service	Ferry name	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Esbjerg-Torshavn	Gamle Norrøna	100	100	100										
Esbjerg-Torshavn	Nye Norrøna				100	100	100	100	100	100	100	100	100	100
Halsskov-Knudshoved	ARVEPRINS KNUD													
Halsskov-Knudshoved	DRONNING MARGRETHE II													
Halsskov-Knudshoved	HEIMDAL													
Halsskov-Knudshoved	KNUDSHOVED													
Halsskov-Knudshoved	KONG FREDERIK IX													
Halsskov-Knudshoved	KRAKA													
Halsskov-Knudshoved	LODBROG													
Halsskov-Knudshoved	PRINSESSE ANNE-MARIE													
Halsskov-Knudshoved	PRINSESSE ELISABETH													
Halsskov-Knudshoved	ROMSØ													
Halsskov-Knudshoved	SPROGØ													
Hanstholm-Torshavn	Gamle Norrøna	100	100	100										
Hanstholm-Torshavn	Nye Norrøna				100	100	100	100	100	100	100	100	100	100
Hirtshals-Torshavn	Nye Norrøna											100	100	100
Hundested-Grenaa	DJURSLAND													
Hundested-Grenaa	KATTEGAT													
Hundested-Grenaa	KONG FREDERIK IX													
Hundested-Grenaa	PRINSESSE ANNE-MARIE													
Kalundborg-Juelsminde	Mercandia I													
Kalundborg-Juelsminde	Mercandia II													
Kalundborg-Juelsminde	Mercandia III													
Kalundborg-Juelsminde	Mercandia IV													
Kalundborg-Samsø	HOLGER DANSKE													
Kalundborg-Samsø	KALUNDBORG													
Kalundborg-Samsø	KYHOLM	100	100	100	100	100	100	100	100	100	100	100	100	100
Kalundborg-Samsø	VESBORG													
Kalundborg-Århus	ASK													
Kalundborg-Århus	CAT-LINK I													
Kalundborg-Århus	CAT-LINK II													
Kalundborg-Århus	CAT-LINK III													
Kalundborg-Århus	CAT-LINK IV													
Kalundborg-Århus	CAT-LINK V													
Kalundborg-Århus	KATTEGAT SYD													
Kalundborg-Århus	KNUDSHOVED													

Kalundborg-Århus	KONG FREDERIK IX														
Kalundborg-Århus	KRAKA														
Kalundborg-Århus	MAREN MOLS	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Kalundborg-Århus	METTE MOLS	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Kalundborg-Århus	NIELS KLIM														
Kalundborg-Århus	PEDER PAARS														
Kalundborg-Århus	PRINSESSE ELISABETH														
Kalundborg-Århus	ROSTOCK LINK														
Kalundborg-Århus	SØLØVEN/SØBJØRNEN														
Kalundborg-Århus	URD														
Korsør-Nyborg, DSB	ASA-THOR														
Korsør-Nyborg, DSB	DRONNING INGRID														
Korsør-Nyborg, DSB	DRONNING MARGRETHE II														
Korsør-Nyborg, DSB	KONG FREDERIK IX														
Korsør-Nyborg, DSB	KRONPRINS FREDERIK														
Korsør-Nyborg, DSB	PRINS JOACHIM														
Korsør-Nyborg, DSB	SPROGØ/KNUDSHOVED														
Korsør-Nyborg, Vognmandsruten	Superflex Alfa														
Korsør-Nyborg, Vognmandsruten	Superflex Bravo														
Korsør-Nyborg, Vognmandsruten	Superflex Charlie														
København-Rønne	JENS KOFOED	50	50	50	50	50									
København-Rønne	POVL ANKER	50	50	50	50	50									
Køge-Rønne	DUEODDE							25	49	47	46	51	46		
Køge-Rønne	HAMMERODDE							35	49	53	47	49	54	100	100
Køge-Rønne	JENS KOFOED						50	20							
Køge-Rønne	POVL ANKER						50	20	3	1	7				
Sjællands Odde-Ebeltoft	MAI MOLS	50	50	50	50	50	50	50	50	50	50	50	50	50	47
Sjællands Odde-Ebeltoft	MAREN MOLS														
Sjællands Odde-Ebeltoft	MAREN MOLS 2														
Sjællands Odde-Ebeltoft	MAX MOLS														6
Sjællands Odde-Ebeltoft	METTE MOLS														
Sjællands Odde-Ebeltoft	METTE MOLS 2														
Sjællands Odde-Ebeltoft	MIE MOLS														
Sjællands Odde-Ebeltoft	MIE MOLS 2	50	50	50	50	50	50	50	50	50	50	50	50	50	47
Sjællands Odde-Århus	KatExpress														18
Sjællands Odde-Århus	MADS MOLS	95	90	95	60	60	35								
Sjællands Odde-Århus	MAI MOLS			1	10	15	15	20	19	19	20	18	20	6	

Sjællands Odde-Århus	MAX MOLS	5	10	3	20	10	35	60	62	62	60	64	60	70
Sjællands Odde-Århus	MIE MOLS			1	10	15	15	20	19	19	20	18	20	6
Tårs-Spødsbjerg	FRIGG SYDFYEN	45	45	45	45	45	45	45	45	45	45	45	50	21
Tårs-Spødsbjerg	Langeland													40
Tårs-Spødsbjerg	Lolland													29
Tårs-Spødsbjerg	ODIN SYDFYEN	45	45	45	45	45	45	45	45	45	45	45	50	10
Tårs-Spødsbjerg	SPODSBJERG	10	10	10	10	10	10	10	10	10	10	10		
Tårs-Spødsbjerg	THOR SYDFYEN													

### Annex 3B-13 Fuel consumption and emission factors, engine specific (NO<sub>x</sub>, CO, VOC (NMVOC and CH<sub>4</sub>)), and fuel type specific (S-%, SO<sub>2</sub>, PM) for ship engines

Specific fuel consumption and NO<sub>x</sub> emission factors (g pr kWh) per engine year for diesel ship engines.

Year	High speed 4-stroke sfc (g pr kWh)	Medium speed 4-stroke sfc (g pr kWh)	Slow speed 2-stroke sfc (g pr kWh)	High speed 4-stroke NO <sub>x</sub> (g pr kWh)	Medium speed 4-stroke NO <sub>x</sub> (g pr kWh)	Slow speed 2-stroke NO <sub>x</sub> (g pr kWh)
1949	265.5	255.5	235.5	7.3	8.0	14.5
1950	265.0	255.0	235.0	7.3	8.0	14.5
1951	264.5	254.5	234.5	7.3	8.0	14.5
1952	264.0	254.0	234.0	7.3	8.0	14.5
1953	263.5	253.5	233.5	7.3	8.0	14.5
1954	263.0	253.0	233.0	7.3	8.0	14.5
1955	262.4	252.4	232.4	7.3	8.0	14.5
1956	261.9	251.9	231.9	7.4	8.1	14.6
1957	261.3	251.3	231.3	7.5	8.2	14.7
1958	260.7	250.7	230.7	7.6	8.3	14.8
1959	260.1	250.1	230.1	7.7	8.4	14.9
1960	259.5	249.5	229.5	7.8	8.5	15.0
1961	258.9	248.9	228.9	7.9	8.6	15.1
1962	258.2	248.2	228.2	8.0	8.7	15.1
1963	257.6	247.6	227.6	8.1	8.8	15.2
1964	256.9	246.9	226.9	8.2	8.9	15.3
1965	256.1	246.1	226.1	8.3	9.0	15.4
1966	255.4	245.4	225.4	8.3	9.1	15.5
1967	254.6	244.6	224.6	8.4	9.2	15.6
1968	253.8	243.8	223.8	8.5	9.3	15.7
1969	253.0	243.0	223.0	8.6	9.4	15.8
1970	252.1	242.1	222.1	8.7	9.5	15.9
1971	251.2	241.2	221.2	8.8	9.6	16.0
1972	250.3	240.3	220.3	8.9	9.7	16.1
1973	249.3	239.3	219.3	9.0	9.8	16.2
1974	248.3	238.3	218.3	9.1	9.9	16.3
1975	247.3	237.3	217.3	9.2	10.0	16.4
1976	246.2	236.2	216.2	9.3	10.1	16.4
1977	245.0	235.0	215.0	9.3	10.2	16.5
1978	243.8	233.8	213.8	9.4	10.3	16.6
1979	242.6	232.6	212.6	9.5	10.4	16.7
1980	241.3	231.3	211.3	9.6	10.5	16.8
1981	239.9	229.9	209.9	9.7	10.6	16.9
1982	238.5	228.5	208.5	9.8	10.7	17.0
1983	237.0	227.0	207.0	9.9	10.8	17.4
1984	235.5	225.5	205.5	10.0	10.9	17.8
1985	233.9	223.9	203.9	10.1	11.0	18.2
1986	232.2	222.2	202.2	10.2	11.1	18.6
1987	230.5	220.5	200.5	10.3	11.3	19.0
1988	228.6	218.6	198.6	10.5	11.4	19.3
1989	226.7	216.7	196.7	10.6	11.6	19.5
1990	224.8	214.8	194.8	10.7	11.7	19.8
1991	222.7	212.7	192.7	10.9	11.9	20.0
1992	220.5	210.5	190.5	11.0	12.0	19.8
1993	218.3	208.3	188.3	11.1	12.1	19.6
1994	216.0	206.0	186.0	11.3	12.3	19.4
1995	213.6	203.6	183.6	11.4	12.4	19.3
1996	211.0	201.0	181.0	11.5	12.6	19.1
1997	208.4	198.4	178.4	11.7	12.7	18.9
1998	205.7	195.7	175.7	11.8	12.9	18.7

1999	202.9	192.9	172.9	11.9	13.0	18.5
2000-2010	199.9	189.9	169.9	11.0	12.0	16.0
2011-2012	199.9	189.9	169.9	8.69	9.72	13.6

CO and VOC emission factors (g/kg fuel) for ship engines.

	High speed 4-stroke CO	Medium speed 4-stroke CO	Slow speed 2-stroke CO	High speed 4-stroke VOC	Medium speed 4-stroke VOC	Slow speed 2-stroke VOC
1949	6.03	6.26	6.79	1.88	1.96	2.12
1950	6.04	6.27	6.81	1.89	1.96	2.13
1951	6.05	6.29	6.82	1.89	1.96	2.13
1952	6.06	6.30	6.84	1.89	1.97	2.14
1953	6.07	6.31	6.85	1.90	1.97	2.14
1954	6.08	6.33	6.87	1.90	1.98	2.15
1955	6.10	6.34	6.88	1.91	1.98	2.15
1956	6.11	6.35	6.90	1.91	1.99	2.16
1957	6.12	6.37	6.92	1.91	1.99	2.16
1958	6.14	6.38	6.93	1.92	1.99	2.17
1959	6.15	6.40	6.95	1.92	2.00	2.17
1960	6.17	6.41	6.97	1.93	2.00	2.18
1961	6.18	6.43	6.99	1.93	2.01	2.18
1962	6.20	6.45	7.01	1.94	2.01	2.19
1963	6.21	6.46	7.03	1.94	2.02	2.20
1964	6.23	6.48	7.05	1.95	2.03	2.20
1965	6.25	6.50	7.08	1.95	2.03	2.21
1966	6.26	6.52	7.10	1.96	2.04	2.22
1967	6.28	6.54	7.12	1.96	2.04	2.23
1968	6.30	6.56	7.15	1.97	2.05	2.23
1969	6.32	6.58	7.17	1.98	2.06	2.24
1970	6.35	6.61	7.20	1.98	2.06	2.25
1971	6.37	6.63	7.23	1.99	2.07	2.26
1972	6.39	6.66	7.26	2.00	2.08	2.27
1973	6.42	6.69	7.29	2.01	2.09	2.28
1974	6.44	6.71	7.33	2.01	2.10	2.29
1975	6.47	6.74	7.36	2.02	2.11	2.30
1976	6.50	6.77	7.40	2.03	2.12	2.31
1977	6.53	6.81	7.44	2.04	2.13	2.33
1978	6.56	6.84	7.48	2.05	2.14	2.34
1979	6.60	6.88	7.53	2.06	2.15	2.35
1980	6.63	6.92	7.57	2.07	2.16	2.37
1981	6.67	6.96	7.62	2.08	2.17	2.38
1982	6.71	7.00	7.67	2.10	2.19	2.40
1983	6.75	7.05	7.73	2.11	2.20	2.42
1984	6.79	7.10	7.79	2.12	2.22	2.43
1985	6.84	7.15	7.85	2.14	2.23	2.45
1986	6.89	7.20	7.91	2.15	2.25	2.47
1987	6.94	7.26	7.98	2.17	2.27	2.49
1988	7.00	7.32	8.05	2.19	2.29	2.52
1989	7.06	7.38	8.13	2.21	2.31	2.54
1990	7.12	7.45	8.22	2.22	2.33	2.57
1991	7.18	7.52	8.30	2.25	2.35	2.59
1992	7.25	7.60	8.40	2.27	2.37	2.62
1993	7.33	7.68	8.50	2.29	2.40	2.66
1994	7.41	7.77	8.60	2.31	2.43	2.69
1995	7.49	7.86	8.72	2.34	2.46	2.72
1996	7.58	7.96	8.84	2.37	2.49	2.76
1997	7.68	8.06	8.97	2.40	2.52	2.80

1998	7.78	8.18	9.11	2.43	2.56	2.85
1999	7.89	8.30	9.26	2.46	2.59	2.89
2000	8.00	8.43	9.42	2.50	2.63	2.94

NM VOC and CH<sub>4</sub> emission factors (g/kg fuel) for ship engines.

	High speed 4-stroke NM VOC	Medium speed 4-stroke NM VOC	Slow speed 2-stroke NM VOC	High speed 4-stroke CH <sub>4</sub>	Medium speed 4-stroke CH <sub>4</sub>	Slow speed 2-stroke CH <sub>4</sub>
1949	1.83	1.90	2.06	0.06	0.06	0.06
1950	1.83	1.90	2.06	0.06	0.06	0.06
1951	1.83	1.91	2.07	0.06	0.06	0.06
1952	1.84	1.91	2.07	0.06	0.06	0.06
1953	1.84	1.91	2.08	0.06	0.06	0.06
1954	1.84	1.92	2.08	0.06	0.06	0.06
1955	1.85	1.92	2.09	0.06	0.06	0.06
1956	1.85	1.93	2.09	0.06	0.06	0.06
1957	1.86	1.93	2.10	0.06	0.06	0.06
1958	1.86	1.93	2.10	0.06	0.06	0.07
1959	1.86	1.94	2.11	0.06	0.06	0.07
1960	1.87	1.94	2.11	0.06	0.06	0.07
1961	1.87	1.95	2.12	0.06	0.06	0.07
1962	1.88	1.95	2.13	0.06	0.06	0.07
1963	1.88	1.96	2.13	0.06	0.06	0.07
1964	1.89	1.96	2.14	0.06	0.06	0.07
1965	1.89	1.97	2.14	0.06	0.06	0.07
1966	1.90	1.98	2.15	0.06	0.06	0.07
1967	1.90	1.98	2.16	0.06	0.06	0.07
1968	1.91	1.99	2.17	0.06	0.06	0.07
1969	1.92	2.00	2.17	0.06	0.06	0.07
1970	1.92	2.00	2.18	0.06	0.06	0.07
1971	1.93	2.01	2.19	0.06	0.06	0.07
1972	1.94	2.02	2.20	0.06	0.06	0.07
1973	1.95	2.03	2.21	0.06	0.06	0.07
1974	1.95	2.04	2.22	0.06	0.06	0.07
1975	1.96	2.04	2.23	0.06	0.06	0.07
1976	1.97	2.05	2.24	0.06	0.06	0.07
1977	1.98	2.06	2.26	0.06	0.06	0.07
1978	1.99	2.07	2.27	0.06	0.06	0.07
1979	2.00	2.09	2.28	0.06	0.06	0.07
1980	2.01	2.10	2.30	0.06	0.06	0.07
1981	2.02	2.11	2.31	0.06	0.07	0.07
1982	2.03	2.12	2.33	0.06	0.07	0.07
1983	2.05	2.14	2.34	0.06	0.07	0.07
1984	2.06	2.15	2.36	0.06	0.07	0.07
1985	2.07	2.17	2.38	0.06	0.07	0.07
1986	2.09	2.18	2.40	0.06	0.07	0.07
1987	2.10	2.20	2.42	0.07	0.07	0.07
1988	2.12	2.22	2.44	0.07	0.07	0.08
1989	2.14	2.24	2.47	0.07	0.07	0.08
1990	2.16	2.26	2.49	0.07	0.07	0.08
1991	2.18	2.28	2.52	0.07	0.07	0.08
1992	2.20	2.30	2.55	0.07	0.07	0.08
1993	2.22	2.33	2.58	0.07	0.07	0.08
1994	2.25	2.35	2.61	0.07	0.07	0.08
1995	2.27	2.38	2.64	0.07	0.07	0.08
1996	2.30	2.41	2.68	0.07	0.07	0.08
1997	2.33	2.44	2.72	0.07	0.08	0.08

1998	2.36	2.48	2.76	0.07	0.08	0.09
1999	2.39	2.51	2.81	0.07	0.08	0.09
2000	2.43	2.55	2.85	0.08	0.08	0.09

S-%, SO<sub>2</sub> and PM emission factors (g/kg fuel and g/GJ) per fuel type for diesel ship engines.

Fuel type	SNAPCode	Year	S %	SO <sub>2</sub> (g/kg)	TSP (g/kg)	PM <sub>10</sub> (g/kg)	PM <sub>2.5</sub> (g/kg)	SO <sub>2</sub> (g/GJ)	TSP (g/GJ)	PM <sub>10</sub> (g/GJ)	PM <sub>2.5</sub> (g/GJ)
Fuel	National sea	1990	2,6	52,8	6,1	6,0	6,0	1291,0	149,2	147,8	147,0
Fuel	National sea	1991	2,4	47,0	4,9	4,9	4,8	1149,1	120,2	119,0	118,4
Fuel	National sea	1992	1,8	36,0	3,3	3,2	3,2	880,2	79,8	79,0	78,6
Fuel	National sea	1993	2,4	47,8	5,1	5,0	5,0	1168,7	123,9	122,6	122,0
Fuel	National sea	1994	2,6	52,4	6,0	6,0	5,9	1281,2	147,0	145,6	144,8
Fuel	National sea	1995	3,0	59,0	7,7	7,6	7,6	1442,5	188,0	186,1	185,2
Fuel	National sea	1996	2,6	51,4	5,8	5,7	5,7	1256,7	141,7	140,2	139,5
Fuel	National sea	1997	2,7	54,8	6,6	6,5	6,5	1339,9	160,8	159,2	158,4
Fuel	National sea	1998	2,0	39,4	3,7	3,7	3,6	963,3	90,6	89,7	89,2
Fuel	National sea	1999	2,0	39,4	3,7	3,7	3,6	963,3	90,6	89,7	89,2
Fuel	National sea	2000	1,8	36,2	3,3	3,3	3,2	885,1	80,4	79,6	79,2
Fuel	National sea	2001	1,7	34,0	3,0	3,0	3,0	831,3	74,1	73,4	73,0
Fuel	National sea	2002	1,5	30,2	2,6	2,6	2,6	738,4	64,3	63,7	63,3
Fuel	National sea	2003	1,6	32,4	2,9	2,8	2,8	792,2	69,8	69,1	68,8
Fuel	National sea	2004	2,0	39,6	3,7	3,7	3,7	968,2	91,3	90,4	89,9
Fuel	National sea	2005	2,0	40,0	3,8	3,8	3,7	978,0	92,6	91,7	91,3
Fuel	National sea	2006	1,9	38,8	3,6	3,6	3,6	948,7	88,6	87,7	87,3
Fuel	National sea	2007	1,2	24,0	2,1	2,1	2,1	586,8	51,0	50,5	50,3
Fuel	National sea	2008	1,2	24,0	2,1	2,1	2,1	586,8	51,0	50,5	50,3
Fuel	National sea	2009	1,2	24,0	2,1	2,1	2,1	586,8	51,0	50,5	50,3
Fuel	National sea	2010	1,0	20,0	1,8	1,8	1,8	489,0	44,0	43,5	43,3
Fuel	National sea	2011	1,0	20,0	1,8	1,8	1,8	489,0	44,0	43,5	43,3
Fuel	National sea	2012	1,0	20,0	1,8	1,8	1,8	489,0	44,0	43,5	43,3
Fuel	International sea	1990	3,0	59,2	7,7	7,7	7,6	1447,4	189,4	187,5	186,6
Fuel	International sea	1991	2,9	57,8	7,4	7,3	7,2	1413,2	179,8	178,0	177,1
Fuel	International sea	1992	2,9	57,6	7,3	7,2	7,2	1408,3	178,5	176,7	175,8
Fuel	International sea	1993	3,2	64,0	9,3	9,2	9,1	1564,8	226,5	224,2	223,1
Fuel	International sea	1994	3,0	60,6	8,2	8,1	8,0	1481,7	199,6	197,6	196,6
Fuel	International sea	1995	3,3	66,0	10,0	9,9	9,8	1613,7	244,0	241,6	240,4
Fuel	International sea	1996	3,4	68,4	10,9	10,8	10,8	1672,4	266,9	264,2	262,9
Fuel	International sea	1997	3,5	69,0	11,2	11,0	11,0	1687,0	272,9	270,2	268,8
Fuel	International sea	1998	3,4	68,4	10,9	10,8	10,8	1672,4	266,9	264,2	262,9
Fuel	International sea	1999	3,5	69,0	11,2	11,0	11,0	1687,0	272,9	270,2	268,8
Fuel	International sea	2000	3,4	67,2	10,4	10,3	10,3	1643,0	255,2	252,6	251,4
Fuel	International sea	2001	3,4	68,4	10,9	10,8	10,8	1672,4	266,9	264,2	262,9
Fuel	International sea	2002	3,4	68,8	11,1	11,0	10,9	1682,2	270,9	268,2	266,8



Fuel	International sea	2003	3,1	62,2	8,7	8,6	8,5	1520,8	211,8	209,7	208,6
Fuel	International sea	2004	3,2	64,0	9,3	9,2	9,1	1564,8	226,5	224,2	223,1
Fuel	International sea	2005	3,5	70,0	11,6	11,5	11,4	1711,5	283,2	280,4	279,0
Fuel	International sea	2006	3,4	67,0	10,4	10,3	10,2	1638,1	253,3	250,8	249,5
Fuel	International sea	2007	1,5	30,0	2,6	2,6	2,6	733,5	63,8	63,2	62,9
Fuel	International sea	2008	1,5	30,0	2,6	2,6	2,6	733,5	63,8	63,2	62,9
Fuel	International sea	2009	1,5	30,0	2,6	2,6	2,6	733,5	63,8	63,2	62,9
Fuel	International sea	2010	1,0	20,0	1,8	1,8	1,8	489,0	44,0	43,5	43,3
Fuel	International sea	2011	1,0	20,0	1,8	1,8	1,8	489,0	44,0	43,5	43,3
Fuel	International sea	2012	1,0	20,0	1,8	1,8	1,8	489,0	44,0	43,5	43,3
Diesel		1990	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1991	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1992	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1993	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1994	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1995	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1996	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1997	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1998	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		1999	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2000	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2001	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2002	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2003	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2004	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2005	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2006	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2007	0,2	4,0	1,0	1,0	1,0	93,7	23,2	23,0	22,9
Diesel		2008	0,1	2,0	0,9	0,9	0,9	46,8	21,5	21,3	21,2
Diesel		2009	0,1	2,0	0,9	0,9	0,9	46,8	21,5	21,3	21,2
Diesel		2010	0,1	2,0	0,9	0,9	0,9	46,8	21,5	21,3	21,2
Diesel		2011	0,1	2,0	0,9	0,9	0,9	46,8	21,5	21,3	21,2
Diesel		2012	0,1	2,0	0,9	0,9	0,9	46,8	21,5	21,3	21,2

# Annex 3B-14 Fuel sales figures from DEA, and further processed fuel consumption data suited for the Danish inventory

Sector	1 985	1 986	1 987	1 988	1 989	1 990	1 991	1 992	1 993	1 994	1 995	1 996	1 997	1 998	1 999
<b>Agriculture, Forestry and Horticulture</b>															
- LPG	96	89	401	358	510	488	459	397	260	227	227	234	204	243	179
- motor gasoline	435	187	321	323	315	284	261	252	231	184	179	210	77	68	62
- gas/diesel oil	10904	10904	10904	10904	11836	11937	12387	12915	12628	12457	12723	13575	14231	13651	14256
<b>Fishery</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- LPG	0	0	34	29	50	42	34	30	12	18	16	36	5	1	16
- motor gasoline	0	1	2	2	9	9	10	8	7	7	8	7	6	6	60
- petroleum	7	2	9	5	12	26	9	5	4	3	4	3	3	2	0
- gas/diesel oil	9152	10248	8390	9499	10038	10422	10809	10868	8843	8796	8277	8750	8748	9186	9282
- fuel oil	27	5	82	68	251	285	113	231	146	8	19	219	260	27	0
<b>Manyfactoring Industry</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- LPG	2860	2839	2688	2553	2080	2032	2076	1827	1858	2029	2234	2404	2106	2017	1917
- motor gasoline	262	273	453	326	136	177	161	158	145	138	110	86	82	137	80
- gas/diesel oil	15576	15441	14743	13346	12670	12259	12934	11901	11323	10154	10401	10184	8921	8720	8852
- fuel oil	29465	29451	21518	19056	16741	15989	17133	16694	14600	15438	14000	12632	11009	10943	8704
<b>Construction Industry</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- LPG	305	343	500	451	575	500	573	708	579	522	501	509	471	575	422
- motorbenzin	19	85	52	48	36	34	26	24	20	23	25	34	27	23	27
- gas/diesel oil	5313	4962	4378	4220	3945	3548	3797	3839	3871	4145	5317	5572	6079	5947	6556
<b>Single family houses</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- motor gasoline	1006	1046	1073	1114	1128	1131	1146	1158	1168	1194	1233	1258	1299	1317	1357
- gas/diesel oil	74257	69392	68349	59832	46935	41152	45219	38406	45029	39770	40004	41836	36491	34902	32936
<b>Multi-family houses</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- gas/diesel oil	10584	9968	10112	7266	7350	5311	5420	4507	4938	3909	3284	3460	3105	2948	2739
<b>Road transport, DEA statistics</b>															
- gasoline	66 037	68 670	70 502	73 151	74 152	74 326	75 290	76 084	76 697	78 425	80 998	82 656	85 341	86 520	89 129
- gas/diesel oil	45 609	49 738	49 626	49 686	51 854	54 746	58 427	57 511	56 796	58 755	58 561	59 851	60 528	61 072	63 619
- bioethanol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- biodiesel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Non-road, DEA statistics</b>															
- LPG	2 955	2 929	3 089	2 911	2 590	2 520	2 535	2 224	2 118	2 257	2 461	2 638	2 310	2 260	2 097

- gasoline	1 722	1 590	1 898	1 810	1 616	1 626	1 595	1 592	1 563	1 540	1 547	1 589	1 485	1 545	1 526
- gas/diesel oil	31 793	31 307	30 025	28 469	28 451	27 744	29 118	28 655	27 822	26 755	28 441	29 331	29 231	28 319	29 665
<b>Non-road, NERI model</b>															
- LPG	1232	1233	1225	1209	1196	1185	1172	1151	1124	1105	1099	1088	1075	1086	1077
- gasoline	2998	2950	2903	2856	2813	2770	2702	2641	2587	2550	2521	2499	2479	2463	2456
- gas/diesel oil	26357	26895	26577	27075	26940	26800	26734	26046	26073	25235	25798	25139	25536	24844	24885
<b>Recreational craft, NERI model</b>															
- gasoline	270	270	279	289	299	309	319	329	339	348	358	368	377	385	391
- gas/diesel oil	219	219	247	277	309	343	378	415	454	495	537	581	628	676	726
<b>Non-road, added 0202</b>															
- gas/diesel oil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Non-road, added 0203 and 0301</b>															
- gas/diesel oil	5436	4412	3448	1395	1510	944	2384	2609	1748	1521	2642	4192	3695	3475	4780
- LPG	1724	1696	1864	1701	1393	1335	1363	1073	994	1152	1362	1549	1235	1175	1020
<b>Non-road, added 0203</b>															
- gas/diesel oil	1864	1537	1252	534	628	406	1014	1176	794	708	1182	1940	1799	1675	2297
- LPG	56	52	242	209	274	259	247	192	122	116	125	137	109	126	87
<b>Non-road, added 0301</b>															
- gas/diesel oil	3572	2875	2196	860	882	538	1370	1433	955	813	1460	2252	1896	1800	2483
- LPG	1668	1644	1622	1492	1119	1076	1116	881	872	1036	1237	1412	1126	1048	933
<b>Non-road, added road transport</b>															
- gasoline	-1276	-1360	-1005	-1046	-1197	-1145	-1107	-1049	-1023	-1010	-975	-909	-994	-918	-931
<b>Fisheries, added national sea transport</b>															
- fuel oil	27	5	82	68	251	285	113	231	146	8	19	219	260	27	0
<b>Fisheries, consumed by recreational craft</b>															
- gasoline	0	1	2	2	9	9	10	8	7	7	8	7	6	6	60

**National sea transport, input NERI model**

- LPG	3	1	3	-	2	2	2	3	16	1	2	1	2	3	1
- kerosene	5	-	5	3	1	0	2	1	1	1	1	1	0	1	0
- gas/diesel oil	3 074	3 045	3 032	3 230	2 669	2 782	3 313	3 501	4 971	5 035	6 049	6 764	5 899	4 113	3 409
- fuel oil	2 541	3 424	3 922	2 795	4 228	3 845	4 429	3 646	2 797	2 160	1 592	1 379	1 210	1 367	1 435

**Fisheries, input NERI model**

- LPG	-	-	34	29	50	42	34	30	12	18	16	36	5	1	16
- gasoline	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- kerosene	7	2	9	5	12	26	9	5	4	3	4	3	3	2	0
- gas/diesel oil	8 932	10 029	8 143	9 222	9 729	10 080	10 431	10 453	8 389	8 301	7 740	8 169	8 120	8 510	8 556

**International sea transport, input NERI model**

- gas/diesel oil	-	7 867	8 547	9 743	10 514	11 633	12 590	16 881	19 114	24 123	26 743	27 231	25 325	31 243	26 085
- fuel oil	-	12 236	20 883	27 532	27 667	28 543	23 470	20 998	36 988	39 024	39 509	35 739	32 427	26 952	28 526

**National sea transport, output NERI model**

- gas/diesel oil	5285	5285	5285	5285	5285	5285	6015	6920	6673	6618	7028	8465	8967	7333	6201
- fuel oil	4571	4571	4571	4571	4571	4571	3926	3202	3201	3362	3382	2826	2052	1590	1455
- kerosene	5	0	5	3	1	0	2	1	1	1	1	1	0	1	0
- LPG	3	1	3	0	2	2	2	3	16	1	2	1	2	3	1

**Fisheries, output NERI model**

- gas/diesel oil	7064	8131	6233	7509	7455	7920	8170	7482	7075	7097	7134	6744	5329	5567	6375
- kerosene	7	2	9	5	12	26	9	5	4	3	4	3	3	2	0
- LPG	0	0	34	29	50	42	34	30	12	18	16	36	5	1	16

**International sea transport, output NERI model**

- gas/diesel oil	6828	7524	8204	9400	10171	11289	12149	16433	18726	23742	26370	26955	25049	30967	25474
- fuel oil	9394	11507	20155	26804	26938	27815	22742	20269	36259	38296	38780	35010	31698	26223	27797

Færge og fragtskibsestimat taget fra den internationale søtransport

729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729
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**National sea transport, added 0301**

- fuel oil	-2 030	- 419	80	-1 048	386	3	1 233	1 174	325	-473	-1 061	- 718	- 113	506	709
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**Road transport, NERI excl. traded fuels**

- gasoline	64 492	67 041	69 220	71 819	72 664	72 882	73 874	74 714	75 342	77 074	79 674	81 385	83 976	85 223	87 867
- gas/diesel oil	45 609	49 738	49 626	49 686	51 854	54 746	58 427	57 511	56 796	58 755	58 561	59 851	60 528	61 072	63 619
- bioethanol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- biodiesel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Road transport, input NERI model incl. traded fuels**

- gasoline	64 492	62 442	62 716	63 442	62 546	66 279	70 589	74 320	76 459	79 209	80 101	80 958	83 089	84 832	84 506
- gas/diesel oil	45 609	54 939	54 827	54 887	57 055	59 947	61 296	59 950	59 522	63 561	64 013	65 590	66 374	67 206	69 501
- bioethanol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- biodiesel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sector	2 000	2 001	2 002	2 003	2 004	2 005	2 006	2 007	2 008	2 009	2 010	2 011	2 012
<b>Agriculture, Forestry and Horticulture</b>													
- LPG	199	210	176	169	152	133	128	121	114	126	138	142	137
- motor gasoline	41	43	31	47	57	58	22	23	22	34	33	28	33
- gas/diesel oil	14387	14018	14235	14019	13422	12871	13437	12899	14142	14855	14984	14609	14528
<b>Fishery</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
- LPG	13	19	21	20	18	20	20	18	12	12	12	11	10
- motor gasoline	67	3	3	0	0	0	1	1	1	1	1	1	1
- petroleum	25	1	1	1	1	1	0	0	0	0	0	0	0
- gas/diesel oil	9347	8908	8888	8428	7337	7340	7362	6854	6258	6075	6037	5739	4659
- fuel oil	0	0	4	84	35	126	86	13	14	17	0	0	0
<b>Manufacturing Industry</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
- LPG	1819	1526	1405	1472	1488	1478	1482	1216	1178	1029	1093	986	1150
- motor gasoline	97	69	42	26	30	21	32	16	15	97	84	118	15
- gas/diesel oil	8635	10099	9155	9964	10515	10022	9132	8170	7449	6141	6242	4902	4234
- fuel oil	8221	7395	7818	6916	6940	6055	8527	6422	5319	4015	5032	3835	3388
<b>Construction Industry</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
- LPG	165	179	236	226	228	224	248	222	172	103	94	98	104
- motor gasoline	33	24	26	27	27	27	27	28	26	20	22	21	16
- gas/diesel oil	5950	6356	6226	6226	6227	6338	6187	6410	6339	5429	5341	5370	4353
<b>Single Family Houses</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
- motor gasoline	1355	1317	1313	1303	1288	1250	1216	1193	1135	1079	1031	958	912
- gas/diesel oil	27929	28996	26967	24932	22863	21712	19572	18012	16585	15625	16536	13698	11162

<b>Multi-family Houses</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
- gas/diesel oil	2346	2511	2031	2095	2427	2151	1625	1411	1610	1658	1630	1305	1388
<b>Road transport, DEA statistics</b>													
- gasoline	88 975	86 474	86 247	85 611	84 629	82 118	79 822	78 325	74 545	70 880	67 720	62 879	59 864
- gas/diesel oil	64 282	66 254	66 814	70 875	75 422	79 476	86 223	93 111	93 437	88 454	92 359	91 185	87 187
- bioethanol	-	-	-	-	-	-	151	252	210	204	1 118	2 124	2 003
- biodiesel	-	-	-	-	-	-	-	-	10	139	16	3 492	6 526
<b>Non-road, DEA statistics</b>													
- LPG	2 018	1 736	1 581	1 641	1 640	1 612	1 610	1 337	1 292	1 155	1 232	1 128	1 287
- gasoline	1 525	1 453	1 412	1 404	1 402	1 356	1 296	1 259	1 199	1 230	1 170	1 125	975
- gas/diesel oil	28 972	30 473	29 616	30 209	30 164	29 232	28 757	27 479	27 929	26 425	26 567	24 881	23 115
<b>Non-road, NERI model</b>													
- LPG	1071	1073	1084	1079	1065	1049	1038	1040	986	817	985	976	974
- gasoline	2458	2622	2833	3090	3391	3604	3807	3923	3975	3942	3982	3974	3948
- gas/diesel oil	24630	24923	25100	25301	25670	26418	27784	29727	30914	27321	30280	30243	30620
<b>Recreational craft, NERI model</b>													
- gasoline	396	400	403	404	404	393	382	371	361	353	346	340	335
- gas/diesel oil	777	831	886	944	1002	1002	1002	1002	1002	1002	1002	1002	1002
<b>Non-road, added 0202</b>													
- gas/diesel oil	0	0	0	0	0	0	0	-2248	-2984	-897	-3712	-5362	-7505
<b>Non-road, added 0203 and 0301</b>													
- gas/diesel oil	4342	5550	4516	4908	4494	2814	974	0	0	0	0	0	0
- LPG	947	662	497	563	575	562	572	298	306	338	247	152	313
<b>Non-road, added 0203</b>													
- gas/diesel oil	2156	2553	2171	2278	2000	1239	455	0	0	0	0	0	0
- LPG	93	80	55	58	53	46	46	27	27	37	28	19	33
<b>Non-road, added 0301</b>													
- gas/diesel oil	2186	2997	2346	2630	2494	1575	519	0	0	0	0	0	0
- LPG	854	582	442	505	522	516	526	271	279	301	219	133	279

<b>Non-road, added road transport</b>													
- gasoline	-932	-1169	-1421	-1686	-1990	-2248	-2511	-2663	-2776	-2712	-2812	-2849	-2973
<b>Fisheries, added national sea transport</b>													
- fuel oil	0	0	4	84	35	126	86	13	14	17	0	0	0
<b>Fisheries, consumed by recreational craft</b>													
- gasoline	67	3	3	0	0	0	1	1	1	1	1	1	1
<b>National sea transport, input NERI model</b>													
- LPG	0	-	-	0	0	0	0	0	-	-	-	-	-
- kerosene	1	1	1	1	1	1	0	-	-	-	-	-	-
- gas/diesel oil	5 348	5 608	5 855	6 009	5 259	6 646	5 986	5 233	6 954	6 489	5 665	5 654	5 595
- fuel oil	1 509	1 513	2 068	1 907	1 704	1 506	1 367	1 110	1 174	1 062	868	732	624
<b>Fisheries, input NERI model</b>													
- LPG	13	19	21	20	18	20	20	18	12	12	12	11	10
- gasoline	-	-	-	-	-	-	-	-	-	-	-	1	1
- kerosene	25	1	1	1	1	1	0	0	0	-	-	-	-
- gas/diesel oil	8 570	8 077	8 001	7 484	6 335	6 338	6 360	5 852	5 256	5 073	5 035	4 737	3 657
<b>International sea transport, input NERI model</b>													
- gas/diesel oil	20 892	19 022	19 505	18 549	14 357	11 630	10 829	9 124	11 218	10 433	11 493	10 432	10 431
- fuel oil	33 165	25 924	17 547	20 462	17 298	20 591	31 565	35 243	27 164	11 091	17 493	18 909	11 278
<b>National sea transport, output NERI model</b>													
- gas/diesel oil	5258	5233	5061	4475	4591	4559	4426	4435	4357	4235	4049	3714	2903
- fuel oil	1444	1400	1387	1862	1853	1859	2026	2004	2148	2287	2456	2375	2353
- kerosene	1	1	1	1	1	1	0	0	0	0	0	0	0
- LPG	0	0	0	0	0	0	0	0	0	0	0	0	10
<b>Fisheries, output NERI model</b>													
- gas/diesel oil	9403	9384	9664	9294	7286	8725	8166	6966	8142	7597	6787	6827	6466
- kerosene	25	1	1	1	1	1	0	0	0	0	0	0	0
- LPG	13	19	21	20	18	20	20	18	12	12	12	11	10

<b>International sea transport, output NERI model</b>													
- gas/diesel oil	20148	18090	18636	18273	14074	11330	10583	8809	10928	10164	11356	10282	10314
- fuel oil	32437	25195	16818	19247	16118	19411	30172	33848	25650	9416	15682	17120	9515
	729	729	729	1215	1180	1180	1393	1396	1514	1675	1812	1789	1764
<b>National sea transport, added 0301</b>													
- fuel oil	794	842	1 409	1 260	1 032	826	734	502	540	450	224	145	34
<b>Road transport, NERI excl. traded fuels</b>													
- gasoline	87 713	84 907	84 426	83 521	82 235	79 477	76 930	75 292	71 409	67 815	64 564	59 691	56 556
- gas/diesel oil	64 282	66 254	66 814	70 875	75 422	79 476	86 223	93 111	93 437	88 454	92 359	91 185	87 187
- bioethanol	-	-	-	-	-	-	151	252	210	204	1 118	2 124	2 003
- biodiesel	-	-	-	-	-	-	-	-	10	139	16	3 492	6 526
<b>Road transport, input NERI model incl. traded fuels</b>													
- gasoline	83 312	81 852	81 963	81 878	80 593	77 835	76 109	75 292	71 409	67 815	62 757	57 884	54 750
- gas/diesel oil	69 196	70 916	72 552	78 766	84 209	88 264	95 010	103 871	103 480	97 421	101 326	101 658	97 661
- bioethanol	-	-	-	-	-	-	151	252	210	204	1 118	2 124	2 003
- biodiesel	-	-	-	-	-	-	-	-	10	139	16	3 492	6 526



## Annex 3B-15 Emission factors and total emissions in CollectER format

1990 emission factors for SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub>O, NH<sub>3</sub>, TSP; PM<sub>10</sub> and PM<sub>2.5</sub>.

Year	SNAP ID	Category	Fuel type	SO <sub>2</sub>	NO <sub>x</sub>	NMVOC	CH <sub>4</sub>	CO	CO <sub>2</sub>	N <sub>2</sub> O	NH <sub>3</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>		
				g pr GJ	g pr GJ	g pr GJ	g pr GJ	g pr GJ	g pr GJ	g pr GJ	g pr GJ	g pr GJ	g pr GJ	g pr GJ		
1990	A	070101	Passenger cars	Highway	Diesel	93,68	279,53	25,07	3,74	179,70	74,00	0,00	0,47	79,48	79,48	79,48
1990	A	070101	Passenger cars	Highway	Gasoline	2,28	1315,35	381,72	10,89	3817,22	73,00	2,72	0,84	12,84	12,84	12,84
1990	A	070101	Passenger cars	Highway	LPG	0,00	1151,70	187,09	10,06	3914,25	63,10	0,00	0,00	10,06	10,06	10,06
1990	A	070102	Passenger cars	Rural	Diesel	93,68	280,57	42,09	6,82	268,08	74,00	0,00	0,57	75,13	75,13	75,13
1990	A	070102	Passenger cars	Rural	Gasoline	2,28	1148,38	500,38	13,79	4273,20	73,00	3,08	0,95	14,97	14,97	14,97
1990	A	070102	Passenger cars	Rural	LPG	0,00	1248,46	305,18	16,91	1146,38	63,10	0,00	0,00	14,49	14,49	14,49
1990	A	070103	Passenger cars	Urban	Diesel	93,68	220,85	103,04	6,82	344,97	74,00	0,00	0,32	144,24	144,24	144,24
1990	A	070103	Passenger cars	Urban	Gasoline	2,28	558,41	1095,32	56,50	12514,04	73,00	2,71	0,54	12,37	12,37	12,37
1990	A	070103	Passenger cars	Urban	LPG	0,00	528,01	473,05	20,80	1587,66	63,10	0,00	0,00	10,40	10,40	10,40
1990	A	070201	Light duty vehicles	Highway	Diesel	93,68	270,67	30,19	2,60	344,14	74,00	0,00	0,32	104,48	104,48	104,48
1990	A	070201	Light duty vehicles	Highway	Gasoline	2,28	1369,26	170,29	10,11	2987,40	73,00	2,63	0,81	16,17	16,17	16,17
1990	A	070201	Light duty vehicles	Highway	LPG	0,00	1151,70	187,09	10,06	3914,25	63,10	0,00	0,00	10,06	10,06	10,06
1990	A	070202	Light duty vehicles	Rural	Diesel	93,68	299,25	33,22	4,26	358,42	74,00	0,00	0,36	107,73	107,73	107,73
1990	A	070202	Light duty vehicles	Rural	Gasoline	2,28	1188,86	262,59	15,25	2316,18	73,00	2,48	0,76	15,25	15,25	15,25
1990	A	070202	Light duty vehicles	Rural	LPG	0,00	1248,46	305,18	16,91	1146,38	63,10	0,00	0,00	14,49	14,49	14,49
1990	A	070203	Light duty vehicles	Urban	Diesel	93,68	469,24	74,81	4,58	463,37	74,00	0,00	0,23	165,76	165,76	165,76
1990	A	070203	Light duty vehicles	Urban	Gasoline	2,28	547,55	874,08	39,84	9527,46	73,00	1,84	0,37	7,37	7,37	7,37
1990	A	070203	Light duty vehicles	Urban	LPG	0,00	487,91	487,73	19,58	1705,63	63,10	0,00	0,00	9,79	9,79	9,79
1990	A	070301	Heavy duty vehicles	Highway	Diesel	93,68	978,47	41,71	6,44	200,02	74,00	3,08	0,31	35,10	35,10	35,10
1990	A	070301	Heavy duty vehicles	Highway	Gasoline	2,28	1037,78	474,61	9,69	7610,35	73,00	0,83	0,28	55,35	55,35	55,35
1990	A	070302	Heavy duty vehicles	Rural	Diesel	93,68	984,85	57,74	6,78	211,25	74,00	2,92	0,29	35,73	35,73	35,73
1990	A	070302	Heavy duty vehicles	Rural	Gasoline	2,28	1141,55	820,40	16,74	8371,39	73,00	0,91	0,30	60,88	60,88	60,88
1990	A	070303	Heavy duty vehicles	Urban	Diesel	93,68	966,99	86,86	12,42	269,91	74,00	2,30	0,23	42,21	42,21	42,21
1990	A	070303	Heavy duty vehicles	Urban	Gasoline	2,28	456,62	696,09	14,21	7102,99	73,00	0,61	0,20	40,59	40,59	40,59
1990	A	070400	Mopeds	Urban	Gasoline	2,28	18,26	12503,20	200,00	12602,74	73,00	0,91	0,91	171,69	171,69	171,69
1990	A	070501	Motorcycles	Highway	Gasoline	2,28	264,11	1072,19	129,96	16302,60	73,00	1,35	1,35	31,73	31,73	31,73
1990	A	070502	Motorcycles	Rural	Gasoline	2,28	185,41	981,69	159,32	15782,07	73,00	1,66	1,66	38,90	38,90	38,90
1990	A	070503	Motorcycles	Urban	Gasoline	2,28	112,92	1149,21	155,11	15187,59	73,00	1,61	1,61	37,87	37,87	37,87
1990	A	080100	Military		AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	A	080100	Military		Diesel	93,68	719,72	55,39	6,74	268,73	74,00	1,73	0,32	66,49	66,49	66,49
1990	A	080100	Military		Gasoline	2,28	991,97	1128,00	27,57	6765,35	73,00	2,85	0,79	14,34	14,34	14,34

1990	A	080100	Military	Jet fuel	22,99	250,57	24,94	2,65	229,89	72,00	2,30	0,00	1,16	1,16	1,16
1990	A	080200	Railways	Diesel	93,68	1225,13	79,94	3,07	223,21	74,00	2,04	0,20	50,26	50,26	50,26
1990	A	080200	Railways	Kerosene	5,00	50,00	3,00	7,00	20,00	72,00	2,00	0,00	121,95	115,85	110,06
1990	A	080300	Inland waterways	Diesel	93,68	983,64	171,79	2,79	453,65	74,00	2,96	0,17	106,93	106,93	106,93
1990	A	080300	Inland waterways	Gasoline	2,28	291,33	3606,55	50,38	13853,27	73,00	0,78	0,08	182,44	182,44	182,44
1990	A	080402	National sea traffic	Diesel	93,68	1104,18	50,57	1,56	166,83	74,00	4,68	0,00	23,21	22,98	22,87
1990	A	080402	National sea traffic	Kerosene	2,30	50,00	3,00	7,00	20,00	72,00	0,00	0,00	5,00	5,00	5,00
1990	A	080402	National sea traffic	LPG	0,00	1249,00	384,94	20,26	443,00	63,10	0,00	0,00	0,20	0,20	0,20
1990	A	080402	National sea traffic	Residual oil	1290,95	1615,26	53,44	1,65	176,29	78,00	4,89	0,00	149,25	147,75	147,01
1990	A	080403	Fishing	Diesel	93,68	1052,12	49,13	1,52	162,08	74,00	4,68	0,00	23,21	22,98	22,87
1990	A	080403	Fishing	Kerosene	2,30	50,00	3,00	7,00	20,00	72,00	0,00	0,00	5,00	5,00	5,00
1990	A	080403	Fishing	LPG	0,00	1249,00	384,94	20,26	443,00	63,10	0,00	0,00	0,20	0,20	0,20
1990	A	080404	International sea traffic	Diesel	93,68	1208,60	49,46	1,53	163,17	74,00	4,68	0,00	23,21	22,98	22,87
1990	A	080404	International sea traffic	Residual oil	1447,43	1689,57	53,98	1,67	178,09	78,00	4,89	0,00	189,43	187,53	186,59
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	22,99	314,51	14,93	1,59	90,41	72,00	5,70	0,00	1,16	1,16	1,16
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	22,99	309,25	16,47	1,75	168,98	72,00	7,10	0,00	1,16	1,16	1,16
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	22,99	330,11	12,36	1,31	90,75	72,00	2,30	0,00	1,16	1,16	1,16
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	22,99	244,20	6,48	0,69	54,10	72,00	2,30	0,00	1,16	1,16	1,16
1990	A	080600	Agriculture	Diesel	93,68	758,87	156,85	2,55	635,53	74,00	2,93	0,17	144,45	144,45	144,45
1990	A	080600	Agriculture	Gasoline	2,28	31,60	949,55	88,42	47524,17	73,00	1,28	0,09	6,56	6,56	6,56
1990	A	080700	Forestry	Diesel	93,68	857,48	156,47	2,54	645,65	74,00	2,97	0,17	149,05	149,05	149,05
1990	A	080700	Forestry	Gasoline	2,28	40,39	7206,91	60,42	18057,40	73,00	0,37	0,07	101,22	101,22	101,22
1990	A	080800	Industry	Diesel	93,68	933,58	178,23	2,90	655,80	74,00	2,94	0,17	154,50	154,50	154,50
1990	A	080800	Industry	Gasoline	2,28	136,27	1610,77	120,61	14797,46	73,00	1,33	0,09	12,40	12,40	12,40
1990	A	080800	Industry	LPG	0,00	1328,11	146,09	7,69	104,85	63,10	3,50	0,21	4,89	4,89	4,89
1990	A	080900	Household and gardening	Gasoline	2,28	63,98	3366,01	95,22	32901,19	73,00	1,15	0,08	20,75	20,75	20,75
1990	A	081100	Commercial and institutional	Gasoline	2,28	68,83	2280,66	97,87	29887,31	73,00	1,09	0,08	24,00	24,00	24,00
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	22,99	283,87	20,73	2,20	129,70	72,00	4,58	0,00	1,16	1,16	1,16
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	22,99	324,87	34,25	3,64	157,15	72,00	3,79	0,00	1,16	1,16	1,16
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	22,99	314,86	11,78	1,25	84,05	72,00	2,30	0,00	1,16	1,16	1,16
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	22,99	290,20	10,08	1,07	37,65	72,00	2,30	0,00	1,16	1,16	1,16

1990 emission factors for Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Selenium and Zinc.

Year	SNAP ID	Category	Fuel type	Arsenic mg pr GJ	Cadmium mg pr GJ	Chromium mg pr GJ	Copper mg pr GJ	Mercury mg pr GJ	Nickel mg pr GJ	Lead mg pr GJ	Selenium mg pr GJ	Zinc mg pr GJ		
1990	A	070101	Passenger cars	Highway	Diesel	0,002	0,292	0,926	0,657	0,124	0,296	1,757	0,002	58,606
1990	A	070101	Passenger cars	Highway	Gasoline	0,007	0,273	0,386	1,043	0,199	0,321	1472,004	0,005	54,458
1990	A	070101	Passenger cars	Highway	LPG	0,000	0,300	0,270	1,052	0,000	0,300	0,901	0,000	60,097
1990	A	070102	Passenger cars	Rural	Diesel	0,002	0,355	1,083	0,770	0,124	0,358	2,133	0,002	71,144
1990	A	070102	Passenger cars	Rural	Gasoline	0,007	0,308	0,417	1,165	0,199	0,356	1472,109	0,005	61,472
1990	A	070102	Passenger cars	Rural	LPG	0,000	0,361	0,325	1,262	0,000	0,361	1,082	0,000	72,116
1990	A	070103	Passenger cars	Urban	Diesel	0,002	0,198	0,691	0,488	0,124	0,201	1,192	0,002	39,770
1990	A	070103	Passenger cars	Urban	Gasoline	0,007	0,178	0,300	0,711	0,199	0,226	1471,720	0,005	35,492
1990	A	070103	Passenger cars	Urban	LPG	0,000	0,194	0,175	0,679	0,000	0,194	0,582	0,000	38,818
1990	A	070201	Light duty vehicles	Highway	Diesel	0,002	0,193	0,678	0,478	0,124	0,196	1,161	0,002	38,731
1990	A	070201	Light duty vehicles	Highway	Gasoline	0,007	0,253	0,367	0,972	0,199	0,301	1471,943	0,005	50,405
1990	A	070201	Light duty vehicles	Highway	LPG	0,000	0,198	0,178	0,693	0,000	0,198	0,594	0,000	39,594
1990	A	070202	Light duty vehicles	Rural	Diesel	0,002	0,211	0,723	0,511	0,124	0,214	1,269	0,002	42,337
1990	A	070202	Light duty vehicles	Rural	Gasoline	0,007	0,239	0,355	0,922	0,199	0,287	1471,901	0,005	47,576
1990	A	070202	Light duty vehicles	Rural	LPG	0,000	0,238	0,214	0,831	0,000	0,238	0,713	0,000	47,513
1990	A	070203	Light duty vehicles	Urban	Diesel	0,002	0,135	0,533	0,374	0,124	0,138	0,813	0,002	27,133
1990	A	070203	Light duty vehicles	Urban	Gasoline	0,007	0,118	0,246	0,499	0,199	0,166	1471,538	0,005	23,388
1990	A	070203	Light duty vehicles	Urban	LPG	0,000	0,120	0,108	0,421	0,000	0,120	0,361	0,000	24,068
1990	A	070301	Heavy duty vehicles	Highway	Diesel	0,002	0,150	0,570	0,401	0,124	0,153	0,903	0,002	30,130
1990	A	070301	Heavy duty vehicles	Highway	Gasoline	0,007	0,207	0,326	0,813	0,199	0,255	1471,807	0,005	41,332
1990	A	070302	Heavy duty vehicles	Rural	Diesel	0,002	0,143	0,555	0,390	0,124	0,147	0,866	0,002	28,884
1990	A	070302	Heavy duty vehicles	Rural	Gasoline	0,007	0,220	0,338	0,857	0,199	0,268	1471,845	0,005	43,830
1990	A	070303	Heavy duty vehicles	Urban	Diesel	0,002	0,115	0,483	0,338	0,124	0,118	0,693	0,002	23,142
1990	A	070303	Heavy duty vehicles	Urban	Gasoline	0,007	0,143	0,268	0,586	0,199	0,190	1471,613	0,005	28,351
1990	A	070400	Mopeds	Urban	Gasoline	0,007	0,005	0,144	0,103	0,199	0,053	1471,199	0,005	0,753
1990	A	070501	Motorcycles	Highway	Gasoline	0,007	0,134	0,260	0,556	0,199	0,182	1471,587	0,005	26,666
1990	A	070502	Motorcycles	Rural	Gasoline	0,007	0,163	0,287	0,659	0,199	0,211	1471,675	0,005	32,520
1990	A	070503	Motorcycles	Urban	Gasoline	0,007	0,159	0,283	0,644	0,199	0,207	1471,663	0,005	31,681
1990	A	080100	Military		AvGas	0,007	0,253	0,367	0,972	0,198	0,301	12785,388	0,005	50,452
1990	A	080100	Military		Diesel	0,002	0,172	0,625	0,440	0,124	0,175	1,035	0,002	34,517
1990	A	080100	Military		Gasoline	0,007	0,256	0,371	0,984	0,199	0,304	1471,954	0,005	51,135
1990	A	080100	Military		Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080200	Railways		Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080200	Railways		Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990	A	080300	Inland waterways	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080300	Inland waterways	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080402	National sea traffic	Diesel	1,171	0,234	0,937	1,171	1,170	1,639	2,340	4,684	11,710
1990	A	080402	National sea traffic	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	Residual oil	12,225	0,733	4,890	12,225	0,490	733,496	4,890	9,780	22,005
1990	A	080403	Fishing	Diesel	1,171	0,234	0,937	1,171	1,170	1,639	2,340	4,684	11,710
1990	A	080403	Fishing	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080403	Fishing	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080404	International sea traffic	Diesel	1,171	0,234	0,937	1,171	1,170	1,639	2,340	4,684	11,710
1990	A	080404	International sea traffic	Residual oil	12,225	0,733	4,890	12,225	0,490	733,496	4,890	9,780	22,005
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080600	Agriculture	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080600	Agriculture	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080700	Forestry	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080700	Forestry	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080800	Industry	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080800	Industry	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080800	Industry	LPG	0,000	0,131	0,118	0,457	0,000	0,131	0,392	0,000	26,126
1990	A	080900	Household and gardening	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	081100	Commercial and institutional	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990 emission factors for Dioxins/, Flouranthene, Benzo(b), Benzo(k), Benzo(a), Benzo(g,h,i) and indeno(1,2,3-c,d).

Year	SNAP ID	Category	Fuel type	Dioxins/ microg pr GJ	Flouranthene mg pr GJ	Benzo(b) mg pr GJ	Benzo(k) mg pr GJ	Benzo(a) mg pr GJ	Benzo(g,h,i) mg pr GJ	indeno(1,2,3-c,d) mg pr GJ
1990	A 070101	Passenger cars	Highway Diesel	0,001	12,250	0,748	0,678	0,818	1,589	0,771
1990	A 070101	Passenger cars	Highway Gasoline	0,013	8,507	0,553	0,425	0,468	1,106	0,425
1990	A 070101	Passenger cars	Highway LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070102	Passenger cars	Rural Diesel	0,001	14,889	0,909	0,824	0,994	1,932	0,937
1990	A 070102	Passenger cars	Rural Gasoline	0,015	9,540	0,620	0,477	0,525	1,240	0,477
1990	A 070102	Passenger cars	Rural LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070103	Passenger cars	Urban Diesel	0,001	9,303	0,568	0,515	0,621	1,207	0,586
1990	A 070103	Passenger cars	Urban Gasoline	0,010	6,427	0,418	0,321	0,354	0,835	0,321
1990	A 070103	Passenger cars	Urban LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070201	Light duty vehicles	Highway Diesel	0,000	8,505	0,519	0,470	0,568	1,104	0,536
1990	A 070201	Light duty vehicles	Highway Gasoline	0,013	8,086	0,526	0,404	0,445	1,051	0,404
1990	A 070201	Light duty vehicles	Highway LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070202	Light duty vehicles	Rural Diesel	0,001	9,306	0,568	0,515	0,622	1,207	0,586
1990	A 070202	Light duty vehicles	Rural Gasoline	0,012	7,625	0,495	0,381	0,419	0,991	0,381
1990	A 070202	Light duty vehicles	Rural LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070203	Light duty vehicles	Urban Diesel	0,000	6,954	0,425	0,385	0,464	0,902	0,438
1990	A 070203	Light duty vehicles	Urban Gasoline	0,007	4,558	0,296	0,228	0,251	0,592	0,228
1990	A 070203	Light duty vehicles	Urban LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070301	Heavy duty vehicles	Highway Diesel	0,001	2,086	0,526	0,780	0,097	0,078	0,136
1990	A 070301	Heavy duty vehicles	Highway Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070302	Heavy duty vehicles	Rural Diesel	0,001	2,208	0,557	0,825	0,103	0,082	0,144
1990	A 070302	Heavy duty vehicles	Rural Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070303	Heavy duty vehicles	Urban Diesel	0,001	1,788	0,451	0,668	0,083	0,067	0,117
1990	A 070303	Heavy duty vehicles	Urban Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070400	Mopeds	Urban Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070501	Motorcycles	Highway Gasoline	0,020	12,673	0,824	0,634	0,697	1,647	0,634
1990	A 070502	Motorcycles	Rural Gasoline	0,024	15,176	0,986	0,759	0,834	1,973	0,759
1990	A 070503	Motorcycles	Urban Gasoline	0,024	15,300	0,994	0,765	0,841	1,989	0,765
1990	A 080100	Military	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A 080100	Military	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290
1990	A 080100	Military	Gasoline	0,006	5,257	0,277	0,116	0,142	0,825	0,300
1990	A 080100	Military	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 080200	Railways	Diesel	0,001	1,366	0,348	0,389	0,057	0,049	0,089
1990	A 080200	Railways	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990	A	080300	Inland waterways	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290
1990	A	080300	Inland waterways	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A	080402	National sea traffic	Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180
1990	A	080402	National sea traffic	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	Residual oil	0,013	5,190	0,270	0,050	0,020	0,070	0,030
1990	A	080403	Fishing	Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180
1990	A	080403	Fishing	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080403	Fishing	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080404	International sea traffic	Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180
1990	A	080404	International sea traffic	Residual oil	0,013	4,120	0,200	0,090	0,070	0,260	0,200
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080600	Agriculture	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290
1990	A	080600	Agriculture	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A	080700	Forestry	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290
1990	A	080700	Forestry	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A	080800	Industry	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290
1990	A	080800	Industry	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A	080800	Industry	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080900	Household and gardening	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	A	081100	Commercial and institutional	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990 emission factors for SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub>O, NH<sub>3</sub>, TSP, PM<sub>10</sub> and PM<sub>2.5</sub>.

Year	SNAP ID	Category	Fuel type	SO <sub>2</sub> g pr GJ	NO <sub>x</sub> g pr GJ	NMVOC g pr GJ	CH <sub>4</sub> g pr GJ	CO g pr GJ	CO <sub>2</sub> g pr GJ	N <sub>2</sub> O g pr GJ	NH <sub>3</sub> g pr GJ	TSP g pr GJ	PM <sub>10</sub> g pr GJ	PM <sub>2.5</sub> g pr GJ
1990	A 070101	Passenger cars	Highway Diesel	93,68	279,53	25,07	3,74	179,70	74,00	0,00	0,47	79,48	79,48	79,48
1990	A 070101	Passenger cars	Highway Gasoline	2,28	1315,35	381,72	10,89	3817,22	73,00	2,72	0,84	12,84	12,84	12,84
1990	A 070101	Passenger cars	Highway LPG	0,00	1151,70	187,09	10,06	3914,25	63,10	0,00	0,00	10,06	10,06	10,06
1990	A 070102	Passenger cars	Rural Diesel	93,68	280,57	42,09	6,82	268,08	74,00	0,00	0,57	75,13	75,13	75,13
1990	A 070102	Passenger cars	Rural Gasoline	2,28	1148,38	500,38	13,79	4273,20	73,00	3,08	0,95	14,97	14,97	14,97
1990	A 070102	Passenger cars	Rural LPG	0,00	1248,46	305,18	16,91	1146,38	63,10	0,00	0,00	14,49	14,49	14,49
1990	A 070103	Passenger cars	Urban Diesel	93,68	220,85	103,04	6,82	344,97	74,00	0,00	0,32	144,24	144,24	144,24
1990	A 070103	Passenger cars	Urban Gasoline	2,28	558,41	1095,32	56,50	12514,03	73,00	2,71	0,54	12,37	12,37	12,37
1990	A 070103	Passenger cars	Urban LPG	0,00	528,01	473,05	20,80	1587,66	63,10	0,00	0,00	10,40	10,40	10,40
1990	A 070201	Light duty vehicles	Highway Diesel	93,68	270,67	30,19	2,60	344,14	74,00	0,00	0,32	104,48	104,48	104,48
1990	A 070201	Light duty vehicles	Highway Gasoline	2,28	1369,26	170,29	10,11	2987,40	73,00	2,63	0,81	16,17	16,17	16,17
1990	A 070201	Light duty vehicles	Highway LPG	0,00	1151,70	187,09	10,06	3914,25	63,10	0,00	0,00	10,06	10,06	10,06
1990	A 070202	Light duty vehicles	Rural Diesel	93,68	299,25	33,22	4,26	358,42	74,00	0,00	0,36	107,73	107,73	107,73
1990	A 070202	Light duty vehicles	Rural Gasoline	2,28	1188,86	262,59	15,25	2316,18	73,00	2,48	0,76	15,25	15,25	15,25
1990	A 070202	Light duty vehicles	Rural LPG	0,00	1248,46	305,18	16,91	1146,38	63,10	0,00	0,00	14,49	14,49	14,49
1990	A 070203	Light duty vehicles	Urban Diesel	93,68	469,24	74,81	4,58	463,37	74,00	0,00	0,23	165,76	165,76	165,76
1990	A 070203	Light duty vehicles	Urban Gasoline	2,28	547,55	874,08	39,84	9527,46	73,00	1,84	0,37	7,37	7,37	7,37
1990	A 070203	Light duty vehicles	Urban LPG	0,00	487,91	487,73	19,58	1705,63	63,10	0,00	0,00	9,79	9,79	9,79
1990	A 070301	Heavy duty vehicles	Highway Diesel	93,68	978,47	41,71	6,44	200,02	74,00	3,08	0,31	35,10	35,10	35,10
1990	A 070301	Heavy duty vehicles	Highway Gasoline	2,28	1037,78	474,61	9,69	7610,35	73,00	0,83	0,28	55,35	55,35	55,35
1990	A 070302	Heavy duty vehicles	Rural Diesel	93,68	984,85	57,74	6,78	211,25	74,00	2,92	0,29	35,73	35,73	35,73
1990	A 070302	Heavy duty vehicles	Rural Gasoline	2,28	1141,55	820,40	16,74	8371,39	73,00	0,91	0,30	60,88	60,88	60,88
1990	A 070303	Heavy duty vehicles	Urban Diesel	93,68	966,99	86,86	12,42	269,91	74,00	2,30	0,23	42,21	42,21	42,21
1990	A 070303	Heavy duty vehicles	Urban Gasoline	2,28	456,62	696,09	14,21	7102,99	73,00	0,61	0,20	40,59	40,59	40,59
1990	A 070400	Mopeds	Urban Gasoline	2,28	51,14	7471,23	200,00	13424,66	73,00	0,91	0,91	160,73	160,73	160,73
1990	A 070501	Motorcycles	Highway Gasoline	2,28	264,11	1072,19	129,96	16302,60	73,00	1,35	1,35	31,73	31,73	31,73
1990	A 070502	Motorcycles	Rural Gasoline	2,28	185,41	981,69	159,32	15782,07	73,00	1,66	1,66	38,90	38,90	38,90
1990	A 070503	Motorcycles	Urban Gasoline	2,28	112,92	1149,21	155,11	15187,59	73,00	1,61	1,61	37,87	37,87	37,87
1990	A 080100	Military	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	A 080100	Military	Diesel	93,68	719,72	55,39	6,74	268,73	74,00	1,73	0,32	66,49	66,49	66,49
1990	A 080100	Military	Gasoline	2,28	992,06	1114,62	27,57	6767,54	73,00	2,85	0,79	14,31	14,31	14,31
1990	A 080100	Military	Jet fuel	22,99	250,57	24,94	2,65	229,89	72,00	2,30	0,00	1,16	1,16	1,16
1990	A 080200	Railways	Diesel	93,68	1225,13	79,94	3,07	223,21	74,00	2,04	0,20	50,26	50,26	50,26
1990	A 080200	Railways	Kerosene	5,00	50,00	3,00	7,00	20,00	72,00	2,00	0,00	121,95	115,85	110,06

1990	A	080300	Inland waterways	Diesel	93,68	983,64	171,79	2,79	453,65	74,00	2,96	0,17	106,93	106,93	106,93
1990	A	080300	Inland waterways	Gasoline	2,28	291,33	3606,55	50,38	13853,27	73,00	0,78	0,08	182,44	182,44	182,44
1990	A	080402	National sea traffic	Diesel	93,68	1104,18	50,57	1,56	166,83	74,00	4,68	0,00	23,21	22,98	22,87
1990	A	080402	National sea traffic	Kerosene	2,30	50,00	3,00	7,00	20,00	72,00	0,00	0,00	5,00	5,00	5,00
1990	A	080402	National sea traffic	LPG	0,00	1249,00	384,94	20,26	443,00	63,10	0,00	0,00	0,20	0,20	0,20
1990	A	080402	National sea traffic	Residual oil	1290,95	1615,26	53,44	1,65	176,29	78,00	4,89	0,00	149,25	147,75	147,01
1990	A	080403	Fishing	Diesel	93,68	1052,12	49,13	1,52	162,08	74,00	4,68	0,00	23,21	22,98	22,87
1990	A	080403	Fishing	Kerosene	2,30	50,00	3,00	7,00	20,00	72,00	0,00	0,00	5,00	5,00	5,00
1990	A	080403	Fishing	LPG	0,00	1249,00	384,94	20,26	443,00	63,10	0,00	0,00	0,20	0,20	0,20
1990	A	080404	International sea traffic	Diesel	93,68	1208,60	49,46	1,53	163,17	74,00	4,68	0,00	23,21	22,98	22,87
1990	A	080404	International sea traffic	Residual oil	1447,43	1689,57	53,98	1,67	178,09	78,00	4,89	0,00	189,43	187,53	186,59
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	22,99	314,51	14,86	1,65	90,41	72,00	5,70	0,00	1,16	1,16	1,16
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	22,99	309,25	16,40	1,82	168,98	72,00	7,10	0,00	1,16	1,16	1,16
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	22,99	330,11	13,67	0,00	90,75	72,00	2,30	0,00	1,16	1,16	1,16
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	22,99	244,20	7,17	0,00	54,10	72,00	2,30	0,00	1,16	1,16	1,16
1990	A	080600	Agriculture	Diesel	93,68	758,87	156,85	2,55	635,53	74,00	2,93	0,17	144,45	144,45	144,45
1990	A	080600	Agriculture	Gasoline	2,28	31,60	949,55	88,42	47524,17	73,00	1,28	0,09	6,56	6,56	6,56
1990	A	080700	Forestry	Diesel	93,68	857,48	156,47	2,54	645,65	74,00	2,97	0,17	149,05	149,05	149,05
1990	A	080700	Forestry	Gasoline	2,28	40,39	7206,91	60,42	18057,40	73,00	0,37	0,07	101,22	101,22	101,22
1990	A	080800	Industry	Diesel	93,68	933,58	178,23	2,90	655,80	74,00	2,94	0,17	154,50	154,50	154,50
1990	A	080800	Industry	Gasoline	2,28	136,27	1610,77	120,61	14797,46	73,00	1,33	0,09	12,40	12,40	12,40
1990	A	080800	Industry	LPG	0,00	1328,11	146,09	7,69	104,85	63,10	3,50	0,21	4,89	4,89	4,89
1990	A	080900	Household and gardening	Gasoline	2,28	63,98	3366,01	95,22	32901,19	73,00	1,15	0,08	20,75	20,75	20,75
1990	A	081100	Commercial and institutional	Gasoline	2,28	68,83	2280,66	97,87	29887,31	73,00	1,09	0,08	24,00	24,00	24,00
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	22,99	283,87	20,64	2,29	129,70	72,00	4,58	0,00	1,16	1,16	1,16
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	22,99	324,87	34,10	3,79	157,15	72,00	3,79	0,00	1,16	1,16	1,16
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	22,99	314,86	13,03	0,00	84,05	72,00	2,30	0,00	1,16	1,16	1,16
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	22,99	290,20	11,15	0,00	37,65	72,00	2,30	0,00	1,16	1,16	1,16



1990 emission factors for Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Selenium and Zinc.

Year	SNAP ID	Category	Fuel type	Arsenic mg pr GJ	Cadmium mg pr GJ	Chromium mg pr GJ	Copper mg pr GJ	Mercury mg pr GJ	Nickel mg pr GJ	Lead mg pr GJ	Selenium mg pr GJ	Zinc mg pr GJ
1990	A 070101	Passenger cars	Highway Diesel	0,002	0,292	0,926	0,657	0,124	0,296	1,757	0,002	58,606
1990	A 070101	Passenger cars	Highway Gasoline	0,007	0,273	0,386	1,043	0,199	0,321	1472,004	0,005	54,458
1990	A 070101	Passenger cars	Highway LPG	0,000	0,300	0,270	1,052	0,000	0,300	0,901	0,000	60,097
1990	A 070102	Passenger cars	Rural Diesel	0,002	0,355	1,083	0,770	0,124	0,358	2,133	0,002	71,144
1990	A 070102	Passenger cars	Rural Gasoline	0,007	0,308	0,417	1,165	0,199	0,356	1472,109	0,005	61,472
1990	A 070102	Passenger cars	Rural LPG	0,000	0,361	0,325	1,262	0,000	0,361	1,082	0,000	72,116
1990	A 070103	Passenger cars	Urban Diesel	0,002	0,198	0,691	0,488	0,124	0,201	1,192	0,002	39,770
1990	A 070103	Passenger cars	Urban Gasoline	0,007	0,178	0,300	0,711	0,199	0,226	1471,720	0,005	35,492
1990	A 070103	Passenger cars	Urban LPG	0,000	0,194	0,175	0,679	0,000	0,194	0,582	0,000	38,818
1990	A 070201	Light duty vehicles	Highway Diesel	0,002	0,193	0,678	0,478	0,124	0,196	1,161	0,002	38,731
1990	A 070201	Light duty vehicles	Highway Gasoline	0,007	0,253	0,367	0,972	0,199	0,301	1471,943	0,005	50,405
1990	A 070201	Light duty vehicles	Highway LPG	0,000	0,198	0,178	0,693	0,000	0,198	0,594	0,000	39,594
1990	A 070202	Light duty vehicles	Rural Diesel	0,002	0,211	0,723	0,511	0,124	0,214	1,269	0,002	42,337
1990	A 070202	Light duty vehicles	Rural Gasoline	0,007	0,239	0,355	0,922	0,199	0,287	1471,901	0,005	47,576
1990	A 070202	Light duty vehicles	Rural LPG	0,000	0,238	0,214	0,831	0,000	0,238	0,713	0,000	47,513
1990	A 070203	Light duty vehicles	Urban Diesel	0,002	0,135	0,533	0,374	0,124	0,138	0,813	0,002	27,133
1990	A 070203	Light duty vehicles	Urban Gasoline	0,007	0,118	0,246	0,499	0,199	0,166	1471,538	0,005	23,388
1990	A 070203	Light duty vehicles	Urban LPG	0,000	0,120	0,108	0,421	0,000	0,120	0,361	0,000	24,068
1990	A 070301	Heavy duty vehicles	Highway Diesel	0,002	0,150	0,570	0,401	0,124	0,153	0,903	0,002	30,130
1990	A 070301	Heavy duty vehicles	Highway Gasoline	0,007	0,207	0,326	0,813	0,199	0,255	1471,807	0,005	41,332
1990	A 070302	Heavy duty vehicles	Rural Diesel	0,002	0,143	0,555	0,390	0,124	0,147	0,866	0,002	28,884
1990	A 070302	Heavy duty vehicles	Rural Gasoline	0,007	0,220	0,338	0,857	0,199	0,268	1471,845	0,005	43,830
1990	A 070303	Heavy duty vehicles	Urban Diesel	0,002	0,115	0,483	0,338	0,124	0,118	0,693	0,002	23,142
1990	A 070303	Heavy duty vehicles	Urban Gasoline	0,007	0,143	0,268	0,586	0,199	0,190	1471,613	0,005	28,351
1990	A 070400	Mopeds	Urban Gasoline	0,007	0,005	0,144	0,103	0,199	0,053	1471,199	0,005	0,753
1990	A 070501	Motorcycles	Highway Gasoline	0,007	0,134	0,260	0,556	0,199	0,182	1471,587	0,005	26,666
1990	A 070502	Motorcycles	Rural Gasoline	0,007	0,163	0,287	0,659	0,199	0,211	1471,675	0,005	32,520
1990	A 070503	Motorcycles	Urban Gasoline	0,007	0,159	0,283	0,644	0,199	0,207	1471,663	0,005	31,681
1990	A 080100	Military	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	12785,388	0,005	50,452
1990	A 080100	Military	Diesel	0,002	0,172	0,625	0,440	0,124	0,175	1,035	0,002	34,517
1990	A 080100	Military	Gasoline	0,007	0,256	0,371	0,984	0,199	0,304	1471,954	0,005	51,135
1990	A 080100	Military	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 080200	Railways	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A 080200	Railways	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990	A	080300	Inland waterways	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080300	Inland waterways	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080402	National sea traffic	Diesel	1,171	0,234	0,937	1,171	1,170	1,639	2,340	4,684	11,710
1990	A	080402	National sea traffic	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	Residual oil	12,225	0,733	4,890	12,225	0,490	733,496	4,890	9,780	22,005
1990	A	080403	Fishing	Diesel	1,171	0,234	0,937	1,171	1,170	1,639	2,340	4,684	11,710
1990	A	080403	Fishing	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080403	Fishing	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080404	International sea traffic	Diesel	1,171	0,234	0,937	1,171	1,170	1,639	2,340	4,684	11,710
1990	A	080404	International sea traffic	Residual oil	12,225	0,733	4,890	12,225	0,490	733,496	4,890	9,780	22,005
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080600	Agriculture	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080600	Agriculture	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080700	Forestry	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080700	Forestry	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080800	Industry	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
1990	A	080800	Industry	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	080800	Industry	LPG	0,000	0,131	0,118	0,457	0,000	0,131	0,392	0,000	26,126
1990	A	080900	Household and gardening	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	A	081100	Commercial and institutional	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990 emission factors for Dioxins/, Flouranthene, Benzo(b), Benzo(k), Benzo(a), Benzo(g,h,i), indeno(1,2,3-c,d), HCB and PCB.

Year	SNAP ID	Category	Fuel type	Dioxins/ microg pr GJ	Flouranthene mg pr GJ	Benzo(b) mg pr GJ	Benzo(k) mg pr GJ	Benzo(a) mg pr GJ	Benzo(g,h,i) mg pr GJ	Indeno (1,2,3-c,d) mg pr GJ	HCB ng pr GJ	PCB ng pr GJ
1990	A 070101	Passenger cars	Highway Diesel	0,001	12,250	0,748	0,678	0,818	1,589	0,771	6,150	21,300
1990	A 070101	Passenger cars	Highway Gasoline	0,013	8,507	0,553	0,425	0,468	1,106	0,425	0,159	1029,731
1990	A 070101	Passenger cars	Highway LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070102	Passenger cars	Rural Diesel	0,001	14,889	0,909	0,824	0,994	1,932	0,937	6,150	21,300
1990	A 070102	Passenger cars	Rural Gasoline	0,015	9,540	0,620	0,477	0,525	1,240	0,477	0,159	1029,731
1990	A 070102	Passenger cars	Rural LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070103	Passenger cars	Urban Diesel	0,001	9,303	0,568	0,515	0,621	1,207	0,586	6,150	21,300
1990	A 070103	Passenger cars	Urban Gasoline	0,010	6,427	0,418	0,321	0,354	0,835	0,321	0,159	1029,731
1990	A 070103	Passenger cars	Urban LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070201	Light duty vehicles	Highway Diesel	0,000	8,505	0,519	0,470	0,568	1,104	0,536	6,150	21,300
1990	A 070201	Light duty vehicles	Highway Gasoline	0,013	8,086	0,526	0,404	0,445	1,051	0,404	0,159	1029,731
1990	A 070201	Light duty vehicles	Highway LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070202	Light duty vehicles	Rural Diesel	0,001	9,306	0,568	0,515	0,622	1,207	0,586	6,150	21,300
1990	A 070202	Light duty vehicles	Rural Gasoline	0,012	7,625	0,495	0,381	0,419	0,991	0,381	0,159	1029,731
1990	A 070202	Light duty vehicles	Rural LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070203	Light duty vehicles	Urban Diesel	0,000	6,954	0,425	0,385	0,464	0,902	0,438	6,150	21,300
1990	A 070203	Light duty vehicles	Urban Gasoline	0,007	4,558	0,296	0,228	0,251	0,592	0,228	0,159	1029,731
1990	A 070203	Light duty vehicles	Urban LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 070301	Heavy duty vehicles	Highway Diesel	0,001	2,086	0,526	0,780	0,097	0,078	0,136	6,150	526,000
1990	A 070301	Heavy duty vehicles	Highway Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,159	1029,731
1990	A 070302	Heavy duty vehicles	Rural Diesel	0,001	2,208	0,557	0,825	0,103	0,082	0,144	6,150	526,000
1990	A 070302	Heavy duty vehicles	Rural Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,159	1029,731
1990	A 070303	Heavy duty vehicles	Urban Diesel	0,001	1,788	0,451	0,668	0,083	0,067	0,117	6,150	526,000
1990	A 070303	Heavy duty vehicles	Urban Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,159	1029,731
1990	A 070400	Mopeds	Urban Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,159	1029,731
1990	A 070501	Motorcycles	Highway Gasoline	0,020	12,673	0,824	0,634	0,697	1,647	0,634	0,159	1029,731
1990	A 070502	Motorcycles	Rural Gasoline	0,024	15,176	0,986	0,759	0,834	1,973	0,759	0,159	1029,731
1990	A 070503	Motorcycles	Urban Gasoline	0,024	15,300	0,994	0,765	0,841	1,989	0,765	0,159	1029,731
1990	A 080100	Military	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
1990	A 080100	Military	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290	6,150	330,743
1990	A 080100	Military	Gasoline	0,006	5,257	0,277	0,116	0,142	0,825	0,300	0,159	1029,731
1990	A 080100	Military	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A 080200	Railways	Diesel	0,001	1,366	0,348	0,389	0,057	0,049	0,089	6,150	526,000
1990	A 080200	Railways	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990	A	080300	Inland waterways	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290	6,150	526,000
1990	A	080300	Inland waterways	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,159	1029,731
1990	A	080402	National sea traffic	Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180	1,950	8,760
1990	A	080402	National sea traffic	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080402	National sea traffic	Residual oil	0,013	5,190	0,270	0,050	0,020	0,070	0,030	3,500	14,000
1990	A	080403	Fishing	Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180	1,950	8,760
1990	A	080403	Fishing	Kerosene	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080403	Fishing	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080404	International sea traffic	Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180	1,950	8,760
1990	A	080404	International sea traffic	Residual oil	0,013	4,120	0,200	0,090	0,070	0,260	0,200	3,500	14,000
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080600	Agriculture	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290	6,150	526,000
1990	A	080600	Agriculture	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,159	1029,731
1990	A	080700	Forestry	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290	6,150	526,000
1990	A	080700	Forestry	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,159	1029,731
1990	A	080800	Industry	Diesel	0,001	4,391	0,571	0,568	0,290	0,550	0,290	6,150	526,000
1990	A	080800	Industry	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,159	1029,731
1990	A	080800	Industry	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	A	080900	Household and gardening	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,159	1029,731
1990	A	081100	Commercial and institutional	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,159	1029,731
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

2012 emission factors for SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub>O, NH<sub>3</sub>, TSP, PM<sub>10</sub> and PM<sub>2.5</sub>.

Year	SNAP ID	Category	Fuel type	SO <sub>2</sub> g pr GJ	NO <sub>x</sub> g pr GJ	NMVOC g pr GJ	CH <sub>4</sub> g pr GJ	CO g pr GJ	CO <sub>2</sub> kg pr GJ	N <sub>2</sub> O g pr GJ	NH <sub>3</sub> g pr GJ	TSP g pr GJ	PM <sub>10</sub> g pr GJ	PM <sub>2.5</sub> g pr GJ
2012	A	070101	Passenger cars Highway Bio ethanol	0,00	133,00	31,74	3,63	695,05	0,00	0,74	32,49	1,02	1,02	1,02
2012	A	070101	Passenger cars Highway Biodiesel	0,00	345,09	4,01	0,11	12,92	0,00	2,07	0,51	12,10	12,10	12,10
2012	A	070101	Passenger cars Highway Diesel	0,47	345,09	4,01	0,11	12,92	74,00	2,07	0,51	12,10	12,10	12,10
2012	A	070101	Passenger cars Highway Gasoline	0,46	133,00	31,74	3,63	695,05	73,00	0,74	32,49	1,02	1,02	1,02
2012	A	070101	Passenger cars Highway LPG	0,00	245,42	39,01	4,09	1401,42	63,10	0,78	0,00	10,05	10,05	10,05
2012	A	070102	Passenger cars Rural Bio ethanol	0,00	110,36	36,67	3,50	555,44	0,00	1,37	33,65	0,97	0,97	0,97
2012	A	070102	Passenger cars Rural Biodiesel	0,00	288,67	5,25	0,21	24,66	0,00	2,22	0,54	10,09	10,09	10,09
2012	A	070102	Passenger cars Rural Diesel	0,47	288,67	5,25	0,21	24,66	74,00	2,22	0,54	10,09	10,09	10,09
2012	A	070102	Passenger cars Rural Gasoline	0,46	110,36	36,67	3,50	555,44	73,00	1,37	33,65	0,97	0,97	0,97
2012	A	070102	Passenger cars Rural LPG	0,00	267,71	59,24	6,87	542,88	63,10	1,57	0,00	14,45	14,45	14,45
2012	A	070103	Passenger cars Urban Bio ethanol	0,00	138,64	295,15	11,54	3243,70	0,00	2,06	7,68	0,88	0,88	0,88
2012	A	070103	Passenger cars Urban Biodiesel	0,00	290,68	16,07	0,52	71,75	0,00	5,49	0,37	18,31	18,31	18,31
2012	A	070103	Passenger cars Urban Diesel	0,47	290,68	16,07	0,52	71,75	74,00	5,49	0,37	18,31	18,31	18,31
2012	A	070103	Passenger cars Urban Gasoline	0,46	138,64	295,15	11,54	3243,70	73,00	2,06	7,68	0,88	0,88	0,88
2012	A	070103	Passenger cars Urban LPG	0,00	134,04	138,14	9,48	937,64	63,10	3,74	0,00	11,64	11,64	11,64
2012	A	070201	Light duty vehicles Highway Bio ethanol	0,00	164,40	19,61	2,76	555,42	0,00	1,88	22,93	1,37	1,37	1,37
2012	A	070201	Light duty vehicles Highway Biodiesel	0,00	283,25	18,22	0,18	122,71	0,00	1,51	0,37	18,27	18,27	18,27
2012	A	070201	Light duty vehicles Highway Diesel	0,47	283,25	18,22	0,18	122,71	74,00	1,51	0,37	18,27	18,27	18,27
2012	A	070201	Light duty vehicles Highway Gasoline	0,46	164,40	19,61	2,76	555,42	73,00	1,88	22,93	1,37	1,37	1,37
2012	A	070201	Light duty vehicles Highway LPG	0,00	136,68	20,73	2,25	1046,75	63,10	0,41	0,00	10,04	10,04	10,04
2012	A	070202	Light duty vehicles Rural Bio ethanol	0,00	143,84	28,80	3,00	420,31	0,00	3,01	22,65	1,22	1,22	1,22
2012	A	070202	Light duty vehicles Rural Biodiesel	0,00	295,92	20,62	0,41	105,18	0,00	1,65	0,40	14,95	14,95	14,95
2012	A	070202	Light duty vehicles Rural Diesel	0,47	295,92	20,62	0,41	105,18	74,00	1,65	0,40	14,95	14,95	14,95
2012	A	070202	Light duty vehicles Rural Gasoline	0,46	143,84	28,80	3,00	420,31	73,00	3,01	22,65	1,22	1,22	1,22
2012	A	070202	Light duty vehicles Rural LPG	0,00	149,37	31,44	3,78	435,27	63,10	0,93	0,00	14,45	14,45	14,45
2012	A	070203	Light duty vehicles Urban Bio ethanol	0,00	130,10	200,38	8,08	3760,68	0,00	4,56	4,44	0,74	0,74	0,74
2012	A	070203	Light duty vehicles Urban Biodiesel	0,00	275,24	42,60	0,81	141,68	0,00	3,51	0,26	25,22	25,22	25,22
2012	A	070203	Light duty vehicles Urban Diesel	0,47	275,24	42,60	0,81	141,68	74,00	3,51	0,26	25,22	25,22	25,22
2012	A	070203	Light duty vehicles Urban Gasoline	0,46	130,10	200,38	8,08	3760,68	73,00	4,56	4,44	0,74	0,74	0,74
2012	A	070203	Light duty vehicles Urban LPG	0,00	78,75	73,39	5,36	563,91	63,10	1,97	0,00	11,94	11,94	11,94
2012	A	070301	Heavy duty vehicles Highway Bio ethanol	0,00	1037,78	474,61	9,69	7610,35	0,00	0,83	0,28	55,35	55,35	55,35
2012	A	070301	Heavy duty vehicles Highway Biodiesel	0,00	392,17	7,43	2,04	136,80	0,00	3,13	0,31	6,18	6,18	6,18
2012	A	070301	Heavy duty vehicles Highway Diesel	0,47	392,17	7,43	2,04	136,80	74,00	3,13	0,31	6,18	6,18	6,18
2012	A	070301	Heavy duty vehicles Highway Gasoline	0,46	1037,78	474,61	9,69	7610,35	73,00	0,83	0,28	55,35	55,35	55,35

2012	A	070302	Heavy duty vehicles	Rural	Bio ethanol	0,00	1141,55	820,40	16,74	8371,39	0,00	0,91	0,30	60,88	60,88	60,88
2012	A	070302	Heavy duty vehicles	Rural	Biodiesel	0,00	454,93	10,02	2,34	134,81	0,00	2,95	0,29	6,64	6,64	6,64
2012	A	070302	Heavy duty vehicles	Rural	Diesel	0,47	454,93	10,02	2,34	134,81	74,00	2,95	0,29	6,64	6,64	6,64
2012	A	070302	Heavy duty vehicles	Rural	Gasoline	0,46	1141,55	820,40	16,74	8371,39	73,00	0,91	0,30	60,88	60,88	60,88
2012	A	070303	Heavy duty vehicles	Urban	Bio ethanol	0,00	456,62	696,09	14,21	7102,99	0,00	0,61	0,20	40,59	40,59	40,59
2012	A	070303	Heavy duty vehicles	Urban	Biodiesel	0,00	570,34	14,75	3,73	149,48	0,00	2,50	0,25	8,10	8,10	8,10
2012	A	070303	Heavy duty vehicles	Urban	Diesel	0,47	570,34	14,75	3,73	149,48	74,00	2,50	0,25	8,10	8,10	8,10
2012	A	070303	Heavy duty vehicles	Urban	Gasoline	0,46	456,62	696,09	14,21	7102,99	73,00	0,61	0,20	40,59	40,59	40,59
2012	A	070400	Mopeds	Urban	Bio ethanol	0,00	145,74	4413,69	91,50	7300,73	0,00	1,06	1,06	76,35	76,35	76,35
2012	A	070400	Mopeds	Urban	Gasoline	0,46	145,74	4413,69	91,50	7300,73	73,00	1,06	1,06	76,35	76,35	76,35
2012	A	070501	Motorcycles	Highway	Bio ethanol	0,00	270,47	651,06	90,62	10392,91	0,00	1,27	1,27	15,72	15,72	15,72
2012	A	070501	Motorcycles	Highway	Gasoline	0,46	270,47	651,06	90,62	10392,91	73,00	1,27	1,27	15,72	15,72	15,72
2012	A	070502	Motorcycles	Rural	Bio ethanol	0,00	192,46	650,59	109,49	9619,73	0,00	1,55	1,55	19,14	19,14	19,14
2012	A	070502	Motorcycles	Rural	Gasoline	0,46	192,46	650,59	109,49	9619,73	73,00	1,55	1,55	19,14	19,14	19,14
2012	A	070503	Motorcycles	Urban	Bio ethanol	0,00	118,83	802,17	115,50	9267,95	0,00	1,51	1,51	18,65	18,65	18,65
2012	A	070503	Motorcycles	Urban	Gasoline	0,46	118,83	802,17	115,50	9267,95	73,00	1,51	1,51	18,65	18,65	18,65
2012	A	080100	Military		AvGas	22,99	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
2012	A	080100	Military		Diesel	0,44	356,14	12,51	1,14	92,27	74,00	2,81	0,38	11,76	11,76	11,76
2012	A	080100	Military		Gasoline	0,44	127,06	160,98	7,39	1522,54	73,00	1,46	24,95	1,51	1,51	1,51
2012	A	080100	Military		Jet fuel	22,99	250,57	24,94	2,65	229,89	72,00	2,30	0,00	1,16	1,16	1,16
2012	A	080200	Railways		Diesel	0,47	751,17	56,43	2,17	125,99	74,00	2,04	0,20	24,24	24,24	24,24
2012	A	080200	Railways		Gasoline											
2012	A	080200	Railways		Kerosene											
2012	A	080300	Inland waterways		Diesel	46,84	817,03	156,52	2,55	439,34	74,00	2,97	0,17	95,54	95,54	95,54
2012	A	080300	Inland waterways		Gasoline	0,46	567,23	877,36	64,41	11258,30	73,00	1,55	0,10	17,43	17,43	17,43
2012	A	080402	National sea traffic		Diesel	46,84	1081,18	50,38	1,66	111,43	74,00	4,68	0,00	21,55	21,33	21,22
2012	A	080402	National sea traffic		Kerosene											
2012	A	080402	National sea traffic		LPG	0,00	1249,00	384,94	20,26	443,00	63,10	0,00	0,00	0,20	0,20	0,20
2012	A	080402	National sea traffic		Residual oil	489,00	1925,97	63,12	1,95	208,23	78,00	4,89	0,00	43,98	43,54	43,32
2012	A	080403	Fishing		Diesel	46,84	1340,90	57,72	1,79	190,43	74,00	4,68	0,00	21,55	21,33	21,22
2012	A	080403	Fishing		Gasoline											
2012	A	080403	Fishing		Kerosene											
2012	A	080403	Fishing		LPG	0,00	1249,00	384,94	20,26	443,00	63,10	0,00	0,00	0,20	0,20	0,20
2012	A	080404	International sea traffic		Diesel	46,84	1585,62	57,71	1,78	190,37	74,00	4,68	0,00	21,55	21,33	21,22
2012	A	080404	International sea traffic		Residual oil	489,00	2119,92	63,46	1,96	209,36	78,00	4,89	0,00	43,98	43,54	43,32
2012	A	080501	Air traffic, Dom. < 3000 ft.		AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
2012	A	080501	Air traffic, Dom. < 3000 ft.		Jet fuel	22,99	309,39	16,41	1,82	147,19	72,00	9,24	0,00	1,16	1,16	1,16

2012	A	080502	Air traffic, Int. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
2012	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	22,99	298,57	38,17	4,24	184,54	72,00	7,24	0,00	1,16	1,16	1,16
2012	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	22,99	278,02	6,83	0,00	95,20	72,00	2,30	0,00	1,16	1,16	1,16
2012	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	22,99	238,74	6,01	0,00	48,19	72,00	2,30	0,00	1,16	1,16	1,16
2012	A	080600	Agriculture	Diesel	0,47	530,77	48,98	0,80	308,69	74,00	3,19	0,18	39,27	39,27	39,27
2012	A	080600	Agriculture	Gasoline	0,46	110,77	1184,09	159,58	21731,05	73,00	1,71	1,51	31,03	31,03	31,03
2012	A	080700	Forestry	Diesel	0,47	347,95	25,87	0,42	226,21	74,00	3,21	0,18	23,40	23,40	23,40
2012	A	080700	Forestry	Gasoline	0,46	54,79	3964,24	30,97	17915,98	73,00	0,46	0,09	82,19	82,19	82,19
2012	A	080800	Industry	Diesel	0,47	489,22	54,19	0,88	306,75	74,00	3,10	0,18	47,52	47,52	47,52
2012	A	080800	Industry	Gasoline	0,46	212,00	1528,15	108,83	14105,02	73,00	1,49	0,10	20,45	20,45	20,45
2012	A	080800	Industry	LPG	0,00	1328,11	146,09	7,69	104,85	63,10	3,50	0,21	4,89	4,89	4,89
2012	A	080900	Household and gardening	Gasoline	0,46	107,75	2283,84	75,45	30678,27	73,00	1,26	0,09	17,21	17,21	17,21
2012	A	081100	Commercial and institutional	Gasoline	0,46	93,28	1548,54	64,42	30913,57	73,00	1,13	0,09	28,53	28,53	28,53
2012	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
2012	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	22,99	302,09	18,59	2,07	191,64	72,00	5,66	0,00	1,16	1,16	1,16
2012	P	080502	Air traffic, Int. < 3000 ft.	AvGas	22,83	859,00	1242,60	21,90	6972,00	73,00	2,00	1,60	10,00	10,00	10,00
2012	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	22,99	339,36	33,80	3,76	237,36	72,00	3,87	0,00	1,16	1,16	1,16
2012	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	22,99	299,41	9,63	0,00	50,21	72,00	2,30	0,00	1,16	1,16	1,16
2012	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	22,99	309,94	8,90	0,00	31,29	72,00	2,30	0,00	1,16	1,16	1,16

2012 emission factors for Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Selenium and Zinc.

Year	SNAP ID	Category	Fuel type	Arsenic mg pr GJ	Cadmium mg pr GJ	Chromium mg pr GJ	Copper mg pr GJ	Mercury mg pr GJ	Nickel mg pr GJ	Lead mg pr GJ	Selenium mg pr GJ	Zinc mg pr GJ
2012	A 070101	Passenger cars	Highway Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070101	Passenger cars	Highway Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070101	Passenger cars	Highway Diesel	0,002	0,312	0,977	0,694	0,124	0,316	1,880	0,002	62,685
2012	A 070101	Passenger cars	Highway Gasoline	0,007	0,332	0,438	1,248	0,199	0,380	1,009	0,005	66,216
2012	A 070101	Passenger cars	Highway LPG	0,000	0,294	0,265	1,030	0,000	0,294	0,883	0,000	58,875
2012	A 070102	Passenger cars	Rural Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070102	Passenger cars	Rural Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070102	Passenger cars	Rural Diesel	0,002	0,335	1,035	0,735	0,124	0,339	2,017	0,002	67,260
2012	A 070102	Passenger cars	Rural Gasoline	0,007	0,351	0,456	1,316	0,199	0,399	1,067	0,005	70,066
2012	A 070102	Passenger cars	Rural LPG	0,000	0,353	0,318	1,235	0,000	0,353	1,059	0,000	70,585
2012	A 070103	Passenger cars	Urban Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070103	Passenger cars	Urban Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070103	Passenger cars	Urban Diesel	0,002	0,227	0,763	0,540	0,124	0,230	1,366	0,002	45,556
2012	A 070103	Passenger cars	Urban Gasoline	0,007	0,205	0,324	0,804	0,199	0,253	0,628	0,005	40,805
2012	A 070103	Passenger cars	Urban LPG	0,000	0,213	0,192	0,746	0,000	0,213	0,639	0,000	42,625
2012	A 070201	Light duty vehicles	Highway Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070201	Light duty vehicles	Highway Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070201	Light duty vehicles	Highway Diesel	0,002	0,239	0,793	0,561	0,124	0,242	1,438	0,002	47,956
2012	A 070201	Light duty vehicles	Highway Gasoline	0,007	0,253	0,368	0,973	0,199	0,301	0,774	0,005	50,509
2012	A 070201	Light duty vehicles	Highway LPG	0,000	0,172	0,154	0,601	0,000	0,172	0,515	0,000	34,315
2012	A 070202	Light duty vehicles	Rural Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070202	Light duty vehicles	Rural Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070202	Light duty vehicles	Rural Diesel	0,002	0,261	0,849	0,602	0,124	0,265	1,572	0,002	52,429
2012	A 070202	Light duty vehicles	Rural Gasoline	0,007	0,239	0,355	0,925	0,199	0,287	0,732	0,005	47,723
2012	A 070202	Light duty vehicles	Rural LPG	0,000	0,206	0,185	0,720	0,000	0,206	0,617	0,000	41,136
2012	A 070203	Light duty vehicles	Urban Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070203	Light duty vehicles	Urban Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070203	Light duty vehicles	Urban Diesel	0,002	0,168	0,617	0,434	0,124	0,172	1,014	0,002	33,839
2012	A 070203	Light duty vehicles	Urban Gasoline	0,007	0,122	0,250	0,515	0,199	0,170	0,381	0,005	24,327
2012	A 070203	Light duty vehicles	Urban LPG	0,000	0,127	0,115	0,446	0,000	0,127	0,382	0,000	25,489
2012	A 070301	Heavy duty vehicles	Highway Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070301	Heavy duty vehicles	Highway Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070301	Heavy duty vehicles	Highway Diesel	0,002	0,159	0,593	0,417	0,124	0,162	0,958	0,002	31,954
2012	A 070301	Heavy duty vehicles	Highway Gasoline	0,007	0,260	0,374	0,997	0,199	0,308	0,794	0,005	51,857



2012	A	070302	Heavy duty vehicles	Rural	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070302	Heavy duty vehicles	Rural	Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070302	Heavy duty vehicles	Rural	Diesel	0,002	0,152	0,577	0,406	0,124	0,156	0,920	0,002 30,681
2012	A	070302	Heavy duty vehicles	Rural	Gasoline	0,007	0,295	0,405	1,119	0,199	0,343	0,898	0,005 58,799
2012	A	070303	Heavy duty vehicles	Urban	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070303	Heavy duty vehicles	Urban	Biodiesel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070303	Heavy duty vehicles	Urban	Diesel	0,002	0,132	0,527	0,369	0,124	0,136	0,798	0,002 26,630
2012	A	070303	Heavy duty vehicles	Urban	Gasoline	0,007	0,206	0,325	0,806	0,199	0,253	0,630	0,005 40,950
2012	A	070400	Mopeds	Urban	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070400	Mopeds	Urban	Gasoline	0,007	0,005	0,144	0,103	0,199	0,053	0,027	0,005 0,753
2012	A	070501	Motorcycles	Highway	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070501	Motorcycles	Highway	Gasoline	0,007	0,134	0,260	0,555	0,199	0,182	0,415	0,005 26,609
2012	A	070502	Motorcycles	Rural	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070502	Motorcycles	Rural	Gasoline	0,007	0,162	0,286	0,654	0,199	0,210	0,500	0,005 32,240
2012	A	070503	Motorcycles	Urban	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	070503	Motorcycles	Urban	Gasoline	0,007	0,158	0,282	0,640	0,199	0,206	0,488	0,005 31,445
2012	A	080100	Military		AvGas	0,007	0,253	0,367	0,972	0,198	0,301	12785,390	0,005 50,452
2012	A	080100	Military		Diesel	0,002	0,214	0,718	0,508	0,116	0,217	1,287	0,002 42,931
2012	A	080100	Military		Gasoline	0,007	0,286	0,393	1,086	0,192	0,333	0,872	0,004 57,120
2012	A	080100	Military		Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080200	Railways		Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002 37,295
2012	A	080200	Railways		Gasoline								
2012	A	080200	Railways		Kerosene								
2012	A	080300	Inland waterways		Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002 37,295
2012	A	080300	Inland waterways		Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005 50,452
2012	A	080402	National sea traffic		Diesel	1,170	0,230	0,940	1,170	1,170	1,640	2,340	4,680 11,710
2012	A	080402	National sea traffic		Kerosene								
2012	A	080402	National sea traffic		LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080402	National sea traffic		Residual oil	12,220	0,730	4,890	12,220	0,490	733,500	4,890	9,780 22,000
2012	A	080403	Fishing		Diesel	1,170	0,230	0,940	1,170	1,170	1,640	2,340	4,680 11,710
2012	A	080403	Fishing		Gasoline								
2012	A	080403	Fishing		Kerosene								
2012	A	080403	Fishing		LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080404	International sea traffic		Diesel	1,170	0,230	0,940	1,170	1,170	1,640	2,340	4,680 11,710
2012	A	080404	International sea traffic		Residual oil	12,220	0,730	4,890	12,220	0,490	733,500	4,890	9,780 22,000
2012	A	080501	Air traffic, Dom. < 3000 ft.		AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005 50,452
2012	A	080501	Air traffic, Dom. < 3000 ft.		Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

2012	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
2012	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080600	Agriculture	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
2012	A	080600	Agriculture	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
2012	A	080700	Forestry	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
2012	A	080700	Forestry	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
2012	A	080800	Industry	Diesel	0,002	0,186	0,660	0,465	0,124	0,189	1,118	0,002	37,295
2012	A	080800	Industry	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
2012	A	080800	Industry	LPG	0,000	0,131	0,118	0,457	0,000	0,131	0,392	0,000	26,126
2012	A	080900	Household and gardening	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
2012	A	081100	Commercial and institutional	Gasoline	0,007	0,253	0,367	0,972	0,198	0,301	0,773	0,005	50,452
2012	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
2012	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,007	0,253	0,367	0,972	0,198	0,301	13505,692	0,005	50,452
2012	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

2012 emission factors for Dioxins/, Flouranthene, Benzo(b), Benzo(k), Benzo(a), Benzo(g,h,i), indeno(1,2,3-c,d), HCB and PCB.

Year	SNAP ID	Category	Fuel type	Dioxins/ microg pr GJ	Flouranthene mg pr GJ	Benzo(b) mg pr GJ	Benzo(k) mg pr GJ	Benzo(a) mg pr GJ	Benzo(g,h,i) mg pr GJ	indeno(1,2,3-c,d) mg pr GJ	HCB ng pr GJ	PCB ng pr GJ
2012	A 070101	Passenger cars	Highway Bio ethanol	0,000	1,137	0,208	0,252	0,206	0,417	0,299	0,010	0,457
2012	A 070101	Passenger cars	Highway Biodiesel	0,000	12,815	0,782	0,709	0,856	1,663	0,807	6,150	21,300
2012	A 070101	Passenger cars	Highway Diesel	0,000	12,815	0,782	0,709	0,856	1,663	0,807	6,150	21,300
2012	A 070101	Passenger cars	Highway Gasoline	0,000	1,137	0,208	0,252	0,206	0,417	0,299	0,010	0,457
2012	A 070101	Passenger cars	Highway LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070102	Passenger cars	Rural Bio ethanol	0,000	1,251	0,232	0,280	0,229	0,464	0,334	0,010	0,457
2012	A 070102	Passenger cars	Rural Biodiesel	0,001	14,593	0,891	0,807	0,975	1,894	0,919	6,150	21,300
2012	A 070102	Passenger cars	Rural Diesel	0,001	14,593	0,891	0,807	0,975	1,894	0,919	6,150	21,300
2012	A 070102	Passenger cars	Rural Gasoline	0,000	1,251	0,232	0,280	0,229	0,464	0,334	0,010	0,457
2012	A 070102	Passenger cars	Rural LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070103	Passenger cars	Urban Bio ethanol	0,000	0,720	0,129	0,155	0,127	0,257	0,184	0,010	0,457
2012	A 070103	Passenger cars	Urban Biodiesel	0,001	9,684	0,591	0,536	0,647	1,257	0,610	6,150	21,300
2012	A 070103	Passenger cars	Urban Diesel	0,001	9,684	0,591	0,536	0,647	1,257	0,610	6,150	21,300
2012	A 070103	Passenger cars	Urban Gasoline	0,000	0,720	0,129	0,155	0,127	0,257	0,184	0,010	0,457
2012	A 070103	Passenger cars	Urban LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070201	Light duty vehicles	Highway Bio ethanol	0,001	1,029	0,159	0,184	0,154	0,317	0,217	0,010	0,457
2012	A 070201	Light duty vehicles	Highway Biodiesel	0,001	9,234	0,564	0,511	0,617	1,198	0,581	6,150	21,300
2012	A 070201	Light duty vehicles	Highway Diesel	0,001	9,234	0,564	0,511	0,617	1,198	0,581	6,150	21,300
2012	A 070201	Light duty vehicles	Highway Gasoline	0,001	1,029	0,159	0,184	0,154	0,317	0,217	0,010	0,457
2012	A 070201	Light duty vehicles	Highway LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070202	Light duty vehicles	Rural Bio ethanol	0,001	0,971	0,150	0,174	0,146	0,300	0,205	0,010	0,457
2012	A 070202	Light duty vehicles	Rural Biodiesel	0,001	10,103	0,617	0,559	0,675	1,311	0,636	6,150	21,300
2012	A 070202	Light duty vehicles	Rural Diesel	0,001	10,103	0,617	0,559	0,675	1,311	0,636	6,150	21,300
2012	A 070202	Light duty vehicles	Rural Gasoline	0,001	0,971	0,150	0,174	0,146	0,300	0,205	0,010	0,457
2012	A 070202	Light duty vehicles	Rural LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070203	Light duty vehicles	Urban Bio ethanol	0,000	0,561	0,087	0,101	0,084	0,173	0,118	0,010	0,457
2012	A 070203	Light duty vehicles	Urban Biodiesel	0,000	7,261	0,443	0,402	0,485	0,942	0,457	6,150	21,300
2012	A 070203	Light duty vehicles	Urban Diesel	0,000	7,261	0,443	0,402	0,485	0,942	0,457	6,150	21,300
2012	A 070203	Light duty vehicles	Urban Gasoline	0,000	0,561	0,087	0,101	0,084	0,173	0,118	0,010	0,457
2012	A 070203	Light duty vehicles	Urban LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A 070301	Heavy duty vehicles	Highway Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457
2012	A 070301	Heavy duty vehicles	Highway Biodiesel	0,001	2,030	0,512	0,759	0,095	0,076	0,133	6,150	526,000
2012	A 070301	Heavy duty vehicles	Highway Diesel	0,001	2,030	0,512	0,759	0,095	0,076	0,133	6,150	526,000
2012	A 070301	Heavy duty vehicles	Highway Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457

2012	A	070302	Heavy duty vehicles	Rural	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457
2012	A	070302	Heavy duty vehicles	Rural	Biodiesel	0,001	2,066	0,521	0,772	0,096	0,077	0,135	6,150	526,000
2012	A	070302	Heavy duty vehicles	Rural	Diesel	0,001	2,066	0,521	0,772	0,096	0,077	0,135	6,150	526,000
2012	A	070302	Heavy duty vehicles	Rural	Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457
2012	A	070303	Heavy duty vehicles	Urban	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457
2012	A	070303	Heavy duty vehicles	Urban	Biodiesel	0,001	1,676	0,423	0,626	0,078	0,063	0,110	6,150	526,000
2012	A	070303	Heavy duty vehicles	Urban	Diesel	0,001	1,676	0,423	0,626	0,078	0,063	0,110	6,150	526,000
2012	A	070303	Heavy duty vehicles	Urban	Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457
2012	A	070400	Mopeds	Urban	Bio ethanol	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457
2012	A	070400	Mopeds	Urban	Gasoline	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,457
2012	A	070501	Motorcycles	Highway	Bio ethanol	0,020	12,799	0,832	0,640	0,704	1,664	0,640	0,010	0,457
2012	A	070501	Motorcycles	Highway	Gasoline	0,020	12,799	0,832	0,640	0,704	1,664	0,640	0,010	0,457
2012	A	070502	Motorcycles	Rural	Bio ethanol	0,024	15,331	0,996	0,766	0,843	1,993	0,766	0,010	0,457
2012	A	070502	Motorcycles	Rural	Gasoline	0,024	15,331	0,996	0,766	0,843	1,993	0,766	0,010	0,457
2012	A	070503	Motorcycles	Urban	Bio ethanol	0,024	15,500	1,007	0,775	0,852	2,015	0,775	0,010	0,457
2012	A	070503	Motorcycles	Urban	Gasoline	0,024	15,500	1,007	0,775	0,852	2,015	0,775	0,010	0,457
2012	A	080100	Military		AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
2012	A	080100	Military		Diesel	0,001	4,350	0,510	0,496	0,256	0,464	0,264	6,150	214,151
2012	A	080100	Military		Gasoline	0,007	2,152	0,180	0,115	0,118	0,358	0,179	0,010	0,457
2012	A	080100	Military		Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080200	Railways		Diesel	0,001	1,411	0,360	0,402	0,059	0,051	0,092	6,150	526,000
2012	A	080200	Railways		Gasoline									
2012	A	080200	Railways		Kerosene									
2012	A	080300	Inland waterways		Diesel	0,001	4,350	0,510	0,496	0,256	0,464	0,264	6,150	526,000
2012	A	080300	Inland waterways		Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,010	0,457
2012	A	080402	National sea traffic		Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180	1,950	8,760
2012	A	080402	National sea traffic		Kerosene									
2012	A	080402	National sea traffic		LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080402	National sea traffic		Residual oil	0,013	5,190	0,270	0,050	0,020	0,070	0,030	3,500	14,000
2012	A	080403	Fishing		Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180	1,950	8,760
2012	A	080403	Fishing		Gasoline									
2012	A	080403	Fishing		Kerosene									
2012	A	080403	Fishing		LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080404	International sea traffic		Diesel	0,012	7,420	0,640	0,300	0,150	1,430	1,180	1,950	8,760
2012	A	080404	International sea traffic		Residual oil	0,013	4,120	0,200	0,090	0,070	0,260	0,200	3,500	14,000
2012	A	080501	Air traffic, Dom. < 3000 ft.		AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
2012	A	080501	Air traffic, Dom. < 3000 ft.		Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

2012	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
2012	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080600	Agriculture	Diesel	0,001	4,350	0,510	0,496	0,256	0,464	0,264	6,150	526,000
2012	A	080600	Agriculture	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,010	0,457
2012	A	080700	Forestry	Diesel	0,001	4,350	0,510	0,496	0,256	0,464	0,264	6,150	526,000
2012	A	080700	Forestry	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,010	0,457
2012	A	080800	Industry	Diesel	0,001	4,350	0,510	0,496	0,256	0,464	0,264	6,150	526,000
2012	A	080800	Industry	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,010	0,457
2012	A	080800	Industry	LPG	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	A	080900	Household and gardening	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,010	0,457
2012	A	081100	Commercial and institutional	Gasoline	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,010	0,457
2012	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
2012	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,005	4,329	0,209	0,071	0,114	0,689	0,245	0,000	0,000
2012	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
2012	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

1990 emissions for SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub>O, NH<sub>3</sub>, TSP, PM<sub>10</sub> and PM<sub>2.5</sub>.

Year	SNAP ID	Category	Fuel type	Fuel PJ	SO <sub>2</sub> tons	NO <sub>x</sub> tons	NMVOC tons	CH <sub>4</sub> tons	CO tons	CO <sub>2</sub> ktons	N <sub>2</sub> O tons	NH <sub>3</sub> tons	TSP tons	PM <sub>10</sub> tons	PM <sub>2.5</sub> tons
1990	A 070101	Passenger cars	Highway Diesel	1,84	172,33	514,23	46,12	6,88	330,57	136,13	0,00	0,86	146,22	146,22	146,22
1990	A 070101	Passenger cars	Highway Gasoline	13,64	31,14	17941,01	5206,57	148,53	52065,85	995,70	37,14	11,43	175,16	175,16	175,16
1990	A 070101	Passenger cars	Highway LPG	0,02	0,00	20,08	3,26	0,18	68,23	1,10	0,00	0,00	0,18	0,18	0,18
1990	A 070102	Passenger cars	Rural Diesel	3,74	350,29	1049,16	157,40	25,50	1002,43	276,71	0,00	2,13	280,94	280,94	280,94
1990	A 070102	Passenger cars	Rural Gasoline	29,81	68,05	34230,22	14915,05	411,15	127372,70	2175,93	91,75	28,23	446,30	446,30	446,30
1990	A 070102	Passenger cars	Rural LPG	0,04	0,00	44,81	10,95	0,61	41,15	2,26	0,00	0,00	0,52	0,52	0,52
1990	A 070103	Passenger cars	Urban Diesel	2,57	240,85	567,80	264,93	17,55	886,92	190,26	0,00	0,81	370,85	370,85	370,85
1990	A 070103	Passenger cars	Urban Gasoline	19,93	45,50	11129,18	21829,78	1126,14	249404,91	1454,89	54,00	10,80	246,59	246,59	246,59
1990	A 070103	Passenger cars	Urban LPG	0,03	0,00	13,47	12,07	0,53	40,50	1,61	0,00	0,00	0,27	0,27	0,27
1990	A 070201	Light duty vehicles	Highway Diesel	3,35	314,00	907,29	101,20	8,71	1153,53	248,05	0,00	1,09	350,21	350,21	350,21
1990	A 070201	Light duty vehicles	Highway Gasoline	0,40	0,90	542,61	67,48	4,01	1183,85	28,93	1,04	0,32	6,41	6,41	6,41
1990	A 070201	Light duty vehicles	Highway LPG	0,01	0,00	16,85	2,74	0,15	57,28	0,92	0,00	0,00	0,15	0,15	0,15
1990	A 070202	Light duty vehicles	Rural Diesel	7,98	747,28	2387,17	265,03	34,00	2859,22	590,31	0,00	2,83	859,40	859,40	859,40
1990	A 070202	Light duty vehicles	Rural Gasoline	1,09	2,50	1300,90	287,33	16,69	2534,47	79,88	2,71	0,83	16,69	16,69	16,69
1990	A 070202	Light duty vehicles	Rural LPG	0,03	0,00	39,65	9,69	0,54	36,40	2,00	0,00	0,00	0,46	0,46	0,46
1990	A 070203	Light duty vehicles	Urban Diesel	3,71	347,82	1742,28	277,76	16,99	1720,50	274,76	0,00	0,84	615,45	615,45	615,45
1990	A 070203	Light duty vehicles	Urban Gasoline	0,67	1,53	367,62	586,86	26,75	6396,69	49,01	1,24	0,25	4,95	4,95	4,95
1990	A 070203	Light duty vehicles	Urban LPG	0,02	0,00	9,07	9,07	0,36	31,71	1,17	0,00	0,00	0,18	0,18	0,18
1990	A 070301	Heavy duty vehicles	Highway Diesel	10,37	971,35	10145,87	432,52	66,80	2074,02	767,32	31,95	3,20	363,93	363,93	363,93
1990	A 070301	Heavy duty vehicles	Highway Gasoline	0,03	0,08	35,45	16,21	0,33	259,98	2,49	0,03	0,01	1,89	1,89	1,89
1990	A 070302	Heavy duty vehicles	Rural Diesel	17,72	1659,89	17450,79	1023,06	120,07	3743,13	1311,23	51,77	5,18	633,09	633,09	633,09
1990	A 070302	Heavy duty vehicles	Rural Gasoline	0,09	0,21	103,04	74,05	1,51	755,60	6,59	0,08	0,03	5,50	5,50	5,50
1990	A 070303	Heavy duty vehicles	Urban Diesel	8,67	811,84	8380,30	752,74	107,60	2339,19	641,31	19,90	1,99	365,78	365,78	365,78
1990	A 070303	Heavy duty vehicles	Urban Gasoline	0,08	0,17	34,44	52,51	1,07	535,81	5,51	0,05	0,02	3,06	3,06	3,06
1990	A 070400	Mopeds	Urban Gasoline	0,18	0,40	9,01	1316,72	35,25	2365,94	12,87	0,16	0,16	28,33	28,33	28,33
1990	A 070501	Motorcycles	Highway Gasoline	0,06	0,13	14,85	60,27	7,31	916,37	4,10	0,08	0,08	1,78	1,78	1,78
1990	A 070502	Motorcycles	Rural Gasoline	0,13	0,31	24,98	132,28	21,47	2126,59	9,84	0,22	0,22	5,24	5,24	5,24
1990	A 070503	Motorcycles	Urban Gasoline	0,17	0,39	19,53	198,77	26,83	2626,92	12,63	0,28	0,28	6,55	6,55	6,55
1990	A 080100	Military	AvGas	0,00	0,11	4,22	6,11	0,11	34,26	0,36	0,01	0,01	0,05	0,05	0,05
1990	A 080100	Military	Diesel	0,15	13,69	105,20	8,10	0,99	39,28	10,82	0,25	0,05	9,72	9,72	9,72
1990	A 080100	Military	Gasoline	0,00	0,00	0,98	1,10	0,03	6,67	0,07	0,00	0,00	0,01	0,01	0,01
1990	A 080100	Military	Jet fuel	1,50	34,41	375,06	37,33	3,96	344,09	107,77	3,44		1,74	1,74	1,74
1990	A 080200	Railways	Diesel	4,01	375,64	4912,78	320,54	12,32	895,07	296,74	8,18	0,82	201,55	201,55	201,55
1990	A 080200	Railways	Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

1990	A	080300	Inland waterways	Diesel	0,34	32,10	337,02	58,86	0,96	155,43	25,35	1,01	0,06	36,64	36,64	36,64
1990	A	080300	Inland waterways	Gasoline	0,31	0,71	90,06	1114,91	15,58	4282,54	22,57	0,24	0,02	56,40	56,40	56,40
1990	A	080402	National sea traffic	Diesel	5,29	495,12	5836,01	267,28	8,27	881,74	391,12	24,76		122,69	121,47	120,85
1990	A	080402	National sea traffic	Residual oil	4,57	5901,32	7383,82	244,28	7,56	805,87	356,56	22,35		682,25	675,43	672,02
1990	A	080403	Fishing	Diesel	7,92	741,91	8332,71	389,10	12,03	1283,63	586,07	37,10		183,85	182,01	181,09
1990	A	080403	Fishing	Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080403	Fishing	Residual oil	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		0,00	0,00	0,00
1990	A	080404	International sea traffic	Diesel	11,29	1057,56	13644,52	558,38	17,27	1842,07	835,42	52,88		262,07	259,45	258,14
1990	A	080404	International sea traffic	Residual oil	27,81	40259,78	46994,61	1501,54	46,44	4953,54	2169,54	136,01		5268,82	5216,14	5189,79
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,10	2,40	90,15	130,41	2,30	731,69	7,66	0,21	0,17	1,05	1,05	1,05
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,42	9,71	132,78	6,27	0,70	38,17	30,40	2,40		0,49	0,49	0,49
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,03	0,70	26,34	38,10	0,67	213,76	2,24	0,06	0,05	0,31	0,31	0,31
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,13	3,04	40,93	2,17	0,24	22,36	9,53	0,94		0,15	0,15	0,15
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	1,03	23,59	338,70	14,02	0,00	93,11	73,87	2,36		1,19	1,19	1,19
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	1,61	37,06	393,62	11,56	0,00	87,20	116,06	3,71		1,87	1,87	1,87
1990	A	080600	Agriculture	Diesel	16,50	1545,32	12518,46	2587,36	42,07	10483,86	1220,72	48,34	2,76	2382,90	2382,90	2382,90
1990	A	080600	Agriculture	Gasoline	0,71	1,62	22,40	673,10	62,68	33688,19	51,75	0,91	0,06	4,65	4,65	4,65
1990	A	080700	Forestry	Diesel	0,15	13,62	124,63	22,74	0,37	93,84	10,76	0,43	0,02	21,66	21,66	21,66
1990	A	080700	Forestry	Gasoline	0,34	0,78	13,79	2460,65	20,63	6165,33	24,92	0,13	0,03	34,56	34,56	34,56
1990	A	080800	Industry	Diesel	10,16	951,61	9483,66	1810,53	29,44	6661,90	751,72	29,87	1,71	1569,49	1569,49	1569,49
1990	A	080800	Industry	Gasoline	0,18	0,40	23,88	282,25	21,13	2592,92	12,79	0,23	0,02	2,17	2,17	2,17
1990	A	080800	Industry	LPG	1,18	0,00	1573,62	173,10	9,11	124,23	74,76	4,14	0,25	5,80	5,80	5,80
1990	A	080900	Household and gardening	Gasoline	0,54	1,22	34,24	1801,26	50,96	17606,46	39,06	0,62	0,04	11,10	11,10	11,10
1990	A	081100	Commercial and institutional	Gasoline	1,01	2,31	69,51	2303,07	98,83	30181,04	73,72	1,10	0,08	24,24	24,24	24,24
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,01	0,20	7,42	10,74	0,19	60,25	0,63	0,02	0,01	0,09	0,09	0,09
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,50	11,54	142,54	10,36	1,15	65,13	36,16	2,30		0,58	0,58	0,58
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,01	0,13	4,82	6,97	0,12	39,13	0,41	0,01	0,01	0,06	0,06	0,06
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	2,00	46,00	650,12	68,24	7,58	314,49	144,09	7,58		2,32	2,32	2,32
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	1,31	30,00	410,96	17,01	0,00	109,71	93,97	3,00		1,51	1,51	1,51
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	20,33	467,36	5899,81	226,68	0,00	765,45	1463,78	46,74		23,58	23,58	23,58

## 1990 emissions for Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Selenium and Zinc.

Year	SNAP ID	Category	Fuel type	Fuel PJ	Arsenic kg	Cadmium kg	Chromium kg	Copper kg	Mercury kg	Nickel kg	Lead kg	Selenium kg	Zinc kg
1990	A 070101	Passenger cars	Highway Diesel	1,84	0,00	0,54	1,70	1,21	0,23	0,54	3,23	0,00	107,81
1990	A 070101	Passenger cars	Highway Gasoline	13,64	0,09	3,72	5,26	14,22	2,71	4,38	20077,75	0,06	742,80
1990	A 070101	Passenger cars	Highway LPG	0,02	0,00	0,01	0,00	0,02	0,00	0,01	0,02	0,00	1,05
1990	A 070102	Passenger cars	Rural Diesel	3,74	0,01	1,33	4,05	2,88	0,46	1,34	7,98	0,01	266,03
1990	A 070102	Passenger cars	Rural Gasoline	29,81	0,20	9,19	12,43	34,73	5,92	10,61	43879,62	0,14	1832,30
1990	A 070102	Passenger cars	Rural LPG	0,04	0,00	0,01	0,01	0,05	0,00	0,01	0,04	0,00	2,59
1990	A 070103	Passenger cars	Urban Diesel	2,57	0,01	0,51	1,78	1,25	0,32	0,52	3,07	0,01	102,25
1990	A 070103	Passenger cars	Urban Gasoline	19,93	0,14	3,55	5,98	14,16	3,96	4,51	29331,40	0,09	707,35
1990	A 070103	Passenger cars	Urban LPG	0,03	0,00	0,00	0,00	0,02	0,00	0,00	0,01	0,00	0,99
1990	A 070201	Light duty vehicles	Highway Diesel	3,35	0,01	0,65	2,27	1,60	0,42	0,66	3,89	0,01	129,82
1990	A 070201	Light duty vehicles	Highway Gasoline	0,40	0,00	0,10	0,15	0,39	0,08	0,12	583,30	0,00	19,97
1990	A 070201	Light duty vehicles	Highway LPG	0,01	0,00	0,00	0,00	0,01	0,00	0,00	0,01	0,00	0,58
1990	A 070202	Light duty vehicles	Rural Diesel	7,98	0,02	1,68	5,77	4,07	0,99	1,71	10,12	0,02	337,73
1990	A 070202	Light duty vehicles	Rural Gasoline	1,09	0,01	0,26	0,39	1,01	0,22	0,31	1610,62	0,00	52,06
1990	A 070202	Light duty vehicles	Rural LPG	0,03	0,00	0,01	0,01	0,03	0,00	0,01	0,02	0,00	1,51
1990	A 070203	Light duty vehicles	Urban Diesel	3,71	0,01	0,50	1,98	1,39	0,46	0,51	3,02	0,01	100,74
1990	A 070203	Light duty vehicles	Urban Gasoline	0,67	0,00	0,08	0,16	0,33	0,13	0,11	987,98	0,00	15,70
1990	A 070203	Light duty vehicles	Urban LPG	0,02	0,00	0,00	0,00	0,01	0,00	0,00	0,01	0,00	0,45
1990	A 070301	Heavy duty vehicles	Highway Diesel	10,37	0,02	1,55	5,91	4,16	1,29	1,59	9,36	0,02	312,42
1990	A 070301	Heavy duty vehicles	Highway Gasoline	0,03	0,00	0,01	0,01	0,03	0,01	0,01	50,28	0,00	1,41
1990	A 070302	Heavy duty vehicles	Rural Diesel	17,72	0,04	2,54	9,83	6,90	2,20	2,60	15,34	0,04	511,81
1990	A 070302	Heavy duty vehicles	Rural Gasoline	0,09	0,00	0,02	0,03	0,08	0,02	0,02	132,85	0,00	3,96
1990	A 070303	Heavy duty vehicles	Urban Diesel	8,67	0,02	0,99	4,19	2,93	1,08	1,03	6,01	0,02	200,56
1990	A 070303	Heavy duty vehicles	Urban Gasoline	0,08	0,00	0,01	0,02	0,04	0,01	0,01	111,01	0,00	2,14
1990	A 070400	Mopeds	Urban Gasoline	0,18	0,00	0,00	0,03	0,02	0,04	0,01	259,28	0,00	0,13
1990	A 070501	Motorcycles	Highway Gasoline	0,06	0,00	0,01	0,01	0,03	0,01	0,01	82,72	0,00	1,50
1990	A 070502	Motorcycles	Rural Gasoline	0,13	0,00	0,02	0,04	0,09	0,03	0,03	198,30	0,00	4,38
1990	A 070503	Motorcycles	Urban Gasoline	0,17	0,00	0,03	0,05	0,11	0,03	0,04	254,55	0,00	5,48
1990	A 080100	Military	AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	62,82	0,00	0,25
1990	A 080100	Military	Diesel	0,15	0,00	0,03	0,09	0,06	0,02	0,03	0,15	0,00	5,05
1990	A 080100	Military	Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,45	0,00	0,05
1990	A 080100	Military	Jet fuel	1,50		0,00	0,00	0,00		0,00		0,00	0,00
1990	A 080200	Railways	Diesel	4,01	0,01	0,74	2,65	1,87	0,50	0,76	4,48	0,01	149,55
1990	A 080200	Railways	Gasoline	0,00		0,00	0,00	0,00		0,00	0,00	0,00	0,00



1990	A	080300	Inland waterways	Diesel	0,34	0,00	0,06	0,23	0,16	0,04	0,06	0,38	0,00	12,78
1990	A	080300	Inland waterways	Gasoline	0,31	0,00	0,08	0,11	0,30	0,06	0,09	0,24	0,00	15,60
1990	A	080402	National sea traffic	Diesel	5,29	6,19	1,24	4,95	6,19	6,18	8,66	12,37	24,76	61,89
1990	A	080402	National sea traffic	Residual oil	4,57	55,88	3,35	22,35	55,88	2,24	3353,02	22,35	44,71	100,59
1990	A	080403	Fishing	Diesel	7,92	9,27	1,85	7,42	9,27	9,27	12,98	18,53	37,10	92,74
1990	A	080403	Fishing	Gasoline	0,00		0,00	0,00	0,00		0,00	0,00	0,00	0,00
1990	A	080403	Fishing	Residual oil	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080404	International sea traffic	Diesel	11,29	13,22	2,64	10,58	13,22	13,21	18,51	26,42	52,88	132,20
1990	A	080404	International sea traffic	Residual oil	27,81	340,03	20,40	136,01	340,03	13,63	20401,92	136,01	272,03	612,06
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,10	0,00	0,03	0,04	0,10	0,02	0,03	1417,38	0,00	5,29
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,42		0,00	0,00	0,00		0,00		0,00	0,00
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,03	0,00	0,01	0,01	0,03	0,01	0,01	414,08	0,00	1,55
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,13		0,00	0,00	0,00		0,00		0,00	0,00
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	1,03		0,00	0,00	0,00		0,00		0,00	0,00
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	1,61		0,00	0,00	0,00		0,00		0,00	0,00
1990	A	080600	Agriculture	Diesel	16,50	0,04	3,06	10,88	7,67	2,04	3,12	18,44	0,04	615,23
1990	A	080600	Agriculture	Gasoline	0,71	0,00	0,18	0,26	0,69	0,14	0,21	0,55	0,00	35,76
1990	A	080700	Forestry	Diesel	0,15	0,00	0,03	0,10	0,07	0,02	0,03	0,16	0,00	5,42
1990	A	080700	Forestry	Gasoline	0,34	0,00	0,09	0,13	0,33	0,07	0,10	0,26	0,00	17,23
1990	A	080800	Industry	Diesel	10,16	0,02	1,88	6,70	4,73	1,26	1,92	11,36	0,02	378,86
1990	A	080800	Industry	Gasoline	0,18	0,00	0,04	0,06	0,17	0,03	0,05	0,14	0,00	8,84
1990	A	080800	Industry	LPG	1,18	0,00	0,15	0,14	0,54	0,00	0,15	0,46	0,00	30,96
1990	A	080900	Household and gardening	Gasoline	0,54	0,00	0,14	0,20	0,52	0,11	0,16	0,41	0,00	27,00
1990	A	081100	Commercial and institutional	Gasoline	1,01	0,01	0,26	0,37	0,98	0,20	0,30	0,78	0,00	50,95
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,01	0,00	0,00	0,00	0,01	0,00	0,00	116,72	0,00	0,44
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,50		0,00	0,00	0,00		0,00		0,00	0,00
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,01	0,00	0,00	0,00	0,01	0,00	0,00	75,80	0,00	0,28
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	2,00		0,00	0,00	0,00		0,00		0,00	0,00
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	1,31		0,00	0,00	0,00		0,00		0,00	0,00
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	20,33		0,00	0,00	0,00		0,00		0,00	0,00

1990 emissions for Dioxins/, Flouranthene, Benzo(b), Benzo(k), Benzo(a), Benzo(g,h,i), indeno(1,2,3-c,d), HCB and PCB.

Year	SNAP ID	Category	Fuel type	Fuel	Dioxins/	Flouranthene	Benzo(b)	Benzo(k)	Benzo(a)	Benzo(g,h,i)	indeno(1,2,3-c,d)	HCB	PCB
				PJ	g	kg	kg	kg	kg	kg	kg	g	g
1990	A 070101	Passenger cars	Highway Diesel	1,84	0,00	22,53	1,38	1,25	1,50	2,92	1,42	0,01	0,04
1990	A 070101	Passenger cars	Highway Gasoline	13,64	0,18	116,03	7,54	5,80	6,38	15,08	5,80	0,00	14,05
1990	A 070101	Passenger cars	Highway LPG	0,02								0,00	0,00
1990	A 070102	Passenger cars	Rural Diesel	3,74	0,00	55,68	3,40	3,08	3,72	7,22	3,51	0,02	0,08
1990	A 070102	Passenger cars	Rural Gasoline	29,81	0,45	284,37	18,48	14,21	15,64	36,97	14,21	0,00	30,69
1990	A 070102	Passenger cars	Rural LPG	0,04								0,00	0,00
1990	A 070103	Passenger cars	Urban Diesel	2,57	0,00	23,92	1,46	1,32	1,60	3,10	1,51	0,02	0,05
1990	A 070103	Passenger cars	Urban Gasoline	19,93	0,20	128,10	8,33	6,40	7,05	16,65	6,40	0,00	20,52
1990	A 070103	Passenger cars	Urban LPG	0,03								0,00	0,00
1990	A 070201	Light duty vehicles	Highway Diesel	3,35	0,00	28,51	1,74	1,58	1,90	3,70	1,80	0,02	0,07
1990	A 070201	Light duty vehicles	Highway Gasoline	0,40	0,01	3,20	0,21	0,16	0,18	0,42	0,16	0,00	0,41
1990	A 070201	Light duty vehicles	Highway LPG	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A 070202	Light duty vehicles	Rural Diesel	7,98	0,00	74,23	4,53	4,11	4,96	9,63	4,67	0,05	0,17
1990	A 070202	Light duty vehicles	Rural Gasoline	1,09	0,01	8,34	0,54	0,42	0,46	1,08	0,42	0,00	1,13
1990	A 070202	Light duty vehicles	Rural LPG	0,03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A 070203	Light duty vehicles	Urban Diesel	3,71	0,00	25,82	1,58	1,43	1,72	3,35	1,63	0,02	0,08
1990	A 070203	Light duty vehicles	Urban Gasoline	0,67	0,00	3,06	0,20	0,15	0,17	0,40	0,15	0,00	0,69
1990	A 070203	Light duty vehicles	Urban LPG	0,02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A 070301	Heavy duty vehicles	Highway Diesel	10,37	0,01	21,63	5,46	8,08	1,01	0,81	1,41	0,06	5,45
1990	A 070301	Heavy duty vehicles	Highway Gasoline	0,03								0,00	0,04
1990	A 070302	Heavy duty vehicles	Rural Diesel	17,72	0,02	39,12	9,87	14,62	1,83	1,46	2,56	0,11	9,32
1990	A 070302	Heavy duty vehicles	Rural Gasoline	0,09								0,00	0,09
1990	A 070303	Heavy duty vehicles	Urban Diesel	8,67	0,01	15,49	3,91	5,79	0,72	0,58	1,01	0,05	4,56
1990	A 070303	Heavy duty vehicles	Urban Gasoline	0,08								0,00	0,08
1990	A 070400	Mopeds	Urban Gasoline	0,18								0,00	0,18
1990	A 070501	Motorcycles	Highway Gasoline	0,06	0,00	0,71	0,05	0,04	0,04	0,09	0,04	0,00	0,06
1990	A 070502	Motorcycles	Rural Gasoline	0,13	0,00	2,04	0,13	0,10	0,11	0,27	0,10	0,00	0,14
1990	A 070503	Motorcycles	Urban Gasoline	0,17	0,00	2,65	0,17	0,13	0,15	0,34	0,13	0,00	0,18
1990	A 080100	Military	AvGas	0,00	0,00	0,02	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A 080100	Military	Diesel	0,15	0,00	0,64	0,08	0,08	0,04	0,08	0,04	0,00	0,05
1990	A 080100	Military	Gasoline	0,00	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A 080100	Military	Jet fuel	1,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A 080200	Railways	Diesel	4,01	0,00	5,48	1,40	1,56	0,23	0,20	0,36	0,02	2,11
1990	A 080200	Railways	Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

1990	A	080300	Inland waterways	Diesel	0,34	0,00	1,50	0,20	0,19	0,10	0,19	0,10	0,00	0,18
1990	A	080300	Inland waterways	Gasoline	0,31	0,00	1,34	0,06	0,02	0,04	0,21	0,08	0,00	0,32
1990	A	080402	National sea traffic	Diesel	5,29	0,06	39,22	3,38	1,59	0,79	7,56	6,24	0,01	0,05
1990	A	080402	National sea traffic	Residual oil	4,57	0,06	23,72	1,23	0,23	0,09	0,32	0,14	0,02	0,06
1990	A	080403	Fishing	Diesel	7,92	0,10	58,77	5,07	2,38	1,19	11,33	9,35	0,02	0,07
1990	A	080403	Fishing	Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080403	Fishing	Residual oil	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080404	International sea traffic	Diesel	11,29	0,14	83,77	7,23	3,39	1,69	16,14	13,32	0,02	0,10
1990	A	080404	International sea traffic	Residual oil	27,81	0,37	114,60	5,56	2,50	1,95	7,23	5,56	0,10	0,39
1990	A	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,10	0,00	0,45	0,02	0,01	0,01	0,07	0,03	0,00	0,00
1990	A	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,42	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080502	Air traffic, Int. < 3000 ft.	AvGas	0,03	0,00	0,13	0,01	0,00	0,00	0,02	0,01	0,00	0,00
1990	A	080502	Air traffic, Int. < 3000 ft.	Jet fuel	0,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	1,03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080504	Air traffic, Int. > 3000 ft.	Jet fuel	1,61	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
1990	A	080600	Agriculture	Diesel	16,50	0,01	72,44	9,41	9,37	4,78	9,07	4,79	0,10	8,68
1990	A	080600	Agriculture	Gasoline	0,71	0,00	3,07	0,15	0,05	0,08	0,49	0,17	0,00	0,73
1990	A	080700	Forestry	Diesel	0,15	0,00	0,64	0,08	0,08	0,04	0,08	0,04	0,00	0,08
1990	A	080700	Forestry	Gasoline	0,34	0,00	1,48	0,07	0,02	0,04	0,24	0,08	0,00	0,35
1990	A	080800	Industry	Diesel	10,16	0,01	44,61	5,80	5,77	2,94	5,59	2,95	0,06	5,34
1990	A	080800	Industry	Gasoline	0,18	0,00	0,76	0,04	0,01	0,02	0,12	0,04	0,00	0,18
1990	A	080800	Industry	LPG	1,18								0,00	0,00
1990	A	080900	Household and gardening	Gasoline	0,54	0,00	2,32	0,11	0,04	0,06	0,37	0,13	0,00	0,55
1990	A	081100	Commercial and institutional	Gasoline	1,01	0,01	4,37	0,21	0,07	0,12	0,70	0,25	0,00	1,04
1990	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,01	0,00	0,04	0,00	0,00	0,00	0,01	0,00		
1990	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,50	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
1990	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,01	0,00	0,02	0,00	0,00	0,00	0,00	0,00		
1990	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	2,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
1990	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	1,31	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
1990	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	20,33	0,00	0,00	0,00	0,00	0,00	0,00	0,00		

2012 emissions for SO<sub>2</sub>, NO<sub>x</sub>, NMVOC, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub>O, NH<sub>3</sub>, TSP, PM<sub>10</sub> and PM<sub>2.5</sub>.

Year	SNAP ID	Category	Fuel type	Fuel PJ	SO <sub>2</sub> tons	NO <sub>x</sub> tons	NMVOC tons	CH <sub>4</sub> tons	CO tons	CO <sub>2</sub> ktons	N <sub>2</sub> O tons	NH <sub>3</sub> tons	TSP tons	PM <sub>10</sub> tons	PM <sub>2.5</sub> tons
2012	A 070101	Passenger cars	Highway Bio ethanol	0,51	0,00	67,81	16,18	1,85	354,39	0,00	0,38	16,57	0,52	0,52	0,52
2012	A 070101	Passenger cars	Highway Biodiesel	0,74	0,00	254,21	2,96	0,08	9,52	0,00	1,52	0,37	8,92	8,92	8,92
2012	A 070101	Passenger cars	Highway Diesel	11,03	5,16	3804,87	44,23	1,16	142,42	815,90	22,79	5,59	133,46	133,46	133,46
2012	A 070101	Passenger cars	Highway Gasoline	13,94	6,37	1854,54	442,61	50,59	9691,85	1017,93	10,27	453,08	14,24	14,24	14,24
2012	A 070101	Passenger cars	Highway LPG	0,00	0,00	0,05	0,01	0,00	0,30	0,01	0,00	0,00	0,00	0,00	0,00
2012	A 070102	Passenger cars	Rural Bio ethanol	0,83	0,00	92,05	30,58	2,92	463,27	0,00	1,14	28,06	0,81	0,81	0,81
2012	A 070102	Passenger cars	Rural Biodiesel	1,19	0,00	343,09	6,24	0,25	29,31	0,00	2,64	0,65	11,99	11,99	11,99
2012	A 070102	Passenger cars	Rural Diesel	17,79	8,33	5135,05	93,38	3,72	438,75	1316,38	39,47	9,68	179,51	179,51	179,51
2012	A 070102	Passenger cars	Rural Gasoline	22,81	10,42	2517,30	836,39	79,89	12669,41	1665,10	31,28	767,44	22,21	22,21	22,21
2012	A 070102	Passenger cars	Rural LPG	0,00	0,00	0,08	0,02	0,00	0,17	0,02	0,00	0,00	0,00	0,00	0,00
2012	A 070103	Passenger cars	Urban Bio ethanol	0,57	0,00	79,02	168,23	6,58	1848,83	0,00	1,18	4,38	0,50	0,50	0,50
2012	A 070103	Passenger cars	Urban Biodiesel	0,70	0,00	202,02	11,17	0,36	49,87	0,00	3,82	0,26	12,73	12,73	12,73
2012	A 070103	Passenger cars	Urban Diesel	10,40	4,87	3023,73	167,13	5,36	746,34	769,77	57,15	3,82	190,51	190,51	190,51
2012	A 070103	Passenger cars	Urban Gasoline	15,59	7,12	2161,08	4600,64	179,84	50561,05	1137,88	32,16	119,78	13,77	13,77	13,77
2012	A 070103	Passenger cars	Urban LPG	0,00	0,00	0,03	0,03	0,00	0,19	0,01	0,00	0,00	0,00	0,00	0,00
2012	A 070201	Light duty vehicles	Highway Bio ethanol	0,01	0,00	2,01	0,24	0,03	6,81	0,00	0,02	0,28	0,02	0,02	0,02
2012	A 070201	Light duty vehicles	Highway Biodiesel	0,38	0,00	107,10	6,89	0,07	46,40	0,00	0,57	0,14	6,91	6,91	6,91
2012	A 070201	Light duty vehicles	Highway Diesel	5,66	2,65	1602,96	103,12	0,99	694,44	418,78	8,53	2,08	103,42	103,42	103,42
2012	A 070201	Light duty vehicles	Highway Gasoline	0,34	0,15	55,09	6,57	0,92	186,11	24,46	0,63	7,68	0,46	0,46	0,46
2012	A 070201	Light duty vehicles	Highway LPG	0,00	0,00	0,04	0,01	0,00	0,33	0,02	0,00	0,00	0,00	0,00	0,00
2012	A 070202	Light duty vehicles	Rural Bio ethanol	0,02	0,00	3,44	0,69	0,07	10,06	0,00	0,07	0,54	0,03	0,03	0,03
2012	A 070202	Light duty vehicles	Rural Biodiesel	0,64	0,00	188,52	13,14	0,26	67,01	0,00	1,05	0,26	9,52	9,52	9,52
2012	A 070202	Light duty vehicles	Rural Diesel	9,54	4,47	2821,59	196,64	3,90	1002,88	705,59	15,73	3,83	142,52	142,52	142,52
2012	A 070202	Light duty vehicles	Rural Gasoline	0,65	0,30	94,11	18,85	1,96	275,02	47,77	1,97	14,82	0,80	0,80	0,80
2012	A 070202	Light duty vehicles	Rural LPG	0,00	0,00	0,07	0,02	0,00	0,21	0,03	0,00	0,00	0,01	0,01	0,01
2012	A 070203	Light duty vehicles	Urban Bio ethanol	0,02	0,00	2,48	3,82	0,15	71,68	0,00	0,09	0,08	0,01	0,01	0,01
2012	A 070203	Light duty vehicles	Urban Biodiesel	0,40	0,00	109,10	16,88	0,32	56,16	0,00	1,39	0,10	10,00	10,00	10,00
2012	A 070203	Light duty vehicles	Urban Diesel	5,93	2,78	1632,94	252,72	4,79	840,58	439,03	20,82	1,53	149,62	149,62	149,62
2012	A 070203	Light duty vehicles	Urban Gasoline	0,52	0,24	67,81	104,45	4,21	1960,17	38,05	2,38	2,31	0,38	0,38	0,38
2012	A 070203	Light duty vehicles	Urban LPG	0,00	0,00	0,02	0,02	0,00	0,17	0,02	0,00	0,00	0,00	0,00	0,00
2012	A 070301	Heavy duty vehicles	Highway Bio ethanol	0,00	0,00	0,62	0,28	0,01	4,54	0,00	0,00	0,00	0,03	0,03	0,03
2012	A 070301	Heavy duty vehicles	Highway Biodiesel	0,96	0,00	375,59	7,12	1,96	131,01	0,00	3,00	0,30	5,92	5,92	5,92
2012	A 070301	Heavy duty vehicles	Highway Diesel	14,33	6,71	5621,53	106,53	29,27	1960,92	1060,75	44,88	4,49	88,65	88,65	88,65
2012	A 070301	Heavy duty vehicles	Highway Gasoline	0,02	0,01	16,92	7,74	0,16	124,12	1,19	0,01	0,00	0,90	0,90	0,90

2012	A	070302	Heavy duty vehicles	Rural	Biodiesel	1,14	0,00	518,83	11,43	2,67	153,74	0,00	3,36	0,34	7,57	7,57	7,57
2012	A	070302	Heavy duty vehicles	Rural	Diesel	17,07	8,00	7765,50	171,00	39,94	2301,11	1263,14	50,32	5,03	113,27	113,27	113,27
2012	A	070302	Heavy duty vehicles	Rural	Gasoline	0,04	0,02	42,14	30,28	0,62	309,02	2,69	0,03	0,01	2,25	2,25	2,25
2012	A	070303	Heavy duty vehicles	Urban	Diesel	5,91	2,77	3372,53	87,20	22,08	883,88	437,58	14,79	1,48	47,88	47,88	47,88
2012	A	070303	Heavy duty vehicles	Urban	Gasoline	0,02	0,01	11,19	17,06	0,35	174,10	1,79	0,01	0,00	0,99	0,99	0,99
2012	A	070400	Mopeds	Urban	Bio ethanol	0,01	0,00	1,08	32,67	0,68	54,03	0,00	0,01	0,01	0,57	0,57	0,57
2012	A	070501	Motorcycles	Highway	Gasoline	0,11	0,05	29,05	69,92	9,73	1116,11	7,84	0,14	0,14	1,69	1,69	1,69
2012	A	070502	Motorcycles	Rural	Bio ethanol	0,01	0,00	1,64	5,54	0,93	81,96	0,00	0,01	0,01	0,16	0,16	0,16
2012	A	070502	Motorcycles	Rural	Gasoline	0,23	0,11	44,84	151,59	25,51	2241,45	17,01	0,36	0,36	4,46	4,46	4,46
2012	A	070503	Motorcycles	Urban	Bio ethanol	0,01	0,00	1,21	8,14	1,17	94,09	0,00	0,02	0,02	0,19	0,19	0,19
2012	A	070503	Motorcycles	Urban	Gasoline	0,28	0,13	32,99	222,71	32,07	2573,10	20,27	0,42	0,42	5,18	5,18	5,18
2012	A	080100	Military		AvGas	0,00	0,09	3,21	4,64	0,08	26,02	0,27	0,01	0,01	0,04	0,04	0,04
2012	A	080100	Military		Diesel	0,88	0,39	313,55	11,02	1,00	81,24	65,15	2,47	0,34	10,36	10,36	10,36
2012	A	080100	Military		Gasoline	0,00	0,00	0,19	0,24	0,01	2,30	0,11	0,00	0,04	0,00	0,00	0,00
2012	A	080100	Military		Jet fuel	0,70	16,05	174,89	17,41	1,85	160,46	50,25	1,61	0,00	0,81	0,81	0,81
2012	A	080200	Railways		Diesel	3,37	1,58	2530,89	190,12	7,30	424,51	249,33	6,87	0,67	81,68	81,68	81,68
2012	A	080200	Railways		Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080200	Railways		Kerosene	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080300	Inland waterways		Diesel	1,00	46,94	818,78	156,85	2,55	440,28	74,16	2,98	0,17	95,75	95,75	95,75
2012	A	080300	Inland waterways		Gasoline	0,34	0,15	190,06	293,98	21,58	3772,37	24,46	0,52	0,04	5,84	5,84	5,84
2012	A	080402	National sea traffic		Diesel	2,90	135,99	3139,13	146,27	4,81	323,52	214,85	13,60	0,00	62,56	61,93	61,62
2012	A	080402	National sea traffic		Kerosene	0,00											
2012	A	080402	National sea traffic		LPG	0,01	0,00	12,12	3,74	0,20	4,30	0,61	0,00	0,00	0,00	0,00	0,00
2012	A	080402	National sea traffic		Residual oil	2,35	1150,72	4532,21	148,53	4,59	490,00	183,55	11,51		103,50	102,47	101,95
2012	A	080403	Fishing		Diesel	6,47	302,86	8670,24	373,24	11,54	1231,32	478,48	30,29	0,00	139,32	137,93	137,23
2012	A	080403	Fishing		Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080403	Fishing		Kerosene	0,00											
2012	A	080403	Fishing		LPG	0,01	0,00	12,12	3,74	0,20	4,30	0,61	0,00	0,00	0,00	0,00	0,00
2012	A	080404	International sea traffic		Diesel	10,31	483,08	16353,79	595,16	18,41	1963,42	763,22	48,31		222,23	220,01	218,90
2012	A	080404	International sea traffic		Residual oil	9,51	4652,66	20170,41	603,83	18,68	1992,00	742,15	46,53		418,48	414,30	412,21
2012	A	080501	Air traffic, Dom. < 3000 ft.		AvGas	0,06	1,42	53,48	77,36	1,36	434,06	4,54	0,12	0,10	0,62	0,62	0,62
2012	A	080501	Air traffic, Dom. < 3000 ft.		Jet fuel	0,23	5,32	71,62	3,80	0,42	34,07	16,67	2,14		0,27	0,27	0,27
2012	A	080502	Air traffic, Int. < 3000 ft.		AvGas	0,00	0,02	0,68	0,98	0,02	5,49	0,06	0,00	0,00	0,01	0,01	0,01
2012	A	080502	Air traffic, Int. < 3000 ft.		Jet fuel	0,33	7,67	99,58	12,73	1,41	61,55	24,01	2,42		0,39	0,39	0,39
2012	A	080503	Air traffic, Dom. > 3000 ft.		Jet fuel	0,49	11,22	135,75	3,34	0,00	46,48	35,15	1,12		0,57	0,57	0,57
2012	A	080504	Air traffic, Int. > 3000 ft.		Jet fuel	3,54	81,38	845,12	21,27	0,00	170,61	254,88	8,14		4,11	4,11	4,11
2012	A	080600	Agriculture		Diesel	17,64	8,26	9364,59	864,10	14,05	5446,35	1305,62	56,21	3,21	692,88	692,88	692,88

2012	A	080600	Agriculture	Gasoline	0,52	0,24	57,46	614,21	82,78	11272,32	37,87	0,89	0,79	16,09	16,09	16,09
2012	A	080700	Forestry	Diesel	0,16	0,07	55,24	4,11	0,07	35,91	11,75	0,51	0,03	3,72	3,72	3,72
2012	A	080700	Forestry	Gasoline	0,07	0,03	3,84	277,81	2,17	1255,55	5,12	0,03	0,01	5,76	5,76	5,76
2012	A	080800	Industry	Diesel	12,82	6,00	6270,79	694,64	11,29	3931,91	948,53	39,70	2,27	609,10	609,10	609,10
2012	A	080800	Industry	Gasoline	0,16	0,07	33,14	238,85	17,01	2204,59	11,41	0,23	0,02	3,20	3,20	3,20
2012	A	080800	Industry	LPG	0,97	0,00	1293,53	142,29	7,49	102,12	61,46	3,40	0,20	4,77	4,77	4,77
2012	A	080900	Household and gardening	Gasoline	0,86	0,39	92,15	1953,14	64,53	26236,07	62,43	1,08	0,08	14,71	14,71	14,71
2012	A	081100	Commercial and institutional	Gasoline	2,35	1,07	219,03	3636,05	151,26	72586,61	171,41	2,65	0,21	66,99	66,99	66,99
2012	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,00	0,01	0,43	0,62	0,01	3,48	0,04	0,00	0,00	0,00	0,00	0,00
2012	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,25	5,83	76,58	4,71	0,52	48,58	18,25	1,44		0,29	0,29	0,29
2012	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,00	0,00	0,10	0,14	0,00	0,80	0,01	0,00	0,00	0,00	0,00	0,00
2012	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	2,76	63,36	935,33	93,17	10,35	654,21	198,45	10,67	0,00	3,20	3,20	3,20
2012	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,80	18,51	241,03	7,75	0,00	40,42	57,96	1,85	0,00	0,93	0,93	0,93
2012	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	28,22	648,83	8747,67	251,07	0,00	883,26	2032,12	64,88	0,00	32,74	32,74	32,74

## 2012 emissions for Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Selenium and Zinc.

Year	SNAP ID	Category	Fuel type	Fuel PJ	Arsenic kg	Cadmium kg	Chromium kg	Copper kg	Mercury kg	Nickel kg	Lead kg	Selenium kg	Zinc kg
2012	A 070101	Passenger cars	Highway	Bio ethanol	0,51	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070101	Passenger cars	Highway	Biodiesel	0,74	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070101	Passenger cars	Highway	Diesel	11,03	0,03	3,45	10,78	7,65	1,37	3,48	20,72	0,03 691,14
2012	A 070101	Passenger cars	Highway	Gasoline	13,94	0,10	4,63	6,11	17,41	2,77	5,30	14,07	0,06 923,33
2012	A 070101	Passenger cars	Highway	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,01
2012	A 070102	Passenger cars	Rural	Bio ethanol	0,83	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070102	Passenger cars	Rural	Biodiesel	1,19	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070102	Passenger cars	Rural	Diesel	17,79	0,04	5,97	18,40	13,08	2,21	6,03	35,88	0,04 1196,48
2012	A 070102	Passenger cars	Rural	Gasoline	22,81	0,16	8,01	10,40	30,01	4,53	9,10	24,34	0,10 1598,17
2012	A 070102	Passenger cars	Rural	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,02
2012	A 070103	Passenger cars	Urban	Bio ethanol	0,57	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070103	Passenger cars	Urban	Biodiesel	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070103	Passenger cars	Urban	Diesel	10,40	0,02	2,36	7,94	5,61	1,29	2,40	14,21	0,02 473,89
2012	A 070103	Passenger cars	Urban	Gasoline	15,59	0,11	3,19	5,05	12,53	3,10	3,94	9,79	0,07 636,04
2012	A 070103	Passenger cars	Urban	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,01
2012	A 070201	Light duty vehicles	Highway	Bio ethanol	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070201	Light duty vehicles	Highway	Biodiesel	0,38	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070201	Light duty vehicles	Highway	Diesel	5,66	0,01	1,35	4,49	3,18	0,70	1,37	8,14	0,01 271,39
2012	A 070201	Light duty vehicles	Highway	Gasoline	0,34	0,00	0,08	0,12	0,33	0,07	0,10	0,26	0,00 16,92
2012	A 070201	Light duty vehicles	Highway	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,01
2012	A 070202	Light duty vehicles	Rural	Bio ethanol	0,02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070202	Light duty vehicles	Rural	Biodiesel	0,64	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070202	Light duty vehicles	Rural	Diesel	9,54	0,02	2,49	8,10	5,74	1,18	2,52	14,99	0,02 499,91
2012	A 070202	Light duty vehicles	Rural	Gasoline	0,65	0,00	0,16	0,23	0,61	0,13	0,19	0,48	0,00 31,23
2012	A 070202	Light duty vehicles	Rural	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,02
2012	A 070203	Light duty vehicles	Urban	Bio ethanol	0,02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070203	Light duty vehicles	Urban	Biodiesel	0,40	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070203	Light duty vehicles	Urban	Diesel	5,93	0,01	1,00	3,66	2,58	0,74	1,02	6,02	0,01 200,76
2012	A 070203	Light duty vehicles	Urban	Gasoline	0,52	0,00	0,06	0,13	0,27	0,10	0,09	0,20	0,00 12,68
2012	A 070203	Light duty vehicles	Urban	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,01
2012	A 070301	Heavy duty vehicles	Highway	Bio ethanol	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070301	Heavy duty vehicles	Highway	Biodiesel	0,96	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A 070301	Heavy duty vehicles	Highway	Diesel	14,33	0,03	2,28	8,50	5,98	1,78	2,33	13,73	0,03 458,05
2012	A 070301	Heavy duty vehicles	Highway	Gasoline	0,02	0,00	0,00	0,01	0,02	0,00	0,01	0,01	0,00 0,85

2012	A	070302	Heavy duty vehicles	Rural	Biodiesel	1,14	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	070302	Heavy duty vehicles	Rural	Diesel	17,07	0,04	2,60	9,85	6,93	2,12	2,66	15,70	0,04 523,71
2012	A	070302	Heavy duty vehicles	Rural	Gasoline	0,04	0,00	0,01	0,01	0,04	0,01	0,01	0,03	0,00 2,17
2012	A	070303	Heavy duty vehicles	Urban	Diesel	5,91	0,01	0,78	3,11	2,18	0,73	0,80	4,72	0,01 157,47
2012	A	070303	Heavy duty vehicles	Urban	Gasoline	0,02	0,00	0,01	0,01	0,02	0,00	0,01	0,02	0,00 1,00
2012	A	070400	Mopeds	Urban	Bio ethanol	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00 0,00
2012	A	070501	Motorcycles	Highway	Gasoline	0,11	0,00	0,01	0,03	0,06	0,02	0,02	0,04	0,00 2,86
2012	A	070502	Motorcycles	Rural	Bio ethanol	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00 0,00
2012	A	070502	Motorcycles	Rural	Gasoline	0,23	0,00	0,04	0,07	0,15	0,05	0,05	0,12	0,00 7,51
2012	A	070503	Motorcycles	Urban	Bio ethanol	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00 0,00
2012	A	070503	Motorcycles	Urban	Gasoline	0,28	0,00	0,04	0,08	0,18	0,06	0,06	0,14	0,00 8,73
2012	A	080100	Military		AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	47,71	0,00 0,19
2012	A	080100	Military		Diesel	0,88	0,00	0,19	0,63	0,45	0,10	0,19	1,13	0,00 37,80
2012	A	080100	Military		Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00 0,09
2012	A	080100	Military		Jet fuel	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00 0,00
2012	A	080200	Railways		Diesel	3,37	0,01	0,63	2,22	1,57	0,42	0,64	3,77	0,01 125,66
2012	A	080200	Railways		Gasoline	0,00		0,00	0,00	0,00		0,00	0,00	0,00 0,00
2012	A	080200	Railways		Kerosene	0,00								
2012	A	080300	Inland waterways		Diesel	1,00	0,00	0,19	0,66	0,47	0,12	0,19	1,12	0,00 37,38
2012	A	080300	Inland waterways		Gasoline	0,34	0,00	0,08	0,12	0,33	0,07	0,10	0,26	0,00 16,91
2012	A	080402	National sea traffic		Diesel	2,90	3,40	0,67	2,73	3,40	3,40	4,76	6,79	13,59 34,00
2012	A	080402	National sea traffic		Kerosene	0,00								
2012	A	080402	National sea traffic		LPG	0,01								
2012	A	080402	National sea traffic		Residual oil	2,35	28,76	1,72	11,51	28,76	1,15	1726,08	11,51	23,01 51,77
2012	A	080403	Fishing		Diesel	6,47	7,57	1,49	6,08	7,57	7,57	10,60	15,13	30,26 75,72
2012	A	080403	Fishing		Gasoline	0,00		0,00	0,00	0,00		0,00	0,00	0,00 0,00
2012	A	080403	Fishing		Kerosene	0,00								
2012	A	080403	Fishing		LPG	0,01								
2012	A	080404	International sea traffic		Diesel	10,31	12,07	2,37	9,69	12,07	12,07	16,91	24,13	48,27 120,77
2012	A	080404	International sea traffic		Residual oil	9,51	116,27	6,95	46,53	116,27	4,66	6979,03	46,53	93,05 209,32
2012	A	080501	Air traffic, Dom. < 3000 ft.		AvGas	0,06	0,00	0,02	0,02	0,06	0,01	0,02	840,83	0,00 3,14
2012	A	080501	Air traffic, Dom. < 3000 ft.		Jet fuel	0,23		0,00	0,00	0,00		0,00	0,00	0,00 0,00
2012	A	080502	Air traffic, Int. < 3000 ft.		AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	10,63	0,00 0,04
2012	A	080502	Air traffic, Int. < 3000 ft.		Jet fuel	0,33		0,00	0,00	0,00		0,00	0,00	0,00 0,00
2012	A	080503	Air traffic, Dom. > 3000 ft.		Jet fuel	0,49		0,00	0,00	0,00		0,00	0,00	0,00 0,00
2012	A	080504	Air traffic, Int. > 3000 ft.		Jet fuel	3,54		0,00	0,00	0,00		0,00	0,00	0,00 0,00
2012	A	080600	Agriculture		Diesel	17,64	0,04	3,27	11,64	8,21	2,19	3,34	19,72	0,04 658,02



2012	A	080600	Agriculture	Gasoline	0,52	0,00	0,13	0,19	0,50	0,10	0,16	0,40	0,00	26,17
2012	A	080700	Forestry	Diesel	0,16	0,00	0,03	0,10	0,07	0,02	0,03	0,18	0,00	5,92
2012	A	080700	Forestry	Gasoline	0,07	0,00	0,02	0,03	0,07	0,01	0,02	0,05	0,00	3,54
2012	A	080800	Industry	Diesel	12,82	0,03	2,38	8,46	5,96	1,59	2,42	14,33	0,03	478,05
2012	A	080800	Industry	Gasoline	0,16	0,00	0,04	0,06	0,15	0,03	0,05	0,12	0,00	7,89
2012	A	080800	Industry	LPG	0,97	0,00	0,13	0,11	0,45	0,00	0,13	0,38	0,00	25,45
2012	A	080900	Household and gardening	Gasoline	0,86	0,01	0,22	0,31	0,83	0,17	0,26	0,66	0,00	43,15
2012	A	081100	Commercial and institutional	Gasoline	2,35	0,02	0,59	0,86	2,28	0,46	0,71	1,81	0,01	118,46
2012	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	6,73	0,00	0,03
2012	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,25		0,00	0,00	0,00		0,00		0,00	0,00
2012	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,55	0,00	0,01
2012	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	2,76	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,80	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	28,22	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

2012 emissions for Dioxins/, Flouranthene, Benzo(b), Benzo(k), Benzo(a), Benzo(g,h,i), indeno(1,2,3-c,d), HCB and PCB.

Year	SNAP ID	Category	Fuel type	Fuel	Dioxins/	Flouranthene	Benzo(b)	Benzo(k)	Benzo(a)	Benzo(g,h,i)	indeno(1,2,3-c,d)	HCB	PCB		
				PJ	g	kg	kg	kg	kg	kg	kg	g	g		
2012	A	070101	Passenger cars	Highway	Bio ethanol	0,51	0,00	0,58	0,11	0,13	0,10	0,21	0,15	0,00	0,00
2012	A	070101	Passenger cars	Highway	Biodiesel	0,74	0,00	9,44	0,58	0,52	0,63	1,23	0,59	0,00	0,02
2012	A	070101	Passenger cars	Highway	Diesel	11,03	0,00	141,29	8,62	7,82	9,44	18,34	8,90	0,07	0,23
2012	A	070101	Passenger cars	Highway	Gasoline	13,94	0,01	15,85	2,91	3,51	2,87	5,81	4,17	0,00	0,01
2012	A	070101	Passenger cars	Highway	LPG	0,00								0,00	0,00
2012	A	070102	Passenger cars	Rural	Bio ethanol	0,83	0,00	1,04	0,19	0,23	0,19	0,39	0,28	0,00	0,00
2012	A	070102	Passenger cars	Rural	Biodiesel	1,19	0,00	17,34	1,06	0,96	1,16	2,25	1,09	0,01	0,03
2012	A	070102	Passenger cars	Rural	Diesel	17,79	0,01	259,60	15,85	14,36	17,34	33,69	16,35	0,11	0,38
2012	A	070102	Passenger cars	Rural	Gasoline	22,81	0,01	28,53	5,28	6,40	5,22	10,57	7,61	0,00	0,01
2012	A	070102	Passenger cars	Rural	LPG	0,00								0,00	0,00
2012	A	070103	Passenger cars	Urban	Bio ethanol	0,57	0,00	0,41	0,07	0,09	0,07	0,15	0,10	0,00	0,00
2012	A	070103	Passenger cars	Urban	Biodiesel	0,70	0,00	6,73	0,41	0,37	0,45	0,87	0,42	0,00	0,01
2012	A	070103	Passenger cars	Urban	Diesel	10,40	0,01	100,73	6,15	5,57	6,73	13,07	6,34	0,06	0,22
2012	A	070103	Passenger cars	Urban	Gasoline	15,59	0,00	11,23	2,00	2,41	1,97	4,01	2,86	0,00	0,01
2012	A	070103	Passenger cars	Urban	LPG	0,00								0,00	0,00
2012	A	070201	Light duty vehicles	Highway	Bio ethanol	0,01	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	070201	Light duty vehicles	Highway	Biodiesel	0,38	0,00	3,49	0,21	0,19	0,23	0,45	0,22	0,00	0,01
2012	A	070201	Light duty vehicles	Highway	Diesel	5,66	0,00	52,26	3,19	2,89	3,49	6,78	3,29	0,03	0,12
2012	A	070201	Light duty vehicles	Highway	Gasoline	0,34	0,00	0,34	0,05	0,06	0,05	0,11	0,07	0,00	0,00
2012	A	070201	Light duty vehicles	Highway	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	070202	Light duty vehicles	Rural	Bio ethanol	0,02	0,00	0,02	0,00	0,00	0,00	0,01	0,00	0,00	0,00
2012	A	070202	Light duty vehicles	Rural	Biodiesel	0,64	0,00	6,44	0,39	0,36	0,43	0,84	0,41	0,00	0,01
2012	A	070202	Light duty vehicles	Rural	Diesel	9,54	0,01	96,33	5,88	5,33	6,43	12,50	6,06	0,06	0,20
2012	A	070202	Light duty vehicles	Rural	Gasoline	0,65	0,00	0,64	0,10	0,11	0,10	0,20	0,13	0,00	0,00
2012	A	070202	Light duty vehicles	Rural	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	070203	Light duty vehicles	Urban	Bio ethanol	0,02	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	070203	Light duty vehicles	Urban	Biodiesel	0,40	0,00	2,88	0,18	0,16	0,19	0,37	0,18	0,00	0,01
2012	A	070203	Light duty vehicles	Urban	Diesel	5,93	0,00	43,08	2,63	2,38	2,88	5,59	2,71	0,04	0,13
2012	A	070203	Light duty vehicles	Urban	Gasoline	0,52	0,00	0,29	0,05	0,05	0,04	0,09	0,06	0,00	0,00
2012	A	070203	Light duty vehicles	Urban	LPG	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	070301	Heavy duty vehicles	Highway	Bio ethanol	0,00								0,00	0,00
2012	A	070301	Heavy duty vehicles	Highway	Biodiesel	0,96	0,00	1,94	0,49	0,73	0,09	0,07	0,13	0,01	0,50
2012	A	070301	Heavy duty vehicles	Highway	Diesel	14,33	0,01	29,11	7,34	10,88	1,36	1,09	1,90	0,09	7,54
2012	A	070301	Heavy duty vehicles	Highway	Gasoline	0,02								0,00	0,00

2012	A	070302	Heavy duty vehicles	Rural	Biodiesel	1,14	0,00	2,36	0,59	0,88	0,11	0,09	0,15	0,01	0,60
2012	A	070302	Heavy duty vehicles	Rural	Diesel	17,07	0,02	35,27	8,90	13,18	1,65	1,32	2,31	0,10	8,98
2012	A	070302	Heavy duty vehicles	Rural	Gasoline	0,04								0,00	0,00
2012	A	070303	Heavy duty vehicles	Urban	Diesel	5,91	0,01	9,91	2,50	3,70	0,46	0,37	0,65	0,04	3,11
2012	A	070303	Heavy duty vehicles	Urban	Gasoline	0,02								0,00	0,00
2012	A	070400	Mopeds	Urban	Bio ethanol	0,01								0,00	0,00
2012	A	070501	Motorcycles	Highway	Gasoline	0,11	0,00	1,37	0,09	0,07	0,08	0,18	0,07	0,00	0,00
2012	A	070502	Motorcycles	Rural	Bio ethanol	0,01	0,00	0,13	0,01	0,01	0,01	0,02	0,01	0,00	0,00
2012	A	070502	Motorcycles	Rural	Gasoline	0,23	0,01	3,57	0,23	0,18	0,20	0,46	0,18	0,00	0,00
2012	A	070503	Motorcycles	Urban	Bio ethanol	0,01	0,00	0,16	0,01	0,01	0,01	0,02	0,01	0,00	0,00
2012	A	070503	Motorcycles	Urban	Gasoline	0,28	0,01	4,30	0,28	0,22	0,24	0,56	0,22	0,00	0,00
2012	A	080100	Military		AvGas	0,00	0,00	0,02	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080100	Military		Diesel	0,88	0,00	3,83	0,45	0,44	0,23	0,41	0,23	0,01	0,19
2012	A	080100	Military		Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080100	Military		Jet fuel	0,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080200	Railways		Diesel	3,37	0,00	4,75	1,21	1,35	0,20	0,17	0,31	0,02	1,77
2012	A	080200	Railways		Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080200	Railways		Kerosene	0,00								0,00	0,00
2012	A	080300	Inland waterways		Diesel	1,00	0,00	4,36	0,51	0,50	0,26	0,47	0,26	0,01	0,53
2012	A	080300	Inland waterways		Gasoline	0,34	0,00	1,45	0,07	0,02	0,04	0,23	0,08	0,00	0,00
2012	A	080402	National sea traffic		Diesel	2,90	0,03	21,54	1,86	0,87	0,44	4,15	3,43	0,01	0,03
2012	A	080402	National sea traffic		Kerosene	0,00									
2012	A	080402	National sea traffic		LPG	0,01								0,00	0,00
2012	A	080402	National sea traffic		Residual oil	2,35	0,03	12,21	0,64	0,12	0,05	0,16	0,07	0,01	0,03
2012	A	080403	Fishing		Diesel	6,47	0,08	47,98	4,14	1,94	0,97	9,25	7,63	0,01	0,06
2012	A	080403	Fishing		Gasoline	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080403	Fishing		Kerosene	0,00									
2012	A	080403	Fishing		LPG	0,01								0,00	0,00
2012	A	080404	International sea traffic		Diesel	10,31	0,12	76,53	6,60	3,09	1,55	14,75	12,17	0,02	0,09
2012	A	080404	International sea traffic		Residual oil	9,51	0,13	39,20	1,90	0,86	0,67	2,47	1,90	0,03	0,13
2012	A	080501	Air traffic, Dom. < 3000 ft.		AvGas	0,06	0,00	0,27	0,01	0,00	0,01	0,04	0,02	0,00	0,00
2012	A	080501	Air traffic, Dom. < 3000 ft.		Jet fuel	0,23	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080502	Air traffic, Int. < 3000 ft.		AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080502	Air traffic, Int. < 3000 ft.		Jet fuel	0,33	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080503	Air traffic, Dom. > 3000 ft.		Jet fuel	0,49	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080504	Air traffic, Int. > 3000 ft.		Jet fuel	3,54	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2012	A	080600	Agriculture		Diesel	17,64	0,01	76,75	9,01	8,75	4,51	8,19	4,66	0,11	9,28

2012	A	080600	Agriculture	Gasoline	0,52	0,00	2,25	0,11	0,04	0,06	0,36	0,13	0,00	0,00
2012	A	080700	Forestry	Diesel	0,16	0,00	0,69	0,08	0,08	0,04	0,07	0,04	0,00	0,08
2012	A	080700	Forestry	Gasoline	0,07	0,00	0,30	0,01	0,00	0,01	0,05	0,02	0,00	0,00
2012	A	080800	Industry	Diesel	12,82	0,01	55,76	6,54	6,36	3,28	5,95	3,39	0,08	6,74
2012	A	080800	Industry	Gasoline	0,16	0,00	0,68	0,03	0,01	0,02	0,11	0,04	0,00	0,00
2012	A	080800	Industry	LPG	0,97								0,00	0,00
2012	A	080900	Household and gardening	Gasoline	0,86	0,00	3,70	0,18	0,06	0,10	0,59	0,21	0,00	0,00
2012	A	081100	Commercial and institutional	Gasoline	2,35	0,01	10,16	0,49	0,17	0,27	1,62	0,57	0,00	0,00
2012	P	080501	Air traffic, Dom. < 3000 ft.	AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
2012	P	080501	Air traffic, Dom. < 3000 ft.	Jet fuel	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,00		
2012	P	080502	Air traffic, Int. < 3000 ft.	AvGas	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
2012	P	080502	Air traffic, Int. < 3000 ft.	Jet fuel	2,76	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
2012	P	080503	Air traffic, Dom. > 3000 ft.	Jet fuel	0,80	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
2012	P	080504	Air traffic, Int. > 3000 ft.	Jet fuel	28,22	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	

Non-exhaust emission factors, activity data and total non-exhaust emissions of TSP, PM<sub>10</sub> and PM<sub>2.5</sub> in 2012.

Year	Source	Category	Mileage kmkveh	TSP mg pr km	PM <sub>10</sub> mg pr km	PM <sub>2.5</sub> mg pr km	As µg pr km	Cd µg pr km	Cr µg pr km	Cu µg pr km	Hg µg pr km	Ni µg pr km	Pb µg pr km	Se µg pr km	Zn µg pr km
2012	Brake wear	1	43734320	6,2	6,1	2,4	0,1	0,1	0,7	649,8	0,0	0,7	85,7	0,1	124,7
2012	Brake wear	2	8369840	11,9	11,7	4,7	0,1	0,1	1,3	1254,9	0,0	1,3	165,5	0,2	240,8
2012	Brake wear	3	3155814	29,8	29,2	11,6	0,3	0,1	4,9	224,3	0,0	3,4	12,1	0,6	223,5
2012	Brake wear	4	766075	47,5	46,5	18,5	0,5	0,1	3,0	650,2	0,0	7,5	34,7	0,9	443,3
2012	Brake wear	5	222709	6,2	6,1	2,4	0,1	0,1	0,7	649,2	0,0	0,7	85,6	0,1	124,6
2012	Brake wear	6	475124	4,2	4,1	1,6	0,0	0,0	0,4	439,2	0,0	0,4	57,9	0,1	84,3
2012	Road abrasion	1	43734320	15,0	7,5	4,1	0,0	0,0	0,3	0,1	0,0	0,2	0,7	0,0	1,1
2012	Road abrasion	2	8369840	15,0	7,5	4,1	0,0	0,0	0,3	0,1	0,0	0,2	0,7	0,0	1,1
2012	Road abrasion	3	3155814	76,0	38,0	20,5	0,0	0,0	1,5	0,8	0,0	1,2	3,6	0,0	5,7
2012	Road abrasion	4	766075	76,0	38,0	20,5	0,0	0,0	1,5	0,8	0,0	1,2	3,6	0,0	5,7
2012	Road abrasion	5	222709	6,0	3,0	1,6	0,0	0,0	0,1	0,1	0,0	0,1	0,3	0,0	0,5
2012	Road abrasion	6	475124	6,0	3,0	1,6	0,0	0,0	0,1	0,1	0,0	0,1	0,3	0,0	0,5
2012	Tyre wear	1	43734320	10,8	6,5	4,6	0,0	0,0	0,0	0,2	0,0	0,3	0,9	0,2	118,5
2012	Tyre wear	2	8369840	17,2	10,3	7,2	0,0	0,0	0,1	0,3	0,0	0,4	1,4	0,3	187,7
2012	Tyre wear	3	3155814	65,5	39,3	27,5	0,1	0,2	0,2	1,0	0,0	1,7	5,3	1,3	716,8
2012	Tyre wear	4	766075	61,5	36,9	25,8	0,0	0,2	0,2	1,0	0,0	1,6	4,9	1,2	672,1
2012	Tyre wear	5	222709	14,2	8,5	6,0	0,0	0,0	0,1	0,2	0,0	0,4	1,1	0,3	154,9
2012	Tyre wear	6	475124	17,8	10,7	7,5	0,0	0,0	0,1	0,3	0,0	0,5	1,4	0,4	194,1
2012	Total	1	43734320	32,0	20,1	11,0	0,1	0,1	1,0	650,1	0,0	1,2	87,3	0,3	244,3
2012	Total	2	8369840	44,1	29,5	15,9	0,1	0,2	1,6	1255,3	0,0	1,9	167,5	0,6	429,7
2012	Total	3	3155814	171,3	106,5	59,7	0,3	0,3	6,6	226,1	0,0	6,3	21,0	1,9	946,1
2012	Total	4	766075	184,9	121,4	64,8	0,5	0,3	4,8	651,9	0,0	10,3	43,2	2,2	1121,1
2012	Total	5	222709	26,3	17,6	10,0	0,1	0,1	0,8	649,5	0,0	1,1	87,0	0,4	280,0
2012	Total	6	475124	27,9	17,7	10,7	0,1	0,1	0,6	439,6	0,0	1,0	59,6	0,4	278,9

Year	Source	Category	TSP tonnes	PM <sub>10</sub> tonnes	PM <sub>2.5</sub> tonnes	As kg	Cd kg	Cr kg	Cu kg	Hg kg	Ni kg	Pb kg	Se kg	Zn kg
2012	Brake wear	1	270	265	105	2,705	2,653	28,453	28417,620		28,480	3746,887	5,409	5453,656
2012	Brake wear	2	100	98	39	1,000	0,981	10,517	10503,469		10,527	1384,891	1,999	2015,732
2012	Brake wear	3	94	92	37	0,939	0,288	15,398	707,779		10,703	38,213	1,878	705,436
2012	Brake wear	4	36	36	14	0,364	0,110	2,329	498,107		5,783	26,571	0,727	339,585
2012	Brake wear	5	1	1	1	0,014	0,013	0,145	144,588		0,145	19,064	0,028	27,748
2012	Brake wear	6	2	2	1	0,020	0,019	0,209	208,685		0,209	27,515	0,040	40,049
2012	Road abrasion	1	656	328	177	0,000	0,062	13,019	6,554	0,037	10,414	30,849	0,000	49,568
2012	Road abrasion	2	126	63	34	0,000	0,012	2,491	1,254	0,007	1,993	5,904	0,000	9,486
2012	Road abrasion	3	240	120	65	0,000	0,023	4,760	2,396	0,014	3,807	11,279	0,000	18,122
2012	Road abrasion	4	58	29	16	0,000	0,006	1,155	0,582	0,003	0,924	2,738	0,000	4,399
2012	Road abrasion	5	1	1	0	0,000	0,000	0,027	0,013	0,000	0,021	0,063	0,000	0,101
2012	Road abrasion	6	3	1	1	0,000	0,000	0,057	0,028	0,000	0,045	0,134	0,000	0,215
2012	Tyre wear	1	474	284	199	0,379	1,232	1,706	7,391		12,082	38,140	9,476	5181,351
2012	Tyre wear	2	144	86	60	0,115	0,374	0,517	2,241		3,664	11,566	2,874	1571,309
2012	Tyre wear	3	207	124	87	0,165	0,538	0,745	3,227		5,275	16,652	4,137	2262,229
2012	Tyre wear	4	47	28	20	0,038	0,122	0,169	0,734		1,201	3,790	0,942	514,867
2012	Tyre wear	5	3	2	1	0,003	0,008	0,011	0,049		0,080	0,254	0,063	34,503
2012	Tyre wear	6	8	5	4	0,007	0,022	0,030	0,132		0,215	0,679	0,169	92,228
2012	Total	1	1400	877	482	3,084	3,947	43,177	28431,564	0,037	50,976	3815,876	14,885	10684,575
2012	Total	2	369	247	133	1,115	1,366	13,525	10506,965	0,007	16,183	1402,361	4,873	3596,528
2012	Total	3	541	336	188	1,104	0,849	20,902	713,402	0,014	19,786	66,144	6,015	2985,788
2012	Total	4	142	93	50	0,401	0,238	3,654	499,423	0,003	7,908	33,099	1,669	858,851
2012	Total	5	6	4	2	0,016	0,022	0,183	144,650	0,000	0,247	19,381	0,091	62,352
2012	Total	6	13	8	5	0,027	0,042	0,296	208,845	0,000	0,469	28,328	0,208	132,493



# Annex 3B-16 Fuel consumption and emissions in CRF format

## Fuel

IPCC ID	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Industry-Other (1A2f)	11,7	11,7	11,6	11,6	11,6	11,5	11,5	11,5	11,5	11,5	11,6	11,7	11,7	11,9	11,9
Civil Aviation (1A3a)	3,6	3,3	3,7	3,8	3,6	3,4	2,8	2,7	2,6	2,7	2,8	2,8	2,9	2,7	2,4
Road (1A3b)	111,2	117,5	117,7	118,5	119,7	126,4	132,0	134,4	136,2	142,9	144,2	146,6	149,5	152,1	154,0
Railways (1A3c)	4,9	4,9	4,4	4,6	4,2	4,0	4,1	4,3	4,5	4,1	4,1	4,1	4,0	3,3	3,1
Navigation (1A3d)	10,4	10,3	10,4	10,4	10,5	10,5	10,6	10,9	10,7	10,8	11,3	12,2	12,0	10,0	8,8
Comm./Inst. (1A4a)	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,1	1,1	1,1	1,2
Residential (1A4b)	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,6	0,6	0,6
Ag./for./fish. (1A4c)	24,4	26,0	23,8	25,5	25,3	25,7	25,7	24,3	23,8	22,9	23,4	22,2	21,0	20,4	21,1
Military (1A5)	5,5	4,3	5,0	2,7	2,3	1,6	3,9	1,9	3,3	3,5	3,4	2,4	2,3	2,8	2,5
Navigation int. (1A3d)	16,2	19,0	28,4	36,2	37,1	39,1	34,9	36,7	55,0	62,0	65,1	62,0	56,7	57,2	53,3
Civil Aviation int. (1A3a)	19,3	20,9	22,4	24,0	25,1	24,1	22,7	23,5	23,0	25,2	25,9	27,4	27,9	30,0	31,8

IPCC ID	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Industry-Other (1A2f)	12,0	12,1	12,3	12,4	12,5	13,0	14,0	15,1	15,4	11,4	14,4	14,0	13,9
Civil Aviation (1A3a)	2,1	2,3	2,0	1,9	1,8	1,9	2,0	2,2	2,2	2,1	2,2	2,0	1,8
Road (1A3b)	152,5	152,8	154,5	160,6	164,8	166,1	171,3	179,5	175,1	165,6	165,2	165,2	160,9
Railways (1A3c)	3,1	2,9	2,8	3,0	2,9	3,1	3,1	3,1	3,2	3,1	3,3	3,4	3,4
Navigation (1A3d)	7,9	7,9	7,7	7,7	7,9	7,8	7,8	7,8	7,9	7,9	7,9	7,4	6,6
Comm./Inst. (1A4a)	1,2	1,3	1,5	1,8	2,0	2,2	2,4	2,4	2,4	2,4	2,4	2,3	2,3
Residential (1A4b)	0,6	0,6	0,7	0,7	0,8	0,8	0,8	0,9	0,9	0,9	0,9	0,9	0,9
Ag./for./fish. (1A4c)	23,8	23,9	24,2	23,9	22,2	23,8	23,7	23,3	25,4	25,1	24,5	24,8	24,9
Military (1A5)	1,5	1,3	1,2	1,3	3,3	3,7	1,7	2,4	1,5	2,2	1,5	2,7	1,6
Navigation int. (1A3d)	52,6	43,3	35,5	37,5	30,2	30,7	40,8	42,7	36,6	19,6	27,0	27,4	19,8
Civil Aviation int. (1A3a)	32,6	33,1	28,6	29,7	34,0	35,7	35,9	36,8	36,8	32,2	33,6	34,6	34,9



## Emissions

pol_name	IPCC ID	Unit	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
SO <sub>2</sub>	Industry-Other (1A2f)	[tonnes]	2402	1441	1440	1438	956	952	955	957	957	959	968	244	246	249	251
SO <sub>2</sub>	Civil Aviation (1A3a)	[tonnes]	82	77	85	86	83	77	64	62	61	63	63	65	68	62	56
SO <sub>2</sub>	Road (1A3b)	[tonnes]	11621	7862	7847	7857	5488	5767	5903	3820	1569	1669	1682	1721	1744	1768	1088
SO <sub>2</sub>	Railways (1A3c)	[tonnes]	1152	695	618	641	393	376	382	263	105	95	96	95	93	78	40
SO <sub>2</sub>	Navigation (1A3d)	[tonnes]	7480	7480	7484	7228	7231	6429	5111	3506	4410	4974	5588	4400	3649	2283	2051
SO <sub>2</sub>	Comm./Inst. (1A4a)	[tonnes]	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
SO <sub>2</sub>	Residential (1A4b)	[tonnes]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SO <sub>2</sub>	Ag./for./fish. (1A4c)	[tonnes]	4766	3484	3173	3073	2269	2303	2317	2186	2150	2072	2120	978	853	856	931
SO <sub>2</sub>	Military (1A5)	[tonnes]	408	260	193	72	70	48	206	82	76	80	80	56	54	65	47
SO <sub>2</sub>	Navigation int. (1A3d)	[tonnes]	17037	20752	35647	46755	47058	41317	33277	30084	58492	58965	65049	61075	55822	46756	49282
SO <sub>2</sub>	Civil Aviation int. (1A3a)	[tonnes]	444	480	515	551	578	554	521	541	530	580	596	629	642	689	731
NO <sub>x</sub>	Industry-Other (1A2f)	[tonnes]	10903	10964	11011	11044	11065	11081	11282	11440	11558	11677	11882	12080	12248	12425	12262
NO <sub>x</sub>	Civil Aviation (1A3a)	[tonnes]	1203	1132	1237	1252	1208	1123	920	902	900	940	958	971	998	911	815
NO <sub>x</sub>	Road (1A3b)	[tonnes]	94032	99488	100077	101581	103010	109042	112371	111354	108932	108761	103616	99289	95544	91350	87478
NO <sub>x</sub>	Railways (1A3c)	[tonnes]	6025	6063	5391	5589	5145	4913	4995	5284	5485	4971	5015	4977	4846	4089	3730
NO <sub>x</sub>	Navigation (1A3d)	[tonnes]	13299	13339	13414	13486	13568	13649	13180	12882	12753	12999	13679	14756	13543	11175	8720
NO <sub>x</sub>	Comm./Inst. (1A4a)	[tonnes]	66	67	68	70	70	70	75	80	85	89	93	95	98	101	102
NO <sub>x</sub>	Residential (1A4b)	[tonnes]	31	32	33	34	34	34	36	38	40	42	43	45	46	48	49
NO <sub>x</sub>	Ag./for./fish. (1A4c)	[tonnes]	18159	19915	18153	20143	20342	21066	21722	20824	20763	20524	21442	21138	20176	20119	21495
NO <sub>x</sub>	Military (1A5)	[tonnes]	2285	1951	1586	1003	874	485	1755	947	1234	1223	1637	910	1117	1300	1025
NO <sub>x</sub>	Navigation int. (1A3d)	[tonnes]	22455	26921	42068	54983	56940	60639	53939	55808	87852	99296	105113	100507	93239	92360	89143
NO <sub>x</sub>	Civil Aviation int. (1A3a)	[tonnes]	5663	6129	6569	7035	7313	7016	6586	6846	6702	7317	7517	7904	8058	8662	9204
NM VOC	Industry-Other (1A2f)	[tonnes]	2422	2395	2368	2339	2304	2266	2231	2191	2147	2107	2088	2095	2083	2074	1997
NM VOC	Civil Aviation (1A3a)	[tonnes]	219	216	193	201	196	189	171	166	163	193	208	196	189	171	164
NM VOC	Road (1A3b)	[tonnes]	75302	75477	75187	75121	73635	77245	80067	79633	77266	74509	70081	65965	61389	56235	50185
NM VOC	Railways (1A3c)	[tonnes]	393	396	352	365	336	321	326	345	358	324	327	325	316	267	276
NM VOC	Navigation (1A3d)	[tonnes]	1560	1560	1592	1622	1654	1686	1719	1761	1786	1820	1879	1975	1969	1873	1776
NM VOC	Comm./Inst. (1A4a)	[tonnes]	2347	2333	2318	2303	2303	2303	2314	2302	2265	2285	2367	2458	2547	2636	2741
NM VOC	Residential (1A4b)	[tonnes]	1844	1833	1821	1809	1805	1801	1797	1792	1789	1785	1780	1774	1767	1759	1758
NM VOC	Ag./for./fish. (1A4c)	[tonnes]	6357	6417	6216	6284	6207	6149	5777	5298	4944	4638	4516	4208	3966	3691	3563
NM VOC	Military (1A5)	[tonnes]	564	440	169	467	299	53	158	84	120	117	143	88	99	110	104
NM VOC	Navigation int. (1A3d)	[tonnes]	825	974	1472	1892	1947	2060	1839	1928	2933	3318	3501	3343	3082	3102	2929
NM VOC	Civil Aviation int. (1A3a)	[tonnes]	279	308	334	365	385	354	330	338	330	331	367	385	390	413	424

CH <sub>4</sub>	Industry-Other (1A2f)	[tonnes]	63	63	62	61	61	60	58	57	56	54	53	53	53	53	51
CH <sub>4</sub>	Civil Aviation (1A3a)	[tonnes]	5	5	5	5	5	4	4	4	4	5	5	5	5	4	4
CH <sub>4</sub>	Road (1A3b)	[tonnes]	2015	2072	2088	2110	2105	2233	2329	2343	2330	2312	2230	2155	2090	2020	1912
CH <sub>4</sub>	Railways (1A3c)	[tonnes]	15	15	14	14	13	12	13	13	14	12	13	12	12	10	11
CH <sub>4</sub>	Navigation (1A3d)	[tonnes]	30	30	31	31	32	32	33	34	34	35	36	38	38	35	34
CH <sub>4</sub>	Comm./Inst. (1A4a)	[tonnes]	104	102	100	99	99	99	97	95	92	90	89	89	89	89	90
CH <sub>4</sub>	Residential (1A4b)	[tonnes]	55	54	53	52	51	51	50	49	48	48	47	46	45	45	45
CH <sub>4</sub>	Ag./for./fish. (1A4c)	[tonnes]	155	154	147	146	142	139	132	123	116	110	106	100	94	89	88
CH <sub>4</sub>	Military (1A5)	[tonnes]	28	23	16	17	13	5	17	9	12	12	17	10	12	13	11
CH <sub>4</sub>	Navigation int. (1A3d)	[tonnes]	26	30	46	59	60	64	57	60	91	103	108	103	95	96	91
CH <sub>4</sub>	Civil Aviation int. (1A3a)	[tonnes]	6	7	8	9	10	9	8	8	8	8	11	12	12	13	12
CO	Industry-Other (1A2f)	[tonnes]	9863	9784	9702	9611	9502	9379	9294	9188	9070	8956	8910	8963	8939	8907	8647
CO	Civil Aviation (1A3a)	[tonnes]	1256	1241	1118	1167	1140	1098	989	955	930	1098	1180	1117	1085	973	932
CO	Road (1A3b)	[tonnes]	573678	547717	525368	488047	455974	464930	485715	472329	460142	430439	410780	399783	362414	339585	302074
CO	Railways (1A3c)	[tonnes]	1098	1105	982	1018	937	895	910	963	999	906	914	907	883	745	717
CO	Navigation (1A3d)	[tonnes]	5472	5473	5636	5797	5962	6126	6297	6491	6623	6805	7057	7246	7150	6983	6779
CO	Comm./Inst. (1A4a)	[tonnes]	31348	30972	30583	30181	30181	30181	29610	28987	28319	27809	27575	27800	28012	28211	28817
CO	Residential (1A4b)	[tonnes]	19086	18725	18352	17968	17789	17606	17238	16880	16708	16556	16422	16311	16217	16136	16286
CO	Ag./for./fish. (1A4c)	[tonnes]	61165	59707	57256	55768	53717	51734	48771	45427	42608	39735	37673	34858	32455	29823	27820
CO	Military (1A5)	[tonnes]	4229	3121	1313	3191	1971	424	1019	518	852	874	896	621	605	684	694
CO	Navigation int. (1A3d)	[tonnes]	2722	3214	4855	6243	6424	6796	6065	6361	9677	10946	11548	11030	10168	10233	9662
CO	Civil Aviation int. (1A3a)	[tonnes]	1103	1207	1289	1416	1564	1442	1357	1399	1388	1342	1421	1502	1564	1662	1743
CO <sub>2</sub>	Industry-Other (1A2f)	[ktonnes]	850	849	848	846	843	839	841	841	839	839	846	851	858	865	871
CO <sub>2</sub>	Civil Aviation (1A3a)	[ktonnes]	256	241	268	271	262	243	199	193	190	196	199	205	212	194	174
CO <sub>2</sub>	Road (1A3b)	[ktonnes]	8167	8632	8644	8702	8797	9284	9699	9872	9997	10493	10589	10766	10979	11167	11313
CO <sub>2</sub>	Railways (1A3c)	[ktonnes]	364	366	326	338	311	297	302	319	331	300	303	301	293	247	232
CO <sub>2</sub>	Navigation (1A3d)	[ktonnes]	784	784	787	790	793	796	803	817	803	814	850	917	898	745	655
CO <sub>2</sub>	Comm./Inst. (1A4a)	[ktonnes]	74	74	74	74	74	74	74	75	75	77	78	80	81	83	85
CO <sub>2</sub>	Residential (1A4b)	[ktonnes]	40	40	39	39	39	39	39	39	39	39	40	40	41	41	42
CO <sub>2</sub>	Ag./for./fish. (1A4c)	[ktonnes]	1806	1922	1758	1887	1874	1899	1903	1794	1760	1695	1728	1642	1554	1510	1564
CO <sub>2</sub>	Military (1A5)	[ktonnes]	402	316	361	196	165	119	287	141	237	252	252	176	171	204	182
CO <sub>2</sub>	Navigation int. (1A3d)	[ktonnes]	1238	1454	2179	2786	2854	3005	2673	2797	4214	4744	4976	4725	4326	4337	4053
CO <sub>2</sub>	Civil Aviation int. (1A3a)	[ktonnes]	1391	1503	1613	1725	1809	1736	1632	1693	1659	1818	1867	1971	2010	2159	2290
N <sub>2</sub> O	Industry-Other (1A2f)	[tonnes]	34	34	34	34	34	34	34	35	35	35	35	36	36	36	37
N <sub>2</sub> O	Civil Aviation (1A3a)	[tonnes]	10	10	11	11	11	10	9	9	9	9	10	11	11	9	9

N <sub>2</sub> O	Road (1A3b)	[tonnes]	261	274	274	276	279	292	308	322	330	353	368	383	401	409	417
N <sub>2</sub> O	Railways (1A3c)	[tonnes]	10	10	9	9	9	8	8	9	9	8	8	8	8	7	6
N <sub>2</sub> O	Navigation (1A3d)	[tonnes]	48	48	48	48	48	48	49	50	49	49	51	55	54	44	39
N <sub>2</sub> O	Comm./Inst. (1A4a)	[tonnes]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
N <sub>2</sub> O	Residential (1A4b)	[tonnes]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
N <sub>2</sub> O	Ag./for./fish. (1A4c)	[tonnes]	81	87	78	85	85	87	88	83	81	79	81	77	71	70	74
N <sub>2</sub> O	Military (1A5)	[tonnes]	12	9	11	6	5	4	8	4	7	8	7	5	5	6	6
N <sub>2</sub> O	Navigation int. (1A3d)	[tonnes]	78	92	137	175	179	189	168	176	265	298	313	297	272	273	255
N <sub>2</sub> O	Civil Aviation int. (1A3a)	[tonnes]	47	50	54	58	61	59	56	58	57	63	64	69	70	75	80
NH <sub>3</sub>	Industry-Other (1A2f)	[tonnes]	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
NH <sub>3</sub>	Civil Aviation (1A3a)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Road (1A3b)	[tonnes]	63	65	66	67	68	72	163	356	546	825	1096	1354	1703	2063	2352
NH <sub>3</sub>	Railways (1A3c)	[tonnes]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NH <sub>3</sub>	Navigation (1A3d)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Comm./Inst. (1A4a)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Residential (1A4b)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Ag./for./fish. (1A4c)	[tonnes]	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
NH <sub>3</sub>	Military (1A5)	[tonnes]	1	1	0	0	0	0	1	0	0	0	1	0	0	1	1
NH <sub>3</sub>	Navigation int. (1A3d)	[tonnes]		0						0	0						
NH <sub>3</sub>	Civil Aviation int. (1A3a)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TSP	Industry-Other (1A2f)	[tonnes]	1823	1778	1733	1686	1634	1577	1533	1484	1433	1383	1349	1317	1284	1249	1193
TSP	Civil Aviation (1A3a)	[tonnes]	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
TSP	Road (1A3b)	[tonnes]	4320	4690	4721	4643	4701	4936	5097	4913	4910	5033	4849	4672	4268	3924	3611
TSP	Railways (1A3c)	[tonnes]	247	249	222	229	211	202	205	217	225	204	206	204	199	168	146
TSP	Navigation (1A3d)	[tonnes]	1099	1099	1103	1098	1103	898	710	519	660	762	919	723	670	451	417
TSP	Comm./Inst. (1A4a)	[tonnes]	24	24	24	24	24	24	24	23	22	23	24	25	27	28	29
TSP	Residential (1A4b)	[tonnes]	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11
TSP	Ag./for./fish. (1A4c)	[tonnes]	2783	2820	2673	2723	2665	2628	2534	2362	2300	2119	2087	1892	1783	1633	1576
TSP	Military (1A5)	[tonnes]	101	101	50	18	26	12	114	67	64	55	117	46	73	77	47
TSP	Navigation int. (1A3d)	[tonnes]	2832	3448	5914	7810	7866	5531	4371	3999	8648	8194	10076	9968	9231	7717	8177
TSP	Civil Aviation int. (1A3a)	[tonnes]	23	24	26	28	30	28	27	28	27	29	30	32	32	35	37
PM <sub>10</sub>	Industry-Other (1A2f)	[tonnes]	1823	1778	1733	1686	1634	1577	1533	1484	1433	1383	1349	1317	1284	1249	1193
PM <sub>10</sub>	Civil Aviation (1A3a)	[tonnes]	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
PM <sub>10</sub>	Road (1A3b)	[tonnes]	4320	4690	4721	4643	4701	4936	5097	4913	4910	5033	4849	4672	4268	3924	3611
PM <sub>10</sub>	Railways (1A3c)	[tonnes]	247	249	222	229	211	202	205	217	225	204	206	204	199	168	146

PM <sub>10</sub>	Navigation (1A3d)	[tonnes]	1089	1089	1093	1088	1093	890	704	515	655	756	911	717	664	448	414
PM <sub>10</sub>	Comm./Inst. (1A4a)	[tonnes]	24	24	24	24	24	24	24	23	22	23	24	25	27	28	29
PM <sub>10</sub>	Residential (1A4b)	[tonnes]	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11
PM <sub>10</sub>	Ag./for./fish. (1A4c)	[tonnes]	2781	2818	2671	2721	2663	2626	2532	2360	2298	2117	2086	1891	1782	1632	1575
PM <sub>10</sub>	Military (1A5)	[tonnes]	101	101	50	18	26	12	114	67	64	55	117	46	73	77	47
PM <sub>10</sub>	Navigation int. (1A3d)	[tonnes]	2803	3413	5855	7732	7788	5476	4327	3959	8561	8112	9975	9869	9139	7639	8095
PM <sub>10</sub>	Civil Aviation int. (1A3a)	[tonnes]	23	24	26	28	30	28	27	28	27	29	30	32	32	35	37
PM <sub>2.5</sub>	Industry-Other (1A2f)	[tonnes]	1823	1778	1733	1686	1634	1577	1533	1484	1433	1383	1349	1317	1284	1249	1193
PM <sub>2.5</sub>	Civil Aviation (1A3a)	[tonnes]	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
PM <sub>2.5</sub>	Road (1A3b)	[tonnes]	4320	4690	4721	4643	4701	4936	5097	4913	4910	5033	4849	4672	4268	3924	3611
PM <sub>2.5</sub>	Railways (1A3c)	[tonnes]	247	249	222	229	211	202	205	217	225	204	206	204	199	168	146
PM <sub>2.5</sub>	Navigation (1A3d)	[tonnes]	1084	1084	1088	1083	1088	886	701	513	652	753	907	714	662	446	413
PM <sub>2.5</sub>	Comm./Inst. (1A4a)	[tonnes]	24	24	24	24	24	24	24	23	22	23	24	25	27	28	29
PM <sub>2.5</sub>	Residential (1A4b)	[tonnes]	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11
PM <sub>2.5</sub>	Ag./for./fish. (1A4c)	[tonnes]	2780	2817	2670	2720	2662	2625	2531	2359	2297	2116	2085	1890	1781	1631	1574
PM <sub>2.5</sub>	Military (1A5)	[tonnes]	101	101	50	18	26	12	114	67	64	55	117	46	73	77	47
PM <sub>2.5</sub>	Navigation int. (1A3d)	[tonnes]	2789	3396	5825	7693	7748	5448	4305	3939	8518	8071	9925	9819	9093	7601	8054
PM <sub>2.5</sub>	Civil Aviation int. (1A3a)	[tonnes]	23	24	26	28	30	28	27	28	27	29	30	32	32	35	37
Arsenic	Industry-Other (1A2f)	[kg]						0	0	0	0	0	0	0	0	0	0
Arsenic	Civil Aviation (1A3a)	[kg]						0	0	0	0	0	0	0	0	0	0
Arsenic	Road (1A3b)	[kg]						1	1	1	1	1	1	1	1	1	1
Arsenic	Railways (1A3c)	[kg]						0	0	0	0	0	0	0	0	0	0
Arsenic	Navigation (1A3d)	[kg]						62	55	47	47	49	50	44	36	28	25
Arsenic	Comm./Inst. (1A4a)	[kg]						0	0	0	0	0	0	0	0	0	0
Arsenic	Residential (1A4b)	[kg]						0	0	0	0	0	0	0	0	0	0
Arsenic	Ag./for./fish. (1A4c)	[kg]						9	10	9	8	8	8	8	6	7	7
Arsenic	Military (1A5)	[kg]						0	0	0	0	0	0	0	0	0	0
Arsenic	Navigation int. (1A3d)	[kg]						353	292	267	465	496	505	325	417	357	369
Arsenic	Civil Aviation int. (1A3a)	[kg]						0	0	0	0	0	0	0	0	0	0
Cadmium	Industry-Other (1A2f)	[kg]						2	2	2	2	2	2	2	2	2	2
Cadmium	Civil Aviation (1A3a)	[kg]						0	0	0	0	0	0	0	0	0	0
Cadmium	Road (1A3b)	[kg]						27	29	30	30	32	32	32	33	34	34
Cadmium	Railways (1A3c)	[kg]						1	1	1	1	1	1	1	1	1	1
Cadmium	Navigation (1A3d)	[kg]						5	4	4	4	4	4	4	4	3	3
Cadmium	Comm./Inst. (1A4a)	[kg]						0	0	0	0	0	0	0	0	0	0

Cadmium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Cadmium	Ag./for./fish. (1A4c)	[kg]	5	5	5	5	5	5	4	4	4	4
Cadmium	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0
Cadmium	Navigation int. (1A3d)	[kg]	23	20	19	31	34	35	20	29	26	26
Cadmium	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Chromium	Industry-Other (1A2f)	[kg]	7	7	7	7	7	7	7	7	7	7
Chromium	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Chromium	Road (1A3b)	[kg]	62	65	65	66	69	70	72	73	74	76
Chromium	Railways (1A3c)	[kg]	3	3	3	3	3	3	3	3	2	2
Chromium	Navigation (1A3d)	[kg]	28	25	23	22	23	24	22	19	15	14
Chromium	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
Chromium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Chromium	Ag./for./fish. (1A4c)	[kg]	19	19	18	17	17	17	16	15	15	16
Chromium	Military (1A5)	[kg]	0	1	1	1	0	1	0	1	1	1
Chromium	Navigation int. (1A3d)	[kg]	147	123	115	195	210	214	131	178	157	160
Chromium	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Copper	Industry-Other (1A2f)	[kg]	5	5	5	5	5	5	6	6	6	6
Copper	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Copper	Road (1A3b)	[kg]	92	97	100	102	107	108	109	112	114	115
Copper	Railways (1A3c)	[kg]	2	2	2	2	2	2	2	2	2	1
Copper	Navigation (1A3d)	[kg]	63	56	48	47	49	50	45	36	29	26
Copper	Comm./Inst. (1A4a)	[kg]	1	1	1	1	1	1	1	1	1	1
Copper	Residential (1A4b)	[kg]	1	1	1	1	1	1	1	1	1	1
Copper	Ag./for./fish. (1A4c)	[kg]	18	18	17	16	16	16	17	14	14	15
Copper	Military (1A5)	[kg]	0	1	0	0	0	1	0	1	1	0
Copper	Navigation int. (1A3d)	[kg]	353	292	267	465	496	505	325	417	357	369
Copper	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Mercury	Industry-Other (1A2f)	[kg]	1	1	1	1	1	1	1	1	1	1
Mercury	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Mercury	Road (1A3b)	[kg]	21	22	22	23	24	24	24	25	25	25
Mercury	Railways (1A3c)	[kg]	0	1	1	1	1	1	1	0	0	0
Mercury	Navigation (1A3d)	[kg]	9	9	10	9	10	10	11	12	10	8
Mercury	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
Mercury	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Mercury	Ag./for./fish. (1A4c)	[kg]	12	12	11	10	10	10	10	8	8	9

Mercury	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0
Mercury	Navigation int. (1A3d)	[kg]	27	25	29	40	47	50	14	45	49	43
Mercury	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Nickel	Industry-Other (1A2f)	[kg]	2	2	2	2	2	2	2	2	2	2
Nickel	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Nickel	Road (1A3b)	[kg]	31	32	33	34	36	36	36	37	38	38
Nickel	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1
Nickel	Navigation (1A3d)	[kg]	3362	2889	2360	2359	2477	2492	2087	1520	1179	1077
Nickel	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
Nickel	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Nickel	Ag./for./fish. (1A4c)	[kg]	16	17	16	15	15	15	14	12	12	13
Nickel	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0
Nickel	Navigation int. (1A3d)	[kg]	20420	16701	14894	26627	28129	28488	19451	23291	19285	20431
Nickel	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Lead	Industry-Other (1A2f)	[kg]	12	12	12	12	12	12	12	12	12	12
Lead	Civil Aviation (1A3a)	[kg]	1534	1423	1378	1328	1639	1788	1640	1559	1399	1387
Lead	Road (1A3b)	[kg]	97622	75974	68894	29938	129	131	133	136	138	140
Lead	Railways (1A3c)	[kg]	4	5	5	5	5	5	5	4	4	4
Lead	Navigation (1A3d)	[kg]	35	34	33	32	33	34	35	32	26	23
Lead	Comm./Inst. (1A4a)	[kg]	1	1	1	1	1	1	1	1	1	1
Lead	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Lead	Ag./for./fish. (1A4c)	[kg]	38	38	36	35	34	35	33	30	29	31
Lead	Military (1A5)	[kg]	64	82	63	121	86	104	99	125	118	79
Lead	Navigation int. (1A3d)	[kg]	162	140	138	221	243	251	132	214	201	196
Lead	Civil Aviation int. (1A3a)	[kg]	490	465	452	456	153	175	126	145	145	124
Selenium	Industry-Other (1A2f)	[kg]	0	0	0	0	0	0	0	0	0	0
Selenium	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Selenium	Road (1A3b)	[kg]	0	0	0	0	1	1	1	1	1	1
Selenium	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0
Selenium	Navigation (1A3d)	[kg]	69	67	64	63	64	66	67	62	50	43
Selenium	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
Selenium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Selenium	Ag./for./fish. (1A4c)	[kg]	37	38	35	33	33	33	32	25	26	30
Selenium	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0
Selenium	Navigation int. (1A3d)	[kg]	325	279	275	442	486	503	264	427	402	391

Selenium	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Zinc	Industry-Other (1A2f)	[kg]	419	420	420	419	419	422	425	428	432	435
Zinc	Civil Aviation (1A3a)	[kg]	6	5	5	5	6	7	6	6	5	5
Zinc	Road (1A3b)	[kg]	5466	5741	5915	6014	6314	6399	6463	6620	6730	6807
Zinc	Railways (1A3c)	[kg]	150	152	161	167	151	153	152	148	124	117
Zinc	Navigation (1A3d)	[kg]	191	187	184	183	188	195	202	193	165	151
Zinc	Comm./Inst. (1A4a)	[kg]	51	51	52	52	53	54	55	56	57	59
Zinc	Residential (1A4b)	[kg]	27	27	27	27	27	27	28	28	28	29
Zinc	Ag./for./fish. (1A4c)	[kg]	766	762	724	717	683	698	664	655	626	632
Zinc	Military (1A5)	[kg]	5	57	35	31	28	63	26	46	54	37
Zinc	Navigation int. (1A3d)	[kg]	744	643	638	1017	1121	1162	595	991	940	910
Zinc	Civil Aviation int. (1A3a)	[kg]	2	2	2	2	1	1	0	1	1	0
HCB	Industry-Other (1A2f)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Civil Aviation (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Road (1A3b)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Railways (1A3c)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Navigation (1A3d)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Comm./Inst. (1A4a)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Residential (1A4b)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Ag./for./fish. (1A4c)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Military (1A5)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Navigation int. (1A3d)	[g]	0	0	0	0	0	0	0	0	0	0
HCB	Civil Aviation int. (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Industry-Other (1A2f)	[g]	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
Dioxins/furans	Road (1A3b)	[g]	1	1	1	1	1	1	1	1	1	0
Dioxins/furans	Railways (1A3c)	[g]	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
Dioxins/furans	Comm./Inst. (1A4a)	[g]	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
Dioxins/furans	Ag./for./fish. (1A4c)	[g]	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
Dioxins/furans	Navigation int. (1A3d)	[g]	1	0	0	1	1	1	1	1	1	1
Dioxins/furans	Civil Aviation int. (1A3a)	[g]	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

Flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	1	1	1	0	0	0
Flouranthene	Road (1A3b)	[kg]	855	882	873	857	852	810	772	747	715	687
Flouranthene	Railways (1A3c)	[kg]	5	5	6	6	6	6	6	6	5	4
Flouranthene	Navigation (1A3d)	[kg]	66	68	71	70	70	74	82	82	67	58
Flouranthene	Comm./Inst. (1A4a)	[kg]	4	4	4	4	5	5	5	5	5	5
Flouranthene	Residential (1A4b)	[kg]	2	2	2	2	2	2	2	2	2	2
Flouranthene	Ag./for./fish. (1A4c)	[kg]	136	135	128	127	121	124	117	107	104	110
Flouranthene	Military (1A5)	[kg]	1	7	4	4	3	8	3	6	6	4
Flouranthene	Navigation int. (1A3d)	[kg]	198	184	205	288	334	355	344	316	338	304
Flouranthene	Civil Aviation int. (1A3a)	[kg]	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
Benzo(b) flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(b) flouranthene	Road (1A3b)	[kg]	69	71	71	70	71	70	69	68	67	66
Benzo(b) flouranthene	Railways (1A3c)	[kg]	1	1	1	2	1	1	1	1	1	1
Benzo(b) flouranthene	Navigation (1A3d)	[kg]	5	5	6	5	5	6	7	7	6	5
Benzo(b) flouranthene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(b) flouranthene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(b) flouranthene	Ag./for./fish. (1A4c)	[kg]	15	15	14	14	13	13	13	12	11	12
Benzo(b) flouranthene	Military (1A5)	[kg]	0	1	1	1	0	1	0	1	1	1
Benzo(b) flouranthene	Navigation int. (1A3d)	[kg]	13	12	15	19	23	25	24	22	25	22
Benzo(b) flouranthene	Civil Aviation int. (1A3a)	[kg]	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
Benzo(k) flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Road (1A3b)	[kg]	69	71	71	70	73	72	73	73	72	73
Benzo(k) flouranthene	Railways (1A3c)	[kg]	2	2	2	2	2	2	2	2	1	1
Benzo(k) flouranthene	Navigation (1A3d)	[kg]	2	2	2	2	2	3	3	3	3	2
Benzo(k) flouranthene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Ag./for./fish. (1A4c)	[kg]	12	12	11	11	11	11	10	10	9	9
Benzo(k) flouranthene	Military (1A5)	[kg]	0	1	1	1	0	1	0	1	1	1
Benzo(k) flouranthene	Navigation int. (1A3d)	[kg]	6	6	7	9	11	11	11	10	12	10
Benzo(k) flouranthene	Civil Aviation int. (1A3a)	[kg]	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
Benzo(a) pyrene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Road (1A3b)	[kg]	49	51	51	51	52	50	49	49	48	48



Benzo(a) pyrene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Navigation (1A3d)	[kg]	1	1	1	1	1	1	2	2	1	1
Benzo(a) pyrene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Ag./for./fish. (1A4c)	[kg]	6	6	6	6	5	5	5	5	5	5
Benzo(a) pyrene	Military (1A5)	[kg]	0	0	0	0	0	1	0	0	0	0
Benzo(a) pyrene	Navigation int. (1A3d)	[kg]	4	3	4	5	6	7	6	6	6	6
Benzo(a) pyrene	Civil Aviation int. (1A3a)	[kg]	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
Benzo(g,h,i) perylene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Road (1A3b)	[kg]	104	108	108	107	108	104	101	100	97	95
Benzo(g,h,i) perylene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Navigation (1A3d)	[kg]	8	9	11	10	10	11	13	14	11	10
Benzo(g,h,i) perylene	Comm./Inst. (1A4a)	[kg]	1	1	1	1	1	1	1	1	1	1
Benzo(g,h,i) perylene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Ag./for./fish. (1A4c)	[kg]	21	21	20	19	19	19	18	16	15	16
Benzo(g,h,i) perylene	Military (1A5)	[kg]	0	1	1	1	0	1	0	1	1	0
Benzo(g,h,i) perylene	Navigation int. (1A3d)	[kg]	23	23	29	36	44	48	48	44	51	44
Benzo(g,h,i) perylene	Civil Aviation int. (1A3a)	[kg]	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
indeno(1,2,3-c,d) pyrene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Road (1A3b)	[kg]	47	49	49	50	51	51	51	51	51	52
indeno(1,2,3-c,d) pyrene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Navigation (1A3d)	[kg]	7	7	8	8	8	9	10	11	9	8
indeno(1,2,3-c,d) pyrene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Ag./for./fish. (1A4c)	[kg]	14	15	14	13	13	13	12	11	11	11
indeno(1,2,3-c,d) pyrene	Military (1A5)	[kg]	0	0	0	0	0	1	0	0	0	0
indeno(1,2,3-c,d) pyrene	Navigation int. (1A3d)	[kg]	19	19	23	29	36	39	39	36	42	36
indeno(1,2,3-c,d) pyrene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0
PCB	Industry-Other (1A2f)	[g]	6	6	5	5	5	5	5	6	6	6
PCB	Civil Aviation (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0
PCB	Road (1A3b)	[g]	88	82	73	63	20	21	21	21	22	22
PCB	Railways (1A3c)	[g]	2	2	2	2	2	2	2	2	2	2
PCB	Navigation (1A3d)	[g]	1	1	1	1	0	0	0	0	0	0

PCB	Comm./Inst. (1A4a)	[g]	1	1	1	1	0	0	0	0	0	0
PCB	Residential (1A4b)	[g]	1	0	0	0	0	0	0	0	0	0
PCB	Ag./for./fish. (1A4c)	[g]	10	10	9	9	8	8	8	8	8	8
PCB	Military (1A5)	[g]	0	1	0	0	0	1	0	0	0	0
PCB	Navigation int. (1A3d)	[g]	0	0	0	1	1	1	1	1	1	1
PCB	Civil Aviation int. (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0

pol_name	IPCC ID	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SO <sub>2</sub>	Industry-Other (1A2f)	[tonnes]	253	256	258	261	263	28	30	33	33	25	31	6	6
SO <sub>2</sub>	Civil Aviation (1A3a)	[tonnes]	49	52	45	44	41	43	46	51	52	49	50	46	42
SO <sub>2</sub>	Road (1A3b)	[tonnes]	352	353	357	371	381	77	79	83	81	77	76	74	71
SO <sub>2</sub>	Railways (1A3c)	[tonnes]	7	7	7	7	7	1	1	1	1	1	2	2	2
SO <sub>2</sub>	Navigation (1A3d)	[tonnes]	1844	1733	1582	1984	2319	2339	2431	1685	1512	1588	1438	1383	1334
SO <sub>2</sub>	Comm./Inst. (1A4a)	[tonnes]	3	3	4	4	5	1	1	1	1	1	1	1	1
SO <sub>2</sub>	Residential (1A4b)	[tonnes]	1	1	2	2	2	0	0	0	0	0	0	0	0
SO <sub>2</sub>	Ag./for./fish. (1A4c)	[tonnes]	1207	1209	1236	1203	1022	852	800	690	421	396	358	328	311
SO <sub>2</sub>	Military (1A5)	[tonnes]	27	12	19	17	46	57	26	40	19	25	20	37	17
SO <sub>2</sub>	Navigation int. (1A3d)	[tonnes]	55182	43830	30036	30982	26540	34283	50417	25652	19326	7383	8200	8853	5136
SO <sub>2</sub>	Civil Aviation int. (1A3a)	[tonnes]	750	761	657	683	781	822	824	845	845	740	773	796	801
NO <sub>x</sub>	Industry-Other (1A2f)	[tonnes]	12096	11869	11617	11214	10744	10706	10843	10827	10142	7247	8665	8046	7597
NO <sub>x</sub>	Civil Aviation (1A3a)	[tonnes]	723	752	641	595	551	583	602	693	697	635	623	578	579
NO <sub>x</sub>	Road (1A3b)	[tonnes]	82320	79704	76400	75298	73383	69930	67887	66162	59179	51966	49914	48140	44316
NO <sub>x</sub>	Railways (1A3c)	[tonnes]	3727	3396	3396	3540	3478	3724	3542	3555	2920	2603	2818	2501	2531
NO <sub>x</sub>	Navigation (1A3d)	[tonnes]	8087	8197	8315	8443	8469	8634	8979	9054	9303	9498	9557	9064	8692
NO <sub>x</sub>	Comm./Inst. (1A4a)	[tonnes]	104	112	124	138	155	177	199	215	222	220	217	215	219
NO <sub>x</sub>	Residential (1A4b)	[tonnes]	50	54	59	64	69	72	76	79	82	84	87	89	92
NO <sub>x</sub>	Ag./for./fish. (1A4c)	[tonnes]	25333	25787	26036	25286	22447	24009	22832	20889	22155	20950	19513	19108	18163
NO <sub>x</sub>	Military (1A5)	[tonnes]	526	663	463	511	1256	1300	603	760	488	725	456	798	492
NO <sub>x</sub>	Navigation int. (1A3d)	[tonnes]	91641	75429	60383	65339	53439	56540	78012	83555	70401	35658	51065	52516	36524
NO <sub>x</sub>	Civil Aviation int. (1A3a)	[tonnes]	9446	9600	8724	9084	10472	11025	11158	11402	11292	9843	10110	10466	10628
NMVOC	Industry-Other (1A2f)	[tonnes]	1926	1873	1815	1754	1676	1627	1589	1524	1383	992	1191	1128	1076
NMVOC	Civil Aviation (1A3a)	[tonnes]	158	152	150	142	154	160	151	159	142	122	107	89	98
NMVOC	Road (1A3b)	[tonnes]	42322	38860	35321	32626	28450	25969	22716	20251	17728	15452	13982	11769	10439
NMVOC	Railways (1A3c)	[tonnes]	253	248	243	223	217	235	230	231	205	174	189	175	190

NM VOC	Navigation (1A3d)	[tonnes]	1731	1702	1661	1602	1534	1423	1305	1190	1095	1010	932	840	749
NM VOC	Comm./Inst. (1A4a)	[tonnes]	2845	3504	4188	4897	5631	5775	5922	6022	5844	5159	4423	3636	3636
NM VOC	Residential (1A4b)	[tonnes]	1757	1824	1894	1972	2053	2084	2115	2134	2109	2071	2032	1993	1953
NM VOC	Ag./for./fish. (1A4c)	[tonnes]	3520	3378	3199	2987	2698	2712	2662	2598	2638	2512	2359	2246	2137
NM VOC	Military (1A5)	[tonnes]	55	53	45	45	100	106	51	68	40	55	40	59	33
NM VOC	Navigation int. (1A3d)	[tonnes]	2940	2433	1989	2130	1731	1792	2418	2563	2195	1160	1628	1668	1199
NM VOC	Civil Aviation int. (1A3a)	[tonnes]	437	359	375	368	403	408	414	410	398	341	329	356	379
CH <sub>4</sub>	Industry-Other (1A2f)	[tonnes]	50	49	48	47	46	45	44	43	41	30	38	37	36
CH <sub>4</sub>	Civil Aviation (1A3a)	[tonnes]	4	4	3	3	3	4	3	4	3	3	2	2	2
CH <sub>4</sub>	Road (1A3b)	[tonnes]	1788	1676	1574	1497	1393	1274	1172	1070	909	778	695	616	538
CH <sub>4</sub>	Railways (1A3c)	[tonnes]	10	10	9	9	8	9	9	9	8	7	7	7	7
CH <sub>4</sub>	Navigation (1A3d)	[tonnes]	33	33	34	34	35	35	35	35	35	35	35	34	34
CH <sub>4</sub>	Comm./Inst. (1A4a)	[tonnes]	92	101	113	127	144	157	169	175	174	167	160	151	151
CH <sub>4</sub>	Residential (1A4b)	[tonnes]	45	48	51	55	60	62	64	65	66	66	65	65	65
CH <sub>4</sub>	Ag./for./fish. (1A4c)	[tonnes]	91	90	90	89	85	90	97	104	111	115	116	117	111
CH <sub>4</sub>	Military (1A5)	[tonnes]	5	6	5	5	12	12	6	7	4	5	3	6	3
CH <sub>4</sub>	Navigation int. (1A3d)	[tonnes]	91	75	62	66	54	55	75	79	68	36	50	52	37
CH <sub>4</sub>	Civil Aviation int. (1A3a)	[tonnes]	12	12	12	11	12	12	12	12	13	10	10	11	12
CO	Industry-Other (1A2f)	[tonnes]	8395	8227	8030	7842	7600	7528	7542	7499	7127	5199	6530	6358	6239
CO	Civil Aviation (1A3a)	[tonnes]	895	891	863	835	858	861	842	902	823	717	688	598	607
CO	Road (1A3b)	[tonnes]	276031	264825	243650	233641	207364	198459	177787	162791	148403	132200	124918	104957	96022
CO	Railways (1A3c)	[tonnes]	694	637	627	611	599	648	626	629	526	450	481	398	425
CO	Navigation (1A3d)	[tonnes]	6832	7034	7217	7408	7601	7631	7281	6915	6565	6210	5835	5420	5030
CO	Comm./Inst. (1A4a)	[tonnes]	29423	32889	37681	43798	51239	58128	64197	67870	70290	72227	72338	72458	72587
CO	Residential (1A4b)	[tonnes]	16451	17390	18463	19890	21444	22482	23547	24366	25092	25341	25616	25915	26236
CO	Ag./for./fish. (1A4c)	[tonnes]	26192	24444	22571	20670	18575	17655	17414	18148	19039	19488	19723	19965	19246
CO	Military (1A5)	[tonnes]	399	308	311	302	706	798	380	538	306	414	311	495	270
CO	Navigation int. (1A3d)	[tonnes]	9699	8025	6562	7025	5709	5912	7977	8454	7243	3826	5371	5504	3955
CO	Civil Aviation int. (1A3a)	[tonnes]	1790	1795	1608	1668	1848	1907	1852	1906	1979	1690	1716	1790	1776
CO <sub>2</sub>	Industry-Other (1A2f)	[ktonnes]	877	886	895	905	910	952	1023	1104	1126	834	1051	1023	1021
CO <sub>2</sub>	Civil Aviation (1A3a)	[ktonnes]	154	163	141	138	128	135	143	161	162	153	156	146	133
CO <sub>2</sub>	Road (1A3b)	[ktonnes]	11203	11223	11352	11806	12115	12214	12587	13187	12870	12160	12080	11748	11224
CO <sub>2</sub>	Railways (1A3c)	[ktonnes]	228	211	210	218	216	232	227	228	237	230	242	249	249
CO <sub>2</sub>	Navigation (1A3d)	[ktonnes]	588	587	578	576	588	585	588	586	590	592	591	559	498
CO <sub>2</sub>	Comm./Inst. (1A4a)	[ktonnes]	87	98	112	129	149	162	172	175	176	174	173	171	171

CO <sub>2</sub>	Residential (1A4b)	[ktonnes]	43	46	49	53	57	59	61	62	63	63	63	63	62
CO <sub>2</sub>	Ag./for./fish. (1A4c)	[ktonnes]	1762	1770	1793	1768	1639	1758	1750	1727	1879	1853	1809	1838	1839
CO <sub>2</sub>	Military (1A5)	[ktonnes]	111	97	89	92	239	271	126	175	108	160	107	193	116
CO <sub>2</sub>	Navigation int. (1A3d)	[ktonnes]	4021	3304	2691	2853	2299	2352	3136	3292	2809	1487	2063	2096	1505
CO <sub>2</sub>	Civil Aviation int. (1A3a)	[ktonnes]	2350	2384	2058	2141	2447	2574	2581	2647	2647	2316	2421	2492	2510
N <sub>2</sub> O	Industry-Other (1A2f)	[tonnes]	37	38	38	38	39	40	43	47	48	35	45	43	43
N <sub>2</sub> O	Civil Aviation (1A3a)	[tonnes]	8	8	8	8	8	8	8	9	9	8	8	8	7
N <sub>2</sub> O	Road (1A3b)	[tonnes]	415	417	417	426	430	422	423	434	417	390	388	391	376
N <sub>2</sub> O	Railways (1A3c)	[tonnes]	6	6	6	6	6	6	6	6	7	6	7	7	7
N <sub>2</sub> O	Navigation (1A3d)	[tonnes]	34	34	34	33	34	34	34	34	34	34	34	33	29
N <sub>2</sub> O	Comm./Inst. (1A4a)	[tonnes]	1	1	2	2	2	2	3	3	3	3	3	3	3
N <sub>2</sub> O	Residential (1A4b)	[tonnes]	1	1	1	1	1	1	1	1	1	1	1	1	1
N <sub>2</sub> O	Ag./for./fish. (1A4c)	[tonnes]	87	88	90	88	80	87	86	83	92	90	87	88	88
N <sub>2</sub> O	Military (1A5)	[tonnes]	3	3	3	3	8	9	4	6	4	5	4	7	4
N <sub>2</sub> O	Navigation int. (1A3d)	[tonnes]	253	208	170	180	145	148	197	207	177	94	130	132	95
N <sub>2</sub> O	Civil Aviation int. (1A3a)	[tonnes]	82	82	72	75	85	89	89	91	91	79	83	86	86
NH <sub>3</sub>	Industry-Other (1A2f)	[tonnes]	2	2	2	2	2	2	2	3	3	2	3	2	2
NH <sub>3</sub>	Civil Aviation (1A3a)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Road (1A3b)	[tonnes]	2544	2565	2586	2565	2538	2402	2294	2212	2043	1902	1731	1602	1456
NH <sub>3</sub>	Railways (1A3c)	[tonnes]	1	1	1	1	1	1	1	1	1	1	1	1	1
NH <sub>3</sub>	Navigation (1A3d)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Comm./Inst. (1A4a)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Residential (1A4b)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0
NH <sub>3</sub>	Ag./for./fish. (1A4c)	[tonnes]	3	3	3	3	3	3	3	3	4	4	4	4	4
NH <sub>3</sub>	Military (1A5)	[tonnes]	0	0	0	0	1	1	0	0	1	1	0	0	0
NH <sub>3</sub>	Navigation int. (1A3d)	[tonnes]													
NH <sub>3</sub>	Civil Aviation int. (1A3a)	[tonnes]	0	0	0	0	0	0	0	0	0	0	0	0	0
TSP	Industry-Other (1A2f)	[tonnes]	1135	1121	1098	1075	1037	1011	998	968	883	606	706	660	617
TSP	Civil Aviation (1A3a)	[tonnes]	3	4	3	3	3	3	3	3	3	3	3	3	3
TSP	Road (1A3b)	[tonnes]	3273	3035	2793	2745	2595	2479	2403	2318	2038	1740	1632	1464	1311
TSP	Railways (1A3c)	[tonnes]	141	125	124	119	115	124	120	120	101	84	95	78	82
TSP	Navigation (1A3d)	[tonnes]	383	373	357	387	430	425	421	336	327	325	306	290	268
TSP	Comm./Inst. (1A4a)	[tonnes]	30	38	46	55	63	65	66	66	67	67	67	67	67
TSP	Residential (1A4b)	[tonnes]	11	11	12	13	13	13	14	14	14	14	14	15	15
TSP	Ag./for./fish. (1A4c)	[tonnes]	1553	1498	1429	1351	1244	1213	1144	1076	1051	998	942	910	858

TSP	Military (1A5)	[tonnes]	17	34	16	19	42	36	16	16	13	20	10	15	11
TSP	Navigation int. (1A3d)	[tonnes]	8745	7143	4988	4501	3978	5761	7888	2365	1873	820	934	975	641
TSP	Civil Aviation int. (1A3a)	[tonnes]	38	38	33	35	40	42	42	43	43	37	39	40	40
PM <sub>10</sub>	Industry-Other (1A2f)	[tonnes]	1135	1121	1098	1075	1037	1011	998	968	883	606	706	660	617
PM <sub>10</sub>	Civil Aviation (1A3a)	[tonnes]	3	4	3	3	3	3	3	3	3	3	3	3	3
PM <sub>10</sub>	Road (1A3b)	[tonnes]	3273	3035	2793	2745	2595	2479	2403	2318	2038	1740	1632	1464	1311
PM <sub>10</sub>	Railways (1A3c)	[tonnes]	141	125	124	119	115	124	120	120	101	84	95	78	82
PM <sub>10</sub>	Navigation (1A3d)	[tonnes]	381	371	355	384	427	422	418	334	325	323	304	289	266
PM <sub>10</sub>	Comm./Inst. (1A4a)	[tonnes]	30	38	46	55	63	65	66	66	67	67	67	67	67
PM <sub>10</sub>	Residential (1A4b)	[tonnes]	11	11	12	13	13	13	14	14	14	14	14	15	15
PM <sub>10</sub>	Ag./for./fish. (1A4c)	[tonnes]	1551	1496	1426	1349	1242	1211	1143	1074	1049	996	941	908	856
PM <sub>10</sub>	Military (1A5)	[tonnes]	17	34	16	19	42	36	16	16	13	20	10	15	11
PM <sub>10</sub>	Navigation int. (1A3d)	[tonnes]	8658	7072	4938	4456	3938	5703	7809	2341	1854	812	925	965	634
PM <sub>10</sub>	Civil Aviation int. (1A3a)	[tonnes]	38	38	33	35	40	42	42	43	43	37	39	40	40
PM <sub>2.5</sub>	Industry-Other (1A2f)	[tonnes]	1135	1121	1098	1075	1037	1011	998	968	883	606	706	660	617
PM <sub>2.5</sub>	Civil Aviation (1A3a)	[tonnes]	3	4	3	3	3	3	3	3	3	3	3	3	3
PM <sub>2.5</sub>	Road (1A3b)	[tonnes]	3273	3035	2793	2745	2595	2479	2403	2318	2038	1740	1632	1464	1311
PM <sub>2.5</sub>	Railways (1A3c)	[tonnes]	141	125	124	119	115	124	120	120	101	84	95	78	82
PM <sub>2.5</sub>	Navigation (1A3d)	[tonnes]	379	370	354	383	425	421	417	333	324	322	303	288	265
PM <sub>2.5</sub>	Comm./Inst. (1A4a)	[tonnes]	30	38	46	55	63	65	66	66	67	67	67	67	67
PM <sub>2.5</sub>	Residential (1A4b)	[tonnes]	11	11	12	13	13	13	14	14	14	14	14	15	15
PM <sub>2.5</sub>	Ag./for./fish. (1A4c)	[tonnes]	1549	1495	1425	1348	1242	1210	1142	1073	1048	995	940	907	856
PM <sub>2.5</sub>	Military (1A5)	[tonnes]	17	34	16	19	42	36	16	16	13	20	10	15	11
PM <sub>2.5</sub>	Navigation int. (1A3d)	[tonnes]	8614	7036	4913	4434	3918	5675	7770	2330	1845	808	920	960	631
PM <sub>2.5</sub>	Civil Aviation int. (1A3a)	[tonnes]	38	38	33	35	40	42	42	43	43	37	39	40	40
Arsenic	Industry-Other (1A2f)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic	Road (1A3b)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	1
Arsenic	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic	Navigation (1A3d)	[kg]	24	23	23	28	28	28	30	30	31	33	35	33	32
Arsenic	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic	Ag./for./fish. (1A4c)	[kg]	11	11	11	11	9	10	10	8	10	9	8	8	8
Arsenic	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic	Navigation int. (1A3d)	[kg]	420	329	227	257	213	250	381	424	326	127	205	221	128

Arsenic	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Cadmium	Industry-Other (1A2f)	[kg]	2	2	2	2	2	2	3	3	3	2	3	3
Cadmium	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Cadmium	Road (1A3b)	[kg]	34	34	35	36	37	37	38	40	39	38	38	39
Cadmium	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1
Cadmium	Navigation (1A3d)	[kg]	3	2	2	3	3	3	3	3	3	3	3	3
Cadmium	Comm./Inst. (1A4a)	[kg]	0	0	0	0	1	1	1	1	1	1	1	1
Cadmium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Cadmium	Ag./for./fish. (1A4c)	[kg]	5	5	5	5	4	5	5	5	5	5	5	5
Cadmium	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Cadmium	Navigation int. (1A3d)	[kg]	28	23	17	18	15	17	24	27	21	9	14	15
Cadmium	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Chromium	Industry-Other (1A2f)	[kg]	7	7	7	8	8	8	9	9	10	7	9	9
Chromium	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Chromium	Road (1A3b)	[kg]	75	76	78	82	86	87	91	98	97	94	96	98
Chromium	Railways (1A3c)	[kg]	2	2	2	2	2	2	2	2	2	2	2	2
Chromium	Navigation (1A3d)	[kg]	13	12	12	14	14	14	15	15	15	16	17	16
Chromium	Comm./Inst. (1A4a)	[kg]	0	0	1	1	1	1	1	1	1	1	1	1
Chromium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Chromium	Ag./for./fish. (1A4c)	[kg]	18	18	19	18	17	18	18	17	19	18	18	18
Chromium	Military (1A5)	[kg]	0	1	0	0	1	1	0	0	0	1	0	1
Chromium	Navigation int. (1A3d)	[kg]	178	140	100	111	92	106	157	174	136	56	87	93
Chromium	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Copper	Industry-Other (1A2f)	[kg]	6	6	6	6	6	6	7	7	7	5	7	7
Copper	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Copper	Road (1A3b)	[kg]	114	114	116	119	122	120	122	126	123	119	117	117
Copper	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1	2	2
Copper	Navigation (1A3d)	[kg]	25	24	24	29	29	29	31	30	32	34	36	34
Copper	Comm./Inst. (1A4a)	[kg]	1	1	1	2	2	2	2	2	2	2	2	2
Copper	Residential (1A4b)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1
Copper	Ag./for./fish. (1A4c)	[kg]	18	18	18	18	16	17	17	16	18	17	16	17
Copper	Military (1A5)	[kg]	0	0	0	0	1	1	0	0	0	1	0	1
Copper	Navigation int. (1A3d)	[kg]	420	329	227	257	213	250	381	424	326	127	205	221
Copper	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0
Mercury	Industry-Other (1A2f)	[kg]	1	1	1	1	1	1	2	2	2	1	2	2

Mercury	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Mercury	Road (1A3b)	[kg]	25	25	25	26	26	26	27	28	27	26	25	24	23
Mercury	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Mercury	Navigation (1A3d)	[kg]	7	7	7	6	6	6	6	6	6	6	6	6	5
Mercury	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Mercury	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Mercury	Ag./for./fish. (1A4c)	[kg]	13	13	13	13	10	12	12	10	12	11	10	10	10
Mercury	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Mercury	Navigation int. (1A3d)	[kg]	39	34	30	31	24	23	27	27	25	17	21	20	17
Mercury	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Nickel	Industry-Other (1A2f)	[kg]	2	2	2	2	2	2	3	3	3	2	3	3	3
Nickel	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Nickel	Road (1A3b)	[kg]	38	38	39	40	41	41	42	44	43	42	41	42	41
Nickel	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	1
Nickel	Navigation (1A3d)	[kg]	1068	1036	1026	1374	1367	1371	1494	1477	1583	1685	1809	1749	1731
Nickel	Comm./Inst. (1A4a)	[kg]	0	0	0	1	1	1	1	1	1	1	1	1	1
Nickel	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Nickel	Ag./for./fish. (1A4c)	[kg]	18	18	19	18	15	17	16	15	17	16	15	15	14
Nickel	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Nickel	Navigation int. (1A3d)	[kg]	23825	18510	12366	14147	11846	14256	22148	24842	18832	6924	11521	12574	6996
Nickel	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Lead	Industry-Other (1A2f)	[kg]	13	13	13	13	13	14	15	16	16	12	15	15	15
Lead	Civil Aviation (1A3a)	[kg]	1369	1343	1328	1252	1304	1297	1245	1329	1182	991	929	776	848
Lead	Road (1A3b)	[kg]	140	141	145	153	160	161	168	179	179	173	177	184	184
Lead	Railways (1A3c)	[kg]	3	3	3	3	3	4	3	3	4	3	4	4	4
Lead	Navigation (1A3d)	[kg]	21	20	20	21	21	21	22	22	22	22	23	22	20
Lead	Comm./Inst. (1A4a)	[kg]	1	1	1	1	2	2	2	2	2	2	2	2	2
Lead	Residential (1A4b)	[kg]	0	0	1	1	1	1	1	1	1	1	1	1	1
Lead	Ag./for./fish. (1A4c)	[kg]	38	38	39	38	34	37	36	34	38	37	35	36	35
Lead	Military (1A5)	[kg]	114	89	106	79	84	60	47	81	40	66	80	49	49
Lead	Navigation int. (1A3d)	[kg]	206	166	126	137	112	121	172	186	151	70	103	108	71
Lead	Civil Aviation int. (1A3a)	[kg]	118	114	113	106	111	117	22	10	113	52	10	52	12
Selenium	Industry-Other (1A2f)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Selenium	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Selenium	Road (1A3b)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	0

Selenium	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Selenium	Navigation (1A3d)	[kg]	39	38	37	39	40	40	41	40	41	42	43	41	37
Selenium	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Selenium	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Selenium	Ag./for./fish. (1A4c)	[kg]	44	44	45	44	34	41	38	33	38	36	32	32	30
Selenium	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Selenium	Navigation int. (1A3d)	[kg]	412	331	252	274	224	243	345	372	302	140	207	216	141
Selenium	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Zinc	Industry-Other (1A2f)	[kg]	438	443	447	452	455	476	512	553	564	417	526	512	511
Zinc	Civil Aviation (1A3a)	[kg]	5	5	5	5	5	5	5	5	4	4	3	3	3
Zinc	Road (1A3b)	[kg]	6783	6796	6937	7215	7437	7403	7576	7944	7844	7595	7629	7791	7715
Zinc	Railways (1A3c)	[kg]	115	106	106	110	109	117	114	115	119	116	122	126	126
Zinc	Navigation (1A3d)	[kg]	142	143	143	149	152	152	153	152	154	155	156	150	140
Zinc	Comm./Inst. (1A4a)	[kg]	60	68	77	89	103	112	119	121	122	121	119	118	118
Zinc	Residential (1A4b)	[kg]	29	32	34	36	39	41	42	43	44	44	43	43	43
Zinc	Ag./for./fish. (1A4c)	[kg]	653	658	662	659	645	668	678	698	745	747	746	760	769
Zinc	Military (1A5)	[kg]	14	32	16	22	53	48	24	26	25	44	25	44	38
Zinc	Navigation int. (1A3d)	[kg]	950	766	588	637	519	560	788	848	692	326	478	497	330
Zinc	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Industry-Other (1A2f)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Civil Aviation (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Road (1A3b)	[g]	0	0	0	0	1	1	1	1	1	1	1	1	1
HCB	Railways (1A3c)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Navigation (1A3d)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Comm./Inst. (1A4a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Residential (1A4b)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Ag./for./fish. (1A4c)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Military (1A5)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Navigation int. (1A3d)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
HCB	Civil Aviation int. (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
Dioxins/furans	Industry-Other (1A2f)	[g]	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
Dioxins/furans	Road (1A3b)	[g]	0	0	0	0	0	0	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
Dioxins/furans	Navigation (1A3d)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0



Dioxins/furans	Comm./Inst. (1A4a)	[g]	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
Dioxins/furans	Ag./for./fish. (1A4c)	[g]	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
Dioxins/furans	Navigation int. (1A3d)	[g]	1	1	0	0	0	0	1	1	0	0	0	0	0
Dioxins/furans	Civil Aviation int. (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
Flouranthene	Industry-Other (1A2f)	[kg]	48	48	49	49	50	52	56	61	63	46	58	57	56
Flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Flouranthene	Road (1A3b)	[kg]	661	640	640	668	689	700	740	820	840	812	839	874	887
Flouranthene	Railways (1A3c)	[kg]	4	4	4	4	4	4	4	4	5	4	5	5	5
Flouranthene	Navigation (1A3d)	[kg]	52	51	50	49	50	50	49	49	49	49	49	46	40
Flouranthene	Comm./Inst. (1A4a)	[kg]	5	6	7	8	9	10	10	10	10	10	10	10	10
Flouranthene	Residential (1A4b)	[kg]	3	3	3	3	3	3	4	4	4	4	4	4	4
Flouranthene	Ag./for./fish. (1A4c)	[kg]	133	133	135	132	119	130	128	123	135	132	127	129	128
Flouranthene	Military (1A5)	[kg]	2	4	2	3	6	6	3	3	3	5	3	5	4
Flouranthene	Navigation int. (1A3d)	[kg]	283	238	208	215	171	164	203	205	187	114	149	147	116
Flouranthene	Civil Aviation int. (1A3a)	[kg]	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	7	7	7	5	7	7	7
Benzo(b) flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(b) flouranthene	Road (1A3b)	[kg]	64	63	63	66	68	69	72	77	77	73	75	77	77
Benzo(b) flouranthene	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	1
Benzo(b) flouranthene	Navigation (1A3d)	[kg]	4	4	4	4	4	4	4	4	4	4	4	4	3
Benzo(b) flouranthene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	1	1	0	0	0	0
Benzo(b) flouranthene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(b) flouranthene	Ag./for./fish. (1A4c)	[kg]	13	13	13	13	12	13	13	13	14	14	13	13	13
Benzo(b) flouranthene	Military (1A5)	[kg]	0	0	0	0	1	1	0	0	0	1	0	1	0
Benzo(b) flouranthene	Navigation int. (1A3d)	[kg]	19	17	15	16	12	11	13	12	12	8	10	10	9
Benzo(b) flouranthene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Industry-Other (1A2f)	[kg]	6	5	5	6	6	6	6	7	7	5	7	6	6
Benzo(k) flouranthene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Road (1A3b)	[kg]	71	71	71	75	77	79	82	88	86	81	83	85	84
Benzo(k) flouranthene	Railways (1A3c)	[kg]	1	1	1	1	1	1	1	1	1	1	1	1	1
Benzo(k) flouranthene	Navigation (1A3d)	[kg]	2	2	2	2	2	2	2	2	2	2	2	2	2
Benzo(k) flouranthene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(k) flouranthene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0

Benzo(k) flouranthene	Ag./for./fish. (1A4c)	[kg]	10	10	10	10	9	10	10	10	11	11	11	11	11
Benzo(k) flouranthene	Military (1A5)	[kg]	0	0	0	0	1	1	0	0	0	1	0	1	0
Benzo(k) flouranthene	Navigation int. (1A3d)	[kg]	9	8	7	7	6	5	6	6	6	4	5	5	4
Benzo(k) flouranthene	Civil Aviation int. (1A3a)	[kg]	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	4	4	3	3	3	3
Benzo(a) pyrene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Road (1A3b)	[kg]	47	46	47	49	51	52	55	61	62	60	62	64	64
Benzo(a) pyrene	Railways (1A3c)	[kg]	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
Benzo(a) pyrene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Ag./for./fish. (1A4c)	[kg]	5	5	5	5	5	5	5	5	6	6	5	6	6
Benzo(a) pyrene	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(a) pyrene	Navigation int. (1A3d)	[kg]	5	4	4	4	3	3	4	4	3	2	3	3	2
Benzo(a) pyrene	Civil Aviation int. (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Industry-Other (1A2f)	[kg]	5	5	5	5	5	6	6	7	7	5	6	6	6
Benzo(g,h,i) perylene	Civil Aviation (1A3a)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Road (1A3b)	[kg]	93	90	91	95	98	100	105	115	118	114	117	120	122
Benzo(g,h,i) perylene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzo(g,h,i) perylene	Navigation (1A3d)	[kg]	8	8	8	7	7	7	7	7	7	7	7	6	5
Benzo(g,h,i) perylene	Comm./Inst. (1A4a)	[kg]	1	1	1	1	1	2	2	2	2	2	2	2	2
Benzo(g,h,i) perylene	Residential (1A4b)	[kg]	0	0	0	0	1	1	1	1	1	1	1	1	1
Benzo(g,h,i) perylene	Ag./for./fish. (1A4c)	[kg]	20	20	21	20	17	20	19	18	20	19	18	18	18
Benzo(g,h,i) perylene	Military (1A5)	[kg]	0	0	0	0	1	1	0	0	0	1	0	0	0
Benzo(g,h,i) perylene	Navigation int. (1A3d)	[kg]	37	32	31	31	24	21	23	21	22	17	20	19	17
Benzo(g,h,i) perylene	Civil Aviation int. (1A3a)	[kg]	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	4	4	3	4	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
indeno(1,2,3-c,d) pyrene	Road (1A3b)	[kg]	51	51	52	54	57	58	61	66	67	65	66	67	68
indeno(1,2,3-c,d) pyrene	Railways (1A3c)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Navigation (1A3d)	[kg]	7	7	6	6	6	6	6	6	6	5	5	5	4
indeno(1,2,3-c,d) pyrene	Comm./Inst. (1A4a)	[kg]	0	0	0	0	0	1	1	1	1	1	1	1	1
indeno(1,2,3-c,d) pyrene	Residential (1A4b)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0
indeno(1,2,3-c,d) pyrene	Ag./for./fish. (1A4c)	[kg]	15	15	15	15	13	14	14	13	14	14	13	13	12
indeno(1,2,3-c,d) pyrene	Military (1A5)	[kg]	0	0	0	0	0	0	0	0	0	0	0	0	0

indeno(1,2,3-c,d) pyrene	Navigation int. (1A3d)	[kg]	30	26	25	25	20	17	19	17	18	14	17	16	14
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
PCB	Industry-Other (1A2f)	[g]	6	6	6	6	6	6	7	7	7	5	7	7	7
PCB	Civil Aviation (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
PCB	Road (1A3b)	[g]	22	22	22	23	24	25	26	26	25	22	23	24	22
PCB	Railways (1A3c)	[g]	2	2	1	2	2	2	2	2	2	2	2	2	2
PCB	Navigation (1A3d)	[g]	0	1	1	1	1	1	1	1	1	1	1	1	1
PCB	Comm./Inst. (1A4a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
PCB	Residential (1A4b)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
PCB	Ag./for./fish. (1A4c)	[g]	7	7	7	8	8	8	8	8	9	9	9	9	9
PCB	Military (1A5)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0
PCB	Navigation int. (1A3d)	[g]	1	1	0	0	0	0	1	1	0	0	0	0	0
PCB	Civil Aviation int. (1A3a)	[g]	0	0	0	0	0	0	0	0	0	0	0	0	0

## Annex 3B-17 Uncertainty estimates

Uncertainty estimation, CO<sub>2</sub>

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 activity data uncertainty	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Gg	Gg	%	%	%	%	%	%	%	%	%
Road transport	CO <sub>2</sub>	9284	11224	2	5	5,385	3,947	0,05566424	0,8260	0,2783	2,3362	2,3527
Military	CO <sub>2</sub>	119	116	2	5	5,385	0,041	-0,0013494	0,0085	-0,0067	0,0241	0,0250
Railways	CO <sub>2</sub>	297	249	2	5	5,385	0,088	-0,006261	0,0183	-0,0313	0,0519	0,0606
Navigation (small boats)	CO <sub>2</sub>	48	99	41	5	41,304	0,266	0,0032831	0,0073	0,0164	0,4208	0,4211
Navigation (large vessels)	CO <sub>2</sub>	748	399	11	5	12,083	0,315	-0,0326388	0,0294	-0,1632	0,4568	0,4851
Fisheries	CO <sub>2</sub>	591	479	2	5	5,385	0,168	-0,0137183	0,0353	-0,0686	0,0997	0,1210
Agriculture	CO <sub>2</sub>	1272	1343	24	5	24,515	2,151	-0,0066573	0,0989	-0,0333	3,3557	3,3559
Forestry	CO <sub>2</sub>	36	17	30	5	30,414	0,033	-0,001718	0,0012	-0,0086	0,0527	0,0533
Industry (mobile)	CO <sub>2</sub>	839	1021	41	5	41,304	2,755	0,00555693	0,0752	0,0278	4,3583	4,3584
Residential	CO <sub>2</sub>	39	62	35	5	35,355	0,144	0,00135442	0,0046	0,0068	0,2274	0,2275
Commercial/Institutional	CO <sub>2</sub>	74	171	35	5	35,355	0,396	0,00650002	0,0126	0,0325	0,6244	0,6252
Civil aviation	CO <sub>2</sub>	243	133	10	5	11,180	0,097	-0,0103666	0,0098	-0,0518	0,1380	0,1474
		13.589	15314				28,032					36,3011
<b>Total uncertainties</b>				<b>Year (%):</b>			<b>5,294</b>		<b>Trend (%):</b>			<b>6,025</b>

Uncertainty estimation, CH<sub>4</sub>

	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 activity data uncertainty	Uncertainty in trend in national emissions introduced by emissions introduced by emission factor uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Mg	Mg	%	%	%	%	%	%	%	%	%
Road transport	CH <sub>4</sub>	2233	538	2	40	40,050	22,757	-0,0993825	0,2040	-3,9753	0,5771	4,0170
Military	CH <sub>4</sub>	5	3	2	100	100,020	0,311	0,00042476	0,0011	0,0425	0,0032	0,0426
Railways	CH <sub>4</sub>	12	7	2	100	100,020	0,772	0,00109332	0,0028	0,1093	0,0078	0,1096
Navigation (small boats)	CH <sub>4</sub>	17	24	41	100	108,079	2,756	0,00690284	0,0092	0,6903	0,5309	0,8708
Navigation (large vessels)	CH <sub>4</sub>	16	10	11	100	100,603	1,021	0,00148269	0,0036	0,1483	0,0567	0,1587
Fisheries	CH <sub>4</sub>	13	12	2	100	100,020	1,241	0,0026731	0,0045	0,2673	0,0126	0,2676
Agriculture	CH <sub>4</sub>	105	97	24	100	102,840	10,520	0,02245481	0,0367	2,2455	1,2468	2,5684
Forestry	CH <sub>4</sub>	21	2	30	100	104,403	0,247	-0,0020118	0,0008	-0,2012	0,0360	0,2044
Industry (mobile)	CH <sub>4</sub>	60	36	41	100	108,079	4,087	0,00544761	0,0136	0,5448	0,7874	0,9575
Residential	CH <sub>4</sub>	51	65	35	100	105,948	7,223	0,01753449	0,0245	1,7534	1,2117	2,1314
Commercial/Institutional	CH <sub>4</sub>	99	151	35	100	105,948	16,931	0,04390272	0,0574	4,3903	2,8403	5,2289
Civil aviation	CH <sub>4</sub>	4	2	10	100	100,499	0,246	0,00028945	0,0009	0,0289	0,0124	0,0315
		2636	947				708,427					29,1039
<b>Total uncertainties</b>				<b>Year (%):</b>		<b>26,616</b>		<b>Trend (%):</b>		<b>5,395</b>		

Uncertainty estimation, N<sub>2</sub>O

	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 activity data uncertainty	Uncertainty in trend in national emissions introduced by emission factor uncertainty	Uncertainty introduced into the trend in total national emissions
		Input data	Input data	Input data	Input data							
		Mg	Mg	%	%	%	%	%	%	%	%	%
Road transport	N <sub>2</sub> O	292	376	2	50	50,040	33,754	0,08278395	0,7732	4,1392	2,1870	4,6814
Military	N <sub>2</sub> O	4	4	2	1000	1000,002	7,344	-0,0003268	0,0084	-0,3268	0,0238	0,3277
Railways	N <sub>2</sub> O	8	7	2	1000	1000,002	12,343	-0,0051476	0,0141	-5,1476	0,0400	5,1478
Navigation (small boats)	N <sub>2</sub> O	1	3	41	1000	1000,840	6,278	0,00422799	0,0072	4,2280	0,4169	4,2485
Navigation (large vessels)	N <sub>2</sub> O	47	25	11	1000	1000,060	45,088	-0,0594191	0,0517	-59,4191	0,8040	59,4246
Fisheries	N <sub>2</sub> O	37	30	2	1000	1000,002	54,386	-0,0251682	0,0623	-25,1682	0,1763	25,1689
Agriculture	N <sub>2</sub> O	49	57	24	1000	1000,288	102,572	0,00132531	0,1175	1,3253	3,9895	4,2039
Forestry	N <sub>2</sub> O	1	1	30	1000	1000,450	0,974	-0,0002064	0,0011	-0,2064	0,0473	0,2117
Industry (mobile)	N <sub>2</sub> O	34	43	41	1000	1000,840	77,892	0,00840928	0,0892	8,4093	5,1727	9,8728
Residential	N <sub>2</sub> O	1	1	35	1000	1000,612	1,935	0,00076078	0,0022	0,7608	0,1097	0,7687
Commercial/Institutional	N <sub>2</sub> O	1	3	35	1000	1000,612	4,770	0,00287152	0,0055	2,8715	0,2705	2,8842
Civil aviation	N <sub>2</sub> O	10	7	10	1000	1000,050	11,985	-0,0105364	0,0137	-10,5364	0,1943	10,5382
		486	557				23112,406					4458,1569
<b>Total uncertainties</b>		<b>Year (%):</b>		<b>152,028</b>		<b>Trend (%):</b>		<b>66,769</b>				

## **Annex 3C - Industrial Processes**

No annexes for industrial processes in this submission.

## Annex 3D - Solvents and Other Product Use

Annex 3D-1:	Tentative list of chemicals
Annex 3D-2:	NMVOC and CO <sub>2</sub> equivalent emissions, 1990-2011
Annex 3D-3:	Activity data for solvent and product use, 1990-2011
Annex 3D-4:	Emissions from other product use, 1990-2012
Annex 3D-5:	Activity data for other product use, 1990-2012



## Annex 3D-1 Tentative list of chemicals

The National Atmospheric Inventory for Great Britain

(<http://www.naei.org.uk/>) covers the following sectors and chemicals:

### Sectors:

Total emission  
Energy Production  
Comm+ Residn Combustn.  
Industrial Combustion  
Production Processes  
Extr & Distrib of Fossil Fuels

Solvent Use  
Road Transport  
Other Transp & Mach  
Waste Treatment & Disp  
Nature (Forests)

### Chemicals:

- |   |   |
|---|---|
| 1 (1-methylethyl)cyclohexane              | 2 (1-methylpropyl)cyclohexane             |
| 3 (2-methyl-1-propyl)acetate              | 4 (2-methylbutyl)cyclohexane              |
| 5 (2-methylpropyl)cyclohexane             | 6 1-(2-butoxy-1-methyl-ethoxy)-2-propanol |
| 7 1-(2-ethoxy-1-methyl-ethoxy)-2-propanol | 8 1-(2-methoxy-1-methyl-ethoxy)2-propanol |
| 9 1-(butoxyethoxy)-2-propanol             | 10 1,1,1-trichloroethane                  |
| 11 1,1,1-trichlorotrifluoroethane         | 12 1,1,2,2-tetrachloroethane              |
| 13 1,1,2-trimethylcyclohexane             | 14 1,1,2-trimethylcyclopentane            |
| 15 1,1,3-trimethylcyclohexane             | 16 1,1,4,4-tetramethylcyclohexane         |
| 17 1,1-dichloroethane                     | 18 1,1-dichloroethene                     |
| 19 1,1-dichlorotetrafluoroethane          | 20 1,1-dimethylcyclohexane                |
| 21 1,1-dimethylcyclopentane               | 22 1,2,3,4-tetrahydronaphthalene          |
| 23 1,2,3,4-tetramethylbenzene             | 24 1,2,3,5-tetramethylbenzene             |
| 25 1,2,3,5-tetramethylcyclohexane         | 26 1,2,3-trichlorobenzene                 |
| 27 1,2,3-trimethylbenzene                 | 28 1,2,3-trimethylcyclohexane             |
| 29 1,2,3-trimethylcyclopentane            | 30 1,2,4,4-tetramethylcyclopentane        |
| 31 1,2,4,5-tetramethylbenzene             | 32 1,2,4-trichlorobenzene                 |
| 33 1,2,4-trimethylcyclopentane            | 34 1,2,4-trimethylbenzene                 |
| 35 1,2,4-trimethylcyclohexane             | 36 1,2,4-trimethylcyclopentane            |
| 37 1,2-diaminoethane                      | 38 1,2-dibromoethane                      |
| 39 1,2-dichlorobenzene                    | 40 1,2-dichloroethane                     |
| 41 1,2-dichloroethene                     | 42 1,2-dichlorotetrafluoroethane          |
| 43 1,2-dimethyl-3-isopropylcyclopentane   | 44 1,2-dimethylcyclohexane                |
| 45 1,2-dimethylcyclopentane               | 46 1,2-ethanedioldiacetate                |
| 47 1,2-ethylmethylcyclopentane            | 48 1,2-propanediol                        |
| 49 1,3,4,5,6-pentahydroxy-2-hexanone      | 50 1,3,5-trichlorobenzene                 |
| 51 1,3,5-trimethylbenzene                 | 52 1,3,5-trimethylcyclohexane             |
| 53 1,3-butadiene                          | 54 1,3-dichlorobenzene                    |
| 55 1,3-diethylbenzene                     | 56 1,3-dimethyl-4-ethylbenzene            |
| 57 1,3-dimethyl-5-propylbenzene           | 58 1,3-dimethylcyclohexane                |
| 59 1,3-dimethylcyclopentane               | 60 1,3-dioxolane                          |
| 61 1,3-ethylmethylcyclopentane            | 62 1,3-hexadiene                          |
| 63 1,4-butyrolacetone                     | 64 1,4-dichlorobenzene                    |
| 65 1,4-diethylbenzene                     | 66 1,4-dimethyl-2-isopropylbenzene        |
| 67 1,4-dimethylcyclohexane                | 68 1,4-dimethylpiperazine                 |
| 69 1,4-dioxane                            | 70 11-methyl-1-dodecanol                  |
| 71 1-butanal                              | 72 1-butanol                              |
| 73 1-butene                               | 74 1-butoxy-2-propanol                    |
| 75 1-butyne                               | 76 1-chloro-2,3-epoxypropane              |
| 77 1-chloro-4-nitrobenzene                | 78 1-chloropropane                        |
| 79 1-decene                               | 80 1-ethoxy-2-propanol                    |

81 1-ethoxy-2-propyl acetate	82 1-ethyl-1,4-dimethylcyclohexane
83 1-ethyl-2,2,6-trimethylcyclohexane	84 1-ethyl-2,3-dimethylbenzene
85 1-ethyl-2,3-dimethylcyclohexane	86 1-ethyl-2-propylbenzene
87 1-ethyl-2-propylcyclohexane	88 1-ethyl-3,5-dimethylbenzene
89 1-ethyl-3-methylcyclohexane	90 1-ethyl-4-methylcyclohexane
91 1-ethylpropylbenzene	92 1-heptene
93 1-hexanal	94 1-hexene
95 1-hydrophenol	96 1-methoxy-2-ethanol
97 1-methoxy-2-propanol	98 1-methoxy-2-propyl acetate
99 1-methyl-1-phenylcyclopropane	100 1-methyl-1-propylcyclopentane
101 1-methyl-2-isopropylbenzene	102 1-methyl-2-propylbenzene
103 1-methyl-3-(isopropyl)benzene	104 1-methyl-3-isopropylcyclopentane
105 1-methyl-3-propylbenzene	106 1-methyl-4-isopropylbenzene
107 1-methyl-4-isopropylcyclohexane	108 1-methyl-4-tertbutylbenzene
109 1-methylbutylbenzene	110 1-methylindan
111 1-methylindene	112 1-nonene
113 1-octene	114 1-pentanal
115 1-pentanol	116 1-pentene
117 1-propanal	118 1-propanol
119 2-(2-aminoethylamino)ethanol	120 2-(2-butoxyethoxy)ethanol
121 2-(2-butoxyethoxy)ethyl acetate	122 2-(2-ethoxyethoxy)ethanol
123 2-(2-ethoxyethoxy)ethyl acetate	124 2-(2-hydroxy-ethoxy)ethanol
125 2-(2-hydroxy-propoxy)-1-propanol	126 2-(methoxyethoxy)ethanol
127 2,2,3,3-tetramethylhexane	128 2,2,4,6,6-pentamethylheptane
129 2,2,4-trimethyl-1,3-pentanediol	130 2,2,4-trimethylpentane
131 2,2,5-trimethylhexane	132 2,2-dimethylbutane
133 2,2-dimethylhexane	134 2,2-dimethylpentane
135 2,2-dimethylpropane	136 2,2'-iminodi(ethylamine)
137 2,2'-iminodiethanol	138 2,3,3,4-tetramethylpentane
139 2,3,3-trimethyl-1-butene	140 2,3,4-trimethylhexane
141 2,3,4-trimethylpentane	142 2,3,5-trimethylhexane
143 2,3-dimethylbutane	144 2,3-dimethylfuran
145 2,3-dimethylheptane	146 2,3-dimethylhexane
147 2,3-dimethylnonane	148 2,3-dimethyloctane
149 2,3-dimethylpentane	150 2,3-dimethylundecane
151 2,4,6-trichloro-1,3,5-triazine	152 2,4-difluoroaniline
153 2,4-dimethyl-1-(1-methylethyl)benzene	154 2,4-dimethylfuran
155 2,4-dimethylheptane	156 2,4-dimethylhexane
157 2,4-dimethylpentane	158 2,4-toluene diisocyanate
159 2,5-dimethyldecane	160 2,5-dimethylfuran
161 2,5-dimethylheptane	162 2,5-dimethylhexane
163 2,5-dimethyloctane	164 2,6-dimethyldecane
165 2,6-dimethylheptane	166 2,6-dimethyloctane
167 2,6-dimethylundecane	168 2,6-toluene diisocyanate
169 2,7-dimethyloctane	170 2-[2-(2-ethoxy-ethoxy)-ethoxy]ethanol
171 2-acetoxy-propyl acetate	172 2-aminoethanol
173 2-butanol	174 2-butanone
175 2-butanone oxime	176 2-butene
177 2-butoxyethanol	178 2-butoxyethyl acetate
179 2-chloroethanol	180 2-chloropropane
181 2-chlorotoluene	182 2-ethoxyethanol
183 2-ethoxyethyl acetate	184 2-ethoxypropanol
185 2-ethyl hexanol	186 2-ethyl-1,3-dimethylbenzene
187 2-ethyltoluene	188 2-hexoxyethanol
189 2-hydrophenol	190 2-isopropoxyethanol
191 2-methoxy-2-methylpropane	192 2-methoxyethanol

193 2-methoxyethyl acetate	194 2-methoxypropane
195 2-methyl benzaldehyde	196 2-methyl-1,3-dioxolane
197 2-methyl-1-butene	198 2-methyl-1-butylbenzene
199 2-methyl-1-pentene	200 2-methyl-1-propanol
201 2-methyl-2,4-pentanediol	202 2-methyl-2-butene
203 2-methyl-2-hexene	204 2-methyl-5-ethyloctane
205 2-methylbutanal	206 2-methylbutane
207 2-methyldecalin	208 2-methyldecane
209 2-methylfuran	210 2-methylheptane
211 2-methylhexane	212 2-methylnonane
213 2-methyloctane	214 2-methylpentane
215 2-methylpropanal	216 2-methylpropane
217 2-methylpropenal	218 2-methylpropene
219 2-methylpropyl acetate	220 2-methylpyridine
221 2-methylundecane	222 2-pentanone
223 2-pentene	224 2-phenoxy ethanol
225 2-phenylpropene	226 2-propanol
227 2-propen-1-ol	228 2-propyl acetate
229 3-(2-hydroxy-propoxy)-1-propanol	230 3,3,4-trimethylhexane
231 3,3,5-trimethylheptane	232 3,3-dimethylheptane
233 3,3-dimethyloctane	234 3,3-dimethylpentane
235 3,4-dimethylheptane	236 3,4-dimethylhexane
237 3,5-dimethyloctane	238 3,6-dimethyloctane
239 3,7-dimethylnonane	240 3A,4,7,7A-tetrahydro-4,7-methanoindene
241 3-chloro-4-fluoropicoline	242 3-chloropropene
243 3-chloropyridine	244 3-ethyl-2-methylheptane
245 3-ethyl-2-methylhexane	246 3-ethylheptane
247 3-ethylhexane	248 3-ethyloctane
249 3-ethylpentane	250 3-ethyltoluene
251 3-hydrophenol	252 3-methyl benzaldehyde
253 3-methyl-1-butene	254 3-methylbutanal
255 3-methylbutanol	256 3-methyldecane
257 3-methylfuran	258 3-methylheptane
259 3-methylhexane	260 3-methylnonane
261 3-methyloctane	262 3-methylpentane
263 3-methylundecane	264 3-pentanone
265 4,4-dimethylheptane	266 4,4'-methylenedianiline
267 4,5-dimethylnonane	268 4,6-dimethylindan
269 4,7-dimethylindan	270 4-4'-methylenediphenyl diisocyanate
271 4-bromophenyl acetate	272 4-chlorotoluene
273 4-ethyl morpholine	274 4-ethyl-1,2-dimethylbenzene
275 4-ethyloctane	276 4-ethyltoluene
277 4-methyl benzaldehyde	278 4-methyl-1,3-dioxol-2-one
279 4-methyl-1-pentene	280 4-methyl-2-pentanol
281 4-methyl-2-pentanone	282 4-methyl-4-hydroxy-2-pentanone
283 4-methyldecane	284 4-methylheptane
285 4-methylnonane	286 4-methyloctane
287 4-methylpentene	288 4-propylheptane
289 5-methyl-2-hexanone	290 5-methyldecane
291 5-methylnonane	292 5-methylundecane
293 6-ethyl-2-methyldecane	294 6-ethyl-2-methyloctane
295 6-methylundecane	296 8-methyl-1-nonanol
297 acenaphthene	298 acenaphthylene
299 acetaldehyde	300 acetic acid
301 acetic anhydride	302 acetone
303 acetonitrile	304 acetyl chloride

305 acetylene	306 acrolein
307 acrylamide	308 acrylic acid
309 acrylonitrile	310 aniline
311 anthanthrene	312 anthracene
313 atrazine	314 benzaldehyde
315 benzene	316 benzene-1,2,4-tricarboxylic acid 1,2-
317 benzo (a) anthracene	318 benzo (a) pyrene
319 benzo (b) fluoranthene	320 benzo (c) phenanthrene
321 benzo (e) pyrene	322 benzo (g,h,i) fluoranthene
323 benzo (g,h,i) perylene	324 benzo (k) fluoranthene
325 benzophenone	326 benzopyrenes
327 benzyl alcohol	328 benzyl chloride
329 biphenyl	330 bis(2-hydroxyethyl)ether
331 bis(chloromethyl)ether	332 bis(tributyltin) oxide
333 bromoethane	334 bromoethene
335 bromomethane	336 butane
337 butanethiols	338 butene
339 butoxyl	340 butyl acetate
341 butyl acrylate	342 butyl glycolate
343 butyl lactate	344 butylbenzene
345 butylcyclohexane	346 butyrolactone
347 C10 alkanes	348 C10 alkenes
349 C10 aromatic hydrocarbons	350 C10 cycloalkanes
351 C11 alkanes	352 C11 alkenes
353 C11 aromatic hydrocarbons	354 C11 cycloalkanes
355 C12 alkanes	356 C12 cycloalkanes
357 C13 alkanes	358 C13+ alkanes
359 C13+ aromatic hydrocarbons	360 C14 alkanes
361 C15 alkanes	362 C16 alkanes
363 C2-alkyl-anthracenes	364 C2-alkyl-benzanthracenes
365 C2-alkyl-benzophenanthrenes	366 C2-alkyl-chrysenes
367 C2-alkyl-phenanthrenes	368 C5 alkenes
369 C6 alkenes	370 C7 alkanes
371 C7 alkenes	372 C7 cycloalkanes
373 C8 alkanes	374 C8 alkenes
375 C8 cycloalkanes	376 C9 alkanes
377 C9 alkenes	378 C9 aromatic hydrocarbons
379 C9 cycloalkanes	380 camphor/fenchone
381 carbon disulphide	382 carbon tetrachloride
383 carbonyl sulphide	384 chlorobenzene
385 chlorobutane	386 chlorocyclohexane
387 chlorodifluoromethane	388 chloroethane
389 chloroethene	390 chloroethylene
391 chlorofluoromethane	392 chloromethane
393 chrysene	394 cis-1,3-dimethylcyclopentane
395 cis-2-butene	396 cis-2-hexene
397 cis-2-pentene	398 coronene
399 crotonaldehyde	400 cycloheptane
401 cyclohexanamine	402 cyclohexane
403 cyclohexanol	404 cyclohexanone
405 cyclopenta (c,d) pyrene	406 cyclopenta-anthracenes
407 cyclopentane	408 cyclopenta-phenanthrenes
409 cyclopentene	410 decalin
411 decane	412 diacetoneketogulonic acid
413 diazinon	414 dibenzanthracenes
415 dibenzo (a,h) anthracene	416 dibenzopyrenes

417 dichlorobutenes	418 dichlorodifluoromethane
419 dichlorofluoromethane	420 dichloromethane
421 dichlorvos	422 diethyl disulphide
423 diethyl ether	424 diethyl sulphate
425 diethylamine	426 diethylbenzene
427 difluoromethane	428 dihydroxyacetone
429 diisopropyl ether	430 diisopropylbenzene
431 dimethoxymethane	432 dimethyl disulphide
433 dimethyl esters	434 dimethyl ether
435 dimethyl sulphate	436 dimethyl sulphide
437 dimethylamine	438 dimethylbutene
439 dimethylcyclopentane	440 dimethylformamide
441 dimethylhexene	442 dimethylnonane
443 dimethylpentane	444 dipentene
445 dipropyl ether	446 dodecane
447 ethane	448 ethanethiol
449 ethanol	450 ethofumesate
451 ethyl acetate	452 ethyl acrylate
453 ethyl butanoate	454 ethyl chloroformate
455 ethyl hexanol	456 ethyl lactate
457 ethyl pentanoate	458 ethyl propionate
459 ethylamine	460 ethylbenzene
461 ethylcyclohexane	462 ethylcyclopentane
463 ethyldimethylbenzene	464 ethylene
465 ethylene glycol	466 ethylene oxide
467 ethylisopropylbenzene	468 fenitrothion
469 fluoranthene	470 fluorene
471 formaldehyde	472 formanilide
473 formic acid	474 fumaric acid
475 glycerol	476 glyoxal
477 heptadecane	478 heptane
479 hexachlorocyclohexane	480 hexachloroethane
481 hexadecane	482 hexafluoropropene
483 hexamethylcyclotrisiloxane	484 hexamethyldisilane
485 hexamethyldisiloxane	486 hexamethylenediamine
487 hexane	488 hexylcyclohexane
489 indan	490 indeno (1,2,3-c,d) pyrene
491 iodomethane	492 isobutylbenzene
493 isobutylcyclohexane	494 isopentylbenzene
495 isophorone	496 isoprene
497 isoprene + BVOC (1)	498 isopropylbenzene
499 isopropylcyclohexane	500 limonene
501 malathion	502 maleic anhydride
503 m-cresol	504 menthene
505 methacrylic acid	506 methanethiol
507 methanol	508 methyl acetate
509 methyl acrylate	510 methyl butanoate
511 methyl ethyl ether	512 methyl formate
513 methyl glyoxal	514 methyl methacrylate
515 methyl naphthalenes	516 methyl pentanoate
517 methyl styrene	518 methylamine
519 methyl-anthracenes	520 methyl-benzanthracenes
521 methyl-benzphenanthrenes	522 methylcyclodecane
523 methylcyclohexane	524 methylcyclopentane
525 methylethylbenzene	526 methyl-fluoranthenes
527 methylhexane	528 methylindane

529 methyl-phenanthrenes	530 methylpropene
531 methylpropylbenzene	532 methyltetralin
533 m-xylene	534 N-(hydroxymethyl) acrylamide
535 N,N-diethyl benzenamine	536 N,N-dimethyl benzenamine
537 naphthalene	538 naphthol
539 Nedocromil Sodium	540 nitrobenzene
541 nitromethane	542 nitropentane
543 nitropropane	544 N-methyl pyrrolidone
545 nonane	546 o-cresol
547 octahydroindan	548 octamethylcyclotetrasiloxane
549 octane	550 octylamine
551 o-xylene	552 palmitic acid
553 p-benzoquinone	554 p-cresol
555 pentadecane	556 pentafluoroethane
557 pentane	558 pentanethiols
559 pentylbenzene	560 pentylcyclohexane
561 permethrin	562 perylene
563 phenol	564 phenoxyacetic acid (phenoxy acid)
565 phenylacetic acid	566 phenylacetoneitrile
567 phthalic anhydride	568 pine oil
569 polyethylene glycol	570 polyisobutene
571 polyvinyl chloride	572 potassium phenylacetate
573 propadiene	574 propane
575 propanetriol	576 propanoic acid
577 propionitrile	578 propyl acetate
579 propyl butanoate	580 propyl propionate
581 propylamine	582 propylbenzene
583 propylcyclohexane	584 propylcyclopentane
585 propylene	586 propylene oxide
587 propyne	588 p-xylene
589 pyrene	590 pyridine
591 salicylic acid	592 sec-butylbenzene
593 sec-butylcyclohexane	594 simazine
595 sodium 2-ethylhexanoate	596 sodium acetate
597 sodium phenylacetate	598 styrene
599 sulphanilamide	600 terpenes
601 tert-butylamine	602 tert-butylbenzene
603 tert-butylcyclohexane	604 tert-butylcyclopropane
605 tert-pentylbenzene	606 tetrachloroethene
607 tetradecane	608 tetrafluoroethene
609 tetrahydrofuran	611 tetramethylcyclohexane
612 toluene	613 toluene-2,3-diamine
614 toluene-2,4-diamine	615 toluene-2,4-diisocyanate
616 toluene-2,5-diamine	617 toluene-2,6-diamine
618 toluene-2,6-diisocyanate	619 toluene-3,4-diamine
620 toluene-3,5-diamine	621 trans-2-butene
622 trans-2-hexene	623 trans-2-pentene
624 trans-3-hexene	625 trialkyl phosphate
626 trichloroethene	627 trichlorofluoromethane
628 trichloromethane	629 tridecane
630 triethanolamine	631 triethylamine
632 trifluoroethene	633 trifluoromethane
634 trifluralin	635 trimethylamine
636 trimethylfluorosilane	637 tri-n-butyl phosphate
638 undecane	639 unspeciatiated alcohols
640 unspeciatiated aliphatic hydrocarbons	641 unspeciatiated alkanes

642 unspciated alkenes  
644 unspciated aromatic hydrocarbons  
646 unspciated cycloalkanes  
648 unspciated ketones  
650 vinyl acetate

643 unspciated amines  
645 unspciated carboxylic acids  
647 unspciated hydrocarbons  
649 urea  
(1) BVOC- biogenic VOCs, such as alpha-pinene and other terpenes

## Annex 3D-2 NMVOC and CO<sub>2</sub> equivalent emissions, 1990-2011

Table 3D-2a NMVOC emissions (Gg per year), 1990-1999.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
3A Paint Application	5,11	5,83	6,37	5,74	6,38	5,90	7,13	6,05	5,95	6,43
3B Degreasing, Dry cleaning and Electronics	7E-05	7E-05	7E-05	7E-05	9E-05	8E-05	7E-05	4E-05	5E-05	3E-05
3C Chemical Products Manufacturing and Processing	8,14	9,32	9,13	7,15	9,25	9,32	9,48	8,04	7,66	7,30
3D Other Use of Solvents and Products	24,7	27,7	30,0	26,6	31,4	30,0	32,8	30,6	27,9	26,9
3D3 Other Product Use	0,083	0,076	0,087	0,077	0,073	0,079	0,084	0,094	0,084	0,087
Total NMVOC	38,0	43,0	45,5	39,5	47,1	45,3	49,5	44,8	41,6	40,8
Total CO <sub>2</sub> -eqv.	93,5	106	113	97,9	113	109	121	108	101	100

Table 3D-2b NMVOC emissions (Gg per year), 2000-2009.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
3A Paint Application	6,40	5,25	5,18	4,99	4,66	4,32	3,73	3,23	3,38	2,85
3B Degreasing, Dry cleaning and Electronics	3E-05	1E-05	3E-05	3E-05	2E-05	2E-05	1E-05	2E-05	2E-05	1E-05
3C Chemical Products Manufacturing and Processing	6,96	6,28	6,58	4,96	6,06	6,25	6,02	6,12	5,91	4,99
3D Other Use of Solvents and Products	27,8	24,8	24,4	22,5	21,4	20,8	20,8	18,0	18,4	19,7
3D3 Other Product Use	0,0950	0,0855	0,102	0,115	0,102	0,0950	0,109	0,0838	0,0775	0,0804
Total NMVOC	41,3	36,4	36,2	32,5	32,3	31,5	30,7	27,5	27,8	27,6
Total CO <sub>2</sub> -eqv.	100	88,1	88,4	80,3	78,2	75,7	71,7	64,3	65,7	65,1

Table 3D-2c NMVOC emissions (Gg per year), 2010-2011.

	2010	2011	2012
3A Paint Application	2,75	2,87	2,86
3B Degreasing, Dry cleaning and Electronics	1E-05	1E-05	3E-06
3C Chemical Products Manufacturing and Processing	5,05	4,81	4,87
3D Other Use of Solvents and Products	19,4	19,3	19,1
3D3 Other Product Use	0,0678	0,0601	0,0817
Total NMVOC	27,3	27,0	27,0
Total CO <sub>2</sub> -eqv.	63,6	63,4	63,3



### Annex 3D-3 Activity data for solvent and product use, 1990-2011

Table 3D-4 Activity data for product use (Gg per year), 1990-2011.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
3A Paint Application	83,2	96,5	103	90,4	95,7	92,1	110	95,5	97,6	101
3B Degreasing, Dry cleaning and Electronics	1,41	1,31	1,25	1,45	1,88	1,53	1,48	0,892	1,10	0,690
3C Chemical Products Manufacturing and Processing	406	455	569	389	466	504	523	519	528	488
3D Other Use of Solvents and Products	197	224	234	202	239	247	260	249	234	226
3D3 Other Product Use	28,0	28,5	33,1	29,5	30,5	31,4	32,5	35,5	38,6	45,1
Total products	717	805	940	712	833	877	927	900	899	861
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
3A Paint Application	105	86,4	86,7	79,8	77,7	75,2	64,7	57,3	58,1	48,7
3B Degreasing, Dry cleaning and Electronics	0,586	0,251	0,597	0,578	0,481	0,365	0,292	0,433	0,299	0,263
3C Chemical Products Manufacturing and Processing	567	551	540	513	634	740	749	814	771	683
3D Other Use of Solvents and Products	230	206	218	185	182	204	180	162	169	179
3D3 Other Product Use	46,5	42,0	56,3	61,8	61,4	63,4	63,6	58,5	51,2	52,2
Total products	949	886	902	841	956	1083	1058	1093	1049	963
<i>Continued</i>	2010	2011	2012							
3A Paint Application	45,8	43,8	43,3							
3B Degreasing, Dry cleaning and Electronics	0,247	0,224	0,0547							
3C Chemical Products Manufacturing and Processing	641	640	516							
3D Other Use of Solvents and Products	170	169	169							
3D3 Other Product Use	57,7	49,9	53,6							
Total products	914	903	782							

## Annex 3D-4 Emissions from other product use, 1990-2012

Table 3D-5a Emissions of CO<sub>2</sub> and N<sub>2</sub>O from other product use, 1990-2009

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO <sub>2</sub> emission from											
3D1 & 3D4	Gg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Use of fireworks	Gg	0.06	0.07	0.08	0.07	0.08	0.13	0.12	0.09	0.15	0.29
Use of tobacco	Gg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Use of candles	Gg	21.66	25.12	27.96	27.06	32.41	26.46	24.87	25.28	39.98	47.31
Use of charcoal for BBQ	Gg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total	Gg	21.72	25.19	28.04	27.13	32.49	26.59	24.98	25.37	40.14	47.60
N <sub>2</sub> O emission from											
3D1 & 3D4	Mg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Use of fireworks	Mg	2.47	3.28	3.54	3.13	3.80	5.80	5.32	4.19	6.82	12.91
Use of tobacco	Mg	0.82	0.76	0.77	0.74	0.73	0.73	0.71	0.71	0.71	0.72
Use of candles	Mg	0.18	0.21	0.23	0.22	0.27	0.22	0.21	0.21	0.33	0.39
Use of charcoal for BBQ	Mg	0.22	0.19	0.29	0.21	0.18	0.24	0.30	0.40	0.31	0.33
Total	Mg	3.61	4.36	4.75	4.23	4.90	6.91	6.47	5.44	8.10	14.28
CO <sub>2</sub> -equivalents	Gg	22.8	26.5	29.5	28.4	34.0	28.7	27.0	27.1	42.6	52.0
<i>Continued</i>		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CO <sub>2</sub> emission from											
3D1 & 3D4	Gg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Use of fireworks	Gg	0.21	0.17	0.20	0.26	0.37	0.16	0.18	0.19	0.19	0.23
Use of tobacco	Gg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Use of candles	Gg	49.26	47.54	70.81	71.12	74.19	100.20	85.09	93.44	78.13	75.02
Use of charcoal for BBQ	Gg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total	Gg	49.47	47.71	71.01	71.38	74.57	100.36	85.27	93.64	78.32	75.25
N <sub>2</sub> O emission from											
3D1 & 3D4	Mg	2.1	7.8	8.6	13.3	19.1	34.2	35.6	40.7	33.0	45.8
Use of fireworks	Mg	9.39	7.41	9.17	11.71	16.72	7.13	8.15	8.66	8.45	10.41
Use of tobacco	Mg	0.73	0.70	0.70	0.72	0.71	0.66	0.66	0.63	0.61	0.60
Use of candles	Mg	0.41	0.39	0.58	0.59	0.61	0.83	0.70	0.77	0.64	0.62
Use of charcoal for BBQ	Mg	0.40	0.33	0.49	0.60	0.49	0.45	0.59	0.36	0.31	0.35
Total	Mg	13.03	16.63	19.54	26.92	37.63	43.27	45.70	51.12	43.02	57.90
CO <sub>2</sub> equivalents	Gg	53.51	52.87	77.06	79.73	86.24	113.77	99.40	109.47	91.62	104.88

Table 3D-5b Emissions of CO<sub>2</sub> and N<sub>2</sub>O from other product use, 2000-2012

<i>Continued</i>		2010	2011	2012
CO <sub>2</sub> emission from				
3D1 & 3D4	Gg	NO	NO	NO
Use of fireworks	Gg	0.23	0.20	0.15
Use of tobacco	Gg	NO	NO	NO
Use of candles	Gg	102.70	87.80	81.10
Use of charcoal for BBQ	Gg	NO	NO	NO
Total	Gg	102.94	88.00	81.25
N <sub>2</sub> O emission from				
3D1 & 3D4	Mg	34.4	42.0	30.1
Use of fireworks	Mg	10.49	9.15	6.74
Use of tobacco	Mg	0.59	0.53	0.52
Use of candles	Mg	0.85	0.72	0.67
Use of charcoal for BBQ	Mg	0.24	0.20	0.42
Total	Mg	46.63	52.64	38.5
CO <sub>2</sub> equivalents	Gg	124.1	103.7	93.19

## Annex 3D-5 Activity data for other product use, 1990-2012

Table 3D-6 Activity data for the national use of other products, 1990-2012.

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
3D1 & 3D4	Gg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Fireworks	Gg	1.3	1.7	1.8	1.6	2.0	3.0	2.8	2.2	3.5	6.7
Tobacco	Gg	12.7	12.0	12.1	11.5	11.4	11.4	11.0	11.2	11.1	11.2
Candles	Gg	7.4	8.6	9.6	9.3	11.1	9.1	8.5	8.7	13.7	16.3
BBQ	Gg	7.2	6.2	9.5	7.1	6.0	7.9	10.2	13.5	10.2	11.0
<i>Continued</i>		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
3D1 & 3D4	Gg	0.0021	0.0078	0.0086	0.0133	0.0191	0.0342	0.0356	0.0407	0.0330	0.0458
Fireworks	Gg	4.9	3.8	4.7	6.1	8.6	3.7	4.2	4.5	4.4	5.4
Tobacco	Gg	11.4	10.9	10.9	11.3	11.1	10.4	10.3	9.8	9.6	9.4
Candles	Gg	16.9	16.3	24.3	24.4	25.5	34.4	29.2	32.1	26.8	25.8
BBQ	Gg	13.4	10.9	16.4	20.0	16.2	14.9	19.8	12.2	10.4	11.6
<i>Continued</i>		2010	2011	2012							
3D1 & 3D4	Gg	0.0344	0.0420	0.0301							
Fireworks	Gg	5.4	4.7	3.5							
Tobacco	Gg	9.2	8.3	8.2							
Candles	Gg	35.3	30.2	27.9							
BBQ	Gg	7.8	6.7	14.0							

## Annex 3E - Agriculture

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Table 3E-1 Changes in housing type 1990 – 2012.

**Dairy cattle:**

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Dairy cattle	Tethered with urine and solid manure	35	31	18	6	6	5	5	4	3
	Tethered with slurry	44	42	28	14	9	7	7	6	5
	Loose-holding with beds, slatted floor	13	17	34	43	44	45	45	46	46
	Loose-holding with beds, slatted floor, scrape	1	1	3	11	14	14	14	15	15
	Loose-holding with beds, solid floor	4	3	6	16	20	21	21	21	22
	Loose-holding with beds, drained floor	0	0	0	0	0	0	0	0	0
	Loose-holding with beds, solid floor with tilt	0	0	0	0	1	2	2	3	3
	Deep litter (all)	0	0	0	1	2	2	2	2	3
	Deep litter, long eating space, solid floor	1	1	3	2	1	1	1	1	1
	Deep litter, slatted floor	2	5	7	5	2	2	2	1	1
	Deep litter, slatted floor, scrape	0	0	1	1	2	2	2	1	1

**Heifers:**

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Heifer calves, 0-6 mth.	Deep litter (boxes)	100	100	100	85	96	96	96	96	96
	Deep litter, solid floor	0	0	0	15	4	4	4	4	4
Heifer, 6 mth.-calving	Tethered with urine and solid manure	19	14	9	6	6	6	6	5	4
	Tethered with slurry	19	14	9	4	2	2	2	2	2
	Slatted floor-boxes	40	35	32	32	37	35	35	31	30
	Loose-housing with beds, slatted floor	4	7	14	19	14	16	16	19	21
	Loose-housing with beds, slatted floor, scrape	0	0	0	2	6	6	6	7	8
	Loose-housing with beds, solid floor	0	0	0	2	6	6	6	7	7
	Deep litter (all)	3	1	0	8	22	22	22	21	21
	Deep litter, long eating space, solid floor	1	2	3	2	2	2	2	2	2
	Deep litter, solid floor	9	19	25	19	1	1	1	1	1
	Deep litter, slatted floor	4	7	6	4	2	2	2	2	2
	Deep litter, slatted floor, scrape	1	1	2	2	2	2	2	3	2

**Bulls:**

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Bull calves, 0-6 mth.	Deep litter (boxes)	100	100	100	84	97	97	97	97	97
	Deep litter, solid floor	0	0	0	16	3	3	3	3	3
Bull, 6 mth - 440 kg	Tethered with urine and solid manure	20	14	10	6	4	3	3	2	2
	Tethered with slurry	20	14	10	5	1	1	1	1	1
	Slatted floor-boxes	41	37	33	29	30	27	27	25	23
	Loose-housing with beds, slatted floor	0	0	0	0	0	0	0	3	5
	Loose-housing with beds, slatted floor, scrape	0	0	0	0	0	0	0	3	3
	Loose-housing with beds, solid floor	0	0	0	0	0	0	0	0	1
	Deep litter (all)	3	1	0	19	58	61	61	58	57
	Deep litter, long eating space, solid floor	1	3	3	2	1	1	1	1	1
	Deep litter, solid floor	10	20	33	34	4	4	4	4	4
	Deep litter, slatted floor	4	9	9	4	1	2	2	1	1
	Deep litter, slatted floor, scrape	1	2	2	1	1	1	1	2	2

Table 3E-1 - *Continued* - Changes in housing type 1990 – 2012 – **Cattle.*****Suckling cattle:***

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Suckling cattle	Tethered with urine and solid manure	10	10	9	9	16	15	15	13	13
	Tethered with slurry	0	0	0	3	9	9	9	10	9
	Deep litter (all)	73	55	45	51	68	68	69	69	70
	Deep litter, long eating space, solid floor	0	0	0	0	1	1	1	1	1
	Deep litter, solid floor	17	35	46	35	2	3	3	3	3
	Deep litter, slatted floor	0	0	0	1	1	1	1	2	2
	Deep litter, slatted floor, scrape	0	0	0	1	2	2	2	2	2
	Boxes with sloping bedded floor	0	0	0	0	1	1	0	0	0

Table 3E-1 - *Continued* - Changes in housing type 1990 – 2012 – **Swine.**

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Sows	Full slatted floor	11	15	17	14	14	15	15	15	14
	Partly slatted floor	56	59	59	65	77	77	77	79	79
	Solid floor	29	16	6	4	1	1	1	0	0
	Deep litter	4	5	7	5	2	1	1	1	1
	Deep litter + slatted floor	0	2	4	6	4	4	4	4	4
	Deep litter + solid floor	0	2	4	4	1	1	1	1	1
	Outdoor sows	0	1	3	2	1	1	1	0	1
Weaners	Fully slatted floor	54	51	38	29	23	22	22	20	19
	Partly slatted floor	20	31	47	57	67	68	68	70	72
	Solid floor	21	11	5	4	1	0	0	1	0
	Deep litter (to-climate housings)	5	5	5	4	2	2	2	1	1
	Deep litter + slatted floor	0	2	5	0	0	0	0	0	0
	Partly slatted and drained floor	0	0	0	6	7	8	8	8	8
Fattening pigs	Fully slatted floor	51	60	58	53	53	54	54	53	52
	Partly slatted floor	23	24	31	0	0	0	0	0	0
	Solid floor	22	11	5	3	3	2	2	1	1
	Deep litter	4	3	1	2	3	2	2	2	2
	Partly slatted floor and partly deep litter	0	2	5	4	0	0	0	1	0
	Partly slatted and drained floor	0	0	0	38	41	42	42	43	45

Table 3E-1 - *Continued* Changes in housing type 1990 – 2012 – **Poultry.**

Livestock categories	1990	1995	2000	2005	2008	2009	2010	2011	2012
Free-range hens	0	5	9	8	6	6	7	8	7
Organic hens	0	3	12	14	16	15	15	16	19
Barn hens	5	15	17	25	19	19	17	17	19
Battery hens, manure shed	24	26	29	32	42	44	45	45	46
Battery hens, manure tank	13	8	5	5	8	7	7	8	5
Battery hens, manure cellar	58	43	28	16	9	9	9	6	4
Hens for production of brood egg	100	100	100	100	100	100	100	100	100
Pullet, consumption, net	17	12	8	6	7	7	7	19	32
Pullet, consumption, floor	57	63	69	70	84	78	78	76	63
Pullet, brood egg, floor	26	25	23	24	9	15	15	5	5
Broilers, (conv. 30 days)	0	0	0	0	0	0	0	0	0
Broilers, (conv. 32 days)	0	0	0	4	2	7	3	11	14
Broilers, (conv. 35 days)	0	0	0	45	49	57	76	86	81
Broilers, (conv. 40 days)	100	100	100	49	49	36	21	3	5
Broilers, (conv. 45 days)	0	0	0	2	0	0	0	0	0
Broilers, barn (56 days)	0	0	0	0	0	0	0	0	0
Organic broilers (81 days)	0	0	0	0	0	0	0	0	0
Turkey, male	50	50	50	50	50	50	50	50	50
Turkey, female	50	50	50	50	50	50	50	50	50
Ducks	100	100	100	100	100	100	100	100	100
Geese	100	100	100	100	100	100	100	100	100
Pheasant	100	100	100	100	100	100	100	100	100

Table 3E-1 - *Continued* Changes in housing type 1990 – 2012 - **Fur farming.**

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Mink	Slurry system	18	25	42	73	92	95	97	96	97
	Solid manure and urine	82	75	58	27	8	5	3	4	3
Foxes	Slurry system	0	0	2	0	0	0	0	0	0
	Solid manure and urine	100	100	98	100	100	100	100	100	100

Table 3E-1 - *Continued* Changes in housing type 1990 – 2012 - **Horses, sheep, goats and ostrich.**

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Horses, sheep, goats, ostrich	Deep litter	100	100	100	100	100	100	100	100	100

Table 3E-1 - *Continued* Changes in housing type 1990 – 2012 - **Deer and pheasant.**

Livestock categories	Housing type	1990	1995	2000	2005	2008	2009	2010	2011	2012
Deer and pheasant	Pasture	100	100	100	100	100	100	100	100	100

Reference: 1990 – 2004 = The Danish Agricultural Advisory Service, 2005-2012 = Danish AgriFish Agency.

For all years see: <http://envs.au.dk/videnudveksling/luft/emissioner/reportingsectors/agriculture/>.



Table 3E-2 Number of animals allocated on subcategories for 1990-2012, 1 000 head.

	1990	1995	2000	2005	2008	2009	2010	2011	2012
Dairy Cattle	753	702	636	564	558	563	568	565	587
<u>Non-Dairy Cattle</u>									
Bulls 0-6	217	190	150	132	125	117	132	132	133
Bulls 6-	263	213	176	142	139	145	141	138	133
Heifers 0-6	225	215	185	148	151	151	156	158	162
Heifers 6-	695	647	598	483	485	468	473	476	494
Suckling Cattle	87	122	125	101	107	96	101	99	97
<u>Sheep</u>	92	81	112	126	117	116	111	94	90
<u>Goats</u>									
Meat goat	7	7	8	5	10	11	10	8	10
Milk goat	IE	IE	IE	4	4	4	5	4	2
Mohair goat	IE	IE	IE	2	1	1	1	1	0
<u>Horses</u>									
< 300 kg	IE	IE	IE	44	48	44	41	39	39
300-500 kg	80	84	89	60	65	60	56	53	53
500-700 kg	51	54	57	67	72	67	63	59	59
> 700 kg	4	4	5	5	6	5	5	5	5
<u>Swine</u>									
Sows	904	1 015	1 083	1 151	1 059	1 088	1 117	1 063	1 011
Weaners	4 881	5 613	5 330	6 165	5 893	5 882	6 166	6 061	5 847
Fattening pigs	3 712	4 456	5 508	6 218	5 785	5 399	5 890	5 809	5 473
<u>Poultry</u>									
Hens	4 381	4 366	3 720	3 241	3 590	3 345	3 970	3 882	4 037
Pullets	1 315	1 723	1 216	1 928	1 384	1 092	1 278	1 796	1 561
Broilers	9 802	12 585	16 047	11 905	9 737	14 787	12 836	12 528	12 576
Other poultry	750	946	849	456	396	382	431	450	543
<u>Pheasant</u>									
Pheasant hen	63	63	63	63	63	63	63	63	63
Pheasant chicken	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000
<u>Ostrich</u>									
Ostrich hen	NO	0.11	0.30	0.12	0.02	0.01	0.01	0.01	0.01
Ostrich chicken	NO	3.22	8.59	3.54	0.45	0.35	0.35	0.18	0.17
<u>Fur Farming</u>									
Mink	2 233	1 834	2 188	2 547	2 807	2 720	2 698	2 754	2 948
Foxes	31	16	11	5	3	1	2	2	0
<u>Deer</u>	10	10	10	10	10	9	10	8	7

IE = Included else were (main category).

For all years see <http://envs.au.dk/videnudveksling/luft/emissioner/reportingsectors/agriculture/>

Table 3E-3 (a-d) NH<sub>3</sub> emission factors for housing units, 2012.**a) Cattle**

		Urine TAN	Slurry TAN	Solid manure Total N	Deep litter manure Total N
Housing type		pct. loss of TAN ex animal	pct. loss of N ex animal		
Tethered	urine and solid manure	10	-	5	-
	slurry manure	-	6	-	-
Loose-housing with beds	slatted floor	-	16	-	-
	slatted floor and scrape	-	12	-	-
	solid floor	-	20	-	-
	drained floor	-	8	-	-
	solid floor with tilt and scrape	-	8	-	-
	solid floor with tilt	-	12	-	-
Deep litter	All	-	-	-	6
	solid floor	-	-	-	6
	slatted floor	-	16	-	6
	slatted floor and scrape	-	12	-	6
	solid floor and scrape	-	20	-	6
Boxes	sloping bedded floor	-	16	-	-
	slatted floor	-	16	-	-

**b) Swine**

			Urine TAN	Slurry TAN	Solid manure Total N	Deep litter Total N
Housing type		Floor or manure type	Pct. loss of TAN ex animal		pct. loss of N ex animal	
<u>Sows</u>	Individual, mating and gestation	Partly slatted floor	-	13	-	-
		Full slatted floor	-	19	-	-
		Solid floor	21	-	16	-
	Group, mating and gestation	Deep litter	-	-	-	15
		Deep litter + slatted floor	-	16	-	15
		Deep litter + solid floor	-	19	-	15
		Partly slatted floor	-	16	-	-
	Farrowing crate	Full slatted floor	-	13	-	-
		Partly slatted floor	-	26	-	-
	Farrowing pen	Solid floor	20	-	15	-
		Partly slatted floor	-	22	15	-
<u>Weaners</u>		Full slatted floor	-	24	-	-
		Drained + partly slatted floor	-	21	-	-
		Deep litter (to-climate housings)	-	10	-	15
		Solid floor	37	-	25	-
		Deep litter	-	-	-	15
<u>Fattening pigs</u>		Partly slatted floor (50-75 % solid)	-	13	-	-
		Partly slatted floor (25-49% solid)	-	17	-	-
		Drained + partly slatted floor	-	21	-	-
		Full slatted floor	-	24	-	-
		Solid floor	27	-	18	-
		Deep litter, divided	-	18	-	15
		Deep litter	-	-	-	15

c) **Poultry**

			Solid manure Total N	Deep litter Total N
	Housing type	Floor or manure type	pct. loss of N ex animal	
Hens and pullets	Free-range, organic and barn	Deep pit	40	25
		Deep litter	-	28
		Manure belt	10	25
	Battery	Deep pit	12	-
		Manure belt	10	-
Broilers	Conventional	Deep litter	-	20
	Organic and barn	Deep litter	-	25
Turkeys, ducks and geese		Deep litter	-	20

d) **Other**

	Urine TAN	Slurry TAN	Solid manure Total N	Deep litter Total N
	Pct. loss of TAN ex animal		pct. loss of N ex animal	
Fur animals	35	47	35	-
Horses, sheep and goats	-	-	-	15

Table 3E-4 NH<sub>3</sub> emission factors for storage units, 2012.

			Urine	Slurry <sup>1</sup>	Solid manure	Deep litter	Pct. of solid manure stored in heap on field
Cattle		Total N	2	2.1	4	1	35
		TAN	2.2	3.5	-	-	-
Pigs	Sows	Total N	2	2.4	19	6.5	50
		TAN	2.2	2.9	-	-	-
	Weaners	Total N	2	2.4	19	9.8	-
		TAN	2.2	2.9	-	-	-
	Fattening pigs	Total N	2	2.4	19	9.8	75
		TAN	2.2	2.9	-	-	-
Poultry	Hens and pullets	Total N	-	2	7.5	4.8	95
	Broilers	Total N	-	-	11.5	6.8	85
	Turkeys, ducks, and geese	Total N	-	-	-	6.8, 8(Turkeys)	-
Fur animals		Total N	0	3.1	11.5	-	-
		TAN	0	3.1	-	-	-
Sheep and goats		Total N	-	-	-	4	-
Horses		Total N	-	-	-	4	-

Table 3E-5 Parameters for winter feeding plans.

		Feeding code*	% dm*	% Crude protein*	% Raw fat*	% Raw ashes*	% Carbo- hydrates	FU/kg dm*	kg dm/day**	MJ/day	GE <sub>FU</sub>
		PDIR (2002)									
Heifers:	Straw	781	85.0	4.0	1.9	4.5	89.6	0.2	33.4	571.8	
	Maize silage	593	31.0	8.7	2.2	4.2	84.9	0.9	57.5	1 009.0	
	Toasted soya	155	87.5	49.1	3.2	7.4	40.3	1.4	8.1	161.7	
	Total	-	-	-	-	-	-	-	99.0	1 742.4	25.8
Suckling cows:	Straw	781	85.0	4.0	1.9	4.5	89.6	0.2	1.6	119.1	
Period 1 (2 mth)	Toasted soya	155	87.5	49.1	3.2	7.4	40.3	1.4	3.4	49.6	
	Barley	201	85.0	11.2	2.9	2.2	83.7	1.1	1.8	29.2	
Period 2 (4 mth)	Straw	781	85.0	4.0	1.9	4.5	89.6	0.2	3.2	238.2	
	Toasted soya	155	87.5	49.1	3.2	7.4	40.3	1.4	3.0	29.1	
	Barley	202	85.0	11.2	2.9	2.2	83.7	1.1	3.2	52.0	
	Total	-	-	-	-	-	-	-	15.2	517.1	34.0
Horses:	Straw	781	85.0	4.0	1.9	4.5	89.6	0.2	4.0	58.2	
	Hay	665	85.0	12.1	2.6	7.7	77.6	0.6	3.0	44.0	
	Oat	202	86.0	12.1	5.7	2.7	79.5	0.9	2.5	40.1	
	Supplemental		86.4	15.4	4.3	6.6	73.7	1.0	1.0	15.5	
	Total	-	-	-	-	-	-	-	-	157.7	29.8
Sheep and Goats:	Straw	781	85.0	4.0	1.9	4.5	89.6	0.2	1.0	14.6	
	Toasted soya	155	87.5	49.1	3.2	7.4	40.3	1.4	0.1	1.8	
	Barley	202	85.0	11.2	2.9	2.2	83.7	1.1	0.4	6.2	
	Grass pills (dried)	707	92.0	17.0	3.1	11.0	68.9	0.6	1.0	15.7	
	Total	-	-	-	-	-	-	-	-	38.2	30.0
Summer grazing											
Grazing	Clover grass, 2 weeks old	422	18.0	22.0	4.1	9.4	64.5	1.0	1.0	18.8	
	Total	-	-	-	-	-	-	-	1.0	18.8	18.8
Swine:	Full feeding										
	Sows	-	87.1	16.1	5.2	5.5	73.2	1.2	-	64.2	17.5
	Weaners	-	87.4	18.8	5.7	5.5	70.0	1.3	-	2.1	16.5
	Fattening pigs	-	86.9	17.0	4.7	5.1	73.3	1.2	-	9.6	17.3

Table 3E-6 Energy factors used for GE.

	MJ per kg dm
E <sub>Crude protein</sub>	24.237
E <sub>Raw fat</sub>	34.116
E <sub>Carbonhydrates</sub>	17.3

Table 3E-7 Feed intake 1990-2012, FU per animal per year.

	1990	1995	2000	2005	2008	2009	2010	2011	2012
Dairy cattle	5 549	5 896	5 941	6 557	6 687	6 845	6 878	6 804	6 855
<u>Non-dairy cattle:</u>									
Calves, bull	1 190	1 200	1 205	1 228	1 230	1 230	1 230	1 230	1 230
Calves, heifer	1 734	1 743	1 728	1 820	2 043	2 040	2 041	2 040	9 492
Bulls > ½ year	1 995	2 082	1 846	2 275	2 382	2 178	2 227	2 438	2 246
Heifer > ½ year	1 721	1 735	1 737	2 357	2 609	2 606	2 605	2 604	2 604
Suckling cattle	2 515	2 515	2 515	2 378	2 417	2 417	2 417	2 417	2 417
Sheep (mother sheep incl. lambs)	728	728	728	728	728	728	728	728	728
Goats (mother goats incl. kids)	669	669	669	655	664	664	664	665	665
Horses	1 995	1 995	1 995	1 996	1 995	1 995	1 996	1 995	1 995
<u>Swine:</u>									
Sows (incl. pigs < 7.4 kg)	1 300	1 300	1 340	1 450	1 484	1 500	1 520	1 535	1 540
Weaners (7.4 – 32 kg)	128	167	209	206	244	229	226	240	247
Fattening pigs (32 – 107 kg)	1 015	950	826	790	813	816	776	805	800
<u>Other:</u>									
Deer	668	668	668	668	668	668	668	668	668

Table 3E-8 Grazing animals 1990 – 2012, number of days on grass per year.

Livestock category	1990	1995	2000	2005	2008	2009	2010	2011	2012
Dairy cattle	55	55	55	32	18	18	18	18	18
Heifer > ½ year <sup>a</sup>	165	196	196	156	132	132	132	132	132
Suckling cattle	184	224	224	224	224	224	224	224	224
Sheep and goats	265	265	265	265	265	265	265	265	265
Horses	183	183	183	183	183	183	183	183	183

<sup>a</sup> feeding days on grass

Table 3E-9a Average gross energy intake (GE) 1990 – 2012, MJ per head per day.

Livestock category	1990	1995	2000	2005	2008	2009	2010	2011	2012
Dairy cattle	278.2	295.6	297.9	328.7	335.3	343.2	344.8	341.1	343.7
Non-dairy cattle (heifer)	107.2	105.2	105.2	115.6	130.5	130.3	130.3	130.2	130.2
Sheep (mother sheep incl. lambs)	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6
Goats (mother goats incl. kids)	40.1	40.1	40.1	39.2	39.8	39.8	39.8	39.9	39.9
Horses	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0
Swine (fattening pigs)	43.3	38.9	38.1	38.9	39.9	40.4	40.3	40.4	40.5
Poultry	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>Other:</u>									
Deer	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
Fur farming	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ostrich	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pheasant	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 3E-9b Average gross energy intake (GE) 1990 – 2012, MJ per head per day – Subcategories for cattle and swine.

Subcategories for cattle and swine	1990	1995	2000	2005	2008	2009	2010	2011	2012
<u>Cattle</u>									
Dairy, large breed	285.8	302.4	304.1	335.9	341.8	350.2	351.7	348.2	350.9
Dairy, Jersey	237.2	250.7	253.2	278.8	290.6	296.3	299.1	296.2	298.6
Calves, bull	59.6	60.2	60.4	61.6	61.7	61.7	61.7	61.7	61.7
Calves, heifer	86.5	87.2	86.5	91.3	102.4	102.3	102.3	102.3	102.2
Bulls > ½ year	113.6	114.3	114.7	115.8	116.0	116.2	116.3	116.2	116.2
Heifer > ½ year	107.2	105.2	105.2	115.6	130.5	130.3	130.3	130.2	130.2
Suckling cattle	181.6	170.2	170.2	160.9	163.6	163.6	163.6	163.6	163.6
<u>Swine</u>									
Sows (incl. pigs < 7.4 kg)	62.3	62.3	64.2	69.5	71.1	71.9	72.8	73.6	73.8
Weaners (7.4 – 32 kg)	11.1	13.2	13.8	13.8	15.2	14.3	14.1	14.2	14.2
Fattening pigs (32 – 107 kg)	43.3	38.9	38.1	38.9	39.9	40.4	40.3	40.4	40.5

Table 3E-10a VS daily excretion (average) 1990 – 2012, kg dm per head per day – CRF categories.

365 housing days	1990	1995	2000	2005	2008	2009	2010	2011	2012
<u>Livestock category</u>									
Dairy cattle	5.54	5.70	6.03	6.59	6.07	6.21	6.23	6.09	6.22
Non-dairy cattle (weighted average)	1.68	1.84	1.95	2.69	2.75	2.76	2.76	2.73	2.70
Sheep (mother sheep incl. lambs)	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.05
Goats (mother goats incl. kids)	1.06	1.06	1.06	1.06	1.07	1.07	1.07	1.07	1.01
Horses	3.67	3.67	3.67	3.65	3.65	3.65	3.65	3.65	3.65
Swine (weighted average)	0.23	0.22	0.22	0.22	0.21	0.21	0.21	0.20	0.20
Poultry (weighted average)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Fur farming	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.09	0.09
Deer	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72

Table 3E-10b VS daily excretion (average) 1990 – 2012, kg dm per head per day – Subcategories.

365 housing days	1990	1995	2000	2005	2008	2009	2010	2011	2012
<u>Cattle:</u>									
Dairy cattle	5.54	5.70	6.03	6.59	6.07	6.21	6.23	6.09	6.22
Calves, bull	1.49	1.50	1.51	1.53	1.53	1.53	1.53	1.53	1.53
Bulls > ½ year	1.77	2.29	2.74	3.40	3.89	4.03	4.04	3.92	3.89
Calves, heifer	1.30	1.30	1.31	1.69	1.80	1.80	1.80	1.80	1.80
Heifer > ½ year	1.69	1.90	1.99	2.72	2.82	2.80	2.80	2.80	2.79
Suckling cattle	6.72	5.67	5.64	5.46	4.19	4.22	4.23	4.24	4.28
<u>Swine:</u>									
Sows (incl. pigs < 7.4 kg)	0.53	0.55	0.62	0.62	0.46	0.46	0.45	0.45	0.45
Weaners (7.4 – 32 kg)	0.11	0.10	0.10	0.11	0.10	0.10	0.10	0.10	0.10
Fattening pigs (32 – 107 kg)	0.34	0.33	0.32	0.34	0.33	0.33	0.33	0.33	0.33
<u>Poultry:</u>									
Hens	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Pullets	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003
Broilers	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Turkeys, geese and ducks	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Table 3E-11 Basic data from Sommer et al. (2001) used to estimation of lower emission of N<sub>2</sub>O and CH<sub>4</sub> from biogas treated slurry.

CH <sub>4</sub> (housing + storage).					
	Reference situation	Biogas scenario I	Difference	Reduction potential	Lower emission compared with the reference situation
	kg CO <sub>2</sub> eqv/kg VS excreted			Pct.	Pct.
Cattle	1.1458	0.8778	0.2680	23	77
Pigs	1.1481	0.6864	0.4617	40	60
N <sub>2</sub> O (field)					
	Reference situation	Biogas scenario I	Difference	Reduction potential	Lower emission compared with the reference situation
	kg CO <sub>2</sub> eqv/kg VS excreted			Pct.	Pct.
Cattle	0.1624	0.1032	0.0592	36	64
Pigs	0.2127	0.1258	0.0869	41	59

Reference: Sommer et al., 2001 (see appendix 3 page 50).

Calculation example of CH<sub>4</sub> emission form biogas treated slurry:

Reference situation (whiteout biogas treatment):  $0.7236 + 0.4222 = 1.1458$  kg CO<sub>2</sub> eqv/kg VS ex

Biogas scenario I (biogas treatment):  $0.7236 + 0.0770 + 0.0772 = 0.8778$  kg CO<sub>2</sub> eqv/kg VS ex

Reduction potential:  $(1.1458 - 0.8778) = 0.2680 \rightarrow 0.2680 / (1.1458 * 100\%) = 23 \%$

This leads to an emission from treated cattle slurry, which is 77 % compared with untreated slurry.

Table 3E-12a Calculation of lower CH<sub>4</sub> emission as a consequence of biogas treated slurry.

Year	Biogas treated slurry	Cattle slurry	Pig slurry	VS cattle slurry	VS pig slurry	CH <sub>4</sub> emission, untreated cattle slurry	CH <sub>4</sub> emission, treated cattle slurry	Lower CH <sub>4</sub> emission, cattle slurry	CH <sub>4</sub> emission, untreated pig slurry	CH <sub>4</sub> emis- sion, treated pig slurry	Lower CH <sub>4</sub> emission, pig slurry	Lower CH <sub>4</sub> emission, total
	1000 Gg			1000 Gg			Gg			Gg		Gg
1990	0.19	0.09	0.10	0.007	0.005	0.113	0.087	0.026	0.154	0.092	0.062	<b>0.088</b>
1991	0.32	0.14	0.18	0.012	0.009	0.191	0.146	0.045	0.259	0.155	0.104	<b>0.149</b>
1992	0.39	0.18	0.21	0.014	0.010	0.233	0.178	0.054	0.316	0.189	0.127	<b>0.181</b>
1993	0.46	0.21	0.25	0.017	0.012	0.274	0.210	0.064	0.372	0.223	0.150	<b>0.214</b>
1994	0.54	0.24	0.30	0.020	0.014	0.322	0.247	0.075	0.437	0.261	0.176	<b>0.251</b>
1995	0.64	0.29	0.35	0.024	0.017	0.382	0.292	0.089	0.518	0.310	0.208	<b>0.298</b>
1996	0.69	0.31	0.38	0.026	0.019	0.411	0.315	0.096	0.558	0.334	0.225	<b>0.321</b>
1997	0.83	0.37	0.46	0.031	0.022	0.495	0.379	0.116	0.672	0.402	0.270	<b>0.386</b>
1998	1.01	0.45	0.56	0.037	0.027	0.602	0.461	0.141	0.817	0.489	0.329	<b>0.470</b>
1999	1.04	0.47	0.57	0.039	0.028	0.620	0.475	0.145	0.842	0.503	0.338	<b>0.483</b>
2000	1.16	0.52	0.64	0.043	0.031	0.692	0.530	0.162	0.939	0.561	0.377	<b>0.539</b>
2001	1.26	0.57	0.69	0.047	0.034	0.751	0.576	0.176	1.020	0.610	0.410	<b>0.586</b>
2002	1.44	0.65	0.79	0.053	0.039	0.859	0.658	0.201	1.165	0.697	0.469	<b>0.669</b>
2003	1.76	0.79	0.97	0.065	0.047	1.049	0.804	0.245	1.424	0.851	0.573	<b>0.818</b>
2004	1.88	0.85	1.03	0.070	0.050	1.121	0.859	0.262	1.521	0.910	0.612	<b>0.874</b>
2005	1.93	0.87	1.06	0.072	0.052	1.151	0.882	0.269	1.562	0.934	0.628	<b>0.897</b>
2006	2.14	0.96	1.18	0.079	0.057	1.276	0.978	0.298	1.732	1.035	0.696	<b>0.995</b>
2007	2.15	0.97	1.18	0.080	0.058	1.282	0.982	0.300	1.740	1.040	0.700	<b>1.000</b>
2008	2.19	0.99	1.20	0.081	0.059	1.306	1.000	0.305	1.772	1.060	0.713	<b>1.018</b>
2009	2.39	1.08	1.31	0.089	0.064	1.425	1.092	0.333	1.934	1.156	0.778	<b>1.111</b>
2010	2.49	1.12	1.37	0.092	0.067	1.485	1.137	0.347	2.015	1.205	0.810	<b>1.158</b>
2011	2.39	1.08	1.31	0.089	0.064	1.425	1.092	0.333	1.934	1.156	0.778	<b>1.111</b>
2012	2.45	1.10	1.35	0.081	0.066	1.461	1.119	0.342	1.983	1.185	0.797	<b>1.139</b>



Table 3E-12b Calculation of lower N<sub>2</sub>O emission as a consequence of biogas treated slurry.

Year	Biogas treated slurry	Cattle slurry	Pig slurry	N <sub>2</sub> O emission, untreated cattle slurry	N <sub>2</sub> O emission treated cattle slurry	Lower N <sub>2</sub> O emission, cattle slurry	N <sub>2</sub> O emission untreated pig slurry	N <sub>2</sub> O emission treated pig slurry	Lower N <sub>2</sub> O emission, pig slurry	Lower N <sub>2</sub> O emission, total
	1000 Gg				Gg			Gg		Gg
1990	0.19	0.09	0.10	0.006	0.004	0.002	0.007	0.004	0.003	<b>0.005</b>
1991	0.32	0.14	0.18	0.010	0.006	0.004	0.012	0.007	0.005	<b>0.008</b>
1992	0.39	0.18	0.21	0.012	0.008	0.004	0.015	0.009	0.006	<b>0.010</b>
1993	0.46	0.21	0.25	0.014	0.009	0.005	0.017	0.010	0.007	<b>0.012</b>
1994	0.54	0.24	0.30	0.016	0.010	0.006	0.020	0.012	0.008	<b>0.014</b>
1995	0.64	0.29	0.35	0.019	0.012	0.007	0.024	0.014	0.010	<b>0.017</b>
1996	0.69	0.31	0.38	0.021	0.013	0.008	0.026	0.015	0.010	<b>0.018</b>
1997	0.83	0.37	0.46	0.025	0.016	0.009	0.031	0.018	0.013	<b>0.022</b>
1998	1.01	0.45	0.56	0.031	0.019	0.011	0.038	0.022	0.015	<b>0.026</b>
1999	1.04	0.47	0.57	0.031	0.020	0.011	0.039	0.023	0.016	<b>0.027</b>
2000	1.16	0.52	0.64	0.035	0.022	0.013	0.043	0.026	0.018	<b>0.030</b>
2001	1.26	0.57	0.69	0.038	0.024	0.014	0.047	0.028	0.019	<b>0.033</b>
2002	1.44	0.65	0.79	0.044	0.028	0.016	0.054	0.032	0.022	<b>0.038</b>
2003	1.76	0.79	0.97	0.053	0.034	0.019	0.065	0.039	0.027	<b>0.046</b>
2004	1.88	0.85	1.03	0.057	0.036	0.021	0.070	0.041	0.029	<b>0.049</b>
2005	1.93	0.87	1.06	0.058	0.037	0.021	0.072	0.042	0.029	<b>0.051</b>
2006	2.14	0.96	1.18	0.065	0.041	0.024	0.080	0.047	0.033	<b>0.056</b>
2007	2.15	0.97	1.18	0.065	0.041	0.024	0.080	0.047	0.033	<b>0.056</b>
2008	2.19	0.99	1.20	0.066	0.042	0.024	0.081	0.048	0.033	<b>0.057</b>
2009	2.39	1.08	1.31	0.072	0.046	0.026	0.089	0.053	0.036	<b>0.063</b>
2010	2.49	1.12	1.37	0.075	0.048	0.027	0.093	0.055	0.038	<b>0.065</b>
2011	2.39	1.08	1.31	0.072	0.046	0.026	0.089	0.053	0.036	<b>0.063</b>
2012	2.45	1.10	1.35	0.074	0.047	0.027	0.091	0.054	0.037	<b>0.064</b>

Table 3E-13 Background data for calculation of N content in nitrogen fixing crops.

Crop	Dry matter content <sup>1</sup>	N-content in dm <sup>1</sup>	Straw yield in pct. of grain yield <sup>2</sup>	Share, root + stubble <sup>3</sup>	Share of N in crop which is fixed <sup>3</sup>	N-fixed kg N/tonnes harvested
	pct.	pct.	pct.	pct.	pct.	
<b>Based on yield</b>						
Field peas, grain	85	3.97		25	75	
Field peas, straw	87	1.15	60			
Legumes grown to maturity, in total						37.3
Lucerne	21	3.04		60	75	7.7
Crops for silage	23	2.64		25	80	6.1
Legumes, marrow-stem kale and green fodder	23	2.64		25	80	6.1
Grass and clover fields as well as fields sown with an under crop	13	4.00		75	90	8.2
Peas for conservation <sup>4</sup>	23	2.64		25	80	6.1
Fields with aftermath	13	4.00		75	90	8.2
<b>Based on area</b>						
	kg N/ha/year					
Seed of leguminous grass crops:						
Red clover	200					
White clover	180					
Black medick	180					

<sup>1</sup> Feedstuff table (DAAC, 2000).<sup>2</sup> Kyllingsbæk (2000).<sup>3</sup> Kristensen (2002) and Kyllingsbæk (2000).<sup>4</sup> Assumed that peas constitute 80% of the total area.

Table 3E-14 Estimated share of nitrogen fixing plants in crops.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999-2012
	pct.									
Cereals for silage										
Share of peas (whole-crop)	30	30	35	35	40	40	45	45	50	50
Share of peas in whole-crop	40	40	40	40	40	40	40	40	40	40
Legumes, marrow-stem kale and other green fodder										
Share with legumes:	60	60	60	60	60	60	60	60	60	60
of which share with peas	40	40	40	40	40	40	40	40	40	40
Peas for conservation	80	80	80	80	80	80	80	80	80	80
Grass in rotation										
Share of clover grass fields	74	76	78	80	82	84	85	86	87	88
Clover percentage in the clover grass fields	20	20	20	20	20	22	24	26	28	30
Grass not in a rotation										
Clover percentage	5	5	5	5	5	5	5	5	5	5
Fields with aftermath										
Share with clover grass	74	76	78	80	82	84	85	86	87	88
Clover percentage	30	30	30	30	30	30	30	30	30	30

Table 3E-15 Area of N-fixing crops 1990-2012, ha.

	1990	1995	2000	2005	2008	2009	2010	2011	2012
Legumes to maturity	114 354	74 178	35 590	15 819	4 910	6 332	10 349	7 109	6 252
Lucerne	8 494	10 099	5 245	4 575	3 756	5 366	6 405	6 926	4 715
Crops for silage	47 772	87 893	118 763	75 512	52 251	55 851	62 845	56 672	54 333
Legumes/marrow-stem kale	2 584	2 964	585	NO	NO	NO	NO	NO	NO
Grass and clover in rotation	248 815	238 384	246 656	253 007	300 251	305 889	320 914	329 135	326 797
Grass not in rotation	217 235	207 122	166 261	192 968	189 962	192 433	199 859	186 652	200 413
Fields with catch crop	232 000	236 000	309 100	121 800	113 900	115 200	116 600	116 700	84 100
Peas for conservation	8 791	5 529	4 149	2 999	3 592	3 737	2 677	2 935	2 837
Seeds of leguminous grass crops	2 334	3 835	4 603	5 258	4 457	4 542	4 483	3 742	4 536
Total area of N-fixing crops	882 379	866 004	890 952	671 938	673 079	689 350	724 132	709 871	683 983

NO = Not occurring.

Table 3E-16 Background data for estimation of N<sub>2</sub>O emission from crop residue 2012.

Crop type	Stubble	Husks	Top	Leafs	Nitrogen content in crop residue	
	kg N per ha				kg N per ha per year	Gg N per year
Winter wheat	6.3	10.7	-	-	17.0	10.01
Spring wheat	6.3	7.4	-	-	13.7	0.42
Winter rye	6.3	10.7	-	-	17.0	0.98
Triticale	6.3	10.7	-	-	17.0	0.67
Winter barley	6.3	5.9	-	-	12.2	1.27
Spring barley	6.3	4.1	-	-	10.4	6.48
Oats	6.3	4.1	-	-	10.4	0.53
Winter rape	4.4	-	-	-	4.4	0.55
Spring rape	4.4	-	-	-	4.4	0.01
Potatoes (top), non-harvest	-	-	48.7	-	48.7	2.03
Beet (top), non-harvest	-	-	56.7 <sup>a</sup>	-	56.7	2.69
Straw, non-harvest	-	-	-	-	6.4 <sup>a</sup>	9.57
Pulse	11.3	-	-	-	11.3	0.07
Lucerne	32.3	-	-	-	10.8	0.05
Maize – for green fodder	6.3	-	-	-	6.3	1.16
Cereal – for green fodder	6.3	-	-	-	6.3	0.34
Peas for conservation	11.3	-	-	-	11.3	0.03
Vegetables	11.3	-	-	-	11.3	0.08
Grass field legumes	11.3	-	-	-	5.7	0.03
Grass- and clover field in rotation	32.3		-	10.0	26.2	8.55
Grass- and clover field out of rotation	38.8		-	20.0	20.0	4.01
Catch crop	6.3	-	-	-	6.3	0.53
Seeds of grass crops	6.3	10.7	-	-	13.9	0.95
Set-a-side	38.8	-	-	15.0	18.9	0.09
Total N from crop residue						51.10

<sup>a</sup> express the yield for 2012 - varies from year to year. Based on yield data from Statistics Denmark and N-content from the feeding plan.

Reference: Djurhuus and Hansen (2003).

Table 3E-17 Area of agricultural land, 1990 – 2012, ha.

	1990	1995	2000	2005	2008	2009	2010	2011	2012
Garden centre, fruit & berries	11 687	12 135	11 050	10 682	11 106	9 661	9 410	8 708	8 841
Agriculture crops excl. grass in rotation	2 294 434	2 039 330	2 021 092	2 065 948	2 084 866	2 082 006	2 076 103	2 082 609	2 072 907
Vegetables grown in the open	16 105	12 584	10 628	9 431	11 048	11 463	10 720	11 144	10 219
Permanent grass	217 235	207 122	166 261	192 968	189 962	192 433	199 859	186 652	200 413
Fallow	NO	216 493	191 295	175 200	70 662	5 699	9 874	4 367	5 018
Grass in rotation	248 815	238 384	246 656	253 007	300 251	305 889	320 914	329 135	326 797
Sum	2 788 276	2 726 048	2 646 982	2 707 236	2 667 895	2 607 151	2 626 880	2 622 615	2 624 195

NO = Not occurring.

Table 3E-18 Harvested straw, 1990 – 2012, 1 000 tonnes.

	1990	1995	2000	2005	2008	2009	2010	2011	2012
<u>Straw yield, total</u>	<u>7 032</u>	<u>6 118</u>	<u>6 100</u>	<u>5 524</u>	<u>5 662</u>	<u>6 280</u>	<u>5 469</u>	<u>5 436</u>	<u>5 804</u>
Straw, left on the field	3 354	2 309	2 400	2 271	1 794	2 230	2 161	2 162	2 133
Straw, harvested	3 678	3 809	3 700	3 253	3 868	4 050	3 308	3 274	3 670
- <i>used for fodder</i>	1 063	1 829	1 655	1 038	1 284	1 219	1 074	1 103	1 148
- <i>used for fuel</i>	900	1 089	1 096	1 450	1 795	2 018	1 605	1 507	1 836
- <i>used for bedding</i>	1 715	891	949	765	789	813	628	666	686

### Nitrogen leaching and Run-off

Calculations of nitrogen lost by leaching from groundwater are based on two models described in Børgesen and Grant (2003) (in Danish). The model SKEP/DAISY is a dynamic model, N-LES is an empirical model and SKEP is an up scaling model. The SKEP/DAISY calculations were done for 10 scenarios (the years 1984, 1989 and 1995-2002) and the N-LES calculations were done for an 11 year period (1990-2000). Both calculations were up scaled nationwide. The key parameters for the models were land use, nitrogen from synthetic fertilizer and manure, application practice for manure and NH<sub>3</sub> evaporation at application of manure (SKEP/DAISY only). The calculations were normalised to an average climate. A schematic overview of the models is seen below.

## Basic DAISY calculations of N-leaching



```

graph TD
    Denmark[Denmark] --> Municipality[...]
    Municipality --> Crop[Crop]
    Municipality --> Cattle[Cattle]
    Municipality --> Swine[Swine]
    Municipality --> Mixed[Mixed]
    Crop --> Sand1[Sand]
    Crop --> Clay1[Clay]
    Cattle --> Sand2[Sand]
    Cattle --> Clay2[Clay]
    Swine --> Sand3[Sand]
    Swine --> Clay3[Clay]
    Mixed --> Sand4[Sand]
    Mixed --> Clay4[Clay]
    Sand1 --> F4_1[4]
    Clay1 --> F4_2[4]
    Sand2 --> F4_3[4]
    Clay2 --> F4_4[4]
    Sand3 --> F4_5[4]
    Clay3 --> F4_6[4]
    Sand4 --> F4_7[4]
    Clay4 --> F4_8[4]
  
```

3E-Table 19 QA/QC procedure, stage I – III.

Stage I: Check of input data	Variable	Reference
Livestock production	- number of animal	DSt
	- slaughter data	
Normative figures	- N-excretion	DCA
	- use of straw	
	- amount of manure	
	- feed intake	
	- milk yield	
Housing types	- distribution	DAAS + DAFA
Grazing days		DAAS
Crops	- land use	DSt
	- crop yield	
	- crop production	
Synthetic fertiliser	- N-content	DAFA
	- fertiliser types	
N-leaching	- amount of nitrogen leached	DCE
Atmospheric deposition	- all NH <sub>3</sub> emission sources	DCE – NH <sub>3</sub> inventory
Sewage sludge and industrial waste	- Amount of sludge applied to soils	EPA + DAFA
Stage II: Check of IDA data – overall	Emission source	Variable
Recalculation	- CO <sub>2</sub> eqv. total emission	- compared with latest submission
	- CH <sub>4</sub> , N <sub>2</sub> O, NMVOC	
	- emission from field burning	
Time series	- CO <sub>2</sub> eqv. total emission	- trends
	- CH <sub>4</sub> , N <sub>2</sub> O, NMVOC	- jumps and dips
	- emission from field burning	
Stage III: Check of IDA data – specific	Emission source	Variable
CH <sub>4</sub>	- enteric fermentation	- IEF (jumps and dips)
		- Ym (dairy cattle + heifer)
		- GE
CH <sub>4</sub>	- manure management	- IEF (jumps and dips)
		- VS
		- biogas
N <sub>2</sub> O	- manure management	- trends (jumps and dips)
		- IEF
		- biogas
N <sub>2</sub> O	- synthetic fertiliser	- trends (jumps and dips)
		- IEF
N <sub>2</sub> O	- animal waste applied to soil	- trends (jumps and dips)
		- IEF
N <sub>2</sub> O	- N-fixing crops	- trends (jumps and dips)
		- IEF
N <sub>2</sub> O	- crop residue	- trends (jumps and dips)
		- IEF
N <sub>2</sub> O	- pasture, range and paddock	- trends (jumps and dips)
		- IEF
N <sub>2</sub> O	- atmospheric deposition	- trends (jumps and dips)
		- IEF
N <sub>2</sub> O	- N-leaching and run-off	- trends (jumps and dips)
		- IEF
N <sub>2</sub> O	- sewage sludge + industrial waste	- trends (jumps and dips)
		- IEF
NMVOC	- crops	- trends (jumps and dips)



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Table 3F.1 Estimation of forest percentage and forest area.

Equation	Description
$X_j = \frac{A_j}{A_{15,j}}$	The forest percentage ( $X$ ) of the $j$ th sample plot (SSU) is estimated as the forested area ( $A$ ) divided by the total area of the 15 m radius sample plot ( $A_{15,j}$ ).
$\bar{X}_Z = \frac{1}{n_Z} \sum_Z X_j R_j$	Average forest percentage ( $\bar{X}$ ) of all inventoried plots (SSU) with forest status $Z$ based on aerial photos. $R_j$ is an indicator variable that is 1 for inventoried plots and 0 otherwise. $n_Z$ is the number of inventoried plots identified as forest or OWL from the air photos.
$\bar{\bar{X}} = \frac{1}{n} \left( \sum_{j=1}^n X_j R_j + N_{21} \bar{X}_1 + N_{22} \bar{X}_2 \right)$	Overall average forest percentage ( $\bar{\bar{X}}$ ). $n$ is the total number of inventoried and non-inventoried sample plots. $N_{21}$ and $N_{22}$ is the number of non-inventoried sample plots with forest and OWL, respectively.
$A_{Forest} = \bar{\bar{X}} \cdot A_{Total}$	Total forest area. $A_{Total}$ is the total land area, $\bar{\bar{X}}$ is the estimated forest percentage and $A_{Forest}$ is the total forest area.

Table 3F.2 Estimation of forest area with a specific characteristic.

Equation	Description
$X_k = \frac{\sum_{j=1}^n R_{jk} A_j}{\sum_{j=1}^n A_j}$	Proportion of the forest area with a given characteristic ( $X_k$ ). $R_{jk}$ is an indicator variable which is 1 if the forest area on the $j$ th sample plots has the $k$ th characteristic and 0 otherwise. $A_j$ is the sample plot area and $n$ is the total number of inventoried sample plots with forest cover.
$A_k = X_k \cdot A_{Forest}$	Total area with a given characteristic ( $A_k$ ). $X_k$ is the estimated proportion of the forest area with the $k$ th characteristic and $A_{Forest}$ is the total forest area.

Table 3F.3 Estimation of diameter-height equations.

Equation	Description
$h_{ij} = 13 + (\bar{h}_j - 13) \cdot \exp \left( \alpha_1 \cdot \left( 1 - \frac{\bar{d}_j}{d_{ij}} \right) + \alpha_2 \cdot \left( \frac{1}{\bar{d}_j} - \frac{1}{d_{ij}} \right) \right)$	Site specific dh-regression for calculating height of trees not measured for height. $h_{ij}$ and $d_{ij}$ is the height and diameter of the $i$ 'th tree on the $j$ 'th sample plot. $\bar{h}_j$ and $\bar{d}_j$ are the average height and diameter of trees measured for height on the $j$ th sample plot. $\alpha_1$ and $\alpha_2$ are species and growth-region specific parameters
$h_{ij} = 13 + \beta_1 \cdot \exp \left( -\frac{\beta_2}{d_{ij}} \right)$	General dh-regression for calculating height of trees not measured for height. $h_{ij}$ and $d_{ij}$ is the height and diameter of the $i$ 'th tree on the $j$ 'th sample plot. $\beta_1$ and $\beta_2$ are species and growth-region specific parameters

Table 3F.4 Estimation of quadratic mean diameter.

Equation	Description
$g_{ij} = \frac{\pi}{4} d_{ij}^2$	Basal area ( $g$ ) of the $i$ th tree on the $j$ th plot is calculated from the diameter at breast height ( $d$ ) (1.3 m above ground) assuming a circular stem form.
$G_j = \sum_{i=1}^m \frac{1}{A_{c,ij}} g_{ij}$	Basal area per hectare ( $G$ ) the $j$ th sample plot is calculated as the scaled sum of individual tree basal areas. Basal area ( $g$ ) of the $i$ th tree on the $j$ th sample plot is scaled according to the plot area ( $A_{c,ij}$ ) of the $c$ th concentric circle ( $c=3,5; 10; 15$ m).
$N_j = \sum_{i=1}^m \frac{1}{A_{c,ij}}$	Stem number per hectare ( $N$ ) the $j$ th sample plot is calculated as the scaled number of individual trees. The $i$ th tree on the $j$ th sample plot is scaled according to the plot area ( $A_{c,ij}$ ) of the $c$ th concentric circle ( $c=3,5; 10; 15$ m).
$D_{g,j} = \sqrt{\frac{4}{\pi} \frac{G_j}{N_j}}$	The mean squared diameter is calculated from the calculated basal area and stem number for each plot.

Table 3F.5 Estimation of biomass and carbon of trees.

Equation	Description
$v_{ij} = F(d_{ij}, h_{ij}, D_{g,j})$	The volume ( $v$ ) of the $i$ th tree on the $j$ th sample plots is calculated using the existing volume functions ( $F$ ) using the tree diameter and height and the quadratic mean diameter.
$B_{ij} = V_{ij} \cdot Density_{ij}$	Biomass ( $B$ ) of the $i$ th tree on the $j$ th sample plot is estimated as the total volume ( $V_{tot}$ ) times the species specific density.
$E_{ij} = F(d_{ij}, h_{ij})$	Expansion factor model for beech and Norway spruce
$v_{tot,ij} = B_{ij} \cdot E_{ij}$	The total above and below ground volume ( $v_{tot}$ ) of the $i$ th tree on the $j$ th sample plot. $B_{ij}$ is the calculated above-ground biomass of the tree and $E$ is the expansion factor.
$C_{ij} = B_{ij} \cdot 0.5$	Carbon of the $i$ th tree on the $j$ th sample plot is calculated as the biomass ( $B$ ) times 0.5.

Table 3F.6 Estimation of total biomass and carbon pools.

Equation	Description
$V_{cj} = \frac{1}{A_{cj}} \sum_{i=1}^m R_{c,i} v_{ij}$	Volume, biomass or carbon per hectare ( $V$ ) of the $c$ th concentric circle on the $j$ th sample plot ( $c=3,5; 10; 15$ m). $R_c$ is an indicator variable that is 1 if the $i$ th tree is measured on the $c$ th circle and 0 otherwise. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $m$ is the number of trees on the $j$ th sample plot.
$\bar{V}_c = \frac{\sum_{j=1}^n A_{cj} V_{cj}}{\sum_{j=1}^n A_{cj}}$	The average area weighted volume, biomass or carbon per hectare ( $\bar{V}$ ) of the $c$ th concentric circle. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $n$ is the number of sample plots.
$\bar{\bar{V}} = \bar{V}_{3,5} + \bar{V}_{10} + \bar{V}_{15}$	The overall average volume, biomass or carbon per hectare ( $\bar{\bar{V}}$ ) is estimated as the sum of the average volume, biomass or carbon per hectare ( $\bar{V}_c$ ) for the three concentric circles ( $c=3.5, 10$ and $15$ )
$V = \bar{\bar{V}} \cdot A_{Skov}$	Total volume, biomass or carbon $V$ is the overall average volume, biomass or carbon per hectare ( $\bar{\bar{V}}$ ) times the forest area $A_{Forest}$ .

Table 3F.7 Estimation of biomass and carbon with a given characteristic.

Equation	Description
$V_{cj,k} = \frac{1}{A_{cj}} \sum_{i=1}^m R_{c,ij} R_{k,ij} v_{ij}$	Volume, biomass or carbon per hectare ( $V$ ) with the $k$ th characteristic of the $c$ th concentric circle on the $j$ th sample plot ( $c=3,5; 10; 15$ m). $R_c$ is an indicator variable that is 1 if the $i$ th tree is measured on the $c$ th circle and 0 otherwise. $R_k$ is an indicator variable that is 1 if the tree has $k$ th characteristic and 0 otherwise. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $m$ is the number of trees on the $j$ th sample plot.
$\bar{V}_{c,k} = \frac{\sum_{j=1}^n A_{cj} V_{cj,k}}{\sum_{j=1}^n A_{cj}}$	The average area weighted volume, biomass or carbon per hectare ( $\bar{V}$ ) with the $k$ th characteristic of the $c$ th concentric circle. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $m$ is the number of trees on the $j$ th sample plot.
$\bar{\bar{V}}_k = \bar{V}_{3,5,k} + \bar{V}_{10,k} + \bar{V}_{15,k}$	The overall average volume, biomass or carbon per hectare with the $k$ th characteristic ( $\bar{\bar{V}}_k$ ) is estimated as the sum of the average volume, biomass or carbon per hectare ( $\bar{V}_{c,k}$ ) for the three concentric circles ( $c=3.5, 10$ and $15$ )
$V_k = \bar{\bar{V}}_k \cdot A_{Forest}$	Total volume, biomass or carbon with the $k$ th characteristic ( $V_k$ ) is the overall average volume, biomass or carbon per hectare ( $\bar{\bar{V}}_k$ ) times the forest area $A_{Forest}$ .

Table 3F.8 Estimation of biomass and carbon content of dead wood.

Equation	Description
$v_{s,ij} = F(d_{s,ij}, h_{s,ij}, D_{g,j})$	The volume ( $v_s$ ) of the $i$ th standing, dead tree on the $j$ th sample plots is calculated using the existing volume functions ( $F$ ) using the tree diameter and height and the squared mean diameter.
$v_{l,ij} = \frac{\pi}{4} d_{l,ij}^2 \cdot l_{l,ij}$	Volume of lying dead trees ( $v_l$ ) is calculated as the length ( $l$ ) and the $i$ th tree on the $j$ th sample plot times the cross sectional area. The cross sectional area is calculated from the mid-diameter ( $d$ ) of the dead wood.
$B_{s,ij} = v_{s,ij} \cdot D_{ij} \cdot r_{k,ij}$	Biomass of the $i$ th standing ( $B_s$ ) or lying ( $B_l$ ) tree on the $j$ th sample plot is calculated as the volume ( $v_s$ or $v_l$ ) times the species specific density ( $D$ ) and a the $k$ th reduction factor according to the structural decay of the wood observed in the field.
$B_{l,ij} = v_{l,ij} \cdot D_{ij} \cdot r_{k,ij}$	
$B_{s,tot,ij} = B_{s,ij} \cdot E_{ij}$	The total above and below ground volume ( $B_{s,tot}$ ) of the $i$ th standing, dead tree on the $j$ th sample plot. $v_s$ is the calculated biomass of the tree and $E$ is the expansion factor.
$K_{s,ij} = B_{s,ij} \cdot 0.5$	Carbon in standing or lying dead wood ( $C_s$ or $C_l$ ) is calculated as the biomass ( $B_s$ or $B_l$ ) times 0.5.
$K_{l,ij} = B_{l,ij} \cdot 0.5$	

Table 3F.9 Estimation of total biomass and carbon pools of dead wood.

Equation	Description
$V_{D,cj} = \frac{1}{A_{cj}} \sum_{i=1}^m R_c v_{s,ij} + R_c v_{l,ij}$	Deadwood volume, biomass or carbon pools per hectare ( $V_D$ ) for the $c$ th circle and the $j$ th sample plot. $v_s$ and $v_l$ is the volume of standing and lying deadwood respectively. $R_c$ is an indicator variable that is 1 if the tree is measured in the $c$ th circle and 0 otherwise. $A_c$ is the sample plot area of the $c$ th circle. $m$ is the number of trees within the $j$ th sample plot.
$\bar{V}_{D,c} = \frac{\sum_{j=1}^n A_{cj} V_{D,cj}}{\sum_{j=1}^n A_{cj}}$	The average area weighted deadwood volume, biomass or carbon per hectare ( $\bar{V}_D$ ) of the $c$ th concentric circle. $A_{c,j}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $n$ is the number of sample plots.
$\bar{\bar{V}}_D = \bar{V}_{D,3.5} + \bar{V}_{D,10} + \bar{V}_{D,15}$	The overall average deadwood volume, biomass or carbon per hectare ( $\bar{\bar{V}}_D$ ) is estimated as the sum of the average volume, biomass or carbon per hectare ( $\bar{V}_{D,c}$ ) for the three concentric circles ( $c=3.5, 10$ and $15$ )
$V_D = \bar{\bar{V}}_D \cdot A_{Forest}$	Total deadwood volume, biomass or carbon $V_D$ is the overall average deadwood volume, biomass or carbon per hectare ( $\bar{\bar{V}}_D$ ) times the forest area $A_{Forest}$ .

Table 3F.10 Estimation of forest floor carbon.

Equation	Description
$C_{floor,s,j} = Depth_j \cdot A_j \cdot B_s \cdot F_{s,j}$	Forest floor carbon ( $C_{floor,s,j}$ ) of the $s$ th species, on the $j$ th plot with an area of $A$ . $B_s$ is the species specific forest floor density and $F$ is the fraction of species $s$ .
$C_{floor,j} = \sum_{s=1}^k C_{floor,s,j}$	Total forest floor carbon on the $j$ th plot.
$C_{floor} = \frac{\sum_{j=1}^n C_{floor,j}}{\sum_{j=1}^n A_j} \cdot A_{Forest}$	Total forest floor carbon is estimated as the area weighted average forest floor carbon content times the total forest area.

Table 3.F.11 Hectares grown in the different areas of Denmark.

	Copenhagen					Southern	Eastern	Western	Northern
	Denmark	area	Bornholm	Sealand	Funen	Jutland	Jutland	Jutland	Jutland
Winter wheat	743911	14984	14941	159521	86704	121584	122810	79914	143452
Spring wheat	13753	583	375	3862	582	2694	1764	1768	2125
Rye	51336	4017	80	4816	2753	9409	9384	7422	13454
Winter barley	142560	2459	2691	16869	13665	30254	32248	21518	22856
Spring barley	425510	6614	4091	97731	30227	86358	41749	96536	62203
Oat	41907	1835	538	2924	1724	9889	4850	7908	12239
Triticale and other cereals for maturity	50192	385	409	4276	1736	10185	8734	11705	12763
Pulses for maturity	10349	80	44	2318	680	1540	1544	2448	1695
Potatoes for seed	5189	43	0	513	146	1260	173	2488	567
Potatoes for starch production	16637	0	0	0	68	3944	412	8793	3420
Potatoes for consumption	16312	493	19	1600	986	4719	1027	5485	1984
Sugarbeet for sugar production	39074	35	0	38571	438	9	13	0	8
Sugarbeet for feeding	4118	67	40	162	133	987	470	1231	1028
Winter rape	163436	6456	2054	38341	22824	25266	28691	14552	25253
Spring rape	1372	73	0	584	42	103	201	35	333
Lin seed	90	1	0	1	4	1	2	82	0
Other industrial seed	823	21	1	537	23	88	84	45	24
Grass and other seeds for seed production	66655	1200	1818	26276	13326	4904	7561	6670	4901
Lucerne	6405	67	87	763	820	3009	493	737	428
Green maize for silage	172168	981	1893	6349	10023	69325	12591	37600	33407
Green cereals for silage	62845	722	210	1747	927	18213	4138	16546	20344
Other green feeding stuff	26	0	0	0	0	0	3	24	0
Grass and cloverfields in rotation	320914	9798	2939	22024	11361	99547	32764	72147	70334
Vegetables in fields	8043	349	24	2106	1502	514	1608	1497	444
Green peas for consumption	2677	51	0	2159	334	31	32	40	32
Flowers and other ornamentals	92	4	0	39	17	7	2	23	0
Apples	1684	60	5	562	746	73	141	34	64
Pears	357	19	1	125	163	18	21	7	5
Strawberries	1137	47	3	369	208	161	164	89	98
Cherries	1743	47	0	1051	619	8	4	1	11
Black currant	1935	91	1	472	672	211	363	16	110
Other fruits and berries	927	29	6	263	377	124	88	18	24

Continued

Nurseries	1521	87	0	154	342	347	172	331	88
Permanent grass outside rotation	199859	10533	1021	28762	12429	47085	23693	32442	43894
Set-a-side with grass	9874	504	164	2155	715	1407	938	1919	2072
Christmastrees	19521	402	67	2697	2618	2802	4607	2764	3566
Other crops	16569	610	49	1893	986	3048	2143	4041	3799
Without crops	24866	707	514	5090	2044	5487	3908	3253	3863
Total agricultural area	2646400	64451	34083	477685	222964	564612	349589	442128	490888
Green houses	490	28	1	90	272	18	59	13	10

Table 3.F.12 Crop yield from Statistics Denmark in 2010 distributed regions, Hhg crop ha<sup>-1</sup>.

	Denmark	Copenhagen and North Sealand	Bornholm	Sealand	Funen	Southern Jutland	Eastern Jutland	Western Jutland	North- ern Jutland
Winter wheat	66.6	70.3	65.2	73.9	72	66.5	69.3	59	57.2
Spring wheat	46.2	45.6	41.3	46.9	35.4	47.7	45.4	44.6	48.5
Rye	48.9	54.8	44.4	55.4	66.2	48.3	48.3	43.3	45.5
Triticale	48.6	49.2	43.8	58.7	56.4	46	50.4	48.8	46.3
Winter barley	54.3	52.5	57.1	63.1	62.3	55.6	56.7	45.3	46.4
Spring barley	51	47.3	50.7	56.7	51.7	49.3	51.5	47.4	49.7
Oat and mixed cereals	48.1	50.4	48	48.1	49.6	47.6	46.7	46.1	50.3
Winter rape	34.9	33.6	39.9	38	37.7	35.1	33.2	30.9	31.8
Spring rape	22.7	26.1	..	18.2	37.6	32.4	25.9	20.1	23.9
Pulses for maturity	32.3	30.8	30.9	28	34.4	32.1	36.2	31.8	35.8
Straw, gathered	32.8	33.9	33.1	37	36.5	31.9	34.5	28.6	29.8
Potatoes for seed	282	275	..	275	275	275	300	299	238
Potatoes for starch production	413	..	..	..	410	408	450	403	442
Potatoes for consumption	340	406	420	414	289	327	314	348	311
Sugarbeet for sugar production	614	583	..	615	583	583	583	583	583
Sugarbeet for feeding	666	656	703	656	524	654	655	644	727
Lucerne	514	516	706	486	532	533	469	463	496
Green mais for silage	354	468	445	479	317	360	359	332	344
Green cereals for silage	174	199	241	202	169	187	164	165	167
Grass and cloverfields in rotation	438	403	459	404	449	449	453	447	419
Permanent grass outside rotation	158	163	142	170	187	159	152	152	146
Secondary grass crop yields	44	51	24	26	31	51	38	44	46

Table 3.F.13 Area input format for Eastern Jutland to C-TOOL in 2010. FK represent the soil type (Color Code (Farve Kode))

Landsdel/ Region	AFG07_txt	time	FK1	FK2	FK3	FK4	FK5	FK6	FK7	SUM
Eastern Jutland	Set-a-side with grass	2010	120	17	373	208	32	2	186	938
Eastern Jutland	Pulses for maturity	2010	456	75	539	419	45	0	9	1544
Eastern Jutland	Sugarbeet for feeding	2010	67	14	279	78	5	0	27	470
Eastern Jutland	Vegetables in fields	2010	279	40	945	254	1	0	120	1640
Eastern Jutland	Grass and other seeds for seed production	2010	566	188	3274	2812	441	7	273	7561
Eastern Jutland	Grass and cloverfields in rotation	2010	3801	391	15947	6729	1096	32	4770	32767
Eastern Jutland	Oat	2010	804	56	2309	1278	135	8	259	4850
Eastern Jutland	Lin seed	2010	1	0	1	0	0	0	0	2
Eastern Jutland	Strawberries	2010	4	0	99	55	3	0	4	164
Eastern Jutland	Potatoes	2010	245	97	917	254	3	0	97	1612
Eastern Jutland	Green cereals for silage	2010	622	117	2011	775	96	0	518	4138
Eastern Jutland	Lucerne	2010	6	0	327	127	17	0	16	493
Eastern Jutland	Green maize for silage	2010	1900	262	7863	1839	221	11	495	12591
Eastern Jutland	Rye	2010	3253	391	4062	1115	35	0	527	9384
Eastern Jutland	Sugarbeet for sugar production	2010	0	0	0	13	0	0	0	13
Eastern Jutland	Triticale and other cereals for maturity	2010	1261	162	4449	1165	126	18	444	7625
Eastern Jutland	Winter barley	2010	2250	203	17101	10283	1240	35	1114	32226
Eastern Jutland	Winter wheat	2010	4591	1207	55394	46819	8213	311	6275	122810
Eastern Jutland	Winter rape	2010	1490	230	15092	9827	1229	27	796	28691
Eastern Jutland	Spring barley	2010	4567	744	20270	12210	1557	16	2385	41749
Eastern Jutland	Spring wheat	2010	30	0	756	591	43	0	344	1764
Eastern Jutland	Spring rape	2010	39	0	79	109	18	0	39	285
Eastern Jutland	Other crops	2010	880	0	4426	565	24	0	156	6051
Eastern Jutland	Permanent grass outside rotation	2010	4101	701	8855	3284	617	54	6068	23682



Table 3F.14 Average annual temperatures for Denmark, 1977-2012, °C.

Year	Average	Year	Average
1977	7.675464	2000	9.175
1978	7.675464	2001	8.158333
1979	7.675464	2002	9.208333
1980	7.2	2003	8.708333
1981	7.15	2004	8.733333
1982	7.975	2005	8.783333
1983	8.375	2006	9.358333
1984	7.891667	2007	9.416667
1985	6.5	2008	9.366667
1986	6.933333	2009	8.775
1987	6.55	2010	6.908333
1988	8.475	2011	8.916667
1989	9.175	2012	8.275
1990	9.233333		
1991	8.108333		
1992	8.958333		
1993	7.558333		
1994	8.608333		
1995	8.183333		
1996	6.833333		
1997	8.5		
1998	8.2		
1999	8.85		

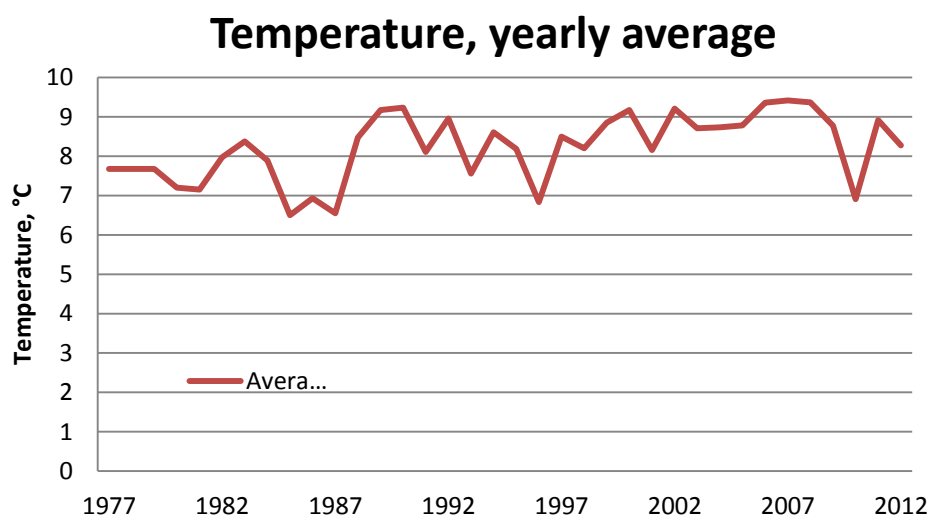


Figure 3F.1 Average annual temperatures for Denmark, 1977-2012, °C.

## **Annex 3G - Waste**

Annex 3G-1: Emissions from the waste sector, 1990-2012

Annex 3G-2: Solid Waste Disposal on Land, 6A

Annex 3G-3: Wastewater Handling, 6B

Annex 3G-4: Waste Incineration, 6C

Annex 3G-5: Waste Other, 6D

Annex 3G-6: Recalculations to the waste sector

## Annex 3G-1 Emissions from the waste sector, 1990-2012

Table 3G-1.1 Emissions for the waste sector, Gg CO<sub>2</sub> equivalents.

		1990	1991	1992	1993	1994	1995	1996
6. A. Solid Waste Disposal on Land	CH <sub>4</sub>	1366	1372	1361	1351	1285	1209	1176
6. B. Wastewater Handling	CH <sub>4</sub>	65	66	66	66	67	68	69
6. B. Wastewater Handling	N <sub>2</sub> O	105	102	90	108	114	108	91
6. C. Waste incineration	CH <sub>4</sub>	0.01	0.01	0.01	0.01	0.01	0.01	0.01
6. C. Waste incineration	N <sub>2</sub> O	0.20	0.20	0.20	0.21	0.21	0.21	0.21
6. D. Waste Other	CO <sub>2</sub>	18	18	19	18	18	20	20
6. D. Waste Other	CH <sub>4</sub>	31	34	37	40	43	41	47
6. D. Waste Other	N <sub>2</sub> O	13	14	16	17	19	23	25
6. Waste	Total	1598	1606	1590	1600	1546	1469	1428
<i>Continued</i>		1997	1998	1999	2000	2001	2002	2003
6. A. Solid Waste Disposal on Land	CH <sub>4</sub>	1105	1044	1057	1047	1041	977	995
6. B. Wastewater Handling	CH <sub>4</sub>	71	71	70	73	73	71	73
6. B. Wastewater Handling	N <sub>2</sub> O	85	87	84	90	84	97	77
6. C. Waste incineration	CH <sub>4</sub>	0.01	0.01	0.01	0.01	0.01	0.01	0.01
6. C. Waste incineration	N <sub>2</sub> O	0.21	0.21	0.22	0.22	0.22	0.23	0.22
6. D. Waste Other	CO <sub>2</sub>	19	18	19	18	18	18	19
6. D. Waste Other	CH <sub>4</sub>	55	57	65	70	66	73	76
6. D. Waste Other	N <sub>2</sub> O	29	59	109	160	154	239	233
6. Waste	Total	1363	1335	1404	1459	1437	1476	1473
<i>Continued</i>		2004	2005	2006	2007	2008	2009	2010
6. A. Solid Waste Disposal on Land	CH <sub>4</sub>	887	862	896	855	828	793	720
6. B. Wastewater Handling	CH <sub>4</sub>	72	72	73	73	72	73	74
6. B. Wastewater Handling	N <sub>2</sub> O	76	84	73	84	98	73	76
6. C. Waste incineration	CH <sub>4</sub>	0.01	0.01	0.01	0.02	0.02	0.02	0.02
6. C. Waste incineration	N <sub>2</sub> O	0.23	0.24	0.27	0.28	0.28	0.29	0.29
6. D. Waste Other	CO <sub>2</sub>	18	18	19	19	21	21	18
6. D. Waste Other	CH <sub>4</sub>	69	73	78	86	79	86	88
6. D. Waste Other	N <sub>2</sub> O	63	62	74	92	90	102	110
6. Waste	Total	1184	1173	1213	1209	1189	1149	1087
<i>Continued</i>		2011	2012					
6. A. Solid Waste Disposal on Land	CH <sub>4</sub>	731	698					
6. B. Wastewater Handling	CH <sub>4</sub>	75	74					
6. B. Wastewater Handling	N <sub>2</sub> O	79	73					
6. C. Waste incineration	CH <sub>4</sub>	0.01	0.01					
6. C. Waste incineration	N <sub>2</sub> O	0.27	0.27					
6. D. Waste Other	CO <sub>2</sub>	18	16					
6. D. Waste Other	CH <sub>4</sub>	90	92					
6. D. Waste Other	N <sub>2</sub> O	118	127					
6. Waste	Total	1113	1080					

## Annex 3G-2 Solid Waste Disposal on Land, 6A

The following Table 3G-2.1 shows the total waste production in Denmark, divided after means of handling. (DEPA, 1996a, 1998a, 1999a, 2001a, 2001b, 2002a, 2004a, 2004b, 2005a, 2006a, 2006b, 2008, 2010, 2011a, 2013)

Table 3G-2.1 All nationally produced waste categorised after handling method, collected for the ISAG database 1994-2009 and 2011.

Year	Recycled	Combusted	Landfilled		Special treatment	Temporary storage	Total
	Gg	Gg	Gg	%	Gg	Gg	Gg
1994	6157	2216	2604	23.4	102	0	11105
1995	7046	2306	1957	17.1	145	0	11466
1996	7787	2507	2507	19.4	95	0	12912
1997	8046	2622	2083	16.2	86	0	12857
1998	7542	2740	1859	15.2	84	0	12233
1999	7815	2929	1467	11.9	17	0	12313
2000	8461	3064	1482	11.4	17	0	13031
2001	8101	3221	1300	10.2	20	109	12768
2002	8382	3344	1174	9.0	22	163	13105
2003	8218	3287	966	7.7	20	108	12614
2004	8746	3437	1000	7.5	16	136	13359
2005	9545	3473	957	6.7	18	191	14210
2006	10768	3489	975	6.3	19	181	15459
2007	10480	3584	956	6.3	20	167	15235
2008	10725	3590	1045	6.7	21	167	15575
2009	9536	3386	753	5.4	18	152	13872
2010	-	-	-	-	-	-	-
2011*	5593	2605	549	6	253	102	9102

\*In reality the total deposited amount of waste is 2.1 million tonnes, but in the new waste data statistics soil and stones are not included. Furthermore, fly ash, slag from combined heat and power plants and sludge from wastewater treatment plants were not included in the waste data system at the time of publication (DEPA, 2013). Therefore the deposited amount of waste in Table 3G-2.1 differs from the actual amounts as reported in Table 3G-2.2.

Table 3G-2.2 presents the annual net emission of methane generated from the amount of landfilled waste and deducted the recovered methane and the oxidised methane; calculated using the FOD model.

Table 3G-2.2 Annual amounts of deposited waste, gross methane emission, recovered methane collected for biogas production, oxidised methane in the top layer and resulting net emission for the Danish SWDS.

Year	Landfilled waste	Gross methane	Recovered methane	Methane oxidised in the top layers	Net methane emission	
□	Gg	Gg CH <sub>4</sub>	Gg CH <sub>4</sub>	Gg CH <sub>4</sub>	Gg CH <sub>4</sub>	Gg CO <sub>2</sub> eq
1990	3190	72.8	0.5	7.2	65.0	1366
1991	3050	73.3	0.7	7.3	65.4	1372
1992	2910	73.5	1.5	7.2	64.8	1361
1993	2770	73.3	1.8	7.1	64.3	1351
1994	2630	72.7	4.7	6.8	61.2	1285
1995	1969	71.6	7.6	6.4	57.6	1209
1996	2524	70.6	8.3	6.2	56.0	1176
1997	2103	69.8	11.4	5.8	52.6	1105
1998	1868	68.7	13.5	5.5	49.7	1044
1999	1552	67.6	11.7	5.6	50.3	1057
2000	1489	66.7	11.3	5.5	49.9	1047
2001	1317	65.3	10.2	5.5	49.6	1041
2002	1194	63.2	11.4	5.2	46.5	977
2003	981	60.7	8.1	5.3	47.4	995
2004	1024	58.2	11.3	4.7	42.3	887
2005	983	55.6	9.9	4.6	41.1	862
2006	1002	53.0	5.6	4.7	42.7	896
2007	984	50.8	5.5	4.5	40.7	855
2008	1072	48.7	5.0	4.4	39.4	828
2009	779	46.6	4.7	4.2	37.8	793
2010	1786	44.5	6.4	3.8	34.3	720
2011	2439	42.7	4.0	3.9	34.8	731
2012	1107	41.2	4.3	3.7	33.2	698

Tables 3G-2.3 presents activity data for Solid Waste Disposal on Land allocated according to 18 defined waste types classified according to their content of degradable organic matter,  $DOC_i$ , half-life time,  $t_{1/2}$ . As presented, the basis year of the FOD model is the year 1960. For a detailed description of back-calculation of the time series from the New waste data system (2010-2012) to 1960, the reader is referred to Thomsen et al. (2014).

Table 3G-2.3 Annual amounts of deposited inert and decomposable waste allocated according to 18 identified waste types characterised according to their *DOC*<sub>i</sub> and decomposition rate quantified by their half-life times, *t*<sub>½</sub> (cf. Table 8.2.2 in the main report).

Waste type*/Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Food	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8
Paper and cardboard	115.7	115.7	115.7	115.7	115.7	115.7	115.7	115.7	115.7	115.7
Wood	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
Plastic*	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Textile, fur and leather	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Biodegradable garden waste	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7
Chemicals, inert*	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Electric & Hazardous*	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Glass*	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Metal*	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3
Scrap vehicles*	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
Demolition	145.9	145.9	145.9	145.9	145.9	145.9	145.9	145.9	145.9	145.9
Soil & Stone*	240.4	240.4	240.4	240.4	240.4	240.4	240.4	240.4	240.4	240.4
Particulate matter and dust*	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
Sludge, inert*	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4
Sludge, degradable	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5
Ash & Slag*	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1
Other not combustible waste*	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7
Total, [Gg]	1645.3	1645.3	1645.3	1645.3	1645.3	1645.3	1645.3	1645.3	1645.3	1645.3
Total inert, [Gg]	997.6	997.6	997.6	997.6	997.6	997.6	997.6	997.6	997.6	997.6
Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Food	71.8	78.3	84.8	91.4	97.9	104.4	110.9	117.5	124.0	130.5
Paper and cardboard	115.7	126.2	136.7	147.2	157.7	168.3	178.8	189.3	199.8	210.3
Wood	94.7	103.3	111.9	120.5	129.1	137.7	146.3	154.9	163.5	172.1
Plastic*	16.0	17.5	18.9	20.4	21.8	23.3	24.7	26.2	27.6	29.1
Textile, fur and leather	2.6	2.8	3.0	3.3	3.5	3.7	4.0	4.2	4.4	4.7
Biodegradable garden waste	85.7	93.5	101.3	109.1	116.9	124.7	132.5	140.3	148.1	155.9
Chemicals, inert*	4.0	4.3	4.7	5.0	5.4	5.8	6.1	6.5	6.8	7.2
Electric & Hazardous*	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Glass*	23.0	25.1	27.1	29.2	31.3	33.4	35.5	37.6	39.7	41.8
Metal*	83.3	90.8	98.4	106.0	113.6	121.1	128.7	136.3	143.8	151.4
Scrap vehicles*	53.9	58.8	63.7	68.6	73.5	78.4	83.3	88.2	93.1	98.0
Demolition	145.9	159.1	172.4	185.6	198.9	212.2	225.4	238.7	251.9	265.2
Soil & Stone*	240.4	262.3	284.1	306.0	327.9	349.7	371.6	393.4	415.3	437.1
Particulate matter and dust*	16.6	18.1	19.6	21.1	22.6	24.1	25.6	27.1	28.6	30.1
Sludge, inert*	56.4	61.5	66.7	71.8	76.9	82.0	87.2	92.3	97.4	102.6
Sludge, degradable	131.5	143.4	155.4	167.3	179.3	191.2	203.2	215.1	227.1	239.0
Ash & Slag*	150.1	163.8	177.4	191.1	204.7	218.4	232.0	245.7	259.3	273.0
Other not combustible waste*	353.7	385.8	418.0	450.1	482.3	514.4	546.6	578.7	610.9	643.1
Total, [Gg]	1645.3	1794.9	1944.5	2094.1	2243.7	2393.2	2542.8	2692.4	2842.0	2991.5
Total inert, [Gg]	997.6	1088.3	1179.0	1269.7	1360.4	1451.1	1541.7	1632.4	1723.1	1813.8
Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Food	137.0	143.6	150.1	156.6	163.2	169.7	175.1	181.5	188.0	194.5
Paper and cardboard	220.8	231.4	241.9	252.4	262.9	273.4	283.9	294.4	304.9	315.4
Wood	180.7	189.3	197.9	206.5	215.1	223.7	232.3	240.9	249.5	258.1
Plastic*	30.5	32.0	33.5	34.9	36.4	37.8	39.3	40.7	42.2	43.6
Textile, fur and leather	4.9	5.1	5.4	5.6	5.8	6.1	6.3	6.5	6.7	6.9
Biodegradable garden waste	163.7	171.5	179.3	187.1	194.8	202.6	210.4	218.2	226.0	233.8
Chemicals, inert*	7.6	7.9	8.3	8.6	9.0	9.4	9.7	10.0	10.3	10.6
Electric & Hazardous*	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7
Glass*	43.9	45.9	48.0	50.1	52.2	54.3	56.4	58.5	60.6	62.7
Metal*	159.0	166.5	174.1	181.7	189.3	196.8	204.4	212.0	219.6	227.2
Scrap vehicles*	102.9	107.8	112.7	117.6	122.5	127.4	132.3	137.2	142.1	147.0

<i>Continued</i>										
Demolition	278.5	291.7	305.0	318.2	331.5	344.8	332.4	320.0	307.6	295.2
Soil & Stone*	459.0	480.9	502.7	524.6	546.4	568.3	547.9	527.4	507.0	486.6
Particulate matter and dust*	31.6	33.1	34.6	36.1	37.6	39.1	37.7	36.3	34.9	33.5
Sludge, inert*	107.7	112.8	117.9	123.1	128.2	133.3	124.2	115.3	106.8	98.6
Sludge, degradable	251.0	262.9	274.9	286.8	298.8	310.7	289.2	268.4	248.4	229.1
Ash & Slag*	286.6	300.3	313.9	327.6	341.2	354.9	383.2	408.5	430.6	449.8
Other not combustible waste*	675.2	707.4	739.5	771.7	803.8	836.0	796.6	757.9	719.9	682.6
Total, [Gg]	3141.1	3290.7	3440.3	3589.8	3739.4	3889.0	3749.2	3609.3	3469.5	3329.6
Total inert, [Gg]	1904.5	1995.2	2085.9	2176.6	2267.3	2358.0	2303.3	2246.3	2187.1	2125.7
Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Food	111.7	101.6	91.9	82.7	74.0	52.0	62.3	48.3	39.7	30.3
Paper and cardboard	180.2	163.9	148.4	133.6	119.6	84.1	100.8	78.2	64.3	49.1
Wood	201.5	196.1	190.4	184.3	178.0	260.9	183.5	182.6	239.2	271.6
Plastic*	27.0	25.0	23.1	21.3	19.6	14.2	17.5	14.1	12.0	9.6
Textile, fur and leather	5.0	4.8	4.5	4.3	4.1	3.1	3.9	3.3	2.9	2.4
Biodegradable garden waste	136.0	124.2	113.0	102.3	92.2	65.2	78.8	61.7	51.3	39.7
Chemicals, inert*	7.7	7.3	7.0	6.7	6.3	4.7	6.1	5.1	4.5	3.7
Electric & Hazardous*	0.5	0.5	0.5	0.5	0.4	0.3	0.4	0.4	0.3	0.3
Glass*	37.3	34.3	31.4	28.6	26.0	18.5	22.6	17.9	15.0	11.8
Metal*	184.3	180.6	176.5	172.0	167.1	127.8	167.5	142.6	129.3	109.7
Scrap vehicles*	104.5	99.9	95.3	90.8	86.2	64.5	82.7	68.9	61.2	50.9
Demolition	282.8	270.4	258.0	245.6	233.2	174.5	223.7	186.4	165.6	137.6
Soil & Stone*	466.1	445.7	425.2	404.8	384.4	308.6	404.2	304.1	368.1	369.7
Particulate matter and dust*	32.1	30.7	29.3	27.9	26.5	0.0	0.0	0.0	0.0	0.8
Sludge, inert*	90.7	83.2	76.0	69.1	62.5	44.5	54.1	42.6	35.7	27.8
Sludge, degradable	210.7	193.0	176.1	159.9	109.8	135.7	155.2	138.3	136.0	143.7
Ash & Slag*	465.8	478.8	488.8	495.7	650.1	145.0	715.4	483.0	215.6	15.5
Other not combustible waste*	645.9	610.0	574.8	540.3	390.6	464.8	244.8	325.3	327.3	278.1
Total, [Gg]	3189.8	3050.0	2910.1	2770.3	2630.4	1968.5	2523.6	2102.8	1868.1	1552.4
Total inert, [Gg]	2062.0	1996.1	1927.9	1857.5	1819.6	1193.0	1715.4	1404.0	1169.1	877.9
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Food	26.5	21.2	17.1	9.3	4.5	4.6	6.1	5.7	3.3	0.8
Paper and cardboard	43.0	34.4	27.9	15.1	7.4	7.5	10.2	9.4	5.6	1.5
Wood	254.8	77.9	17.8	3.6	2.1	2.6	4.5	22.8	4.8	2.2
Plastic*	8.8	7.5	6.5	5.1	5.0	4.6	4.4	4.1	4.2	2.8
Textile, fur and leather	2.3	2.1	1.9	1.1	0.6	0.8	1.3	1.5	1.3	0.6
Biodegradable garden waste	35.2	28.7	23.7	13.2	6.7	7.0	10.1	10.2	6.9	2.4
Chemicals, inert*	3.6	3.2	2.5	1.9	1.8	1.4	1.3	2.9	1.7	1.2
Electric & Hazardous*	0.7	0.6	3.5	103.3	83.7	83.7	90.2	108.3	126.3	6.6
Glass*	10.6	8.8	7.4	5.7	5.5	4.8	4.4	3.9	3.8	2.4
Metal*	107.4	96.8	89.5	74.9	79.7	77.9	80.8	80.9	89.6	66.2
Scrap vehicles*	48.8	72.3	67.2	40.1	26.0	48.7	47.1	10.1	7.1	72.3
Demolition	132.0	116.7	105.8	86.9	90.8	87.1	88.8	87.3	95.0	69.1
Soil & Stone*	271.3	327.4	306.7	171.0	233.9	174.0	157.9	154.8	201.4	203.4
Particulate matter and dust*	0.3	0.5	0.5	0.4	0.3	0.1	0.1	1.9	0.1	0.0
Sludge, inert*	25.0	20.5	17.2	13.0	12.4	10.7	9.8	8.4	7.9	4.9
Sludge, degradable	107.1	81.0	70.6	64.9	48.8	37.7	43.3	48.9	39.0	32.4
Ash & Slag*	8.5	14.5	42.2	63.8	51.0	33.8	38.8	51.7	163.7	45.9
Other not combustible waste*	402.9	402.7	385.7	307.6	363.6	395.9	402.3	371.6	310.4	264.3
Total, [Gg]	1488.8	1316.7	1193.8	980.7	1023.9	983.0	1001.5	984.4	1072.1	778.9
Total inert, [Gg]	887.9	954.8	929.0	786.6	862.8	835.6	837.2	798.6	916.2	670.1
Year	2010	2011	2012							
Food	1.0	0.7	0.9							
Paper and cardboard	1.9	2.6	1.9							
Wood	70.7	96.6	54.7							

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<i>Continued</i>			
Plastic*	5.5	7.8	4.3
Textile, fur and leather	2.2	3.1	2.4
Biodegradable garden waste	0.0	22.9	5.2
Chemicals, inert*	1.0	0.6	0.1
Electric & Hazardous*	0.0	0.1	1.4
Glass*	5.4	5.3	2.9
Metal*	134.9	156.0	132.6
Scrap vehicles*	16.0	17.2	1.5
Demolition	94.8	176.7	155.4
Soil & Stone*	1321.0	1774.0	624.1
Particulate matter and dust*	2.5	5.4	25.0
Sludge, inert*	2.2	9.8	11.1
Sludge, degradable	18.5	22.8	13.4
Ash & Slag*	48.4	54.2	23.3
Other not combustible waste*	59.9	82.8	46.6
Total, [Gg]**	1786.0	2438.6	1106.8
Total inert, [Gg]	1596.8	2113.2	872.9

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\*Waste types characterised as inert, i.e.  $DOC_i = 0$

\*\* The reason for the seemingly increased amounts of waste deposited at landfills is due to the fact that only a part of the fraction soil and stones were included in the old ISAG waste statistics, while none is included in the new waste data system as may be observed from table 3G-2.2 (DEPA, 2013). The DEPA report on waste statistics for 2011 (2013) does however include a separate accounting of the soil and stones. In the NIR all waste fraction deposited at landfills are included (Thomsen and Hjelgaard, 2014)

Below the allocation of waste amounts reported according to the European waste codes are presented. For a detailed documentation of the whole time series including back-calculation of the time series, the reader is referred to the methodology report verifying waste amounts and how the allocation of the old ISAG waste categories and types was performed and verified (Thomsen and Hjelgaard, 2014).



Table 3G-2.4 European waste codes allocated according to 18 characterised waste types (based on the reporting years 2010-2012).

Waste types	EWG codes
Food	020199*1/7, 020203, 020299, 020304, 020399, 020601, 020699, 1906xx, 200108
Paper and cardboard	150101, 150106*1/7, 150110*1/7, 191211*1/7, 191212*1/7, 200101
Wood	020107, 020199*1/7, 030105, 030199, 030301, 030399, 150103, 150106*1/7, 150110*1/7, 170201, 170204*1/3, 191207, 191211*1/7, 191212*1/7, 200137, 200138, (200199, 200301, 200307, 200399)*0,5 other waste
Plastic	020104, 020199*1/7, 070299, 120105, 150102, 150106*1/7, 150110*1/7, 160103, 160119, 170203, 170204*1/3, 191204, 191211*1/7, 191212*1/7, 200139
Textile, fur and leather	040108, 150106*1/7, 150110*1/7, 191211*1/7, 191212*1/7
Biodegradable garden waste	1905xx, 200201
Chemicals, inert	020199*1/7, 060204, 060313, 060405, 060899, 080410, 080499, 100109, 200127
Electric & Hazardous*	160605, 170411, 200121, 200135, 200136
Glass*	101112, 101199, 150106*1/7, 150110*1/7, 160120, 170202, 170204*1/3, 191205, 191211*1/7, 191212*1/7, 200102
Metal*	010101, 010305, 010306, 010399, 020110, 020199*1/7, 100299, 100908, 101007, 101012, 101099, 120101, 120102, 150105, (150106+150110)*2/7 (komposit+metal), 170403, 170409, 190102, 191002, 191003, 191005, (191211+191212)*1/7
Scrap vehicles*	160104, 160199
Demolition	
- of which are concrete, bricks, tiles and ceramics	170101, 170102, 170106, 170107
- of which are insulation & asbestos-containing materials	161101, 161106, 170601, 170603, 170604, 170605, 170606
- of which are other demolition	170301, 170302, 170802, 170901, 170902, 170903, 170904
Soil & Stone*	010408, 010499, 010504, 010599, 170503, 170504, 170506, 191211*1/7, 191212*1/7, 200202, 200203, 200303
Particulate matter and dust*	100912, 101299, 101301, 101304, 101306, 101311, 101399, 120116, 120117, 120120, 120121, 120199, 200141
Sludge, inert*	
- of which originates from desanding and screenings at WWTPs*	190801, 190802, 190899
- of which originates from physico-chemical treatments of water(*)	070110, 110109, 190105
- of which originates from anaerobic treatment of waste*	190901, 190902, 190904, 190999
- of which are sludge and filter cakes primarily from gas treatment*	191302
- of which originates from primary filtration & clarification of water*	100215, 101307, 190106
Sludge, degradable	
- of which originates from treatment of urban WW	190805
- of which originates from biological treatment of industrial WW	190812
- of which originates from other treatment of industrial WW	020101, 030305, 030311, 040220, 060503, 190814
- of which originates from physico-chemical treatments of water	190205, 190208, 190210, 190211, 190299
- of which originates from oil/water separators and oil regeneration	130501, 130508, 191106, 191199
- of which is originates from sewage cleaning	200306
- of which is categorised as manure	020106, 020199*1/7
- of which is categorised as organic chemicals	020108, 020109, 020199*1/7, 020702, 070199, 070215, 070399, 070503, 070699, 080112, 120106, 130401, 160306, 160508, 160509, 160799, 180103, 191210, 200128
Ash & Slag*	
- of which is categorised as bottom ash, slag and boiler dust*	100101, 100114, 100115, 100118, 100119, 101313, 190111, 190112
- of is categorised as which fly ash*	100103, 100116, 100117, 190113, 190114, 190402
- of is categorised as which other*	100199, 100399, 190119, 190199, 190203, 190204
Other waste, inert*	
- of which is categorised as not combustible municipal waste	(200199, 200301, 200307, 200399)*0,5

Table 3G-2.5 Fractional distribution of waste types for the whole time series 1990-2012.

Waste types	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Food	4.36	4.19	4.02	3.85	3.67	3.50	3.33	3.16	2.99	2.81
Paper and cardboard	7.03	6.75	6.48	6.20	5.93	5.65	5.37	5.10	4.82	4.55
Wood	5.75	5.87	5.98	6.09	6.20	6.32	6.43	6.54	6.65	6.77
Plastic*	0.97	0.95	0.92	0.90	0.87	0.85	0.82	0.79	0.77	0.74
Textile, fur and leather	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Biodegradable garden waste	5.21	5.02	4.83	4.64	4.45	4.26	4.07	3.88	3.69	3.50
Chemicals, inert*	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Electric & Hazardous*	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Glass*	1.40	1.35	1.31	1.26	1.21	1.17	1.12	1.08	1.03	0.99
Metal*	5.06	5.20	5.35	5.49	5.63	5.78	5.92	6.06	6.21	6.35
Scrap vehicles*	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28
Demolition*	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87
- of which is concrete, bricks, tiles and ceramics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is insulation & asbestos-containing materials	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
- of which is other demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Soil & Stone*	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
Particulate matter and dust*	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Sludge, inert*	3.43	3.31	3.19	3.08	2.96	2.84	2.73	2.61	2.49	2.38
- of which is waste from desanding and screenings at WWTPs*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from physico/chemical treatments of water(*)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from anaerobic treatment of waste*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is sludges and filter cakes primarily from gas treatment*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from primary filtration & clarification of water*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sludge, degradable	7.99	7.71	7.44	7.16	6.88	6.60	6.33	6.05	5.77	4.17
- of which is from treatment of urban WW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from biological treatment of industrial WW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95
- of which is from other treatment of industrial WW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from physico/chemical treatments of water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from oil/water separators and oil regeneration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is waste from sewage cleaning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is manure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is organic chemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73
- of which has a dry matter content of 10-30%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33
- of which has a dry matter content above 30%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54
Ash & Slag	9.12	10.2	11.3	12.4	13.5	14.6	15.7	16.8	17.8	24.7
- of which is bottom ash, slag and boiler dust*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.7
- of which is fly ash*	7.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
- of which is categorised as other*	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other waste, inert*	21.5	21.3	21.0	20.8	20.5	20.3	20.0	19.8	19.5	14.9
- of which is not combustible municipal waste	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.43
- of which is not combustible garden waste	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61
- of which is not combustible industrial waste	8.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.05
Waste types	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Food	1.78	1.61	1.44	0.94	0.44	0.46	0.61	0.57	0.31	0.11
Paper and cardboard	2.89	2.61	2.34	1.54	0.73	0.76	1.01	0.96	0.52	0.19
Wood	17.1	5.92	1.49	0.37	0.21	0.27	0.45	2.32	0.45	0.28
Plastic*	0.59	0.57	0.54	0.52	0.49	0.47	0.44	0.41	0.39	0.36
Textile, fur and leather	0.16	0.16	0.16	0.12	0.06	0.08	0.13	0.16	0.12	0.07
Biodegradable garden waste	2.37	2.18	1.99	1.34	0.65	0.72	1.01	1.04	0.65	0.30
Chemicals, inert*	0.24	0.24	0.21	0.20	0.18	0.14	0.13	0.30	0.16	0.16
Electric & Hazardous*	0.05	0.05	0.30	10.5	8.17	8.51	9.01	11.0	11.8	0.85

<i>Continued</i>										
Glass*	0.71	0.67	0.62	0.58	0.53	0.49	0.44	0.40	0.35	0.31
Metal*	7.21	7.35	7.50	7.64	7.78	7.93	8.07	8.21	8.36	8.50
Scrap vehicles*	3.28	5.49	5.63	4.09	2.54	4.96	4.71	1.03	0.67	9.28
Demolition*	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87
- of which is concrete, bricks, tiles and ceramics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is insulation & asbestos-containing materials	0.59	0.71	1.20	2.00	1.63	2.24	2.07	2.52	3.00	3.96
- of which is other demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Soil & Stone*	18.2	24.9	25.7	17.4	22.9	17.7	15.8	15.7	18.8	26.1
Particulate matter and dust*	0.02	0.04	0.04	0.04	0.03	0.01	0.01	0.19	0.01	0.00
Sludge, inert*	1.68	1.56	1.44	1.33	1.21	1.09	0.98	0.86	0.74	0.62
- of which is waste from desanding and screenings at WWTPs*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from physico/chemical treatments of water(*)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from anaerobic treatment of waste*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is sludges and filter cakes primarily from gas treatment*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from primary filtration & clarification of water*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sludge, degradable	7.19	6.15	5.91	6.62	4.77	3.83	4.32	4.97	3.64	4.16
- of which is from treatment of urban WW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from biological treatment of industrial WW	3.35	3.27	3.68	3.42	3.26	3.07	3.01	2.94	2.48	2.19
- of which is from other treatment of industrial WW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is from physico/chemical treatments of water	0.04	0.16	0.10	0.06	0.06	0.06	0.06	0.04	0.06	0.05
- of which is from oil/water separators and oil regeneration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is waste from sewage cleaning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is manure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- of which is organic chemicals	0.00	0.01	0.00	0.00	0.00	0.03	0.04	0.00	0.00	0.00
- of which is other	0.74	1.01	0.66	0.76	0.61	0.47	0.51	0.39	0.34	0.36
- of which has a dry matter content of 10-30%	3.43	2.09	1.70	1.84	0.88	0.78	1.12	1.55	1.00	1.94
- of which has a dry matter content above 30%	1.31	1.17	1.21	1.85	1.16	0.52	0.56	0.89	0.50	0.24
Ash & Slag	0.57	1.10	3.53	6.50	4.98	3.44	3.88	5.26	15.3	5.90
- of which is bottom ash, slag and boiler dust*	0.57	1.00	3.36	6.21	4.78	3.24	3.64	5.08	15.1	5.60
- of which is fly ash*	0.00	0.10	0.17	0.29	0.19	0.20	0.24	0.18	0.21	0.30
- of which is categorised as other*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other waste, inert*	27.1	30.6	32.3	31.4	35.5	40.3	40.2	37.8	29.0	33.9
- of which is not combustible municipal waste	14.1	19.5	20.8	25.3	24.7	30.6	28.8	28.1	22.9	26.5
- of which is not combustible garden waste	0.23	0.23	0.23	0.07	0.04	0.05	0.07	0.03	0.03	0.02
- of which is not combustible industrial waste	6.32	4.93	4.22	0.48	4.13	0.63	1.05	1.65	0.29	0.78
Waste types	2010	2011	2012							
Food	0.06	0.03	0.09							
Paper and cardboard	0.11	0.11	0.17							
Wood	3.96	3.96	4.94							
Plastic*	0.31	0.32	0.38							
Textile, fur and leather	0.12	0.13	0.22							
Biodegradable garden waste	0.00	0.94	0.47							
Chemicals, inert*	0.05	0.02	0.01							
Electric & Hazardous*	0.00	0.00	0.13							
Glass*	0.30	0.22	0.26							
Metal*	7.55	6.40	12.0							
Scrap vehicles*	0.90	0.71	0.14							
Demolition*	5.31	7.25	14.0							
- of which is concrete, bricks, tiles and ceramics	0.28	0.21	0.29							
- of which is insulation & asbestos-containing materials	2.60	3.37	7.17							
- of which is other demolition	2.43	3.67	6.58							
Soil & Stone*	74.0	72.8	56.4							
Particulate matter and dust*	0.14	0.22	2.26							

<i>Continued</i>			
Sludge, inert*	0.12	0.40	1.00
- of which is waste from desanding and screenings at WWTPs*	0.12	0.22	0.75
- of which is from physico/chemical treatments of water(*)	0.00	0.00	0.00
- of which is from anaerobic treatment of waste*	0.00	0.04	0.06
- of which is sludges and filter cakes primarily from gas treatment*	0.00	0.05	0.08

### Annex 3G-3 Wastewater Handling, 6B

Table 3G-3.1 presents the methane produced in anaerobic digester tanks, recovered for energy production, emitted from sewer system and WWTPs, primary settling tanks and biological N and P removal processes, fugitive emissions from anaerobic processes and net CH<sub>4</sub> emission from the 6 B. Wastewater handling in Denmark, 1990-2011.

Table 3G-3.1 Produced, recovered and emitted CH<sub>4</sub> from wastewater treatment, Gg, 1990-2010

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CH <sub>4</sub> gross methane	13.30	13.27	13.31	13.68	14.85	16.03	19.48	23.05	21.51	19.40
CH <sub>4</sub> recovered	13.17	13.13	13.17	13.54	14.70	15.87	19.29	22.82	21.30	19.21
CH <sub>4</sub> emitted from sewer system and WWTP	0.17	0.17	0.17	0.18	0.19	0.21	0.23	0.24	0.26	0.24
CH <sub>4</sub> emitted from septic tanks	2.81	2.82	2.83	2.84	2.85	2.86	2.87	2.89	2.90	2.91
CH <sub>4</sub> emission from anaerobic treatment	0.13	0.13	0.13	0.14	0.15	0.16	0.19	0.23	0.22	0.19
Net CH <sub>4</sub> emission	3.12	3.12	3.13	3.15	3.19	3.23	3.30	3.36	3.37	3.35
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CH <sub>4</sub> gross methane	29.04	28.41	20.05	24.53	20.62	22.94	23.17	24.23	19.69	22.81
CH <sub>4</sub> recovered	28.75	28.13	19.85	24.29	20.41	22.71	22.94	23.99	19.49	22.58
CH <sub>4</sub> emitted from sewer system and WWTP	0.27	0.26	0.26	0.27	0.25	0.25	0.26	0.27	0.22	0.25
CH <sub>4</sub> emitted from septic tanks	2.92	2.93	2.94	2.95	2.96	2.96	2.97	2.98	3.00	3.02
CH <sub>4</sub> emission from anaerobic treatment	0.29	0.28	0.20	0.25	0.21	0.23	0.23	0.24	0.20	0.23
Net CH <sub>4</sub> emission	3.48	3.48	3.40	3.47	3.41	3.45	3.46	3.49	3.41	3.50
<i>Continued</i>	2010	2011	2012							
CH <sub>4</sub> gross methane	23.63	24.63	22.62							
CH <sub>4</sub> recovered	23.40	24.38	22.39							
CH <sub>4</sub> emitted from sewer system and WWTP	0.26	0.27	0.24							
CH <sub>4</sub> emitted from septic tanks	3.03	3.04	3.06							
CH <sub>4</sub> emission from anaerobic treatment	0.24	0.25	0.23							
Net CH <sub>4</sub> emission	3.53	3.56	3.52							

Table 3G-3.2 shows the total N<sub>2</sub>O emission originating from treatment processes at the Danish WWTPs (direct emissions) and effluents to the Danish surface waters (indirect emissions).

Table 3G-3.2 N<sub>2</sub>O emissions from wastewater, Mg, 1990-2010.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
N <sub>2</sub> O, indirect	265	252	219	273	268	238	180	158	154	147
N <sub>2</sub> O, direct	73	77	72	75	99	111	113	116	126	123
N <sub>2</sub> O, total	339	329	292	348	368	350	292	274	280	271
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
N <sub>2</sub> O, indirect	157	134	137	109	119	111	109	116	103	108
N <sub>2</sub> O, direct	134	137	176	140	125	161	127	154	214	127
N <sub>2</sub> O, total	292	272	313	249	244	272	236	270	317	235
<i>Continued</i>	2010	2011	2012							
N <sub>2</sub> O, indirect	109	106	104							
N <sub>2</sub> O, direct	136	150	131							
N <sub>2</sub> O, total	246	256	235							

Table 3G-3.3 presents the total degradable organic waste (TOW) calculated by use of the default IPCC method corrected for contribution from industry to the influent TOW (1990-1998) and country-specific data (1999-2011).

Table 3G-3.3 Calculated total degradable organic waste (TOW), 1990-2010.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Contribution from industrial inlet BOD	2.5	2.5	2.5	5	13.6	22.2	30.8	39.4	48	41
Population (1000)	5135	5146	5162	5181	5197	5216	5251	5275	5295	5314
TOW [Gg] corrected IPCC method	96.5	96.3	96.6	99.3	107.7	116.3	125.3	134.2	143.0	
TOW [Gg]; country-specific data										136.0
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Contribution from industrial inlet BOD	42.0	38.0	38.0	37.0	40.5	40.5	40.5	40.5	40.5	40.5
Population (1000)	5330.0	5349.2	5368.4	5383.5	5397.6	5411.4	5427.5	5447.1	5475.8	5511.5
TOW [Gg]; corrected IPCC method										
TOW [Gg]; country-specific data	148.5	145.9	146.4	152.1	139.5	140.9	142.3	148.8	120.9	140.1
<i>Continued</i>	2010	2011	2012							
Contribution from industrial inlet BOD	40.5	40.5	40.5							
Population (1000)	5535	5561	5581							
TOW [Gg] corrected IPCC method										
TOW [Gg]; country-specific data	144.5	150.9	134.6							

\*TOW =  $(1+I/100) \times (P \times D_{\text{dom}})$ , where P is the Population number,  $D_{\text{dom}} = 18\ 250$  kg BOD per 1000 persons per year and I is the per cent contribution from industry to the influent wastewater TOW content.

Table 3G-3.4 shows the country-specific emission factor for estimating the methane generated during anaerobic treatment processes.

Table 3G-3.4 Emission factor for estimating the methane generation, kg CH<sub>4</sub>/kg BOD.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MCf <sub>AD</sub> *f <sub>AD</sub>	0.23	0.23	0.23	0.23	0.23	0.23	0.26	0.29	0.25	0.24
EF <sub>AD</sub> [kg CH <sub>4</sub> /kg BOD] B <sub>0</sub> *MCF <sub>AD</sub> *f <sub>AD</sub>	0.14	0.14	0.14	0.14	0.14	0.14	0.16	0.17	0.15	0.14
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
MCf <sub>AD</sub> *f <sub>AD</sub>	0.33	0.32	0.23	0.27	0.25	0.27	0.27	0.27	0.27	0.27
EF <sub>AD</sub> [kg CH <sub>4</sub> /kg BOD] B <sub>0</sub> *MCF <sub>AD</sub> *f <sub>AD</sub>	0.20	0.19	0.14	0.16	0.15	0.16	0.16	0.16	0.16	0.16
<i>Continued</i>	2010	2011	2012							
MCf <sub>AD</sub> *f <sub>AD</sub>	0.27	0.27	0.28							
EF <sub>AD</sub> [kg CH <sub>4</sub> /kg BOD] B <sub>0</sub> *MCF <sub>AD</sub> *f <sub>AD</sub>	0.16	0.16	0.17							

Table 3G-3.5 presents the nitrogen content in the influent and effluent wastewater.

Table 3G-3.5 Nitrogen content in the influent and effluent wastewater, Mg.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Influent wastewater to WWTPs*	14679	15398	14492	15010	19888	22340	22580	23243	25329	24738
Effluent wastewater from WWTP**	10268	9520	7480	10787	10241	8938	6387	4851	6387	5135
Effluent wastewater, total**	16884	16032	13953	17403	17079	15152	11431	10068	9796	9363
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Influent wastewater to WWTPs*	26952	27499	35187	28038	24991	32288	25401	30899	42808	25519
Effluent wastewater from WWTP	4653	4221	4528	3614	4027	3831	3634	4358	3575	4025
Effluent wastewater, total**	10005	8553	8740	6927	7589	7038	6935	7381	6557	6878
<i>Continued</i>	2010	2011	2012							
Influent wastewater to WWTPs*	27357	30049	26316							
Effluent wastewater from WWTP	4025	3916	3849							
Effluent wastewater, total**	6960	6770	6597							

\*Data on the influent wastewater N load from municipal WWTPs are available from the Danish Water Quality Parameter Database held by the Agency for Spatial and Environmental Planning \*\* Effluent wastewater, total includes separate industrial discharges, rainwater conditioned effluent, scattered houses, mariculture and fish farming and effluents from WWTPs (DEPA. 1994, 1996a, 1997, 1998, 1999a, 2000, 2001a, 2002, 2003a, 2004b, 2005a, 2005b and ASEP 2007, 2009, 2010, 2011, 2012, 2013).

Table 3G-3.6 presents the per cent uncertainties on the individual parameters used for calculating the uncertainties associated with activity data and emission factors used for estimating the methane and nitrous oxide emissions from category 6.B Wastewater Handling. References are given to the equations presented in Chapter 8.3.2.

Table 3G-3.6 Input parameter uncertainties, %.

Input parameters and equations	Uncertainty, %	Reference
<b>CH<sub>4</sub> (sewer+MB)</b>		Eq. 8.3.2
<b>EF<sub>sewer+MB</sub>=B<sub>o</sub>*MCF<sub>sewer+MB</sub></b>	<b>32</b>	
B <sub>o</sub>	30	IPCC, 2006
MCF <sub>sewer+MB</sub>	10	IPCC, 2006
<b>Ac<sub>sewer+MB</sub></b>	<b>24</b>	
TOW	24	Table 3G.3
<b>CH<sub>4, AD</sub></b>		Eq. 8.3.3
<b>EF<sub>AD</sub>=B<sub>o</sub>*MCF<sub>AD</sub>*f<sub>AD</sub></b>	<b>39</b>	
B <sub>o</sub>	30	IPCC, 2000
MCF <sub>AD</sub>	10	IPCC, 2006
F <sub>AD</sub>	23	Table 3G.4
<b>Ac<sub>AD</sub></b>	<b>24</b>	
TOW	24	Table 3G.3
<b>CH<sub>4, st</sub></b>		Eq. 8.3.4
<b>EF<sub>st</sub>=MCF<sub>st</sub>*B<sub>o</sub></b>	<b>32</b>	
MCF <sub>st</sub>	10	IPCC, 2006
B <sub>o</sub>	30	IPCC, 2000
<b>Ac<sub>st</sub>=f<sub>nc</sub>*P*DOC<sub>st</sub></b>	<b>31</b>	
f <sub>nc</sub>	5	IPCC, 2000
DOC <sub>st</sub>	30	IPCC, 2006
P	5	IPCC, 2000
<b>N<sub>2</sub>O,direct</b>		Eq. 8.3.6
EF <sub>N2O,direct</sub>	50	Table 3G.5
<b>Ac<sub>N2O,direct</sub></b>	<b>22</b>	Table 3G.6
m <sub>N,influent</sub>	22	Table 3G.6
<b>N<sub>2</sub>O,indirect</b>		Eq. 8.3.7
EF <sub>N2Oindirect</sub>	42	
<b>D<sub>N,WWTP</sub></b>	<b>59</b>	Table 3G.6

## Annex 3G-4 Waste Incineration, 6C

Table 3G-4.1 presents the greenhouse gas emissions from 6.C Waste Incineration for 1990-2012.

Table 3G-4.1 Overall emission of greenhouse gases from the incineration of human bodies and animal carcasses

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CH <sub>4</sub> emission from											
Human cremation	Mg	0.48	0.48	0.49	0.51	0.50	0.52	0.51	0.50	0.49	0.50
Animal cremation	Mg	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.07
Total	Mg	0.51	0.51	0.52	0.54	0.54	0.55	0.55	0.54	0.53	0.56
N <sub>2</sub> O emission from											
Human cremation	Mg	0.60	0.60	0.61	0.63	0.63	0.64	0.64	0.63	0.61	0.62
Animal cremation	Mg	0.03	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.08
Total	Mg	0.64	0.63	0.65	0.68	0.67	0.69	0.68	0.68	0.67	0.71
6C. Waste incineration											
CO <sub>2</sub> equivalents	Gg	0.21	0.21	0.21	0.22	0.22	0.23	0.22	0.22	0.22	0.23
<i>Continued</i>		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CH <sub>4</sub> emission from											
Human cremation	Mg	0.49	0.49	0.50	0.49	0.49	0.48	0.48	0.49	0.49	0.50
Animal cremation	Mg	0.08	0.08	0.08	0.08	0.10	0.14	0.20	0.23	0.24	0.24
Total	Mg	0.57	0.57	0.58	0.58	0.59	0.62	0.69	0.72	0.73	0.74
N <sub>2</sub> O emission from											
Human cremation	Mg	0.61	0.61	0.63	0.62	0.61	0.60	0.61	0.61	0.61	0.62
Animal cremation	Mg	0.10	0.10	0.10	0.10	0.13	0.17	0.25	0.29	0.30	0.30
Total	Mg	0.71	0.72	0.73	0.72	0.74	0.77	0.86	0.90	0.92	0.93
6C. Waste incineration											
CO <sub>2</sub> equivalents	Gg	0.23	0.23	0.24	0.24	0.24	0.25	0.28	0.30	0.30	0.30
<i>Continued</i>		2010	2011	2012							
CH <sub>4</sub> emission from											
Human cremation	Mg	0.49	0.49	0.48							
Animal cremation	Mg	0.26	0.22	0.22							
Total	Mg	0.76	0.71	0.70							
N <sub>2</sub> O emission from											
Human cremation	Mg	0.62	0.61	0.60							
Animal cremation	Mg	0.33	0.28	0.28							
Total	Mg	0.95	0.88	0.88							
6C. Waste incineration											
CO <sub>2</sub> equivalents	Gg	0.31	0.29	0.29							



Table 3G-4.2 presents the activity data for human cremation for 1990-2012.

Table 3G-4.2 Activity data for human cremation.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Nationally deceased	60926	59581	60821	62809	61099	63127	61043	59898	58453	59179
Cremations	40991	40666	41455	43194	42762	43847	43262	42891	41660	42299
Cremation fraction, %	67.3	68.3	68.2	68.8	70.0	69.5	70.8	71.6	69.1	74.4
<i>Continued</i>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Nationally deceased	57998	58355	58610	57574	55806	54962	55477	55604	54591	54872
Cremations	41651	41707	42539	41997	41555	40758	41233	41766	41788	42408
Cremation fraction, %	71.8	71.5	72.6	72.9	74.5	74.2	74.3	75.1	76.6	77.3
<i>Continued</i>										
	2010	2011	2012							
Nationally deceased	54368	52516	52325							
Cremations	42050	41248	40909							
Cremation fraction, %	77.3	78.6	79.6							

Table 3G-4.3 presents the activity data for animal cremation for 1990-2012.

Table 3G-4.3 Activity data, (direct contact with all Danish pet crematoria).

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total, Mg	150	160	170	180	190	200	210	220	235	368
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total, Mg	443	452	451	462	571	762	1116	1284	1338	1339
<i>Continued</i>	2010	2011	2012							
Total, Mg	1449	1219	1238							

## Annex 3G-5 Waste Other, 6D

Table 3G-5.1a-c presents the national emissions for source category 6D 1990-2012.

Table 3G-5.1a Overall emission of greenhouse gasses from accidental fires and composting, 1990-1999.

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO <sub>2</sub> emission from											
Accidental building fires	Gg	63.1	65.1	70.7	62.2	62.6	72.2	73.0	67.5	60.4	64.9
- of which non-biogenic	Gg	11.4	11.8	12.8	11.2	11.3	13.1	13.2	12.2	10.9	11.7
Accidental vehicle fires	Gg	6.1	6.2	6.2	6.4	6.4	6.5	6.7	6.7	6.7	6.8
Total, non-biogenic	Gg	17.5	17.9	19.0	17.7	17.7	19.6	19.9	18.9	17.7	18.5
CH <sub>4</sub> emission from											
Compost production	Mg	1386.1	1532.5	1678.7	1825.1	1972.9	1860.2	2171.0	2526.6	2628.0	3032.5
Accidental building fires	Mg	64.1	66.2	71.8	63.2	63.6	73.4	74.1	68.5	61.3	65.9
Accidental vehicle fires	Mg	12.8	12.9	12.9	13.4	13.4	13.6	13.9	13.9	14.1	14.2
Total	Mg	1463.0	1611.5	1763.5	1901.7	2049.9	1947.2	2259.0	2609.0	2703.3	3112.6
N <sub>2</sub> O emission from											
Compost production	Mg	41.5	46.2	51.1	55.9	60.6	72.8	79.4	93.1	190.6	350.0
Accidental building fires	Mg	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Accidental vehicle fires	Mg	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Total	Mg	41.5	46.2	51.1	55.9	60.6	72.8	79.4	93.1	190.6	350.0
6D. Waste other											
CO <sub>2</sub> equivalents	Gg	61.1	66.1	71.9	74.9	79.6	83.0	91.9	102.5	133.5	192.4

Table 3G-5.1b Overall emission of greenhouse gasses from accidental fires and composting, 2000-2009.

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CO <sub>2</sub> emission from											
Accidental building fires	Gg	63.8	63.3	61.5	69.5	60.1	62.4	64.2	76.3	72.6	69.6
- of which non-biogenic	Gg	11.5	11.4	11.1	12.6	10.9	11.3	11.6	13.7	13.3	12.6
Accidental vehicle fires	Gg	6.9	6.9	6.8	6.8	6.7	6.9	7.1	5.7	8.2	8.5
Total, non-biogenic	Gg	18.4	18.3	18.0	19.3	17.6	18.1	18.7	19.4	21.5	21.1
CH <sub>4</sub> emission from											
Compost production	Mg	3240.0	3059.7	3397.1	3534.3	3222.1	3419.9	3627.9	4016.7	3685.7	4011.2
Accidental building fires	Mg	64.9	64.5	62.8	71.0	61.5	63.8	65.6	75.2	74.6	71.3
Accidental vehicle fires	Mg	14.3	14.3	14.2	14.1	14.0	14.3	14.8	11.8	17.0	17.7
Total	Mg	3319.2	3138.5	3474.1	3619.5	3297.6	3497.9	3708.4	4103.7	3777.4	4100.2
N <sub>2</sub> O emission from											
Compost production	Mg	515.7	498.1	770.9	752.5	201.7	200.2	239.1	295.2	291.8	330.3
Accidental building fires	Mg	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Accidental vehicle fires	Mg	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Total	Mg	515.7	498.1	770.9	752.5	201.7	200.2	239.1	295.2	291.8	330.3
6D. Waste other											
CO <sub>2</sub> equivalents	Gg	248.0	238.6	329.9	328.6	149.4	153.6	170.7	197.0	191.3	209.6

Table 3G-5.1c Overall emission of greenhouse gasses from accidental fires and composting, 2010-2012.

		2010	2011	2012
CO <sub>2</sub> emission from				
Accidental building fires	Gg	61.7	67.6	60.5
- of which non-biogenic	Gg	11.1	12.2	10.8
Accidental vehicle fires	Gg	7.3	6.3	5.6
Total, non-biogenic	Gg	18.3	18.4	16.4
CH <sub>4</sub> emission from				
Compost production	Mg	4094.6	4204.3	4306.3
Accidental building fires	Mg	64.6	68.5	61.7
Accidental vehicle fires	Mg	15.1	13.1	11.6
Total	Mg	4174.3	4285.9	4379.6
N <sub>2</sub> O emission from				
Compost production	Mg	355.2	381.4	409.1
Accidental building fires	Mg	NAV	NAV	NAV
Accidental vehicle fires	Mg	NAV	NAV	NAV
Total	Mg	355.2	381.4	409.1
6D. Waste other				
CO <sub>2</sub> equivalents	Gg	216.1	226.7	235.2

Table 3G-5.2 presents the activity data for composting 1990-2012.

Table 3G-5.2 Activity data composting, Gg, 1990-2011.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Composting of garden and park waste	288	320	351	383	414	376	452	528	551	634
Composting of organic waste from households and other	16	19	23	26	29	40	38	47	43	49
Composting of sludge	NO	NO	NO	NO	NO	7	6	7	57	134
Home composting of garden and vegetable food waste	20	20	20	20	21	21	21	21	21	21
Total	324	359	394	429	464	444	517	603	672	838
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Composting of garden and park waste	677	630	685	716	682	737	782	876	795	847
Composting of organic waste from households and other	47	52	63	66	53	45	48	44	46	70
Composting of sludge	218	211	348	336	53	50	67	91	94	107
Home composting of garden and vegetable food waste	21	21	22	22	22	22	22	22	22	23
Total	963	914	1118	1140	810	854	919	1033	957	1047
<i>Continued</i>	2010	2011	2012							
Composting of garden and park waste	877	901	924							
Composting of organic waste from households and other	58	59	59							
Composting of sludge	120	132	145							
Home composting of garden and vegetable food waste	23	23	23							
Total	1078	1115	1151							

NO = Not occurring.

Table 3G-5.3 presents the occurrence of all accidental fires, building fires and vehicle fires, 1990-2012. Building and vehicle fires do not make up for all the national accidental fires. The total number of registered fires also include a portion of fires that does not fit into either building or vehicle fires, these are here called “Other fires” and will include e.g. a chair burning at a marked but mainly consist of “unknown/other” objects at “unknown/other open” locations.

Table 3G-5.3 Occurrence of accidental fires, 1990-2011.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All fires	17025	17589	19124	16803	16918	19543	19756	18236	16320	17538
Building fires	10187	10524	11443	10054	10123	11694	11821	10911	9765	10494
Vehicle fires	3354	3465	3767	3310	3333	3850	3892	3592	3215	3455
Other fires	3485	3600	3914	3439	3463	4000	4043	3732	3340	3589
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
All fires	17174	16894	16362	18443	15927	16551	16965	18263	20643	18930
Building fires	10276	10108	9790	11035	9530	9903	10151	12527	12124	10652
Vehicle fires	3383	3328	3223	3633	3137	3260	3342	3223	4068	3930
Other fires	3515	3458	3349	3775	3260	3387	3472	2513	4451	4348
<i>Continued</i>	2010	2011	2012							
All fires	16728	16157	14084							
Building fires	9325	11447	9932							
Vehicle fires	3459	3255	2889							
Other fires	3944	1455	1263							

Table 3G-5.4 presents the full scale equivalent activity data of accidental building fires.

Table 3G-5.4 Accidental building fires full scale equivalent activity data.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Container fires	750	775	842	740	745	861	870	803	719	772
Detached house fires	777	802	873	767	772	892	901	832	745	800
Undetached house fires	231	238	259	228	229	265	268	247	221	237
Apartment building fires	367	379	412	362	365	421	426	393	352	378
Industry building fire	320	331	360	316	318	368	372	343	307	330
Additional building fires	437	451	490	431	434	501	507	468	418	450
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Container fires	756	744	721	812	701	729	747	958	962	799
Detached house fires	784	771	747	841	727	755	774	757	886	876
Undetached house fires	233	229	222	250	216	224	230	343	278	208
Apartment building fires	370	364	353	398	343	357	366	405	433	413
Industry building fire	323	318	308	347	300	311	319	435	346	344
Additional building fires	440	433	420	473	408	424	435	483	523	466
<i>Continued</i>	2010	2011	2012							
Container fires	594	729	584							
Detached house fires	833	818	742							
Undetached house fires	194	206	181							
Apartment building fires	348	362	327							
Industry building fire	281	334	298							
Additional building fires	429	740	610							

Table 3G-5.5a-c presents emission factors for 1990-2012 for accidental fires in detached houses, undetached houses and apartment buildings respectively.

Table 3G-5.5a Emission factors for accidental detached building fires, 1990-2012.

<b>Detached houses</b>		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO <sub>2</sub> - total	Mg	30.6	30.5	30.5	30.5	30.5	30.4	30.3	30.4	30.4	30.4
CO <sub>2</sub> - biogenic	Mg	25.0	24.9	24.8	24.9	24.8	24.8	24.7	24.8	24.7	24.8
CO <sub>2</sub> - non-biogenic	Mg	5.7	5.7	5.6	5.7	5.6	5.6	5.6	5.6	5.6	5.6
CH <sub>4</sub>	kg	40.6	40.4	40.3	40.4	40.3	40.2	40.2	40.3	40.2	40.3
<i>Continued</i>		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CO <sub>2</sub> - total	Mg	30.7	31.3	31.6	31.8	31.9	31.8	32.0	31.4	31.6	31.7
CO <sub>2</sub> - biogenic	Mg	25.0	25.5	25.7	25.9	26.0	25.9	26.1	25.6	25.7	25.9
CO <sub>2</sub> - non-biogenic	Mg	5.7	5.8	5.9	5.9	5.9	5.9	5.9	5.8	5.8	5.9
CH <sub>4</sub>	kg	40.6	41.5	41.8	42.1	42.3	42.1	42.4	41.6	41.8	42.0
<i>Continued</i>		2010	2011	2012							
CO <sub>2</sub> - total	Mg	32.0	32.3	32.4							
CO <sub>2</sub> - biogenic	Mg	26.1	26.3	26.4							
CO <sub>2</sub> - non-biogenic	Mg	5.9	6.0	6.0							
CH <sub>4</sub>	kg	42.3	42.7	43.0							

Table 3G-5.5b Emission factors for accidental undetached building fires, 1990-2012.

<b>Undetached houses</b>		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO <sub>2</sub> - total	Mg	25.3	25.2	25.2	25.2	25.2	25.2	25.3	25.4	25.5	25.6
CO <sub>2</sub> - biogenic	Mg	20.6	20.6	20.5	20.5	20.5	20.6	20.6	20.7	20.7	20.8
CO <sub>2</sub> - non-biogenic	Mg	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
CH <sub>4</sub>	kg	33.5	33.4	33.4	33.4	33.4	33.4	33.5	33.6	33.7	33.8
<i>Continued</i>		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CO <sub>2</sub> - total	Mg	25.7	25.7	25.7	25.8	25.8	25.7	25.8	25.9	26.0	26.1
CO <sub>2</sub> - biogenic	Mg	20.9	20.9	21.0	21.0	21.0	21.0	21.0	21.1	21.2	21.3
CO <sub>2</sub> - non-biogenic	Mg	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
CH <sub>4</sub>	kg	34.0	34.0	34.1	34.1	34.2	34.1	34.2	34.3	34.5	34.6
<i>Continued</i>		2010	2011	2012							
CO <sub>2</sub> - total	Mg	26.2	26.0	26.2							
CO <sub>2</sub> - biogenic	Mg	21.4	21.2	21.4							
CO <sub>2</sub> - non-biogenic	Mg	4.9	4.8	4.9							
CH <sub>4</sub>	kg	34.7	34.4	34.7							

Table 3G-5.5c Emission factors for accidental apartment building fires, 1990-2012.

<b>Apartment buildings</b>		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO <sub>2</sub> - total	Mg	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
CO <sub>2</sub> - biogenic	Mg	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
CO <sub>2</sub> - non-biogenic	Mg	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
CH <sub>4</sub>	kg	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
<i>Continued</i>		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CO <sub>2</sub> - total	Mg	14.7	14.7	14.8	14.8	14.8	14.8	14.9	15.0	15.0	15.1
CO <sub>2</sub> - biogenic	Mg	12.0	12.0	12.0	12.0	12.1	12.1	12.1	12.2	12.2	12.3
CO <sub>2</sub> - non-biogenic	Mg	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8
CH <sub>4</sub>	kg	19.5	19.5	19.5	19.6	19.6	19.7	19.7	19.8	19.9	20.0
<i>Continued</i>		2010	2011	2012							
CO <sub>2</sub> - total	Mg	15.1	15.2	15.2							
CO <sub>2</sub> - biogenic	Mg	12.3	12.4	12.4							
CO <sub>2</sub> - non-biogenic	Mg	2.8	2.8	2.8							
CH <sub>4</sub>	kg	20.0	20.2	20.2							

Table 3G-5.6 states the average building floor space, 1990-2012.

Table 3G-5.6 Average floor space in building types.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Detached houses	156	156	155	155	155	155	155	155	155	155
Undetached houses	129	128	128	128	128	129	129	129	130	130
Apartment buildings	75	75	75	75	75	75	75	75	75	75
Industrial buildings	500	500	500	500	500	500	500	500	500	500
Additional buildings	20	20	20	20	20	20	20	20	20	20
<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Detached houses	156	160	161	162	163	162	163	160	161	162
Undetached houses	131	131	131	131	132	131	132	132	133	133
Apartment buildings	75	75	75	75	75	76	76	76	77	77
Industrial buildings	500	500	500	500	500	500	500	500	500	500
Additional buildings	20	20	20	20	20	20	20	20	20	20
<i>Continued</i>	2010	2011	2012							
Detached houses	163	164	165							
Undetached houses	134	132	134							
Apartment buildings	77	78	78							
Industrial buildings	500	500	500							
Additional buildings	20	20	20							

Table 3G-5.7a-c presents the number of nationally registered vehicles and the number of full scale equivalent accidental vehicle fires, 1990-2012.

Table 3G-5.7a Number of nationally registered vehicles and full scale equivalent vehicle fires

	Passenger Cars		Buses		Light Duty Vehicles		Heavy Duty Vehicles	
	Registered	FSE fires	Registered	FSE fires	Registered	FSE fires	Registered	FSE fires
1990	1645454	479	8109	12	192317	19	45664	58
1991	1649168	480	9989	14	197435	19	45494	58
1992	1659795	483	11259	16	202802	20	45510	58
1993	1678919	488	13513	19	211755	21	46228	59
1994	1672022	486	14261	20	219639	21	47329	60
1995	1733242	504	14371	21	228074	22	48077	61
1996	1792971	522	14594	21	234404	23	48319	61
1997	1840845	535	14690	21	240762	23	48785	62
1998	1877740	546	14894	21	249462	24	49697	63
1999	1905855	554	14953	21	259214	25	50443	64
2000	1916364	557	15051	22	272386	27	50227	64
2001	1932440	562	15005	22	283031	28	49885	63
2002	1946073	566	14971	21	295581	29	49208	62
2003	1948717	567	14989	22	309614	30	48653	62
2004	1967432	572	14997	22	336038	33	48318	61
2005	2012216	585	15131	22	372674	36	49311	63
2006	2093809	609	15243	22	414625	40	50777	64
2007	2155940	518	15052	16	402558	19	51832	46
2008	2187104	666	14854	24	398717	44	50606	71
2009	2201550	729	14794	23	373687	48	46585	67
2010	2246675	646	14577	23	362385	38	44813	60
2011	2281539	584	13915	13	343355	43	43640	54
2012	2326778	514	13177	11	318668	32	42326	53

Table 3G-5.7b Number of nationally registered vehicles and full scale equivalent vehicle fires

	Motorcycles/Mopeds		Caravans		Train		Ship	
	Regis-	FSE fires	Registered	FSE fires	Regis-	FSE fires	Registered	FSE fires
1990	163133	58	86257	24	7156	9	2324	26
1991	162357	57	88278	24	7212	9	2312	26
1992	157912	56	90299	25	7438	9	2307	26
1993	155325	55	93150	26	7496	9	2140	24
1994	153365	54	94551	26	7117	8	2027	22
1995	165272	58	95831	26	6854	8	1911	21
1996	178188	63	97592	27	6631	8	1841	20
1997	191772	68	99931	27	6428	8	1761	19
1998	205129	72	102302	28	5861	7	1696	19
1999	219577	78	104852	29	5525	7	1695	19
2000	233309	82	106935	29	4907	6	1759	19
2001	243020	86	108924	30	4561	5	1797	20
2002	253375	89	110995	30	4169	5	1878	21
2003	256438	91	113338	31	4048	5	1838	20
2004	263472	93	116930	32	3273	4	1783	20
2005	273904	97	121350	33	3195	4	1792	20
2006	287840	102	126011	35	3002	4	1789	20
2007	302900	99	131708	36	2617	2	1755	20
2008	308538	122	136905	45	2588	3	1728	20
2009	307335	128	140366	34	2489	5	1742	22
2010	301562	83	142354	37	2740	2	1773	16
2011	295488	91	142764	34	2943	3	1768	21
2012	295798	82	142654	33	3055	2	1772	14

Table 3G-5.7c Number of nationally registered vehicles and full scale equivalent vehicle fires

	Airplane		Tractor		Combined Harvester		Bicycle	Other Transport	Machine
	Registered	FSE fires	Registered	FSE fires	Regis-	FSE fires	FSE fires	FSE fires	FSE fires
1990	1055	1	131880	82	33594	56			
1991	1059	1	131637	82	32542	54			
1992	1066	1	128205	80	31460	52			
1993	1059	1	129747	81	31502	52			
1994	1063	1	123596	77	29775	49			
1995	1058	1	130028	81	27986	46			
1996	1088	1	120480	75	28609	47			
1997	1094	1	124067	77	25418	42			
1998	1091	1	115509	72	25452	42			
1999	1087	1	115978	72	22961	38			
2000	1070	1	111736	69	23272	39			
2001	1089	1	110300	69	22811	38			
2002	1149	1	108865	68	22349	37			
2003	1083	1	107430	67	21888	36			
2004	1055	1	105994	66	21426	36			
2005	1073	1	104551	65	20965	35			
2006	1039	1	102619	64	20504	34			
2007	1058	1	102619	52	20042	19	2	85	75
2008	1077	1	102619	62	19581	34	4	97	135
2009	1122	1	102619	64	19119	43	3	93	111
2010	1152	1	102619	77	18889	32	4	58	94
2011	1132	0	102619	59	18889	21	3	50	111
2012	1111	0	102619	68	18889	18	2	50	115

Table 3G-5.8 presents the average weight of passenger cars, buses, vans, trucks and motorcycles/mopeds in 1990-2012.

Table 3G-5.8 Average weight of different vehicle categories, kg, 1990-2012.

	Cars	Buses	Vans	Trucks	Motorcycles/ Mopeds
1990	850	10000	2000	15000	86
1991	850	10000	2000	15000	88
1992	850	10000	2000	15000	91
1993	901	10068	2297	14732	93
1994	908	10512	2382	14674	96
1995	923	10807	2492	14801	97
1996	935	10899	2638	14928	98
1997	948	10950	2746	14987	99
1998	964	10960	2848	15111	100
1999	982	11140	2964	15223	102
2000	999	11195	3103	15214	103
2001	1012	11312	3238	14888	105
2002	1024	11387	3333	14486	107
2003	1039	11479	3442	14026	109
2004	1052	11572	3561	13599	112
2005	1068	11560	3793	13258	116
2006	1086	11684	4120	13179	120
2007	1105	11753	4505	13268	124
2008	1122	11700	4710	13246	127
2009	1134	11642	4682	12802	130
2010	1144	11804	4498	11883	133
2011	1154	11907	4296	11291	135
2012	1160	11625	4150	10844	136

The following Table 3G-5.9 shows the annual amount of combusted vehicle in accidental fires.

Table 3G-5.9a Burnt mass of different vehicle and machine categories, Mg

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Passenger cars	407	408	410	440	442	466	488	508	527	544
Buses	116	143	162	195	215	223	228	231	234	239
Light duty vehicles	37	38	40	47	51	55	60	64	69	75
Heavy duty vehicles	869	865	866	864	881	902	915	927	952	974
Motorcycle, moped	5	5	5	5	5	6	6	7	7	8
Other transport	-	-	-	-	-	-	-	-	-	-
Caravan	30	31	32	35	35	36	38	39	41	42
Train	128	129	133	132	125	121	118	115	106	100
Ship	257	256	255	238	236	228	222	213	205	209
Airplane	12	12	12	11	11	11	12	12	12	12
Bicycle	-	-	-	-	-	-	-	-	-	-
Tractor	164	164	159	185	183	202	198	212	205	214
Combined harvester	530	521	512	520	499	476	494	445	452	413
Machine	-	-	-	-	-	-	-	-	-	-
Total	2555	2572	2585	2673	2683	2727	2778	2774	2811	2832



Table 3G-5.9b Burnt mass of different vehicle and machine categories, Mg

<i>Continued</i>	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Passenger cars	557	569	580	589	602	625	662	572	748	827
Buses	242	244	245	247	249	251	256	182	283	264
Light duty vehicles	82	89	96	104	117	138	166	86	207	223
Heavy duty vehicles	969	942	904	865	833	829	849	608	936	863
Motorcycle, moped	8	9	10	10	10	11	12	12	16	17
Other transport	-	-	-	-	-	-	-	47	54	53
Caravan	44	45	47	48	51	53	56	59	75	57
Train	89	81	72	68	53	51	47	33	39	63
Ship	218	225	236	233	228	229	231	234	230	253
Airplane	12	12	12	11	10	10	10	8	13	13
Bicycle	-	-	-	-	-	-	-	0	0	0
Tractor	216	222	226	230	235	247	263	235	290	301
Combined harvester	425	422	419	416	412	409	405	231	415	533
Machine	-	-	-	-	-	-	-	33	61	50
<b>Total</b>	<b>2863</b>	<b>2863</b>	<b>2849</b>	<b>2825</b>	<b>2805</b>	<b>2858</b>	<b>2963</b>	<b>2367</b>	<b>3397</b>	<b>3537</b>

Table 3G-5.9c Burnt mass of different vehicle and machine categories, Mg

<i>Continued</i>	2010	2011	2012
Passenger cars	739	674	592
Buses	266	160	130
Light duty vehicles	171	185	133
Heavy duty vehicles	715	606	579
Motorcycle, moped	11	12	11
Other transport	33	29	29
Caravan	63	59	57
Train	24	28	23
Ship	189	249	160
Airplane	7	3	5
Bicycle	0	0	0
Tractor	347	254	283
Combined harvester	398	271	236
Machine	43	51	53
<b>Total</b>	<b>3025</b>	<b>2624</b>	<b>2319</b>

## Annex 3G-6 Recalculations to the waste sector

Table 3G-6.1 Changes in emissions from Solid Waste Disposal on Land compared with the CRF reported last year.

SWDS	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CH <sub>4</sub> , previous inventory	Gg	70.4	70.4	69.5	68.5	64.7	60.5	58.3	54.2	50.9	51.1
CH <sub>4</sub> , recalculated	Gg	65.0	65.4	64.8	64.3	61.2	57.6	56.0	52.6	49.7	50.3
Change, CO <sub>2</sub> equivalents	Gg	-112.0	-106.9	-98.9	-87.5	-72.7	-60.1	-47.6	-34.3	-24.5	-16.4
Change	%	-7.6	-7.2	-6.8	-6.1	-5.4	-4.7	-3.9	-3.0	-2.3	-1.5
<i>Continued</i>	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CH <sub>4</sub> , previous inventory	Gg	50.6	50.3	46.9	47.4	42.2	40.8	42.2	40.0	38.6	36.7
CH <sub>4</sub> , recalculated	Gg	49.9	49.6	46.5	47.4	42.3	41.1	42.7	40.7	39.4	37.8
Change, CO <sub>2</sub> equivalents	Gg	-14.9	-14.4	-8.2	-1.9	2.0	5.9	9.6	13.9	17.1	21.2
Change	%	-1.4	-1.4	-0.8	-0.2	0.2	0.7	1.1	1.6	2.1	2.7
<i>Continued</i>	Unit	2010	2011	2012							
CH <sub>4</sub> , previous inventory	Gg	34.3	33.3								
CH <sub>4</sub> , recalculated	Gg	34.3	34.8	33.2							
Change, CO <sub>2</sub> equivalents	Gg	0.2	32.3								
Change	%	0.0	4.6								

Table 3G-6.2 Changes in emissions from Wastewater Handling compared with the CRF reported last year.

Wastewater Handling	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CH <sub>4</sub> , previous inventory	Gg	3.15	3.16	3.17	3.19	3.22	3.27	3.34	3.42	3.43	3.41
CH <sub>4</sub> , recalculated	Gg	3.12	3.12	3.13	3.15	3.19	3.23	3.30	3.36	3.37	3.35
N <sub>2</sub> O, previous inventory	Gg	0.34	0.33	0.29	0.35	0.37	0.35	0.29	0.27	0.28	0.27
N <sub>2</sub> O, recalculated	Gg	0.34	0.33	0.29	0.35	0.37	0.35	0.29	0.27	0.28	0.27
Change, CO <sub>2</sub> equivalents	Gg	-0.70	-0.70	-0.70	-0.72	-0.78	-0.84	-1.02	-1.21	-1.13	-1.34
Change	%	-0.41	-0.41	-0.45	-0.41	-0.43	-0.48	-0.64	-0.77	-0.71	-0.86
<i>Continued</i>	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CH <sub>4</sub> , previous inventory	Gg	3.52	3.54	3.49	3.56	3.51	3.54	3.53	3.55	3.56	3.59
CH <sub>4</sub> , recalculated	Gg	3.48	3.48	3.40	3.47	3.41	3.45	3.46	3.49	3.41	3.50
N <sub>2</sub> O, previous inventory	Gg	0.29	0.27	0.31	0.25	0.24	0.27	0.24	0.27	0.32	0.24
N <sub>2</sub> O, recalculated	Gg	0.29	0.27	0.31	0.25	0.24	0.27	0.24	0.27	0.32	0.24
Change, CO <sub>2</sub> equivalents	Gg	-0.90	-1.35	-1.77	-1.94	-2.12	-1.93	-1.56	-1.28	-3.00	-1.87
Change	%	-0.55	-0.85	-1.04	-1.28	-1.42	-1.21	-1.06	-0.81	-1.73	-1.26
<i>Continued</i>	Unit	2010	2011	2012							
CH <sub>4</sub> , previous inventory	Gg	3.59	3.62								
CH <sub>4</sub> , recalculated	Gg	3.53	3.56	3.52							
N <sub>2</sub> O, previous inventory	Gg	0.25	0.26								
N <sub>2</sub> O, recalculated	Gg	0.25	0.26	0.23							
Change, CO <sub>2</sub> equivalents	Gg	-1.24	-1.29								
Change	%	-0.82	-0.83								

Table 3G-6.3 Changes in emissions from Waste Incineration compared with the CRF reported last year.

Waste Incineration	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CH <sub>4</sub> , previous inventory	Mg	0.51	0.51	0.52	0.54	0.54	0.55	0.55	0.54	0.53	0.56
CH <sub>4</sub> , recalculated	Mg	0.51	0.51	0.52	0.54	0.54	0.55	0.55	0.54	0.53	0.56
N <sub>2</sub> O, previous inventory	Mg	0.64	0.63	0.65	0.68	0.67	0.69	0.68	0.68	0.67	0.71
N <sub>2</sub> O, recalculated	Mg	0.64	0.63	0.65	0.68	0.67	0.69	0.68	0.68	0.67	0.71
Change, CO <sub>2</sub> equivalents	Gg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Change	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Continued</i>	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CH <sub>4</sub> , previous inventory	Mg	0.57	0.57	0.58	0.58	0.59	0.62	0.69	0.72	0.73	0.74
CH <sub>4</sub> , recalculated	Mg	0.57	0.57	0.58	0.58	0.59	0.62	0.69	0.72	0.73	0.74
N <sub>2</sub> O, previous inventory	Mg	0.71	0.72	0.73	0.72	0.74	0.77	0.86	0.90	0.92	0.93
N <sub>2</sub> O, recalculated	Mg	0.71	0.72	0.73	0.72	0.74	0.77	0.86	0.90	0.92	0.93
Change, CO <sub>2</sub> equivalents	Gg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Change	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Continued</i>	Unit	2010	2011	2012							
CH <sub>4</sub> , previous inventory	Mg	0.76	0.71								
CH <sub>4</sub> , recalculated	Mg	0.76	0.71	0.70							
N <sub>2</sub> O, previous inventory	Mg	0.95	0.88								
N <sub>2</sub> O, recalculated	Mg	0.95	0.88	0.88							
Change, CO <sub>2</sub> equivalents	Gg	0.00	0.00								
Change	%	0.00	0.00								

Table 3G-6.4 Changes in emissions from Waste Other compared with the CRF reported last year.

Table 6C-6.4 Changes in emissions from Waste Other compared with the ORR reported last year.											
Waste Other	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO <sub>2</sub> , previous inventory	Gg	18.28	18.65	19.65	18.25	18.29	20.11	20.37	19.30	18.09	18.91
CO <sub>2</sub> , recalculated	Gg	17.54	17.94	18.99	17.66	17.75	19.60	19.86	18.85	17.65	18.53
CH <sub>4</sub> , previous inventory	Gg	1.40	1.54	1.68	1.81	1.94	1.80	2.12	2.43	2.52	2.88
CH <sub>4</sub> , recalculated	Gg	1.46	1.61	1.76	1.90	2.05	1.95	2.26	2.61	2.70	3.11
N <sub>2</sub> O, previous inventory	Gg	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.07	0.08	0.11
N <sub>2</sub> O, recalculated	Gg	0.04	0.05	0.05	0.06	0.06	0.07	0.08	0.09	0.19	0.35
Change, CO <sub>2</sub> equivalents	Gg	1.61	2.10	2.74	3.26	3.76	9.18	8.35	10.30	36.47	78.67
Change	%	2.70	3.28	3.97	4.54	4.96	12.43	10.00	11.17	37.59	69.17
<i>Continued</i>	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CO <sub>2</sub> , previous inventory	Gg	18.77	18.61	18.20	19.52	17.73	18.20	18.72	19.29	21.43	21.01
CO <sub>2</sub> , recalculated	Gg	18.40	18.31	17.96	19.35	17.60	18.14	18.71	19.35	21.49	21.07
CH <sub>4</sub> , previous inventory	Gg	3.06	2.87	3.11	3.25	3.08	3.31	3.50	3.91	3.57	3.80
CH <sub>4</sub> , recalculated	Gg	3.32	3.14	3.47	3.62	3.30	3.50	3.71	4.10	3.78	4.10
N <sub>2</sub> O, previous inventory	Gg	0.13	0.13	0.16	0.17	0.10	0.10	0.11	0.13	0.12	0.13
N <sub>2</sub> O, recalculated	Gg	0.52	0.50	0.77	0.75	0.20	0.20	0.24	0.30	0.29	0.33
Change, CO <sub>2</sub> equivalents	Gg	123.38	120.45	195.54	189.62	36.15	33.42	43.05	55.38	57.28	67.82
Change	%	99.03	101.91	145.53	136.40	31.93	27.80	33.72	39.09	42.75	47.85
<i>Continued</i>	Unit	2010	2011	2012							
CO <sub>2</sub> , previous inventory	Gg	18.19	18.21								
CO <sub>2</sub> , recalculated	Gg	18.35	18.45	16.36							
CH <sub>4</sub> , previous inventory	Gg	3.91	4.02								
CH <sub>4</sub> , recalculated	Gg	4.17	4.29	4.38							
N <sub>2</sub> O, previous inventory	Gg	0.14	0.14								
N <sub>2</sub> O, recalculated	Gg	0.36	0.38	0.41							
Change, CO <sub>2</sub> equivalents	Gg	73.10	79.76								
Change	%	51.10	54.28								

Table 3G-6.5 Changes in emissions from the waste sector compared with the CRF reported last year.

Waste	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CO <sub>2</sub> , previous inventory	Gg	18.3	18.6	19.6	18.3	18.3	20.1	20.4	19.3	18.1	18.9
CO <sub>2</sub> , recalculated	Gg	17.5	17.9	19.0	17.7	17.7	19.6	19.9	18.9	17.7	18.5
CH <sub>4</sub> , previous inventory	Gg	74.9	75.1	74.4	73.5	69.8	65.5	63.7	60.1	56.8	57.4
CH <sub>4</sub> , recalculated	Gg	69.6	70.1	69.7	69.4	66.4	62.8	61.6	58.6	55.8	56.8
N <sub>2</sub> O, previous inventory	Gg	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4
N <sub>2</sub> O, recalculated	Gg	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.6
Change, CO <sub>2</sub> equivalents	Gg	-111.1	-105.5	-96.8	-85.0	-69.8	-51.7	-40.2	-25.2	10.8	60.9
Change	%	-6.5	-6.2	-5.7	-5.0	-4.3	-3.4	-2.7	-1.8	0.8	4.5
<i>Continued</i>	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CO <sub>2</sub> , previous inventory	Gg	18.8	18.6	18.2	19.5	17.7	18.2	18.7	19.3	21.4	21.0
CO <sub>2</sub> , recalculated	Gg	18.4	18.3	18.0	19.3	17.6	18.1	18.7	19.4	21.5	21.1
CH <sub>4</sub> , previous inventory	Gg	57.2	56.7	53.5	54.3	48.7	47.6	49.3	47.5	45.7	44.1
CH <sub>4</sub> , recalculated	Gg	56.7	56.2	53.4	54.4	49.0	48.0	49.9	48.3	46.6	45.4
N <sub>2</sub> O, previous inventory	Gg	0.4	0.4	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.4
N <sub>2</sub> O, recalculated	Gg	0.8	0.8	1.1	1.0	0.4	0.5	0.5	0.6	0.6	0.6
Change, CO <sub>2</sub> equivalents	Gg	107.5	104.7	185.5	185.8	36.1	37.4	51.1	68.0	71.4	87.1
Change	%	8.0	7.9	14.4	14.4	3.1	3.3	4.4	6.0	6.4	8.2
<i>Continued</i>	Unit	2010	2011	2012							
CO <sub>2</sub> , previous inventory	Gg	18.19	18.21								
CO <sub>2</sub> , recalculated	Gg	18.35	18.45	16.36							
CH <sub>4</sub> , previous inventory	Gg	41.8	40.9								
CH <sub>4</sub> , recalculated	Gg	42.0	42.7	41.1							
N <sub>2</sub> O, previous inventory	Gg	0.38	0.40								
N <sub>2</sub> O, recalculated	Gg	0.60	0.64	0.64							
Change, CO <sub>2</sub> equivalents	Gg	72.0	110.8								
Change	%	7.1	11.1								

Table 3F.1 Estimation of forest percentage and forest area.

Equation	Description
$X_j = \frac{A_j}{A_{15,j}}$	The forest percentage ( $X$ ) of the $j$ th sample plot (SSU) is estimated as the forested area ( $A$ ) divided by the total area of the 15 m radius sample plot ( $A_{15,j}$ ).
$\bar{X}_Z = \frac{1}{n_Z} \sum_Z X_j R_j$	Average forest percentage ( $\bar{X}$ ) of all inventoried plots (SSU) with forest status $Z$ based on aerial photos. $R_j$ is an indicator variable that is 1 for inventoried plots and 0 otherwise. $n_Z$ is the number of inventoried plots identified as forest or OWL from the air photos.
$\bar{\bar{X}} = \frac{1}{n} \left( \sum_{j=1}^n X_j R_j + N_{21} \bar{X}_1 + N_{22} \bar{X}_2 \right)$	Overall average forest percentage ( $\bar{\bar{X}}$ ). $n$ is the total number of inventoried and non-inventoried sample plots. $N_{21}$ and $N_{22}$ is the number of non-inventoried sample plots with forest and OWL, respectively.
$A_{Forest} = \bar{\bar{X}} \cdot A_{Total}$	Total forest area. $A_{Total}$ is the total land area, $\bar{\bar{X}}$ is the estimated forest percentage and $A_{Forest}$ is the total forest area.

Table 3F.2 Estimation of forest area with a specific characteristic.

Equation	Description
$X_k = \frac{\sum_{j=1}^n R_{jk} A_j}{\sum_{j=1}^n A_j}$	Proportion of the forest area with a given characteristic ( $X_k$ ). $R_{jk}$ is an indicator variable which is 1 if the forest area on the $j$ th sample plots has the $k$ th characteristic and 0 otherwise. $A_j$ is the sample plot area and $n$ is the total number of inventoried sample plots with forest cover.
$A_k = X_k \cdot A_{Forest}$	Total area with a given characteristic ( $A_k$ ). $X_k$ is the estimated proportion of the forest area with the $k$ th characteristic and $A_{Forest}$ is the total forest area.

Table 3F.3 Estimation of diameter-height equations.

Equation	Description
$h_{ij} = 13 + (\bar{h}_j - 13) \cdot \exp \left( \alpha_1 \cdot \left( 1 - \frac{\bar{d}_j}{d_{ij}} \right) + \alpha_2 \cdot \left( \frac{1}{\bar{d}_j} - \frac{1}{d_{ij}} \right) \right)$	Site specific dh-regression for calculating height of trees not measured for height. $h_{ij}$ and $d_{ij}$ is the height and diameter of the $i$ 'th tree on the $j$ 'th sample plot. $\bar{h}_j$ and $\bar{d}_j$ are the average height and diameter of trees measured for height on the $j$ th sample plot. $\alpha_1$ and $\alpha_2$ are species and growth-region specific parameters
$h_{ij} = 13 + \beta_1 \cdot \exp \left( -\frac{\beta_2}{d_{ij}} \right)$	General dh-regression for calculating height of trees not measured for height. $h_{ij}$ and $d_{ij}$ is the height and diameter of the $i$ 'th tree on the $j$ 'th sample plot. $\beta_1$ and $\beta_2$ are species and growth-region specific parameters

Table 3F.4 Estimation of quadratic mean diameter.

Equation	Description
$g_{ij} = \frac{\pi}{4} d_{ij}^2$	Basal area ( $g$ ) of the $i$ th tree on the $j$ th plot is calculated from the diameter at breast height ( $d$ ) (1.3 m above ground) assuming a circular stem form.
$G_j = \sum_{i=1}^m \frac{1}{A_{c,ij}} g_{ij}$	Basal area per hectare ( $G$ ) the $j$ th sample plot is calculated as the scaled sum of individual tree basal areas. Basal area ( $g$ ) of the $i$ th tree on the $j$ th sample plot is scaled according to the plot area ( $A_{c,ij}$ ) of the $c$ th concentric circle ( $c=3,5; 10; 15$ m).
$N_j = \sum_{i=1}^m \frac{1}{A_{c,ij}}$	Stem number per hectare ( $N$ ) the $j$ th sample plot is calculated as the scaled number of individual trees. The $i$ th tree on the $j$ th sample plot is scaled according to the plot area ( $A_{c,ij}$ ) of the $c$ th concentric circle ( $c=3,5; 10; 15$ m).
$D_{g,j} = \sqrt{\frac{4}{\pi} \frac{G_j}{N_j}}$	The mean squared diameter is calculated from the calculated basal area and stem number for each plot.

Table 3F.5 Estimation of biomass and carbon of trees.

Equation	Description
$v_{ij} = F(d_{ij}, h_{ij}, D_{g,j})$	The volume ( $v$ ) of the $i$ th tree on the $j$ th sample plots is calculated using the existing volume functions ( $F$ ) using the tree diameter and height and the quadratic mean diameter.
$B_{ij} = V_{ij} \cdot Density_{ij}$	Biomass ( $B$ ) of the $i$ th tree on the $j$ th sample plot is estimated as the total volume ( $V_{tot}$ ) times the species specific density.
$E_{ij} = F(d_{ij}, h_{ij})$	Expansion factor model for beech and Norway spruce
$v_{tot,ij} = B_{ij} \cdot E_{ij}$	The total above and below ground volume ( $v_{tot}$ ) of the $i$ th tree on the $j$ th sample plot. $B_{ij}$ is the calculated above-ground biomass of the tree and $E$ is the expansion factor.
$C_{ij} = B_{ij} \cdot 0.5$	Carbon of the $i$ th tree on the $j$ th sample plot is calculated as the biomass ( $B$ ) times 0.5.

Table 3F.6 Estimation of total biomass and carbon pools.

Equation	Description
$V_{cj} = \frac{1}{A_{cj}} \sum_{i=1}^m R_{c,i} v_{ij}$	Volume, biomass or carbon per hectare ( $V$ ) of the $c$ th concentric circle on the $j$ th sample plot ( $c=3,5; 10; 15$ m). $R_c$ is an indicator variable that is 1 if the $i$ th tree is measured on the $c$ th circle and 0 otherwise. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $m$ is the number of trees on the $j$ th sample plot.
$\bar{V}_c = \frac{\sum_{j=1}^n A_{cj} V_{cj}}{\sum_{j=1}^n A_{cj}}$	The average area weighted volume, biomass or carbon per hectare ( $\bar{V}$ ) of the $c$ th concentric circle. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $n$ is the number of sample plots.
$\bar{\bar{V}} = \bar{V}_{3,5} + \bar{V}_{10} + \bar{V}_{15}$	The overall average volume, biomass or carbon per hectare ( $\bar{\bar{V}}$ ) is estimated as the sum of the average volume, biomass or carbon per hectare ( $\bar{V}_c$ ) for the three concentric circles ( $c=3.5, 10$ and $15$ )
$V = \bar{\bar{V}} \cdot A_{Skov}$	Total volume, biomass or carbon $V$ is the overall average volume, biomass or carbon per hectare ( $\bar{\bar{V}}$ ) times the forest area $A_{Forest}$ .

Table 3F.7 Estimation of biomass and carbon with a given characteristic.

Equation	Description
$V_{cj,k} = \frac{1}{A_{cj}} \sum_{i=1}^m R_{c,ij} R_{k,ij} v_{ij}$	Volume, biomass or carbon per hectare ( $V$ ) with the $k$ th characteristic of the $c$ th concentric circle on the $j$ th sample plot ( $c=3,5; 10; 15$ m). $R_c$ is an indicator variable that is 1 if the $i$ th tree is measured on the $c$ th circle and 0 otherwise. $R_k$ is an indicator variable that is 1 if the tree has $k$ th characteristic and 0 otherwise. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $m$ is the number of trees on the $j$ th sample plot.
$\bar{V}_{c,k} = \frac{\sum_{j=1}^n A_{cj} V_{cj,k}}{\sum_{j=1}^n A_{cj}}$	The average area weighted volume, biomass or carbon per hectare ( $\bar{V}$ ) with the $k$ th characteristic of the $c$ th concentric circle. $A_{c,ij}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $m$ is the number of trees on the $j$ th sample plot.
$\bar{\bar{V}}_k = \bar{V}_{3,5,k} + \bar{V}_{10,k} + \bar{V}_{15,k}$	The overall average volume, biomass or carbon per hectare with the $k$ th characteristic ( $\bar{\bar{V}}_k$ ) is estimated as the sum of the average volume, biomass or carbon per hectare ( $\bar{V}_{c,k}$ ) for the three concentric circles ( $c=3.5, 10$ and $15$ )
$V_k = \bar{\bar{V}}_k \cdot A_{Forest}$	Total volume, biomass or carbon with the $k$ th characteristic ( $V_k$ ) is the overall average volume, biomass or carbon per hectare ( $\bar{\bar{V}}_k$ ) times the forest area $A_{Forest}$ .

Table 3F.8 Estimation of biomass and carbon content of dead wood.

Equation	Description
$v_{s,ij} = F(d_{s,ij}, h_{s,ij}, D_{g,j})$	The volume ( $v_s$ ) of the $i$ th standing, dead tree on the $j$ th sample plots is calculated using the existing volume functions ( $F$ ) using the tree diameter and height and the squared mean diameter.
$v_{l,ij} = \frac{\pi}{4} d_{l,ij}^2 \cdot l_{l,ij}$	Volume of lying dead trees ( $v_l$ ) is calculated as the length ( $l$ ) and the $i$ th tree on the $j$ th sample plot times the cross sectional area. The cross sectional area is calculated from the mid-diameter ( $d$ ) of the dead wood.
$B_{s,ij} = v_{s,ij} \cdot D_{ij} \cdot r_{k,ij}$	Biomass of the $i$ th standing ( $B_s$ ) or lying ( $B_l$ ) tree on the $j$ th sample plot is calculated as the volume ( $v_s$ or $v_l$ ) times the species specific density ( $D$ ) and a the $k$ th reduction factor according to the structural decay of the wood observed in the field.
$B_{l,ij} = v_{l,ij} \cdot D_{ij} \cdot r_{k,ij}$	
$B_{s,tot,ij} = B_{s,ij} \cdot E_{ij}$	The total above and below ground volume ( $B_{s,tot}$ ) of the $i$ th standing, dead tree on the $j$ th sample plot. $v_s$ is the calculated biomass of the tree and $E$ is the expansion factor.
$K_{s,ij} = B_{s,ij} \cdot 0.5$	Carbon in standing or lying dead wood ( $C_s$ or $C_l$ ) is calculated as the biomass ( $B_s$ or $B_l$ ) times 0.5.
$K_{l,ij} = B_{l,ij} \cdot 0.5$	

Table 3F.9 Estimation of total biomass and carbon pools of dead wood.

Equation	Description
$V_{D,cj} = \frac{1}{A_{cj}} \sum_{i=1}^m R_c v_{s,ij} + R_c v_{l,ij}$	Deadwood volume, biomass or carbon pools per hectare ( $V_D$ ) for the $c$ th circle and the $j$ th sample plot. $v_s$ and $v_l$ is the volume of standing and lying deadwood respectively. $R_c$ is an indicator variable that is 1 if the tree is measured in the $c$ th circle and 0 otherwise. $A_c$ is the sample plot area of the $c$ th circle. $m$ is the number of trees within the $j$ th sample plot.
$\bar{V}_{D,c} = \frac{\sum_{j=1}^n A_{cj} V_{D,cj}}{\sum_{j=1}^n A_{cj}}$	The average area weighted deadwood volume, biomass or carbon per hectare ( $\bar{V}_D$ ) of the $c$ th concentric circle. $A_{c,j}$ is the area of the $j$ th sample plot and $c$ th concentric circle; $n$ is the number of sample plots.
$\bar{\bar{V}}_D = \bar{V}_{D,3.5} + \bar{V}_{D,10} + \bar{V}_{D,15}$	The overall average deadwood volume, biomass or carbon per hectare ( $\bar{\bar{V}}_D$ ) is estimated as the sum of the average volume, biomass or carbon per hectare ( $\bar{V}_{D,c}$ ) for the three concentric circles ( $c=3.5, 10$ and $15$ )
$V_D = \bar{\bar{V}}_D \cdot A_{Forest}$	Total deadwood volume, biomass or carbon $V_D$ is the overall average deadwood volume, biomass or carbon per hectare ( $\bar{\bar{V}}_D$ ) times the forest area $A_{Forest}$ .



Table 3F.10 Estimation of forest floor carbon.

Equation	Description
$C_{floor,s,j} = Depth_j \cdot A_j \cdot B_s \cdot F_{s,j}$	Forest floor carbon ( $C_{floor,s,j}$ ) of the $s$ th species, on the $j$ th plot with an area of $A$ . $B_s$ is the species specific forest floor density and $F$ is the fraction of species $s$ .
$C_{floor,j} = \sum_{s=1}^k C_{floor,s,j}$	Total forest floor carbon on the $j$ th plot.
$C_{floor} = \frac{\sum_{j=1}^n C_{floor,j}}{\sum_{j=1}^n A_j} \cdot A_{Forest}$	Total forest floor carbon is estimated as the area weighted average forest floor carbon content times the total forest area.

Table 3.F.11 Hectares grown in the different areas of Denmark.

	Copenhagen					Southern	Eastern	Western	Northern
	Denmark	area	Bornholm	Sealand	Funen	Jutland	Jutland	Jutland	Jutland
Winter wheat	743911	14984	14941	159521	86704	121584	122810	79914	143452
Spring wheat	13753	583	375	3862	582	2694	1764	1768	2125
Rye	51336	4017	80	4816	2753	9409	9384	7422	13454
Winter barley	142560	2459	2691	16869	13665	30254	32248	21518	22856
Spring barley	425510	6614	4091	97731	30227	86358	41749	96536	62203
Oat	41907	1835	538	2924	1724	9889	4850	7908	12239
Triticale and other cereals for maturity	50192	385	409	4276	1736	10185	8734	11705	12763
Pulses for maturity	10349	80	44	2318	680	1540	1544	2448	1695
Potatoes for seed	5189	43	0	513	146	1260	173	2488	567
Potatoes for starch production	16637	0	0	0	68	3944	412	8793	3420
Potatoes for consumption	16312	493	19	1600	986	4719	1027	5485	1984
Sugarbeet for sugar production	39074	35	0	38571	438	9	13	0	8
Sugarbeet for feeding	4118	67	40	162	133	987	470	1231	1028
Winter rape	163436	6456	2054	38341	22824	25266	28691	14552	25253
Spring rape	1372	73	0	584	42	103	201	35	333
Lin seed	90	1	0	1	4	1	2	82	0
Other industrial seed	823	21	1	537	23	88	84	45	24
Grass and other seeds for seed production	66655	1200	1818	26276	13326	4904	7561	6670	4901
Lucerne	6405	67	87	763	820	3009	493	737	428
Green maize for silage	172168	981	1893	6349	10023	69325	12591	37600	33407
Green cereals for silage	62845	722	210	1747	927	18213	4138	16546	20344
Other green feeding stuff	26	0	0	0	0	0	3	24	0
Grass and cloverfields in rotation	320914	9798	2939	22024	11361	99547	32764	72147	70334
Vegetables in fields	8043	349	24	2106	1502	514	1608	1497	444
Green peas for consumption	2677	51	0	2159	334	31	32	40	32
Flowers and other ornamentals	92	4	0	39	17	7	2	23	0
Apples	1684	60	5	562	746	73	141	34	64
Pears	357	19	1	125	163	18	21	7	5
Strawberries	1137	47	3	369	208	161	164	89	98
Cherries	1743	47	0	1051	619	8	4	1	11
Black currant	1935	91	1	472	672	211	363	16	110
Other fruits and berries	927	29	6	263	377	124	88	18	24

Continued

Nurseries	1521	87	0	154	342	347	172	331	88
Permanent grass outside rotation	199859	10533	1021	28762	12429	47085	23693	32442	43894
Set-a-side with grass	9874	504	164	2155	715	1407	938	1919	2072
Christmastrees	19521	402	67	2697	2618	2802	4607	2764	3566
Other crops	16569	610	49	1893	986	3048	2143	4041	3799
Without crops	24866	707	514	5090	2044	5487	3908	3253	3863
Total agricultural area	2646400	64451	34083	477685	222964	564612	349589	442128	490888
Green houses	490	28	1	90	272	18	59	13	10

Table 3.F.12 Crop yield from Statistics Denmark in 2010 distributed regions, Hhg crop ha<sup>-1</sup>.

	Denmark	Copenhagen and North Sealand	Bornholm	Sealand	Funen	Southern Jutland	Eastern Jutland	Western Jutland	North- ern Jutland
Winter wheat	66.6	70.3	65.2	73.9	72	66.5	69.3	59	57.2
Spring wheat	46.2	45.6	41.3	46.9	35.4	47.7	45.4	44.6	48.5
Rye	48.9	54.8	44.4	55.4	66.2	48.3	48.3	43.3	45.5
Triticale	48.6	49.2	43.8	58.7	56.4	46	50.4	48.8	46.3
Winter barley	54.3	52.5	57.1	63.1	62.3	55.6	56.7	45.3	46.4
Spring barley	51	47.3	50.7	56.7	51.7	49.3	51.5	47.4	49.7
Oat and mixed cereals	48.1	50.4	48	48.1	49.6	47.6	46.7	46.1	50.3
Winter rape	34.9	33.6	39.9	38	37.7	35.1	33.2	30.9	31.8
Spring rape	22.7	26.1	..	18.2	37.6	32.4	25.9	20.1	23.9
Pulses for maturity	32.3	30.8	30.9	28	34.4	32.1	36.2	31.8	35.8
Straw, gathered	32.8	33.9	33.1	37	36.5	31.9	34.5	28.6	29.8
Potatoes for seed	282	275	..	275	275	275	300	299	238
Potatoes for starch production	413	..	..	..	410	408	450	403	442
Potatoes for consumption	340	406	420	414	289	327	314	348	311
Sugarbeet for sugar production	614	583	..	615	583	583	583	583	583
Sugarbeet for feeding	666	656	703	656	524	654	655	644	727
Lucerne	514	516	706	486	532	533	469	463	496
Green mais for silage	354	468	445	479	317	360	359	332	344
Green cereals for silage	174	199	241	202	169	187	164	165	167
Grass and cloverfields in rotation	438	403	459	404	449	449	453	447	419
Permanent grass outside rotation	158	163	142	170	187	159	152	152	146
Secondary grass crop yields	44	51	24	26	31	51	38	44	46

Table 3.F.13 Area input format for Eastern Jutland to C-TOOL in 2010. FK represent the soil type (Color Code (Farve Kode))

Landsdel/ Region	AFG07_txt	time	FK1	FK2	FK3	FK4	FK5	FK6	FK7	SUM
Eastern Jutland	Set-a-side with grass	2010	120	17	373	208	32	2	186	938
Eastern Jutland	Pulses for maturity	2010	456	75	539	419	45	0	9	1544
Eastern Jutland	Sugarbeet for feeding	2010	67	14	279	78	5	0	27	470
Eastern Jutland	Vegetables in fields	2010	279	40	945	254	1	0	120	1640
Eastern Jutland	Grass and other seeds for seed production	2010	566	188	3274	2812	441	7	273	7561
Eastern Jutland	Grass and cloverfields in rotation	2010	3801	391	15947	6729	1096	32	4770	32767
Eastern Jutland	Oat	2010	804	56	2309	1278	135	8	259	4850
Eastern Jutland	Lin seed	2010	1	0	1	0	0	0	0	2
Eastern Jutland	Strawberries	2010	4	0	99	55	3	0	4	164
Eastern Jutland	Potatoes	2010	245	97	917	254	3	0	97	1612
Eastern Jutland	Green cereals for silage	2010	622	117	2011	775	96	0	518	4138
Eastern Jutland	Lucerne	2010	6	0	327	127	17	0	16	493
Eastern Jutland	Green maize for silage	2010	1900	262	7863	1839	221	11	495	12591
Eastern Jutland	Rye	2010	3253	391	4062	1115	35	0	527	9384
Eastern Jutland	Sugarbeet for sugar production	2010	0	0	0	13	0	0	0	13
Eastern Jutland	Triticale and other cereals for maturity	2010	1261	162	4449	1165	126	18	444	7625
Eastern Jutland	Winter barley	2010	2250	203	17101	10283	1240	35	1114	32226
Eastern Jutland	Winter wheat	2010	4591	1207	55394	46819	8213	311	6275	122810
Eastern Jutland	Winter rape	2010	1490	230	15092	9827	1229	27	796	28691
Eastern Jutland	Spring barley	2010	4567	744	20270	12210	1557	16	2385	41749
Eastern Jutland	Spring wheat	2010	30	0	756	591	43	0	344	1764
Eastern Jutland	Spring rape	2010	39	0	79	109	18	0	39	285
Eastern Jutland	Other crops	2010	880	0	4426	565	24	0	156	6051
Eastern Jutland	Permanent grass outside rotation	2010	4101	701	8855	3284	617	54	6068	23682

Table 3F.14 Average annual temperatures for Denmark, 1977-2012, °C.

Year	Average	Year	Average
1977	7.675464	2000	9.175
1978	7.675464	2001	8.158333
1979	7.675464	2002	9.208333
1980	7.2	2003	8.708333
1981	7.15	2004	8.733333
1982	7.975	2005	8.783333
1983	8.375	2006	9.358333
1984	7.891667	2007	9.416667
1985	6.5	2008	9.366667
1986	6.933333	2009	8.775
1987	6.55	2010	6.908333
1988	8.475	2011	8.916667
1989	9.175	2012	8.275
1990	9.233333		
1991	8.108333		
1992	8.958333		
1993	7.558333		
1994	8.608333		
1995	8.183333		
1996	6.833333		
1997	8.5		
1998	8.2		
1999	8.85		

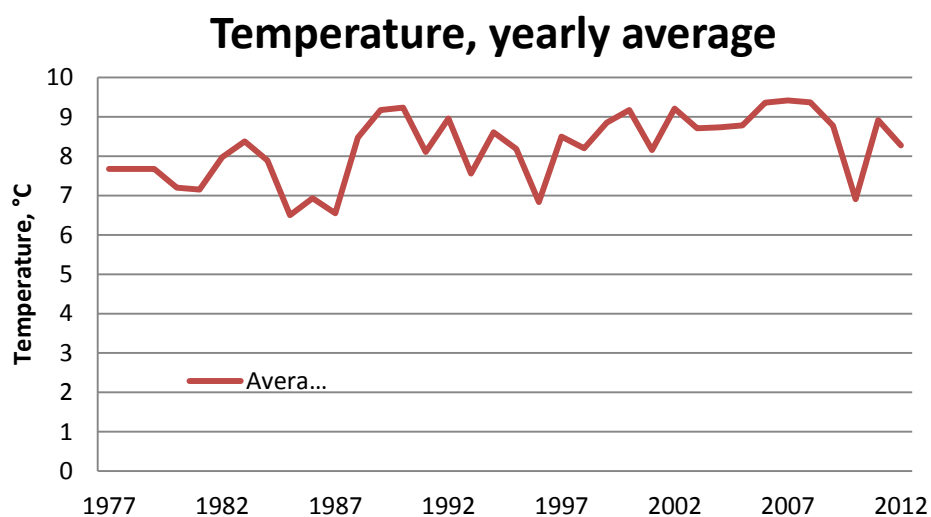


Figure 3F.1 Average annual temperatures for Denmark, 1977-2012, °C.

## **Annex 4 - CO<sub>2</sub> reference approach and comparison with sectoral approach, and relevant information on the national energy balance**

Please refer to Chapter 3.4 and Annex 3A.

## **Annex 5 - Assessment of completeness and (potential) sources and sinks of greenhouse gas emissions and removals excluded**

### **GHG inventory**

The Danish greenhouse gas emission inventories for 1990-2012 include all sources identified by the Revised 1996 IPCC Guidelines and the 2000 IPCC Good Practice Guidance. Some very minor sources have not been estimated due to lack of methodology, activity data or emission factors, i.e.:

In the solvent and other product use sector currently only N<sub>2</sub>O emissions from anaesthesia and some other minor uses are included in CRF category 3D, Denmark will try to obtain activity data for use of N<sub>2</sub>O in aerosol cans. N<sub>2</sub>O emissions from anaesthesia are only included from 2000 onwards.

Direct and indirect CH<sub>4</sub> emissions from agricultural soils are not estimated. Direct and indirect soil emissions are considered of minor importance for CH<sub>4</sub>. No methodology is available in the IPCC Guidelines.

Emissions from harvested wood products are not reported due to lack of data. Several possible sources of CH<sub>4</sub> in the LULUCF sector are also reported as not estimated. For more detail please see Chapter 7.

In the Waste sector CO<sub>2</sub> emissions from managed waste disposal on land are not estimated. According to the 1996 IPCC Guidelines: "Decomposition of organic material derived from biomass sources (e.g., crops, forests), which are regrown on an annual basis is the primary source of CO<sub>2</sub> released from waste. Hence, these CO<sub>2</sub> emissions are not treated as net emissions from waste in the IPCC Methodology."

Emissions of N<sub>2</sub>O from accidental fires are reported as not estimated due to lack of emission factors.

### **KP-LULUCF inventory**

The KP-LULUCF inventory is considered complete. Please see Chapter 11 for further documentation.

## Annex 6 - Additional information to be considered as part of the annual inventory submission and the supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol or other useful reference information

Tables A6.1 to A6.5 below contain the information publically available in this report. Table A6.6 includes the list of discrepancies identified by the ITL (no discrepancies in the 2014 submission).

Table A6.1 Total quantities of Kyoto Protocol units by account type at beginning of reported year.

Account type	Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Party holding accounts	152 118 662	6 978 987	3 531 167	1 381 333	NO	NO
Entity holding accounts	3809	66 585	NO	1 477 492	NO	NO
Article 3.3/3.4 net source cancellation accounts	45 099	NO	335 864	NO		
Non-compliance cancellation accounts	NO	NO	NO	NO		
Other cancellation accounts	159 986	13 374	NO	2017	NO	NO
Retirement account	131 237 240	2 284 518	288 245	2 558 075	NO	NO
tCER replacement account for expiry	NO	NO	NO	NO	NO	
ICER replacement account for expiry	NO	NO	NO	NO		
ICER replacement account for reversal of storage	NO	NO	NO	NO		NO
ICER replacement account for non-submission of certification report	NO	NO	NO	NO		NO
Total	283 564 796	9 343 464	4 155 276	5 418 917	NO	NO

Table A6.2a Annual internal transactions.

Transaction type	Additions						Subtractions					
	Unit type						Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Article 6 issuance and conversion												
Party-verified projects		NO					NO		NO			
Independently verified projects		NO					NO		NO			
Article 3.3 and 3.4 issuance or cancellation												
3.3 Afforestation and reforestation			664 882				NO	NO	NO	NO		
3.3 Deforestation			NO				NO	NO	51 586	NO		
3.4 Forest management			NO				NO	NO	NO	NO		
3.4 Cropland management			2 122 565				NO	NO	NO	NO		
3.4 Grazing land management			NO				NO	NO	164 745	NO		
3.4 Revegetation			NO				NO	NO	NO	NO		
Article 12 afforestation and reforestation												
Replacement of expired tCERs							NO	NO	NO	NO	NO	
Replacement of expired ICERs							NO	NO	NO	NO		
Replacement for reversal of storage							NO	NO	NO	NO		NO
Replacement for non-submission of certification report							NO	NO	NO	NO		NO
Other cancellation							1414	NO	NO	3115	NO	NO
Sub-total		NO	2 787 447				1414	NO	216 331	3115	NO	NO

Table A6.2a Annual internal transactions.

Retirement - Unit type						
Transaction type	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Retirement		NO	NO	NO	NO	NO



Table A6.2b Annual external transactions.

Transfers and acquisitions	Additions - Unit type						Subtractions - Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
EU	NO	5 366 847	NO	3 156 052	NO	NO	16 020 508	282 197	NO	2 500 523	NO	NO
CDM	NO	NO	NO	3 656 371	NO	NO	NO	NO	NO	NO	NO	NO
JP	NO	NO	NO	113 193	NO	NO	NO	NO	NO	NO	NO	NO
BG	NO	253 416	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
PL	NO	339 267	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
RU	NO	255 543	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Sub-total	NO	6 215 073	NO	6 925 616	NO	NO	16 020 508	282 197	NO	2 500 523	NO	NO
Additional information												
Independently verified ERUs							NO					

Table A6.2c Total annual transactions.

	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Total (Sum of tables 2a and 2b)	NO	6 215 073	2 787 447	6 925 616	NO	NO	16 021 922	282 197	216 331	2 503 638	NO	NO

Table A6.3 Expiry, cancellation and replacement.

	Expiry, cancellation and requirement to replace		Replacement					
	Unit type		Unit type					
Transaction or event type	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Temporary CERs (tCERS)								
Expired in retirement and replacement accounts	NO							
Replacement of expired tCERs			NO	NO	NO	NO	NO	
Expired in holding accounts	NO							
Cancellation of tCERs expired in holding accounts	NO							
Long-term CERs (ICERs)								
Expired in retirement and replacement accounts		NO						
Replacement of expired ICERs			NO	NO	NO	NO		
Expired in holding accounts		NO						
Cancellation of ICERs expired in holding accounts		NO						
Subject to replacement for reversal of storage		NO						
Replacement for reversal of storage			NO	NO	NO	NO		NO
Subject to replacement for non-submission of certification report		NO						
Replacement for non-submission of certification report			NO	NO	NO	NO		NO
Total			NO	NO	NO	NO	NO	NO

Table A6.4 Total quantities of Kyoto Protocol units by account type at end of reported year.

Account type	Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Party holding accounts	136 096 740	12 763 022	6 102 283	7 104 476	NO	NO
Entity holding accounts	3809	215 426	NO	176 327	NO	NO
Article 3.3/3.4 net source cancellation accounts	45 099	NO	552 195	NO		
Non-compliance cancellation accounts	NO	NO	NO	NO		
Other cancellation accounts	161 400	13 374	NO	5132	NO	NO
Retirement account	131 237 240	2 284 518	288 245	2 558 075	NO	NO
tCER replacement account for expiry	NO	NO	NO	NO	NO	
ICER replacement account for expiry	NO	NO	NO	NO		
ICER replacement account for reversal of storage	NO	NO	NO	NO		NO
ICER replacement account for non-submission of certification report	NO	NO	NO	NO		NO
Total	267 544 288	15 276 340	6 942 723	9 844 010	NO	NO

Table A6.5 (a). Summary information on additions and subtractions.

	Additions - Unit type						Subtractions – Unit type					
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Starting values	276 838 955											
Issuance pursuant to Article 3.7 and 3.8												
Non-compliance cancellation							NO	NO	NO	NO		
Carry-over	NO	NO		NO								
Sub-total	276 838 955	NO		NO			NO	NO	NO	NO		
Annual transactions												
Year 0 (2007)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year 1 (2008)	191 772 275	NO	NO	27 439 229	NO	NO	174 391 031	NO	NO	23 971 973	NO	NO
Year 2 (2009)	881 590 260	524 201	NO	32 057 896	NO	NO	874 991 940	185 735	NO	33 349 553	NO	NO
Year 3 (2010)	233 649 660	5 344 875	NO	28 111 141	NO	NO	252 411 415	1389 977	NO	28 008 871	NO	NO
Year 4 (2011)	8 593 901	2 249 840	624 109	3 022 739	NO	NO	6 160 750	NO	335 864	86 669	NO	NO
Year 5 (2012)	1 255 753	4 939 318	3 531 167	3 728 306	NO	NO	2 385 957	2 152 432	NO	3 525 345	NO	NO
Year 6 (2013)	NO	6 215 073	2 787 447	6 925 616	NO	NO	16 021 922	282 197	216 331	2 503 638	NO	NO
Year 7 (2014)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year 8 (2015)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Sub-total	1 316 861 849	19 273 307	6 942 723	101 284 927	NO	NO	1 326 363 015	4 010 341	552 195	91 446 049	NO	NO
Total	1 593 700 804	19 273 307	6 942 723	101 284 927	NO	NO	1 326 363 015	4 010 341	552 195	91 446 049	NO	NO

Table A6.5 (b). Summary information on replacement.

	Requirement for Replacement – Unit type		Replacement – Unit type					
	tCERs	ICERs	AAUs	ERUs	RMUs	CERs	tCERs	ICERs
Previous CPs			NO	NO	NO	NO	NO	NO
Year 1 (2008)		NO	NO	NO	NO	NO	NO	NO
Year 2 (2009)		NO	NO	NO	NO	NO	NO	NO
Year 3 (2010)		NO	NO	NO	NO	NO	NO	NO
Year 4 (2011)		NO	NO	NO	NO	NO	NO	NO
Year 5 (2012)	NO	NO	NO	NO	NO	NO	NO	NO
Year 6 (2013)	NO	NO	NO	NO	NO	NO	NO	NO
Year 7 (2014)	NO	NO	NO	NO	NO	NO	NO	NO
Year 8 (2015)	NO	NO	NO	NO	NO	NO	NO	NO
Total	NO	NO	NO	NO	NO	NO	NO	NO

Table A6.5 (c). Summary information on retirement.

Year	Retirement – Unit type						
	AAUs	ERUs	RMUs	CERs	tCERs	ICERs	
Year 1 (2008)		NO	NO	NO	NO	NO	NO
Year 2 (2009)	26 171 207		NO	NO	375 230	NO	NO
Year 3 (2010)	25 322 171		NO	NO	162 743	NO	NO
Year 4 (2011)	24 446 840	1766		NO	822 623	NO	NO
Year 5 (2012)	55 297 022	2 282 752	288 245	1 197 479		NO	NO
Year 6 (2013)		NO	NO	NO	NO	NO	NO
Year 7 (2014)		NO	NO	NO	NO	NO	NO
Year 8 (2015)		NO	NO	NO	NO	NO	NO
Total	131 237 240	2 284 518	288 245	2 558 075		NO	NO

Table A.6.6 List of discrepancies.										
DES Response Code	Average number of occurrences per transaction (x 100.000)		Transaction Number	Proposal Date Time	Transaction Type	Final State	Explanation	Units Involved abbreviated		
	Reported Year	Prior to the Reported Year						Serial Number	Unit Type	Quantity

## **Annex 7 - Tables 6.1 and 6.2 of the IPCC good practice guidance**

IPCC Source category	Gas	Base year emission	Latest year 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 emis- sion 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 <sub>2</sub> eqv	Input data Gg CO <sub>2</sub> eqv	Input data %	Input data %	%	%	%	%	%	%	%
Stationary Combustion. Coal	CO <sub>2</sub>	23 834	10 005	1	1	1.030	0.203	-0.085	0.135	-0.042	0.172	0.177
Stationary Combustion. BKB	CO <sub>2</sub>	11	1	3	5	5.831	0.0002	0.000	0.000	0.000	0.000	0.000
Stationary Combustion. Coke	CO <sub>2</sub>	138	74	2	5	5.301	0.008	0.000	0.001	-0.001	0.002	0.003
Stationary Combustion. Fossil waste	CO <sub>2</sub>	573	1397	5	10	11.180	0.307	0.014	0.019	0.135	0.133	0.190
Stationary Combustion. Petroleum coke	CO <sub>2</sub>	415	628	2	5	5.385	0.067	0.005	0.008	0.023	0.024	0.033
Stationary Combustion. Residual oil	CO <sub>2</sub>	2496	571	1	2	2.334	0.026	-0.015	0.008	-0.031	0.013	0.033
Stationary Combustion. Gas oil	CO <sub>2</sub>	4547	742	2	4	4.587	0.067	-0.032	0.010	-0.128	0.032	0.132
Stationary Combustion. Kerosene	CO <sub>2</sub>	366	2	2	5	5.393	0.0002	-0.003	0.000	-0.017	0.000	0.017
Stationary Combustion. LPG	CO <sub>2</sub>	184	91	2	5	5.317	0.010	0.000	0.001	-0.002	0.003	0.004
Stationary Combustion. Refinery gas	CO <sub>2</sub>	816	906	1	2	2.236	0.040	0.005	0.012	0.009	0.017	0.020
Stationary Combustion. Natural gas	CO <sub>2</sub>	4335	8293	1	0.4	1.118	0.182	0.072	0.112	0.029	0.165	0.167
Stationary Combustion. SOLID	CH <sub>4</sub>	13	3	1	100	100.005	0.006	0.000	0.000	-0.008	0.000	0.008
Stationary Combustion. LIQUID	CH <sub>4</sub>	3	1	1	100	100.003	0.002	0.000	0.000	-0.001	0.000	0.001
Stationary Combustion. GAS	CH <sub>4</sub>	3	6	1	100	100.005	0.011	0.000	0.000	0.005	0.000	0.005
Natural gas fuelled engines. GAS	CH <sub>4</sub>	5	120	1	2	2.236	0.005	0.002	0.002	0.003	0.002	0.004
Stationary Combustion. WASTE	CH <sub>4</sub>	1	2	5	100	100.125	0.003	0.000	0.000	0.001	0.000	0.001
Stationary Combustion. BIOMASS	CH <sub>4</sub>	102	135	16	100	101.233	0.269	0.001	0.002	0.088	0.040	0.097
Biogas fuelled engines. BIOMASS	CH <sub>4</sub>	1	31	4	10	10.728	0.007	0.000	0.000	0.004	0.002	0.005
Stationary Combustion. SOLID	N <sub>2</sub> O	68	27	1	400	400.001	0.216	0.000	0.000	-0.103	0.000	0.103
Stationary Combustion. LIQUID	N <sub>2</sub> O	44	11	1	1000	1000.000	0.218	0.000	0.000	-0.257	0.000	0.257
Stationary Combustion. GAS	N <sub>2</sub> O	16	24	1	750	750.001	0.361	0.000	0.000	0.134	0.000	0.134
Stationary Combustion. WASTE	N <sub>2</sub> O	7	16	5	400	400.031	0.124	0.000	0.000	0.060	0.001	0.060
Stationary Combustion. BIOMASS	N <sub>2</sub> O	38	91	2	1000	1000.002	1.789	0.001	0.001	0.875	0.004	0.875
Transport. Road transport	CO <sub>2</sub>	9284	11 224	2	5	5.385	1.190	0.066	0.151	0.328	0.428	0.539
Transport. Military	CO <sub>2</sub>	119	116	2	5	5.385	0.012	0.000	0.002	0.002	0.004	0.005
Transport. Railways	CO <sub>2</sub>	297	249	2	5	5.385	0.026	0.001	0.003	0.003	0.010	0.010
Transport. Navigation (small boats)	CO <sub>2</sub>	48	99	41	5	41.304	0.080	0.001	0.001	0.004	0.077	0.077
Transport. Navigation (large vessels)	CO <sub>2</sub>	748	399	11	5	12.083	0.095	-0.002	0.005	-0.008	0.084	0.084
Transport. Fisheries	CO <sub>2</sub>	591	479	2	5	5.385	0.051	0.001	0.006	0.005	0.018	0.019

IPCC Source category	Gas	Base year emission	Latest year 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 emis- sion 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 <sub>2</sub> eqv	Input data Gg CO <sub>2</sub> eqv	Input data %	Input data %	%	%	%	%	%	%	%
Transport. Agriculture	CO <sub>2</sub>	1272	1343	24	5	24.515	0.648	0.006	0.018	0.032	0.614	0.615
Transport. Forestry	CO <sub>2</sub>	36	17	30	5	30.414	0.010	0.000	0.000	-0.001	0.010	0.010
Transport. Industry (mobile)	CO <sub>2</sub>	839	1021	41	5	41.304	0.830	0.006	0.014	0.030	0.798	0.798
Transport. Residential	CO <sub>2</sub>	39	62	35	5	35.355	0.043	0.000	0.001	0.002	0.042	0.042
Transport. Commercial/institutional	CO <sub>2</sub>	74	171	35	5	35.355	0.119	0.002	0.002	0.008	0.114	0.115
Transport. Civil aviation	CO <sub>2</sub>	243	133	10	5	11.180	0.029	0.000	0.002	-0.002	0.025	0.025
Transport. Road transport	CH <sub>4</sub>	47	11	2	40	40.050	0.009	0.000	0.000	-0.011	0.000	0.011
Transport. Military	CH <sub>4</sub>	0.1	0.1	2	100	100.020	0.0001	0.000	0.000	0.000	0.000	0.000
Transport. Railways	CH <sub>4</sub>	0.3	0.2	2	100	100.020	0.0003	0.000	0.000	0.000	0.000	0.000
Transport. Navigation (small boats)	CH <sub>4</sub>	0.3	1	41	100	108.079	0.001	0.000	0.000	0.000	0.000	0.001
Transport. Navigation (large vessels)	CH <sub>4</sub>	0.3	0.2	11	100	100.603	0.0004	0.000	0.000	0.000	0.000	0.000
Transport. Fisheries	CH <sub>4</sub>	0.3	0.2	2	100	100.020	0.000	0.000	0.000	0.000	0.000	0.000
Transport. Agriculture	CH <sub>4</sub>	2	2	24	100	102.840	0.004	0.000	0.000	0.001	0.001	0.001
Transport. Forestry	CH <sub>4</sub>	0.4	0.05	30	100	104.403	0.0001	0.000	0.000	0.000	0.000	0.000
Transport. Industry (mobile)	CH <sub>4</sub>	1	1	41	100	108.079	0.002	0.000	0.000	0.000	0.001	0.001
Transport. Residential	CH <sub>4</sub>	1	1	35	100	105.948	0.003	0.000	0.000	0.001	0.001	0.001
Transport. Commercial/institutional	CH <sub>4</sub>	2	3	35	100	105.948	0.007	0.000	0.000	0.002	0.002	0.003
Transport. Civil aviation	CH <sub>4</sub>	0.1	0.05	10	100	100.499	0.0001	0.000	0.000	0.000	0.000	0.000
Transport. Road transport	N <sub>2</sub> O	91	116	2	50	50.040	0.115	0.001	0.002	0.037	0.004	0.037
Transport. Military	N <sub>2</sub> O	1	1	2	1000	1000.002	0.025	0.000	0.000	0.006	0.000	0.006
Transport. Railways	N <sub>2</sub> O	3	2	2	1000	1000.002	0.042	0.000	0.000	0.005	0.000	0.005
Transport. Navigation (small boats)	N <sub>2</sub> O	0.4	1	41	1000	1000.840	0.021	0.000	0.000	0.011	0.001	0.011
Transport. Navigation (large vessels)	N <sub>2</sub> O	15	8	11	1000	1000.060	0.153	0.000	0.000	-0.030	0.002	0.030
Transport. Fisheries	N <sub>2</sub> O	11	9	2	1000	1000.002	0.185	0.000	0.000	0.020	0.000	0.020
Transport. Agriculture	N <sub>2</sub> O	15	18	24	1000	1000.288	0.349	0.000	0.000	0.098	0.008	0.098
Transport. Forestry	N <sub>2</sub> O	0.2	0.2	30	1000	1000.450	0.003	0.000	0.000	0.001	0.000	0.001
Transport. Industry (mobile)	N <sub>2</sub> O	11	13	41	1000	1000.840	0.265	0.000	0.000	0.083	0.010	0.084
Transport. Residential	N <sub>2</sub> O	0.2	0.3	35	1000	1000.612	0.007	0.000	0.000	0.003	0.000	0.003
Transport. Commercial/institutional	N <sub>2</sub> O	0.3	1	35	1000	1000.612	0.016	0.000	0.000	0.008	0.001	0.008



IPCC Source category	Gas	Base year emission	Latest year 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 emis- sion 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 <sub>2</sub> eqv	Input data Gg CO <sub>2</sub> eqv	Input data %	Input data %	%	%	%	%	%	%	%
Transport. Civil aviation	N <sub>2</sub> O	3	2	10	1000	1000.050	0.041	0.000	0.000	-0.002	0.000	0.002
1.B.2 Flaring in refinery	CO <sub>2</sub>	23	22	11	2	11.180	0.005	0.000	0.000	0.000	0.005	0.005
1.B.2 Flaring off-shore	CO <sub>2</sub>	302	195	8	2	7.762	0.030	0.000	0.003	0.000	0.028	0.028
1.B.2 Land based activities	CO <sub>2</sub>	0.003	0.01	2	40	40.050	4.2E-06	0.000	0.000	0.000	0.000	0.000
1.B.2 Off-shore activities	CO <sub>2</sub>	2	4	2	30	30.067	0.002	0.000	0.000	0.001	0.000	0.001
1.B.2 Transmission of natural gas	CO <sub>2</sub>	0.003	0.0005	15	2	15.133	1.4E-07	0.000	0.000	0.000	0.000	0.000
1.B.2 Distribution of natural gas	CO <sub>2</sub>	0.005	0.005	25	10	26.926	2.5E-06	0.000	0.000	0.000	0.000	0.000
1.B.2 Venting in gas storage	CO <sub>2</sub>	0.001	0.001	15	2	15.133	3.7E-07	0.000	0.000	0.000	0.000	0.000
1.B.2. Flaring in refinery	CH <sub>4</sub>	0.2	0.2	11	15	18.601	0.00006	0.000	0.000	0.000	0.000	0.000
1.B.2. Flaring off-shore	CH <sub>4</sub>	1	0.3	8	125	125.225	0.001	0.000	0.000	0.000	0.000	0.000
1.B.2 Refinery processes	CH <sub>4</sub>	1	47	1	125	125.004	0.115	0.001	0.001	0.078	0.001	0.078
1.B.2 Land based activities	CH <sub>4</sub>	17	18	2	40	40.050	0.014	0.000	0.000	0.003	0.001	0.003
1.B.2 Off-shore activities	CH <sub>4</sub>	15	37	2	30	30.067	0.022	0.000	0.000	0.011	0.001	0.011
1.B.2 Transmission of natural gas	CH <sub>4</sub>	4	0.3	15	2	15.133	0.000	0.000	0.000	0.000	0.000	0.000
1.B.2 Distribution of natural gas	CH <sub>4</sub>	5	3	25	10	26.926	0.002	0.000	0.000	0.000	0.001	0.001
1.B.2 Venting in gas storage	CH <sub>4</sub>	1	1	15	2	15.133	0.0004	0.000	0.000	0.000	0.000	0.000
1.B.2 Flaring in refinery	N <sub>2</sub> O	0.1	0.1	11	1000	1000.060	0.001	0.000	0.000	0.000	0.000	0.000
1.B.2 Flaring off-shore	N <sub>2</sub> O	1	0.5	8	1000	1000.028	0.009	0.000	0.000	0.000	0.000	0.000
2A1 Cement production	CO <sub>2</sub>	882	871	1	2	2.236	0.038	0.004	0.012	0.007	0.017	0.018
2A2 Lime production	CO <sub>2</sub>	116	40	5	5	7.071	0.006	-0.001	0.001	-0.003	0.004	0.005
2A3 Limestone and dolomite use	CO <sub>2</sub>	14	26	5	5	7.071	0.004	0.000	0.000	0.001	0.002	0.003
2A5 Asphalt roofing	CO <sub>2</sub>	0.02	0.02	5	25	25.495	0.00001	0.000	0.000	0.000	0.000	0.000
2A6 Road paving with asphalt	CO <sub>2</sub>	2	2	5	25	25.495	0.001	0.000	0.000	0.000	0.000	0.000
2A7a Glass and Glass wool	CO <sub>2</sub>	17	10	5	2	5.385	0.001	0.000	0.000	0.000	0.001	0.001
2A7b Yellow bricks	CO <sub>2</sub>	23	17	5	2	5.385	0.002	0.000	0.000	0.000	0.002	0.002
2A7c Expanded clay	CO <sub>2</sub>	15	6	5	2	5.385	0.001	0.000	0.000	0.000	0.001	0.001
2B5 Catalysts/Fertilizers. Pesticides and Sulphuric acid	CO <sub>2</sub>	1	1	5	5	7.071	0.0002	0.000	0.000	0.000	0.000	0.000
2C1 Iron and steel production	CO <sub>2</sub>	28	0	5	5	7.071	0.0E+00	0.000	0.000	-0.001	0.000	0.001

IPCC Source category	Gas	Base year emission	Latest year 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 emis- sion 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 <sub>2</sub> eqv	Input data Gg CO <sub>2</sub> eqv	Input data %	Input data %	%	%	%	%	%	%	%
2D2 Food and Drink	CO <sub>2</sub>	4	2	5	5	7.071	0.0003	0.000	0.000	0.000	0.000	0.000
2G Lubricants	CO <sub>2</sub>	50	32	2	5	5.385	0.003	0.000	0.000	0.000	0.001	0.001
2B2 Nitric acid production	N <sub>2</sub> O	1043	0	2	25	25.080	0.000	-0.010	0.000	-0.240	0.000	0.240
2F Consumption of HFC	HFC	218	657	10	50	50.990	0.660	0.007	0.009	0.342	0.125	0.365
2F Consumption of PFC	PFC	1	9	10	50	50.990	0.009	0.000	0.000	0.006	0.002	0.006
2F Consumption of SF <sub>6</sub>	SF <sub>6</sub>	107	118	10	50	50.990	0.118	0.001	0.002	0.030	0.022	0.037
3A Paint application	CO <sub>2</sub>	13	7	10	15	18.028	0.003	0.000	0.000	0.000	0.001	0.001
3B Degreasing and dry cleaning	CO <sub>2</sub>	0.00004	0.000001	10	15	18.028	5.2E-10	0.000	0.000	0.000	0.000	0.000
3C Chemical products. manufacturing and processing	CO <sub>2</sub>	19	12	10	15	18.028	0.004	0.000	0.000	0.000	0.002	0.002
3D5 Other	CO <sub>2</sub>	61	44	10	20	22.361	0.019	0.000	0.001	0.001	0.008	0.008
3D5 Consumption of fireworks	CO <sub>2</sub>	0.1	0.2	8	100	100.319	0.0003	0.000	0.000	0.000	0.000	0.000
3D5 Use of candles	CO <sub>2</sub>	22	81	10	20	22.361	0.036	0.001	0.001	0.018	0.015	0.024
3D1 Other - Use of N <sub>2</sub> O for Anaesthesia	N <sub>2</sub> O	0	9	5	5	7.071	0.001	0.000	0.000	0.001	0.001	0.001
3D5 Use of tobacco	N <sub>2</sub> O	0.3	0.2	20	30	36.056	0.0001	0.000	0.000	0.000	0.000	0.000
3D5 Use of charcoal for BBQ	N <sub>2</sub> O	0.1	0.1	10	100	100.499	0.0003	0.000	0.000	0.000	0.000	0.000
3D5 Consumption of fireworks	N <sub>2</sub> O	1	2	8	100	100.319	0.004	0.000	0.000	0.002	0.000	0.002
3D5 Use of candles	N <sub>2</sub> O	0.1	0.2	10	20	22.361	0.0001	0.000	0.000	0.000	0.000	0.000
4A Enteric Fermentation	CH <sub>4</sub>	3247	2904	2	20	20.100	1.149	0.009	0.039	0.184	0.111	0.214
4B Manure Management	CH <sub>4</sub>	985	1297	5	20	20.616	0.526	0.008	0.017	0.168	0.124	0.208
4F Field burning of agricultural residues	CH <sub>4</sub>	2	2	25	50	55.902	0.003	0.000	0.000	0.001	0.001	0.001
4.B Manure Management	N <sub>2</sub> O	600	391	22	100	102.470	0.788	0.000	0.005	-0.027	0.166	0.169
4.D1.1 Synthetic Fertilizer	N <sub>2</sub> O	2354	1103	25	100	103.121	2.240	-0.007	0.015	-0.683	0.529	0.864
4.D1.2 Animal waste applied to soils	N <sub>2</sub> O	1112	1161	30	100	104.403	2.387	0.005	0.016	0.539	0.664	0.855
4.D1.3 N-fixing crops	N <sub>2</sub> O	269	256	20	100	101.980	0.514	0.001	0.003	0.097	0.098	0.137
4.D1.4 Crop Residue	N <sub>2</sub> O	361	311	20	100	101.980	0.625	0.001	0.004	0.086	0.119	0.147
4.D1.5 Cultivation of histosols	N <sub>2</sub> O	290	198	20	100	101.980	0.398	0.000	0.003	0.000	0.076	0.076
4.D.2 Grassing animals	N <sub>2</sub> O	334	211	25	100	103.199	0.428	0.000	0.003	-0.024	0.102	0.105
4.D3 Atmospheric deposition	N <sub>2</sub> O	496	295	19	100	101.736	0.590	-0.001	0.004	-0.061	0.105	0.121

IPCC Source category	Gas	Base year emission	Latest year 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 emis- sion 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 <sub>2</sub> eqv	Input data Gg CO <sub>2</sub> eqv	Input data %	Input data %	%	%	%	%	%	%	%
4.D3 Leaching	N <sub>2</sub> O	2447	1430	20	100	101.980	2.870	-0.003	0.019	-0.330	0.545	0.637
4.D1.6 Sewage sludge and Industrial waste used as fertiliser	N <sub>2</sub> O	28	39	20	100	101.980	0.078	0.000	0.001	0.026	0.015	0.030
4.F Field Burning of Agricultural Residues	N <sub>2</sub> O	1	1	25	50	55.902	0.001	0.000	0.000	0.000	0.000	0.001
5.A.1 Forest remaining forest	CO <sub>2</sub>	50	-4491	15	2	15.133	-1.338	-0.061	-0.061	-0.122	-1.284	1.289
5.A.2 Land converted to forest	CO <sub>2</sub>	77	38	15	9	17.360	0.013	0.000	0.001	-0.002	0.011	0.011
5(II) Forest Land.	N <sub>2</sub> O	16	12	30	10	31.623	0.008	0.000	0.000	0.000	0.007	0.007
5.B Cropland. Living biomass	CO <sub>2</sub>	-74	193	10	50	50.990	0.194	0.003	0.003	0.164	0.037	0.168
5.B Cropland. Dead organic matter	CO <sub>2</sub>	3	12	10	50	50.990	0.012	0.000	0.000	0.007	0.002	0.007
5.B Cropland. Mineral soils	CO <sub>2</sub>	1415	577	10	75	75.664	0.860	-0.005	0.008	-0.396	0.110	0.411
5.B Cropland. Organic soils	CO <sub>2</sub>	2887	1981	10	90	90.554	3.531	0.000	0.027	0.006	0.377	0.377
5(III) Disturbance. Land converted to cropland	N <sub>2</sub> O	0.3	1	50	75	90.139	0.0018	0.000	0.000	0.001	0.001	0.001
5.C Grassland. Living biomass	CO <sub>2</sub>	75	463	10	50	50.990	0.465	0.006	0.006	0.277	0.088	0.291
5.C Grassland. Dead organic matter	CO <sub>2</sub>	2	7	10	50	50.990	0.007	0.000	0.000	0.004	0.001	0.004
5.C Grassland. Mineral soils	CO <sub>2</sub>	0.2	5	10	75	75.664	0.007	0.000	0.000	0.004	0.001	0.005
5.C Grassland. Organic soils	CO <sub>2</sub>	107	79	10	90	90.554	0.140	0.000	0.001	0.007	0.015	0.017
5.D Wetlands. Living biomass	CO <sub>2</sub>	3	-0.2	10	50	50.990	0.000	0.000	0.000	-0.001	0.000	0.001
5.D Wetlands. Dead organic matter	CO <sub>2</sub>	1	0	10	100	100.499	0.000	0.000	0.000	0.000	0.000	0.000
5.D Wetlands. Soils	CO <sub>2</sub>	85	2	10	100	100.499	0.005	-0.001	0.000	-0.075	0.000	0.075
5(II) Wetlands	N <sub>2</sub> O	0.1	0.1	10	100	100.499	0.000	0.000	0.000	0.000	0.000	0.000
5.E Settlements. Living biomass	CO <sub>2</sub>	11	56	10	50	50.990	0.056	0.001	0.001	0.032	0.011	0.034
5.E Settlements. Dead organic matter	CO <sub>2</sub>	1	0.03	10	50	50.990	0.000	0.000	0.000	0.000	0.000	0.000
5.E Settlements. Soils	CO <sub>2</sub>	1	35	10	50	50.990	0.035	0.000	0.000	0.023	0.007	0.024
5(IV) Cropland Limestone	CO <sub>2</sub>	623	192	5	50	50.249	0.190	-0.003	0.003	-0.158	0.018	0.159
5(V) Biomass Burning	CH <sub>4</sub>	1	0.02	50	30	58.310	0.000	0.000	0.000	0.000	0.000	0.000
5(V) Biomass Burning	N <sub>2</sub> O	0.4	0.03	50	30	58.310	0.00004	0.000	0.000	0.000	0.000	0.000
6 A. Solid Waste Disposal on Land	CH <sub>4</sub>	1366	698	10	118	118.323	1.626	-0.003	0.009	-0.376	0.133	0.399
6 B. Wastewater Handling	CH <sub>4</sub>	65	74	24	32	39.678	0.058	0.000	0.001	0.012	0.034	0.036
6 B. Wastewater Handling - Direct	N <sub>2</sub> O	23	41	22	50	54.145	0.043	0.000	0.001	0.017	0.017	0.024

IPCC Source category	Gas	Base year emission	Latest year 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 emis- sion 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 <sub>2</sub> eqv	Input data Gg CO <sub>2</sub> eqv	Input data %	Input data %	%	%	%	%	%	%	%
6 B. Wastewater Handling - Indirect	N <sub>2</sub> O	82	32	59	42	72.558	0.046	0.000	0.000	-0.014	0.036	0.039
6.D Accidental fires. buildings	CO <sub>2</sub>	11	11	10	300	300.167	0.064	0.000	0.000	0.012	0.002	0.012
6.D Accidental fires. vehicles	CO <sub>2</sub>	6	6	10	500	500.100	0.055	0.000	0.000	0.009	0.001	0.009
6.C Incineration of corpses	CH <sub>4</sub>	0.01	0.01	1	150	150.003	0.00003	0.000	0.000	0.000	0.000	0.000
6.C Incineration of carcasses	CH <sub>4</sub>	0.001	0.005	40	150	155.242	0.00001	0.000	0.000	0.000	0.000	0.000
6.D Compost production	CH <sub>4</sub>	29	90	40	100	107.703	0.192	0.001	0.001	0.095	0.069	0.117
6.D Accidental fires. buildings	CH <sub>4</sub>	1	1	10	500	500.100	0.013	0.000	0.000	0.003	0.000	0.003
6.D Accidental fires. vehicles	CH <sub>4</sub>	0.3	0.2	10	700	700.071	0.003	0.000	0.000	0.001	0.000	0.001
6.C Incineration of corpses	N <sub>2</sub> O	0.2	0.2	1	150	150.003	0.001	0.000	0.000	0.000	0.000	0.000
6.C Incineration of carcasses	N <sub>2</sub> O	0.0	0.1	40	150	155.242	0.0003	0.000	0.000	0.000	0.000	0.000
6.D Compost production	N <sub>2</sub> O	13	127	40	100	107.703	0.269	0.002	0.002	0.159	0.097	0.186
Total		74 225	50 799				47.587					6.949
Total uncertainties		Overall uncertainty in the year (%):				6.898	Trend uncertainty (%):				2.636	

# Annex 8 - Methodology applied for the greenhouse gas inventory for the Faroe Islands

## Introduction

This report covers the Faroese part of the National Inventory Report for the Kingdom of Denmark.

The report is made by Umhvørvisstovan, the Faroese Environment Agency (FEA).

## Background information on greenhouse gas inventories and climate change

Each year the Faroe Islands is obligated to report its emission of greenhouse gases (GHG), according to the requirements of the United Nations Framework Convention on Climate Change (UNFCCC). The Kingdom of Denmark (which includes Denmark, Greenland and the Faroe Islands as geographical areas) has signed the UNFCCC. The Faroese emission figures are part of the emission total for the Kingdom of Denmark.

When Denmark ratified the Kyoto Protocol, it was with territorial reservation for the Faroe Islands. Since the reservation has not been lifted, the requirements for reporting are only those related to the Convention.

The first emission inventories for the Faroe Islands were made using an average method based upon the total use of fossil fuels in the Faroe Islands and consequently the inventories have only included total estimates of CO<sub>2</sub> emissions. Later, the inventories were done according to IPCC guidelines. The FEA has since 2008 yearly reported GHG emissions to Danish Centre for Environment and Energy (DCE), Dep. of Environmental Science (ENVS).

The GHGs reported are:

- Carbon dioxide           CO<sub>2</sub>
- Methane                    CH<sub>4</sub>
- Nitrous Oxide            N<sub>2</sub>O
- Hydrofluorocarbons    HFCs
- Perfluorocarbons       PFCs
- Sulphur hexafluoride   SF<sub>6</sub>

## A description of the institutional arrangement for inventory preparation

FEA, an agency under the Ministry of Fisheries, is responsible for the annual preparation and submission to the UNFCCC of the Faroe Islands' contribution to the Kingdom of Denmark's National Inventory Report and the GHG inventories in the Common Reporting Format in accordance with the UNFCCC Guidelines. The inventory is done with guidance from and in co-operation with DCE.

The work concerning the annual greenhouse gas emission inventory is carried out in co-operation with other Faroese ministries, research institutes, organisations and companies:

- *Statistics Faroe Islands (Ministry of Finance)* Annual statistics on liquid fuel sale, fuel usage for electricity and heat production, and statistics on livestock (sheep and cows).
- *Municipal Waste Plants* Data on amount of incinerated waste.
- *Electricity producing company* Data on import of F-gases (SF<sub>6</sub>).
- *Airline Company* Data for fuel bunkers for domestic flights and international flights to and from the Faroe Islands.
- *Refrigeration companies* Data on import of F-gases (HFCs).
- *Oil companies – license holders* Data on use of fuel oil in connection with exploration (deep water) drilling in Faroese territorial waters.

In January 2010, DCE and FEA made a formal agreement about data delivery.

#### **Brief description of the process of inventory preparation. Data collection and processing, data storage and archiving**

The activity data for fuel sale and for fuel usage by combustion plants, as well as for the number of livestock (sheep and cows) are collected and stored at Statistics Faroe Islands. Each year, FEA receives new data for fuel sale and fuel usage for the previous year. Numbers of livestock is accessible on the homepage of Statistics Faroe Islands, [www.hagstova.fo](http://www.hagstova.fo)

Other activity data are delivered by plants owned by municipalities or private companies.

After receiving the data, the material is placed on servers at FEA. The servers are subject to routine backup services. Material that has been backed up is archived safely. All collected data is also archived in the electronic journal of the agency.

The emission factors are yearly received from DCE Denmark, sent by email to the FEA as Excel files. In addition to copying the factors to spread sheet files, the e-mails are archived in the electronic journal.

Since the 2008 submission, all subsequent submissions have been reported in the Common Reporting Format of UNFCCC (CRF). The new format has meant improvements, higher data security and limited the potential for errors in the reporting. The emission inventory is both reported in the form of an xml file and as CRF Excel tables.

#### **Brief general description of methodologies and data sources used**

The GHG inventory for the Faroe Islands includes the following sectors:

- Energy sector (CRF sector 1)
- Industrial processes (CRF sector 2)
- Agriculture (CRF sector 4)
- Waste (CRF sector 6)

Since the emissions in the Waste sector all are allocated to the Energy sector, table 1 also includes methods applied and emission factors for calculating GHG emissions related to the Waste sector.

The applied methodologies follow the IPCC Guidelines and IPCC Good Practice Guidance, and the Tier 1 method is always applied.

The methods and the emission factors used in the inventory are shown in Table 1 (emission factors for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O in the Energy and Agriculture sector) and in Table 2 (emission factors for HFCs and SF<sub>6</sub> in the sector for Industrial Processes). A brief general description of methodologies is included below for the different sectors.

Table 1 Methods applied and emission factors used for calculating CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions in the Energy and Agriculture sectors.

GHG CATEGORIES	CO <sub>2</sub>		CH <sub>4</sub>		N <sub>2</sub> O	
	Method applied	Emission factor	Method applied	Emission factor	Method applied	Emission factor
1. Energy	T1	CS	T1	CS	T1	CS
A. Fuel Combustion	T1	CS	T1	CS	T1	CS
1. Energy Industries	T1	CS	T1	CS	T1	CS
2. Manufacturing Industries and Construction	T1	CS	T1	CS	T1	CS
3. Transport	T1	CS	T1	CS	T1	CS
4. Other Sectors	T1	CS	T1	CS	T1	CS
4. Agriculture			T1	D	T1	D
A. Enteric Fermentation			T1	D		
B. Manure Management			T1	D	T1	D

Table 2 Methods and Emission factors used for calculating HFCs and SF<sub>6</sub> emissions in the Industrial Processes sector.

GHG CATEGORIES	HFCs		SF <sub>6</sub>	
	Method applied	Emission factor	Method applied	Emission factor
2. Industrial Processes	T1	D	T1	D
F. Consumption of Halocarbons and SF <sub>6</sub>	T1	D	T1	D

#### Energy sector

All emissions in the Energy sector are from Fuel combustion (1.A.1), and in these categories:

- 1A1a Public Electricity and Heat Production (incl. Waste)
- 1A1c Manufacture of Solid fuels and Other Energy Industries
- 1A2 Manufacturing Industry and Construction
- 1A3a Civil Aviation
- 1A3b Road Transportation
- 1A3d Navigation
- 1A4a Commercial/Institutional
- 1A4b Residential
- 1A4c Agriculture, Forestry and Fishing

Statistics Faroe Islands provides the information on fuel sales by fuel type (in m<sup>3</sup>) and divided into eight main groups (original titles: Fishing vessels, Other ships, Transportation, Industry, Trading and Service, Residential and Communities, Institutions and Public power), each group again divided into subgroups.

The fuel data delivered by Statistics Faroe Islands originate from several sources. The main data sources are the two main oil companies in the Faroe Islands. Fuel data not included in sales information from the oil companies are delivered by the industry to FEA.

Since the delivered data on fuel sale are not fully arranged according to IPCC guidelines, the FEA rearranges the data to comply with the guidelines.

#### Emission factors

Emissions from fuel combustion can be divided into two main sources: stationary and mobile combustion. Stationary combustion means fuel combustion related to e.g. industry on land, house heating and oil exploration. Mobile combustion includes the combustion in engines used for propulsion in the various modes of transport such as road transport, marine activities and aviation. The emission factors used for stationary, transport, waste and aviation are country specific and provided by DCE. All emissions factors used in the inventory are found in Annex 2 and 3.

Emissions are calculated by multiplying fuel consumption data with an emission factor (e.g. in tonnes emission per GJ fuel).

#### Public Electricity and Heat Production (1A1a)

The activity data used for calculations of emissions of GHG from for Public Electricity and Heat Production are data for usage of residual oil and diesel oil at electricity producing plant on the Faroe Islands. The emission factors are calculated and delivered by DCE, see Table 10 in Annex 2.

#### Manufacture of Solid fuels and Other Energy Industries (1A1c)

This category only covers the emissions of GHG from activity related to exploration drilling in Faroese territory. The activity data (usage of diesel on the rigs) are delivered by the operators. The emission factors are calculated and delivered by DCE, see Table 10 in Annex 2.

#### Manufacturing Industry and Construction (1A2)

The activity data for oil usage are delivered by Statistics Faroe Islands. The emission factors are calculated and delivered by DCE, see Table 10 in Annex 2.

#### Civil aviation (1A3a)

The Faroese airline company, Atlantic Airways, delivers data for jet fuel bunkered in the Faroe Islands. As the Faroe Islands has accepted the United Nations Framework Convention on Climate Change as a part of the Kingdom of Denmark, aviation between Denmark and the Faroe Islands is to be reported as domestic aviation. The data is thus divided by destination: flights to destinations inside the Kingdom of Denmark, i.e., Denmark and Greenland (Domestic Aviation), and outside the Danish Kingdom, e.g., Iceland, Norway and Great Britain (International Aviation). Fuel refuelled outside the Faroe Islands is not included in the Faroese inventory.

The emission factors for aviation are made by DCE, see Table 12 in Annex 3.



#### Road transport (1A3b)

The activity data for road transport is data for sale of gasoline and diesel to all types of vehicle at all filling stations in the Faroe Islands. The data is delivered by the Statistics Faroe Islands. The emission factors for road traffic are calculated by DCE. The Danish results are modified for Faroese traffic conditions such as other gross vehicle weights for heavy-duty vehicles and no highway driving conditions. The emissions factors are also modified because biofuel is not used in the Faroe Islands, unlike in Denmark. The emission factors are shown in Table 12 in Annex 3.

#### Navigation (1A3d)

The activity data for oil usage used in navigation are delivered by Statistics Faroe Islands. The emission factors are calculated and delivered by DCE, see Table 13 in Annex 3.

#### Commercial and Institutional (1A4a) and Residential (1A4b)

The activity data for oil usage used to calculate the GHG emissions from the Commercial and Institutional and Residential categories are delivered by Statistics Faroe Islands. The emission factors are calculated and delivered by DCE, and found in Table 10 in Annex 2

#### Agriculture, Forestry and Fishing (1A4c)

Very little fuel consumption is related to Agriculture and Forestry on the Faroe Islands. The fuel used in most probably bought on filling stations and therefore allocated to road transport. Therefore all emissions in this category are related to Fishing. The activity data (sale of oil to fishing vessels) is delivered by Statistics Faroe Islands. The emission factors are calculated and delivered by DCE, and found in Annex 3.

Until this year's delivery of data, in some few cases, it has not been possible to rearrange the data from Statistics Faroe Islands to fully comply with the IPCC guidelines. This was the case for foreign fishing vessels. According to the guidelines all emissions resulting from fuel used in coastal and deep sea fishing should be allocated to the country delivering the fuel. When oil is sold to foreign vessels, the oil companies do not always, or have not always, registered whether the ship is a fishing vessel or another type of vessel. Even though most foreign vessels today bunkering in the Faroe Islands are fishing vessels, the emission from foreign vessels have until now and for all years been allocated to International Bunkers. This means that for all previous data deliveries, the emission from fishing vessels in reality were higher than in the inventory and emission from International bunkering were lower. This has been change in the last delivery. Through direct communication with the oil companies, the Environmental Agency has received more detailed information about sale of oil to foreign fishing vessels, enough to make a fairly good estimation of the amount of oil sold to foreign fishing vessels in the years 2001-2011. . This has resulted in higher emissions from fishing vessels and lower emissions in International Bunkers for the year 2001-2011. The same new estimations for the years 1990-2000 remains to be done.

The inventory includes all oil bunkered on Faroese territory, excluding oil bunkered at open sea, or on other more near-coast sites, by international companies, i.e., from foreign supplier to foreign customer.

### Industrial processes

Emissions from Industrial processes are allocated to these categories:

- 2F1 Refrigeration and Air Conditioning
- 2G1 Electrical Equipment

The inventory follows the principles in the IPCC Guidelines and the IPCC Good Practice Guidance, with a Tier 1 methodology. The emissions factors are IPCC default.

The activity data origin from FEA surveys on the consumption (import) of HFCs and SF<sub>6</sub> which have been conducted annually since 2003. An estimate of the consumption has been done for the years 1990-2002.

There has been no consumption of PFCs in the Faroe Islands.

### Solvent and other product use

Since no data are available, emissions from solvent and other product use are not calculated.

### Agriculture

GHG emissions from agriculture are calculated for following categories:

- 4A Enteric fermentation
- 4B Manure management
- 4D2 Agricultural Soil - Grassing animals

The inventory follows the principles in the IPCC Guidelines and the IPCC Good Practice Guidance. Tier 1 method is always used. All emission factors used for agriculture are IPCC standard values. The emissions are calculated with support from DCE. Activity data is accessible on the homepage of Statistics Faroe Islands.

### Waste

The GHG emission from waste incineration is calculated using country specific methodology. All emissions in the Waste sector have been allocated to the Energy sector. Emission factors relative to emissions of CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub> from waste incineration in 1990-2012 are listed in Table 11 in Annex 2. Heating values for waste incineration are listed in Table 3 below.

Table 3 Heating values (GJ pr t) for waste.

Year	Heating values
	GJ pr t
1990-91	8,2
1992	9,0
1993-94	9,4
1995	10,0
1996-2012	10,5

### Brief description of key categories

No key category analysis (KCA) has been carried out for the Faroe Islands inventory.

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

A number of measures are in place to ensure the quality of the greenhouse gas inventory for the Faroe Islands.

The general QC activities include:

- Check that data from Statistics Faroe Islands and other data deliverers are correctly transferred to emissions spread sheets.
- Check that data are correctly moved between data processing steps, e.g., it is ensured that the data are imported correctly from the emission spread sheets /databases to the CRF Reporter.
- The time series are analysed. Any large fluctuations are investigated and explained /corrected.
- The completeness of the inventory is checked utilising the completeness checker incorporated in the CRF Reporter.

These types of QC checks are recommended as Tier 1 QC checks in the IPCC Good Practice Guidance (IPCC, 2000).

No confidential issues are relevant.

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

No uncertainty evaluation has been made for the Faroese inventory.

**General assessment of the completeness**

In general, the inventory is complete.

**References**

Lastein, L. & Winther, M. 2003: Emissions of greenhouse gases and long-range transboundary air pollutants in the Faroe Islands 1990-2001. National Environmental Research Institute, Denmark. 62 p. NERI Technical Report no. 477. Available at:  
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Winther, M. 2001: 1998 Fuel Use and Emissions for Danish IFR Flights. Environmental Project no. 628, 2001. 112 p. Danish EPA. Prepared by the National Environmental Research Institute (NERI), Denmark. Electronic report at homepage of Danish EPA. Available at :  
<http://www.mst.dk/udgiv/Publications/2001/87-7944-661-2/html/>

**Trends in Greenhouse Gas Emissions**

The trends present in this Chapter cover the emissions from the Faroe Islands.

The emission trend tables 1990, 1995, 2000, 2005, 2010 and 2012 for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and F-gases (CRF: Table10) and emission trend summary table 1990, 1995, 2000, 2005, 2010 and 2012 are presented in Annex 1.

**Description and interpretation of emission trends for aggregated greenhouse gas emissions**

The greenhouse gas emissions are estimated according to the IPCC guidelines and are aggregated into four main sectors: Energy, Agriculture,

ture, Waste and Industrial Processes. All emissions from the Waste sector are allocated to the Energy sector. The greenhouse gases include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs and SF<sub>6</sub>. Figure 1 shows the estimated total greenhouse gas emissions in CO<sub>2</sub> equivalents from 1990 to 2012. The total greenhouse gas emission in CO<sub>2</sub> equivalents has increased by 3.9 % from 1990 to 2012. Comments on the overall trends etc. are given in the sections below.

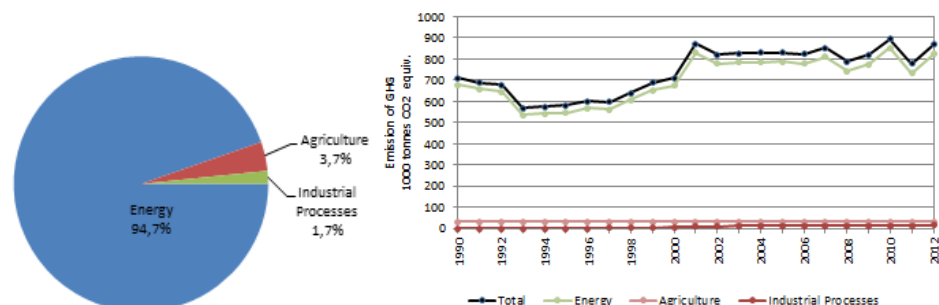


Figure 1 Greenhouse gas emissions in CO<sub>2</sub> equivalents distributed on main sectors for 2012 and time series for 1990 to 2012.

Figure 2 shows the composition of greenhouse gas emissions (CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub> and F-gases) in 2012, calculated in GWP values. CO<sub>2</sub> is the most important greenhouse gas contributing in 2012 with 93.4 %, followed by N<sub>2</sub>O with 2.8 %, CH<sub>4</sub> 2.2 % and F-gases (HFCs and SF<sub>6</sub>) with 1.6 %.

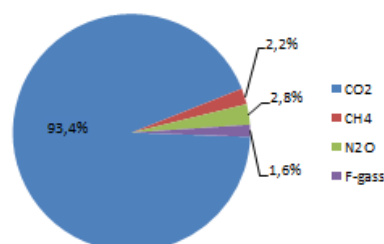


Figure 2 Emissions of GHG in CO<sub>2</sub> equivalents in 2012 distributed on type of gas.

Figure 3 shows the total emissions of greenhouse gases and the emission of CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub> and F-gases (in CO<sub>2</sub> equivalents) in the time period 1990-2012. From 1990 to 1993 a decrease is observed, due to an economic crisis in the Faroe Islands. From 2001 to 2007, the emissions were rather stable. In 2008-2011 the emissions from Faroese fishing ship were significantly lower than previous years. The decrease is concealed by emissions related to new bunkering activity starting in 2009 that has led to a substantial increase in the number of foreign fishing vessels bunkering in the Faroe Island. In 2012, the emissions were 22.8 % above the base year.

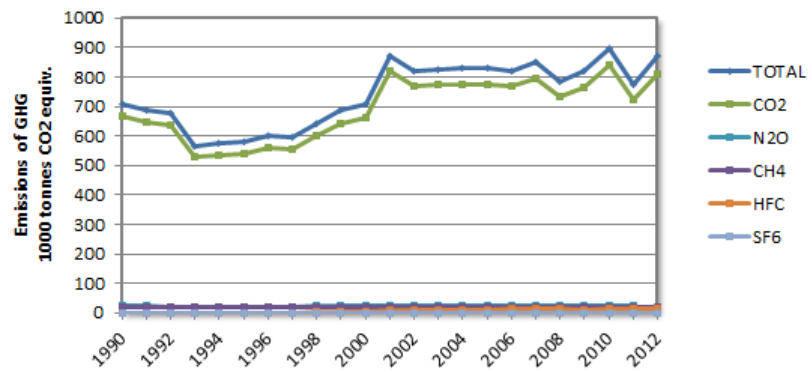


Figure 3 GHG emission in CO<sub>2</sub> equivalents, time series 1990-2012.

### Description and interpretation of emission trends by gas

#### Carbon dioxide

The emission of CO<sub>2</sub> on the Faroe Islands is from fuel consumption only. The trend in the total emission of CO<sub>2</sub> (Figure 4) is nearly identical with the trend of the total emission of GHG in the Faroe Islands (Figure 3) showing the trends in CO<sub>2</sub> emissions in the period from 1990 to 2012. After the economic decline in the 1990s the emissions rose and were rather constant until 2007. From 2008 to 2012 the effort in the Faroese fishing fleet was significantly lower than previous years, also meaning a significant reduction in oil consumption. The reduction in the emissions for fisheries in 2009 and 2011 is not visible because a new oil bunkering activity (mostly used by foreign fishing vessels) started up in 2009, increasing the emissions.

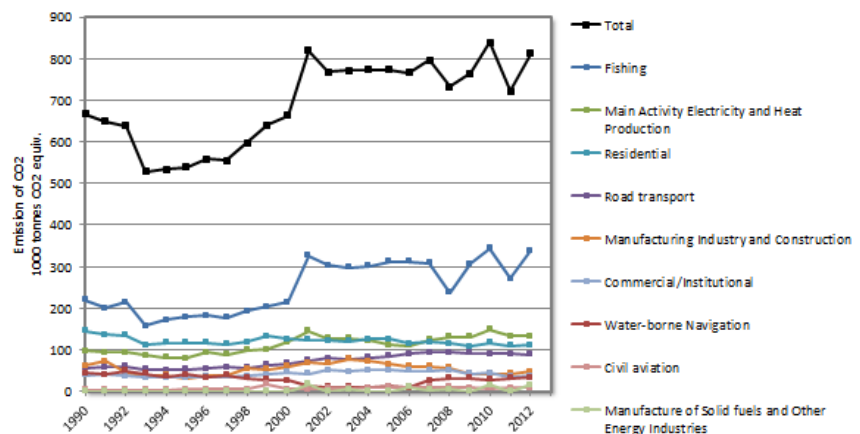


Figure 4 Total CO<sub>2</sub> emissions, time series for 1990-2012.

Figure 5 shows how the emissions are distributed between categories. In 2012 42 % of the CO<sub>2</sub> emissions came from fishing vessels. Public electricity and heat production accounted for 16 %, households for 14 % and road transport for 11 % of the total CO<sub>2</sub> emission.

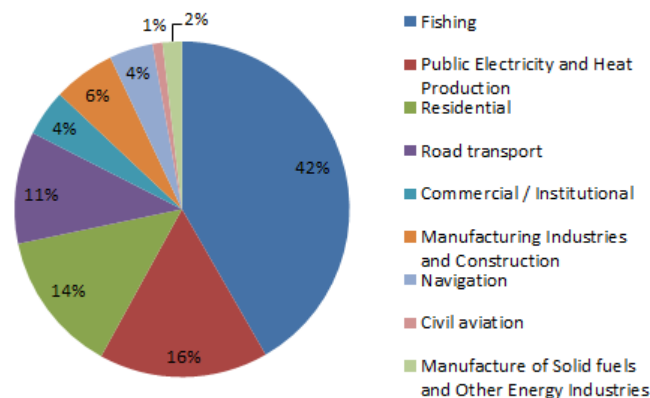


Figure 5 Emissions of CO<sub>2</sub> in the Energy sector, divided in fuel consumption categories, 2012.

#### Nitrous oxide

Figure 6 shows the emissions of nitrous oxide in the Faroe Islands 1990-2012. Most of the N<sub>2</sub>O is from the agriculture sector, especially from animals grazing on agricultural soils.

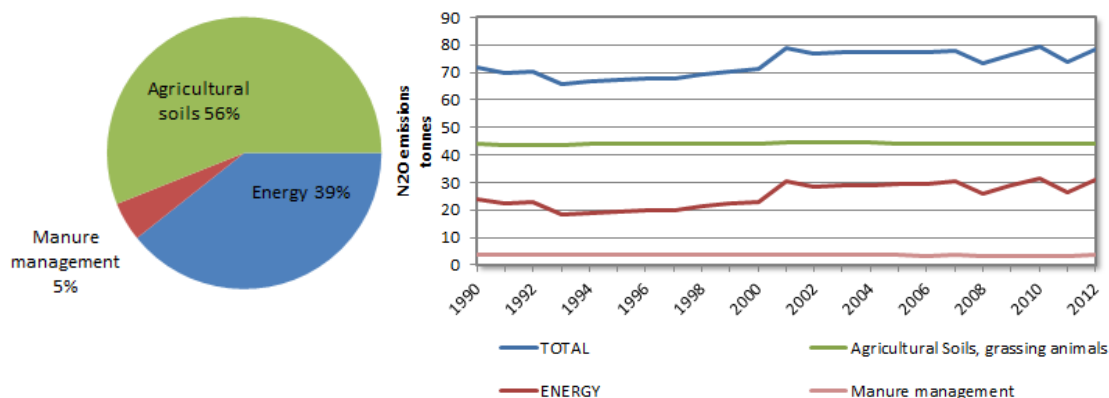


Figure 6 N<sub>2</sub>O emissions in tonnes distributed on sector and time series for 1990-2012.

#### Methane

Figure 7 shows the emissions of methane in the Faroe Islands 1990-2012. Most of the methane emission is from the agriculture sector, especially from enteric fermentation (87%). Most of the emission of CH<sub>4</sub> in the energy sector is due to aviation activity.

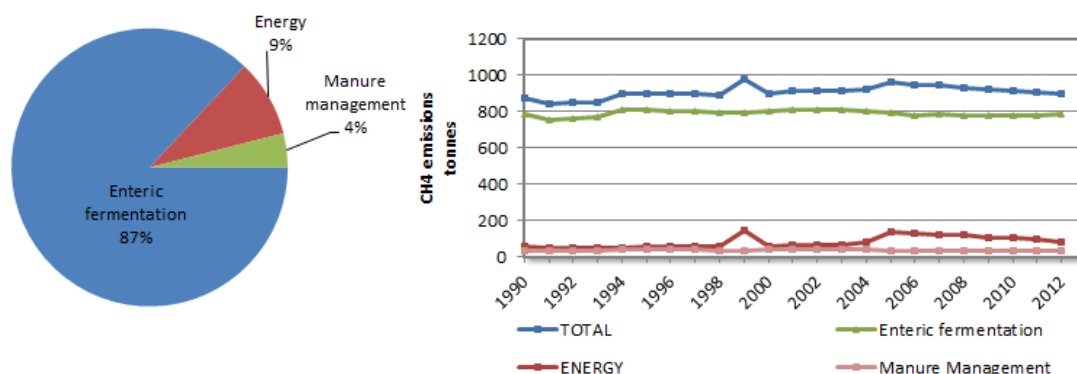


Figure 7 CH<sub>4</sub> emissions in tonnes distributed on sectors and time series for 1990-2012.

#### HFCs, PFCs and SF<sub>6</sub>

Figure 8 shows the emissions of F-gases, HFCs and SF<sub>6</sub> respectively in the years 1990-2012. Most of the emission is HFCs, which are used for refrigeration purposes, as substitutes for HCFCs. After the emissions increased in the period 1996-2005, the emissions were rather stable at

around 12,000 tonnes of CO<sub>2</sub> equivalents pr. year until 2012, where the emissions of HFC were 14,200 CO<sub>2</sub> equivalents. This is due to higher use of HFC-125 and HFC-143a, both components in the HFC-blend HFC-507a, which in recent years has been used as a substitute when phasing out HCFC-22 (ozone depleting freezing agent) on fishing vessels.

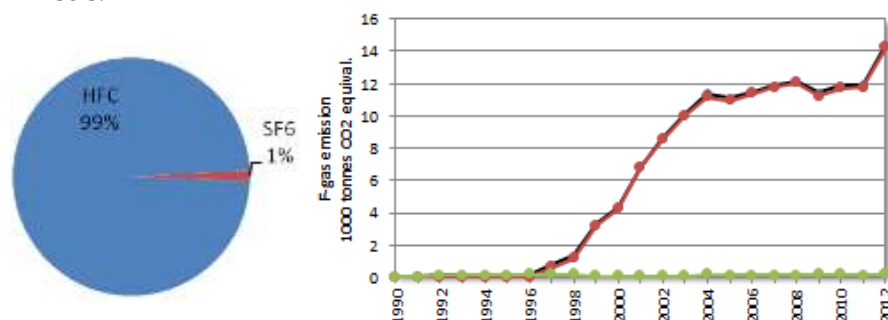


Figure 8 F-gas emissions in CO<sub>2</sub> equivalents, contribution from type of F-gas and time series for 1990-2012.

In 2012 the actual emission of SF<sub>6</sub> was 194 tonnes CO<sub>2</sub> equivalents.

PFC has never been in use in the Faroe Islands.

#### Description and interpretation of emission trends by source

In 2012, nearly 95 % of all GHG emissions were from the Energy sector, including waste-incineration. Almost 4 % were from Agriculture and nearly 2 % from Industrial processes, see Figure 9.

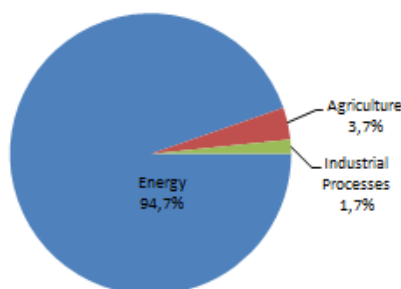


Figure 9 Emissions of GHG in CO<sub>2</sub> equivalents distributed by main sectors, 2012.

The fluctuations in the GHG emissions in the Energy sector are decisive for the fluctuations in the total GHG emissions, see Figure 10. The emissions from the Agriculture sector and from Industrial processes are relative small and constant.

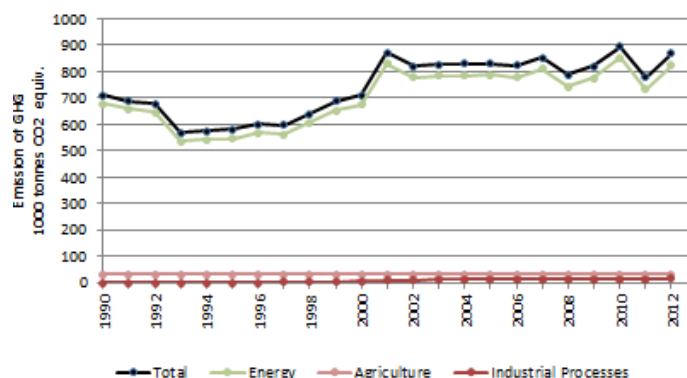


Figure 10 GHG emissions in CO<sub>2</sub> equivalents, main sectors, time series 1990-2012.

### Description and interpretation of emission trends for indirect greenhouse gases and SO<sub>2</sub>

Emission trends for indirect greenhouse gases and SO<sub>2</sub> have not been made for the Faroe Islands.

### Energy (CRF sector 1)

#### Overview of the sector

Fuel consumption on the Faroe Islands can be seen in Figure 11. Most of the fuel is used by fishing vessels.

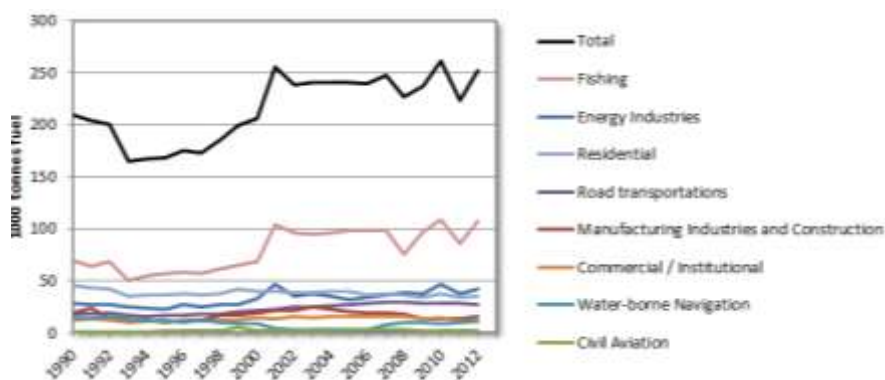


Figure 11 Fuel consumption (tonnes) in the Energy sector, including waste incineration, 1990-2012.

Figure 12 shows the GHG emissions in the Energy sector on the Faroe Islands 1990-2012. The trend in Figure 12 is just the same as in Figure 11.

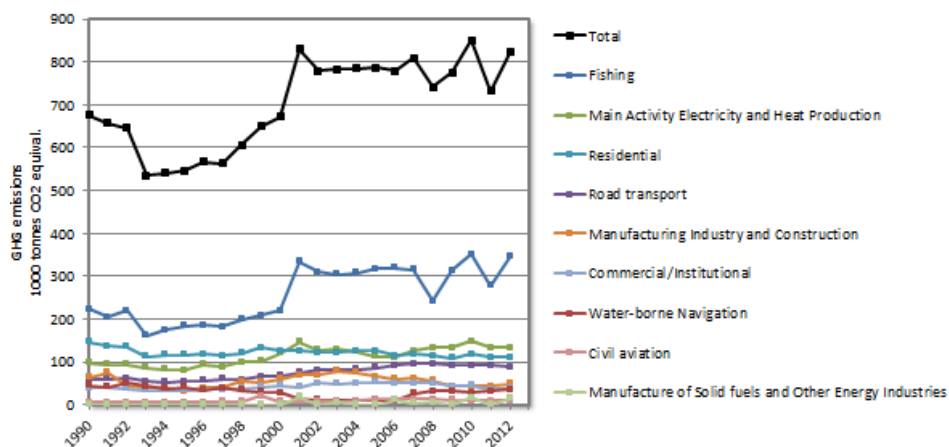


Figure 12 GHG emissions in CO<sub>2</sub> equivalents, categories in the Energy sector, 1990-2012.

Figure 13 shows how the emission of GHG in 2012 was distributed between groups of fuel users. Fishing vessels, Electricity production, Residential and Road transport had 42, 16, 14 and 11 %, respectively, of the emissions in the Energy sector in 2012.

Waste incineration has been included under sector 1A1a (Electricity and Heat production).



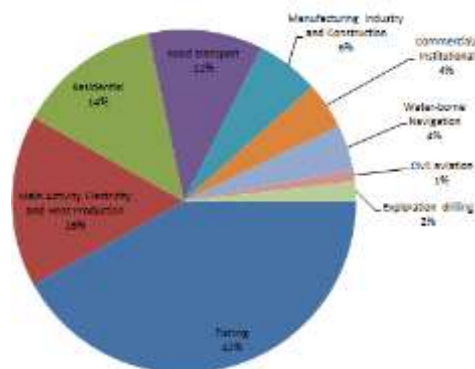


Figure 13 GHG emissions in CO<sub>2</sub> equivalents; Energy sector divided in categories, 2012.

### Fugitive emissions (CRF sector 1B)

Fugitive emissions of GHG gases are estimated to be very limited on the Faroe Islands. These emissions have not been estimated.

### Industrial Processes (CRF Sector 2)

There is no chemical industry, no metal production, no production of F-gases and no mineral production (other than road paving with asphalt) on the Faroe Islands. The only industrial processes leading to GHG emissions on the Faroe Islands is the use of F-gases. Since no data is available on paving roads with asphalt, the emissions of GHG from road paving are not included in the inventory.

### Overview of the sector

Figure 14 shows the GHG emissions from industrial processes on the Faroe Islands. The increase in emissions, starting in 1996 is due to use of HFCs in refrigeration. See figure 8.

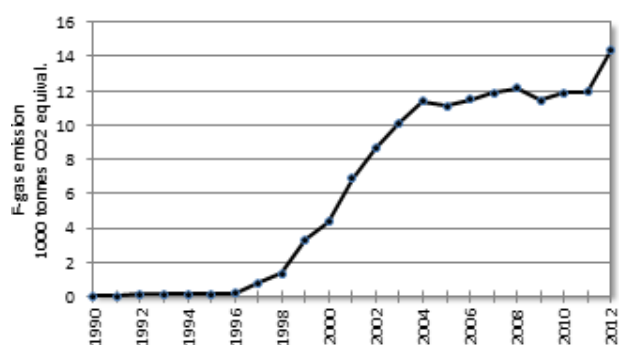


Figure 14 GHG emissions in CO<sub>2</sub> equivalents, Industrial processes, 1990-2012.

### Mineral products (2A)

There is no mineral production in the Faroe Islands, other than paving roads with asphalt. No data is available for paving roads with asphalt.

### Chemical industry (2B)

No chemical industry with GHG emission is located in the Faroe Islands.

### Metal production (2C)

No metal production industry is located in the Faroe Islands.

## Production of Halocarbons and SF<sub>6</sub> (2E)

There is no production of halocarbons and SF<sub>6</sub> in the Faroe Islands.

## Metal Production (2C) and Consumption of Halocarbons and SF<sub>6</sub> (2F)

There is no metal production on the Faroe Islands.

Of the total GHG emissions 2 % are emissions related to consumption of halocarbons and SF<sub>6</sub>. The major part of the emission (99%) is HFC gasses, which are used for refrigeration purposes and the rest (1 % of the emission) is SF<sub>6</sub> used in electrical equipment. See Figure 8

Time series of the emission (tonnes) of HFCs 1990-2012, are seen in Table 4.

Table 4 Emissions of HFCs from Refrigeration and Air Conditioning, 1990-2012 (tonnes).

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Domestic refrigeration</b>											
HFC-134a	NO	NO	NO	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Commercial refrigeration</b>											
HFC-134a	NO	NO	NO	0,00	0,00	0,00	0,00	0,01	0,02	0,03	0,05
HFC-32	NO	NO	NO	0,00	0,00	0,00	0,00	0,00	0,01	0,05	0,09
HFC-125	NO	NO	NO	0,00	0,00	0,00	0,00	0,01	0,03	0,09	0,15
HFC-143a	NO	NO	NO	0,00	0,00	0,00	0,00	0,01	0,02	0,04	0,06
<b>Industrial refrigeration</b>											
HFC-134a	NO	NO	NO	0,00	0,00	0,00	0,00	0,03	0,06	0,11	0,16
HFC-125	NO	NO	NO	0,00	0,00	0,00	0,00	0,07	0,12	0,23	0,33
HFC-143a	NO	NO	NO	0,00	0,00	0,00	0,00	0,08	0,15	0,28	0,39
<b>Mobile Air Conditioning</b>											
HFC-134a	NO	NO	NO	NO	NO	NO	NO	NO	0,01	0,70	0,70

<i>Continued</i>	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Domestic refrigeration</b>												
HFC-134a	0,00	0,00	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
<b>Commercial refrigeration</b>												
HFC-134a	0,07	0,10	0,12	0,13	0,14	0,13	0,13	0,14	0,14	0,17	0,20	0,19
HFC-32	0,16	0,22	0,28	0,33	0,32	0,31	0,30	0,28	0,26	0,27	0,24	0,22
HFC-125	0,25	0,35	0,43	0,50	0,51	0,50	0,50	0,57	0,59	0,74	0,81	1,29
HFC-143a	0,09	0,12	0,15	0,17	0,19	0,19	0,22	0,32	0,35	0,51	0,62	1,14
<b>Industrial refrigeration</b>												
HFC-134a	0,28	0,36	0,43	0,48	0,45	0,39	0,36	0,34	0,34	0,35	0,36	0,28
HFC-125	0,59	0,75	0,88	0,99	0,97	1,03	1,06	1,01	0,86	0,77	0,68	0,58
HFC-143a	0,70	0,89	1,05	1,17	1,15	1,22	1,25	1,19	1,02	0,91	0,80	0,68
<b>Mobile Air Conditioning</b>												
HFC-134a	0,70	0,70	0,70	0,68	0,59	0,64	0,76	0,83	0,89	0,94	0,97	1,00

The HFC emissions are reported with the following assumptions:

- Domestic refrigeration is use in freezers and refrigerators.
- Commercial refrigeration is use in landbased units.
- Industrial refrigeration is use on ships.
- Mobile air conditioning is use in cars, buses and trucks.

Figure 15 shows the emissions of SF<sub>6</sub> and four specific HFCs.

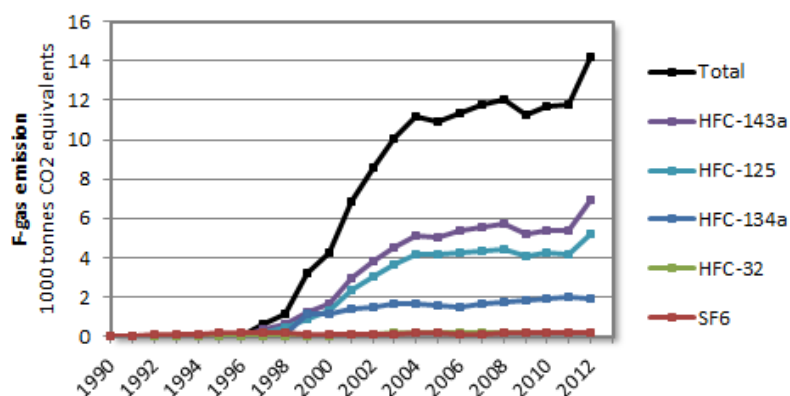


Figure 15 Emission of F-gases (HFCs and SF<sub>6</sub>) in CO<sub>2</sub> equivalents, time series for 1990-2012.

Other (2G)

No emissions are in the category “Other”.

Uncertainty

Estimations of the uncertainties for Industrial processes have not been done.

### Solvents and other product use (CRF Sector 3)

#### Overview of the sector

Since no data are available for this sector, no emissions are calculated. The expected emissions are low.

### Agriculture (CRF Sector 4)

#### Overview

The emission of greenhouse gases from agricultural activities includes:

- CH<sub>4</sub> emission from manure management and enteric fermentation.
- N<sub>2</sub>O emission from manure management and agricultural soil.

Nearly 4 % of the total GHG emissions on the Faroe Islands are due to agriculture. The sources are cattle and sheep. Figure 16 shows the number of cattle in the Faroe Islands from 1990 to 2012. The number of sheep is around 78,940, which is the carrying capacity for sheep on the islands. There are no data on the exact number of sheep.

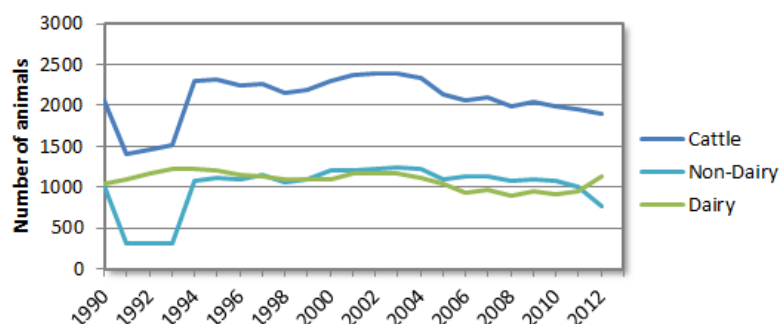


Figure 16 Number of cattle (dairy and non-dairy), time series for 1990-2012.

Figure 17 shows the total emissions from the Agriculture sector.

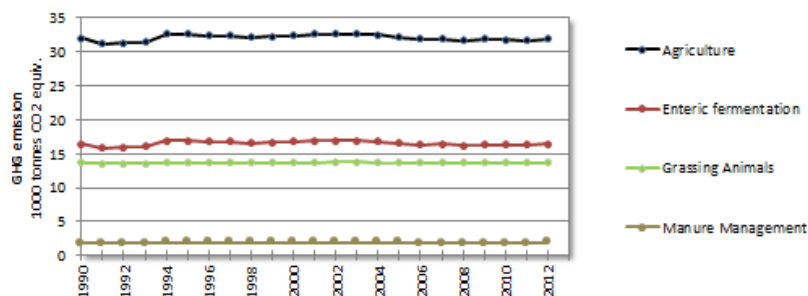


Figure 17 GHG emissions in CO<sub>2</sub> equivalents, in the Agriculture sector, 1990-2012.

#### CH<sub>4</sub> emission from Enteric Fermentation (CRF Sector 4A)

Figure 18 shows emissions of CH<sub>4</sub> from enteric fermentation on the Faroe Islands, 1990-2012.

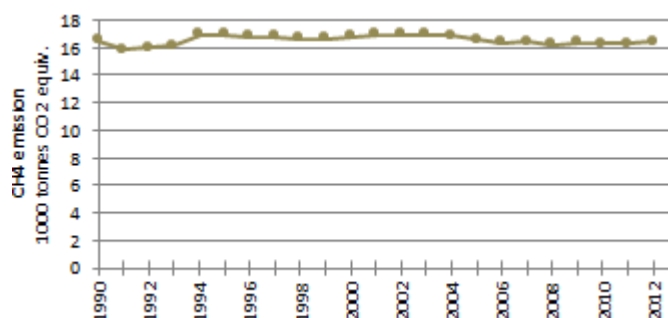


Figure 18 CH<sub>4</sub> emissions in CO<sub>2</sub> equivalents from enteric fermentation, 1990-2012.

#### CH<sub>4</sub> and N<sub>2</sub>O emission from Manure Management (CRF Sector 4B)

Figure 19 shows emissions of N<sub>2</sub>O and CH<sub>4</sub> from manure management on the Faroe Islands.

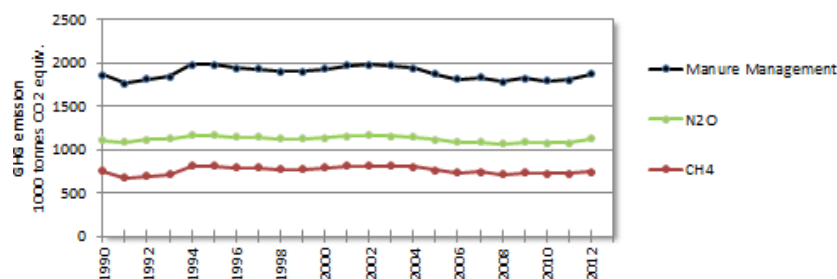


Figure 19 N<sub>2</sub>O and CH<sub>4</sub> emission in CO<sub>2</sub> equivalents from Manure management, time series 1990-2012.

#### N<sub>2</sub>O emission from Agricultural Soils (CRF Sector 4D)

The emission from sheep and cows grazing on agricultural soil is 44 tonnes N<sub>2</sub>O per year. This corresponds to 13,700 tonnes of CO<sub>2</sub> equivalents. Figure 20 shows the N<sub>2</sub>O emissions from agricultural soil. Since the number of sheep is more or less constant over time, the emissions are also constant.

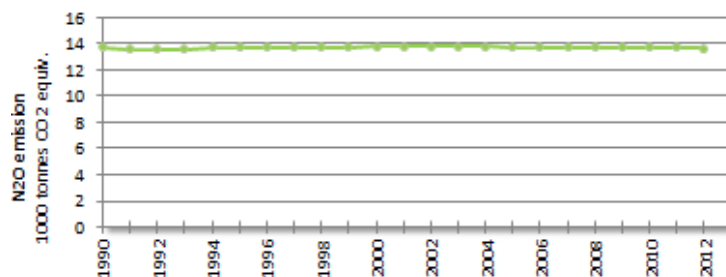


Figure 20 N<sub>2</sub>O emissions (tonnes) from Agricultural Soils, grazing animals, time series 1990-2012.

#### **NMVOC emission**

The emission of NMVOC is not calculated.

#### **Uncertainties**

The uncertainties have not been calculated.

#### **Recalculation**

No recalculations were made in the Agriculture sector in the 2014 submission.

#### **Planned improvements**

Include emissions from animal categories other than cattle and sheep.

### **Land Use, Land Use Change and Forestry (CRF Sector 5)**

No emissions are calculated for land use, land-use change and forestry.

### **Waste Sector (CRF Sector 6)**

#### **Overview of the Waste sector**

Waste incineration is the only source in the Waste sector with significant emission. The emissions have been allocated to the energy sector in accordance with the IPCC Guidelines.

#### **Solid Waste Disposal on Land (CRF Source Category 6A)**

A number of land-based solid waste disposals facilities are located on the Faroe Islands. The GHG emissions from these depots have not been calculated.

#### **Wastewater Handling (CRF Source Category 6B)**

In the Faroe Islands, most households have a septic tank (mechanical treatment). Industrial wastewater, e.g. from the fishing industry, is treated mechanically (oil/fat separation). Only a few wastewater handling plants are treating the wastewater chemically and/or biologically.

GHG emissions from wastewater handling are not calculated.

#### **Waste Incineration (CRF Source Category 6C)**

There are two waste incineration plants on the Faroe Islands, one in Hoyvík and one in Leirvík. Both plants are considered energy recovery operations and therefore the emissions have been allocated to the energy sector (1A1a) in accordance with the IPCC Guidelines.

Figure 21 shows the amounts of waste incinerated on the Faroe Islands 1990-2012.

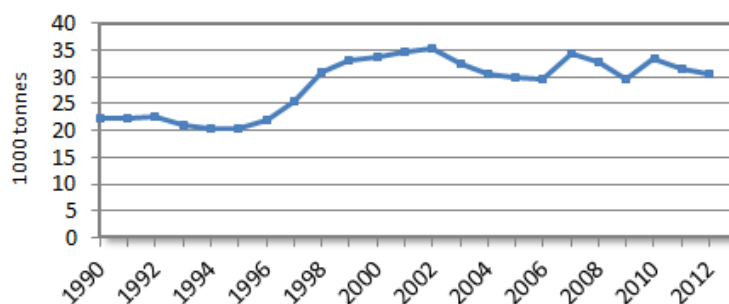


Figure 21 Incineration of municipal waste on the Faroe Islands, 1990-2012.

#### **Waste Other (CRF Source Category 6D)**

There are no activities and emissions in Waste Other.

#### **Other (CRF sector 7)**

In CRF sector 7, there are no activities and emissions or removals for the inventory of the Faroe Islands.

#### **Recalculations and improvements**

Nearly all recalculations in the 2014 submission for the Faroe Islands are due to changes in emissions factors, and in all these cases the changes are the same as in the inventory for Denmark.

#### **Explanations and justifications for recalculations**

The following recalculations and improvements to the emission inventories have been made since the reporting in 2012.

#### **Energy**

##### **Energy Industries**

Due to updates in the emissions factors for CO<sub>2</sub> a minor recalculation has been made for the emissions in Public Electricity and Heat Production for the year 2012. The updates are the same as in the inventory for Denmark.

##### **Civil aviation**

The emissions factors for CH<sub>4</sub> for the years 1990-2001 and for N<sub>2</sub>O for the years 2010 and 2011 have been updated due to small changes in the DCE Denmark flight model.

##### **Industrial Processes – F-gases**

Due to importers late delivery of data for imports of HFC in 2010 and in 2011 some minor additions of activity data for HFC were made in the 2014 submission. The recalculations implied only minor changes in the emission.

#### **Implications for emission levels**

The recalculations in the 2014 submission have substantial implications for emission levels, especially for the fishing category and for the International bunkers. Earlier, almost all emissions from foreign ships have been classified as International bunkers. Based on information from the oil companies, the amount of oil sold to foreign fishing vessels has now been estimated, and the activity data corrected corre-

spondently. Usually around one third of the total emission used to be from fishing vessels. After the recalculations, the fishing vessels represent around 40% of the total emissions. Since activity data only have been reallocated, the total emissions levels have not changed due to these recalculations.

#### **Implications for emission trends, including time series consistency**

Unfortunately the recalculation mentioned above could for certain reasons only be done for the time-series 2001-2011. Thus the time series for fishing vessels, 2001-2012, is inconsistent with the time series 1990-2000.

### **Annexes**

**Annex 1 Trend tables 1990, 1995, 2000, 2005, 2010 and 2012 for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, F-gases (CO<sub>2</sub> equivalents) and Trend tables 1990, 1995, 2000, 2005, 2010 and 2012 for Summary (all gases)**

The tables are copied from the CRF 2012 spreadsheet file, Tables 10.1-10.5.

Table 5 EMISSION TRENDS CO<sub>2</sub> - Inventory 2012 - Submission 2014 v1.1 - FAROE ISLANDS.

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1995	2000	2005	2010	2012
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)
1. Energy	667,67	539,31	664,33	773,89	839,23	814,23
A. Fuel Combustion (Sectoral Approach)	667,67	539,31	664,33	773,89	839,23	814,23
1. Energy Industries	96,90	79,23	119,26	112,26	163,99	150,08
2. Manufacturing Industries and Construction	61,86	31,89	59,30	65,26	43,28	48,54
3. Transport	105,12	97,89	99,17	107,30	125,71	129,82
4. Other Sectors	403,79	330,30	386,60	489,08	506,25	485,79
5. Other	NA	NA	NA	NA	NA	NA
B. Fugitive Emissions from Fuels	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
1. Solid Fuels	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
2. Oil and Natural Gas	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
2. Industrial Processes	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
A. Mineral Products	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO
B. Chemical Industry	NO	NO	NO	NO	NO	NO
C. Metal Production	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
D. Other Production	NA	NA	NA	NA	NA	NA
E. Production of Halocarbons and SF <sub>6</sub>						
F. Consumption of Halocarbons and SF <sub>6</sub>						
G. Other	NA	NA	NA	NA	NA	NA
3. Solvent and Other Product Use	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
4. Agriculture						
5. Land Use, Land-Use Change and Forestry(2)	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
A. Forest Land	NE	NE	NE	NE	NE	NE
B. Cropland	NE	NE	NE	NE	NE	NE
C. Grassland	NE	NE	NE	NE	NE	NE
D. Wetlands	NE	NE	NE	NE	NE	NE
E. Settlements	NE	NE	NE	NE	NE	NE
F. Other Land	NE	NE	NE	NE	NE	NE
G. Other	NA	NA	NA	NA	NA	NA
6. Waste	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
A. Solid Waste Disposal on Land	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
B. Waste-water Handling						
C. Waste Incineration	NA	NA	NA	NA	NA	NA
D. Other	NA	NA	NA	NA	NA	NA
7. Other	NA	NA	NA	NA	NA	NA
Total CO <sub>2</sub> emissions including net CO <sub>2</sub> from LULUCF	667,67	539,31	664,33	773,89	839,23	814,23
Total CO <sub>2</sub> emissions excluding net CO <sub>2</sub> from LULUCF	667,67	539,31	664,33	773,89	839,23	814,23
Memo Items:						
International Bunkers	NA,NE,NO	131,72	136,46	85,37	43,25	60,87
Aviation	NE,NO	0,13	0,88	1,21	0,77	1,20
Marine	NA,NE,NO	131,59	135,59	84,17	42,48	59,67
Multilateral Operations	NO	NO	NO	NO	NO	NO



Table 6 EMISSION TRENDS CH<sub>4</sub> - Inventory2012 - Submission 2014 v1.1 - FAROE ISLANDS.

<b>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</b>	<b>Base year</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2012</b>
	<b>(Gg)</b>	<b>(Gg)</b>	<b>(Gg)</b>	<b>(Gg)</b>	<b>(Gg)</b>	<b>(Gg)</b>
<b>1. Energy</b>	0,05	0,05	0,06	0,13	0,10	0,08
A. Fuel Combustion (Sectoral Approach)	0,05	0,05	0,06	0,13	0,10	0,08
1. Energy Industries	0,00	0,00	0,00	0,00	0,00	0,00
2. Manufacturing Industries and Const	0,00	0,00	0,00	0,00	0,00	0,00
3. Transport	0,04	0,05	0,05	0,12	0,09	0,07
4. Other Sectors	0,01	0,01	0,01	0,01	0,01	0,01
5. Other	NA	NA	NA	NA	NA	NA
B. Fugitive Emissions from Fuels	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
1. Solid Fuels	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
2. Oil and Natural Gas	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
<b>2. Industrial Processes</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>
A. Mineral Products	NO	NO	NO	NO	NO	NO
B. Chemical Industry	NO	NO	NO	NO	NO	NO
C. Metal Production	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
D. Other Production						
E. Production of Halocarbons and SF <sub>6</sub>						
F. Consumption of Halocarbons and SF <sub>6</sub>						
G. Other	NA	NA	NA	NA	NA	NA
<b>3. Solvent and Other Product Use</b>						
<b>4. Agriculture</b>	<b>0,82</b>	<b>0,84</b>	<b>0,84</b>	<b>0,82</b>	<b>0,81</b>	<b>0,82</b>
A. Enteric Fermentation	0,78	0,81	0,80	0,79	0,77	0,78
B. Manure Management	0,04	0,04	0,04	0,04	0,03	0,04
C. Rice Cultivation	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
D. Agricultural Soils	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
E. Prescribed Burning of Savannas	NA	NA	NA	NA	NA	NA
F. Field Burning of Agricultural Residues	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
G. Other	NA	NA	NA	NA	NA	NA
<b>5. Land Use, Land-Use Change and Forestry</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>
A. Forest Land	NE	NE	NE	NE	NE	NE
B. Cropland	NE	NE	NE	NE	NE	NE
C. Grassland	NE	NE	NE	NE	NE	NE
D. Wetlands	NE	NE	NE	NE	NE	NE
E. Settlements	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
F. Other Land	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
G. Other	NA	NA	NA	NA	NA	NA
<b>6. Waste</b>	<b>IE,NA,NE,NO</b>	<b>IE,NA,NE,NO</b>	<b>IE,NA,NE,NO</b>	<b>IE,NA,NE,NO</b>	<b>IE,NA,NE,NO</b>	<b>IE,NA,NE,NO</b>
A. Solid Waste Disposal on Land	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
B. Waste-water Handling	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
C. Waste Incineration	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA
D. Other	NA	NA	NA	NA	NA	NA
<b>7. Other</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Total CH<sub>4</sub> emissions including CH<sub>4</sub> from LULUCF</b>	<b>0,87</b>	<b>0,90</b>	<b>0,89</b>	<b>0,96</b>	<b>0,91</b>	<b>0,90</b>
<b>Total CH<sub>4</sub> emissions excluding CH<sub>4</sub> from LULUCF</b>	<b>0,87</b>	<b>0,90</b>	<b>0,89</b>	<b>0,96</b>	<b>0,91</b>	<b>0,90</b>
<b>Memo Items:</b>						
<b>International Bunkers</b>	NA,NE,NO	0,00	0,01	0,01	0,01	0,01
Aviation	NE,NO	0,00	0,01	0,01	0,01	0,01
Marine	NA,NE,NO	0,00	0,00	0,00	0,00	0,00
<b>Multilateral Operations</b>	NO	NO	NO	NO	NO	NO
<b>CO<sub>2</sub> Emissions from Biomass</b>						

Table 7 EMISSION TRENDS N<sub>2</sub>O - Inventory 2012 - Submission 2014 v1.1 - FAROE ISLANDS

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	1990	1995	2000	2005	2010	2012
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)
<b>1. Energy</b>	<b>0,02</b>	<b>0,02</b>	<b>0,02</b>	<b>0,03</b>	<b>0,03</b>	<b>0,03</b>
A. Fuel Combustion (Sectoral Approach)	0,02	0,02	0,02	0,03	0,03	0,03
1. Energy Industries	0,00	0,00	0,00	0,00	0,00	0,00
2. Manufacturing Industries and Constr.	0,00	0,00	0,00	0,00	0,00	0,00
3. Transport	0,00	0,00	0,00	0,00	0,00	0,00
4. Other Sectors	0,02	0,01	0,01	0,02	0,02	0,02
5. Other	NA	NA	NA	NA	NA	NA
B. Fugitive Emissions from Fuels	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
1. Solid Fuels	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
2. Oil and Natural Gas	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
<b>2. Industrial Processes</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>	<b>NA,NO</b>
A. Mineral Products	NO	NO	NO	NO	NO	NO
B. Chemical Industry	NO	NO	NO	NO	NO	NO
C. Metal Production	NA	NA	NA	NA	NA	NA
D. Other Production						
E. Production of Halocarbons and SF <sub>6</sub>						
F. Consumption of Halocarbons and SF <sub>6</sub>						
G. Other	NA	NA	NA	NA	NA	NA
<b>3. Solvent and Other Product Use</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>
<b>4. Agriculture</b>	<b>0,05</b>	<b>0,05</b>	<b>0,05</b>	<b>0,05</b>	<b>0,05</b>	<b>0,05</b>
A. Enteric Fermentation						
B. Manure Management	0,00	0,00	0,00	0,00	0,00	0,00
C. Rice Cultivation						
D. Agricultural Soils	0,04	0,04	0,04	0,04	0,04	0,04
E. Prescribed Burning of Savannas	NA	NA	NA	NA	NA	NA
F. Field Burning of Agricultural Residues	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
G. Other	NA	NA	NA	NA	NA	NA
<b>5. Land Use, Land-Use Change and Forestry</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>	<b>NA,NE</b>
A. Forest Land	NE	NE	NE	NE	NE	NE
B. Cropland	NE	NE	NE	NE	NE	NE
C. Grassland	NE	NE	NE	NE	NE	NE
D. Wetlands	NE	NE	NE	NE	NE	NE
E. Settlements	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
F. Other Land	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
G. Other	NA	NA	NA	NA	NA	NA
<b>6. Waste</b>	<b>IE,NA,NE</b>	<b>IE,NA,NE</b>	<b>IE,NA,NE</b>	<b>IE,NA,NE</b>	<b>IE,NA,NE</b>	<b>IE,NA,NE</b>
A. Solid Waste Disposal on Land						
B. Waste-water Handling	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
C. Waste Incineration	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA
D. Other	NA	NA	NA	NA	NA	NA
<b>7. Other (as specified in Summary 1.A)</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Total N<sub>2</sub>O emissions including N<sub>2</sub>O from LULUCF</b>	<b>0,07</b>	<b>0,07</b>	<b>0,07</b>	<b>0,07</b>	<b>0,08</b>	<b>0,07</b>
<b>Total N<sub>2</sub>O emissions excluding N<sub>2</sub>O from LULUCF</b>	<b>0,07</b>	<b>0,07</b>	<b>0,07</b>	<b>0,07</b>	<b>0,08</b>	<b>0,07</b>
<b>Memo Items:</b>						
<b>International Bunkers</b>	<b>NA,NE,NO</b>	<b>0,01</b>	<b>0,01</b>	<b>0,01</b>	<b>0,00</b>	<b>0,00</b>
Aviation	NE,NO	0,00	0,00	0,00	0,00	0,00
Marine	NA,NE,NO	0,01	0,01	0,01	0,00	0,00
<b>Multilateral Operations</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>CO<sub>2</sub> Emissions from Biomass</b>						

Table 8 EMISSION TRENDS HFCs, PFCs and SF<sub>6</sub> - Inventory 2012 - Submission 2014 v1.1 - FAROE ISLANDS.

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ( 1990 )	1995	2000	2005	2009	2010	2012
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)
<b>Emissions of HFCs - (Gg CO<sub>2</sub> equivalent)</b>	<b>NA,NE,NO</b>	<b>0,02</b>	<b>4,35</b>	<b>11,20</b>	<b>11,61</b>	<b>12,12</b>	<b>14,22</b>
HFC-23	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-32	NA,NE,NO	NA,NE,NO	0,00	0,00	0,00	0,00	0,00
HFC-41	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-43-10mee	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-125	NA,NE,NO	NA,NE,NO	0,00	0,00	0,00	0,00	0,00
HFC-134	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-134a	NA,NE,NO	0,00	0,00	0,00	0,00	0,00	0,00
HFC-152a	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-143	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-143a	NA,NE,NO	NA,NE,NO	0,00	0,00	0,00	0,00	0,00
HFC-227ea	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-236fa	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
HFC-245ca	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
Unspecified mix of listed HFCs- (Gg CO <sub>2</sub> equivalent)	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
<b>Emissions of PFCs - (Gg CO<sub>2</sub> equivalent)</b>	<b>NA,NE,NO</b>	<b>NA,NE,NO</b>	<b>NA,NE,NO</b>	<b>NA,NE,NO</b>	<b>NA,NE,NO</b>	<b>NA,NE,NO</b>	<b>NA,NE,NO</b>
CF <sub>4</sub>	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
C <sub>2</sub> F <sub>6</sub>	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
C <sub>3</sub> F <sub>8</sub>	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
C <sub>4</sub> F <sub>10</sub>	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
c-C <sub>4</sub> F <sub>8</sub>	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
C <sub>5</sub> F <sub>12</sub>	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
C <sub>6</sub> F <sub>14</sub>	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
Unspecified mix of listed PFCs - (Gg CO <sub>2</sub> equivalent)	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
<b>Emissions of SF<sub>6</sub>- (Gg CO<sub>2</sub> equivalent)</b>	<b>NA,NE,NO</b>	<b>0,15</b>	<b>0,08</b>	<b>0,15</b>	<b>0,21</b>	<b>0,17</b>	<b>0,19</b>
SF <sub>6</sub>	NA,NE,NO	0,00	0,00	0,00	0,00	0,00	0,00

Table 9 EMISSION TRENDS SUMMARY - Inventory 2012 - Submission 2014 v1.1 - FAROE ISLANDS.

GREENHOUSE GAS EMISSIONS	Base year ( 1990 )	1995	2000	2005	2010	2012
	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)
CO <sub>2</sub> emissions including net CO <sub>2</sub> from LULUCF	667,67	539,31	664,33	773,89	839,23	814,23
CO <sub>2</sub> emissions excluding net CO <sub>2</sub> from LULUCF	667,67	539,31	664,33	773,89	839,23	814,23
CH <sub>4</sub> emissions including CH <sub>4</sub> from LULUCF	18,35	18,85	18,79	20,13	19,10	18,83
CH <sub>4</sub> emissions excluding CH <sub>4</sub> from LULUCF	18,35	18,85	18,79	20,13	19,10	18,83
N <sub>2</sub> O emissions including N <sub>2</sub> O from LULUCF	21,98	20,65	22,00	22,77	23,26	22,84
N <sub>2</sub> O emissions excluding N <sub>2</sub> O from LULUCF	21,98	20,65	22,00	22,77	23,26	22,84
HFCs	NA,NE,NO	0,02	4,35	11,20	12,12	14,22
PFCs	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
SF <sub>6</sub>	NA,NE,NO	0,15	0,08	0,15	0,17	0,19
<b>Total (including LULUCF)</b>	<b>708,00</b>	<b>578,99</b>	<b>709,55</b>	<b>828,14</b>	<b>893,88</b>	<b>870,32</b>
<b>Total (excluding LULUCF)</b>	<b>708,00</b>	<b>578,99</b>	<b>709,55</b>	<b>828,14</b>	<b>893,88</b>	<b>870,32</b>

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ( 1990 )	1995	2000	2005	2010	2012
	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)	CO <sub>2</sub> equivalent (Gg)
1. Energy	675,97	546,19	672,67	784,64	849,84	823,97
2. Industrial Processes	NA,NE,NO	0,18	4,43	11,36	12,29	14,41
3. Solvent and Other Product Use	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
4. Agriculture	32,04	32,62	32,45	32,14	31,76	31,93
5. Land Use, Land-Use Change and Forestry	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE	NA,NE
6. Waste	IE,NA,NE,NO	IE,NA,NE,NO	IE,NA,NE,NO	IE,NA,NE,NO	IE,NA,NE,NO	IE,NA,NE,NO
7. Other	NA	NA	NA	NA	NA	NA
<b>Total (including LULUCF)</b>	<b>708,00</b>	<b>578,99</b>	<b>709,55</b>	<b>828,14</b>	<b>893,88</b>	<b>870,32</b>

## Annex 2a Emissions factors – stationary combustion

The emissions factors used for calculating the Faroese emission in following stationary combustion categories:

- 1A1a Public Electricity and Heat Production
- 1A2 Manufacturing Industry and Construction
- 1A4a Commercial/Institutional
- 1A4b Residential

are found in Table 10.

Table 10 Emission factors for stationary combustion.

Category	Fuel	Pollutant	1990-2005	2006-2012
Public electricity and heat production	Gas/diesel oil	CH <sub>4</sub> (g/GJ)	0,9	0,9
		CO <sub>2</sub> (kg/GJ)	74	74
		N <sub>2</sub> O (g/GJ)	0,4	0,4
	Heavy fuel oil	CH <sub>4</sub> (g/GJ)	0,9	0,9
		CO <sub>2</sub> (kg/GJ)	78,4	78,1-79,25
		N <sub>2</sub> O (g/GJ)	0,3	0,3
Manufacturing industries and construction	Gas/diesel oil	CH <sub>4</sub> (g/GJ)	0,2	0,2
		CO <sub>2</sub> (kg/GJ)	74	74
		N <sub>2</sub> O (g/GJ)	0,4	0,4
	Heavy fuel oil	CH <sub>4</sub> (g/GJ)	1,3	1,3
		CO <sub>2</sub> (kg/GJ)	77,4	77,4
		N <sub>2</sub> O (g/GJ)	5	5
	Kerosene	CH <sub>4</sub> (g/GJ)	0,2	0,2
		CO <sub>2</sub> (kg/GJ)	71,9	71,9
		N <sub>2</sub> O (g/GJ)	0,4	0,4
Commercial/Institutional	Gas/diesel oil	CH <sub>4</sub> (g/GJ)	0,7	0,7
		CO <sub>2</sub> (kg/GJ)	74	74
		N <sub>2</sub> O (g/GJ)	0,4	0,4
	Kerosene	CH <sub>4</sub> (g/GJ)	0,7	0,7
		CO <sub>2</sub> (kg/GJ)	71,9	71,9
		N <sub>2</sub> O (g/GJ)	0,4	0,4
Residential	Gas/diesel oil	CH <sub>4</sub> (g/GJ)	0,7	0,7
		CO <sub>2</sub> (kg/GJ)	74	74
		N <sub>2</sub> O (g/GJ)	0,6	0,6
	Kerosene	CH <sub>4</sub> (g/GJ)	0,7	0,7
		CO <sub>2</sub> (kg/GJ)	71,9	71,9
		N <sub>2</sub> O (g/GJ)	0,6	0,6

The emissions factors for calculating the Faroese emissions from the Waste sector are found in Table 11.

Table 11 Emission factors for waste incineration.

Year	Fossil waste %	CO <sub>2</sub> EMF - fossil Kg pr GJ	CO <sub>2</sub> EMF - biogen Kg pr GJ	CH <sub>4</sub> EMF - tot g pr GJ	N <sub>2</sub> O EMF - tot g pr GJ
1990	32,2	37	86,7	6	4
1991	32,2	37	86,7	6	4
1992	35,4	37	84,2	6	4
1993	36,9	37	83,0	6	4
1994	36,9	37	83,0	6	4
1995	39,3	37	81,1	6	4
1996-2012	41,2	37	79,6	6	4

**Annex 2b Emissions factors – mobile combustion**

The emissions factors used for calculating the Faroese emission in following mobile combustion categories:

- 1A3a Civil aviation
- 1A3b Road transport
- 1A3d Navigation
- 1A4c Agriculture, Forestry and Fishing

are found in Table 12, Table 13 and Table 14.

Table 11 Emission factors for aviation, 1990-2012.

	CH <sub>4</sub> - g pr GJ	CO <sub>2</sub> - Kg pr GJ	N <sub>2</sub> O - g pr GJ
1990	465,9	72,0	2,680
1991	465,9	72,0	2,680
1992	465,9	72,0	2,680
1993	465,9	72,0	2,680
1994	465,9	72,0	2,680
1995	465,9	72,0	2,680
1996	465,9	72,0	2,680
1997	465,9	72,0	2,680
1998	465,9	72,0	2,680
1999	465,9	72,0	2,680
2000	465,9	72,0	2,680
2001	465,9	72,0	2,608
2002	473,7	72,0	2,611
2003	475,0	72,0	2,611
2004	523,3	72,0	2,624
2005	718,0	72,0	2,675
2006	716,6	72,0	2,669
2007	719,3	72,0	2,669
2008	716,6	72,0	2,669
2009	716,6	72,0	2,669
2010	720,2	72,0	2,669
2011	720,2	72,0	2,669
2012	465,9	72,0	2,680

Table 13 Emission factors for road transport, 1990-2012.

	Diesel			Gasoline		
	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O
1990	6,741	74	1,729	27,566	73	2,848
1991	6,688	74	1,725	27,153	73	2,872
1992	6,671	74	1,720	26,115	73	2,946
1993	6,608	74	1,685	25,296	73	3,003
1994	6,626	74	1,697	23,852	73	3,095
1995	6,695	74	1,770	22,470	73	3,174
1996	6,706	74	1,838	21,181	73	3,244
1997	6,624	74	1,918	19,857	73	3,290
1998	6,443	74	2,007	18,701	73	3,232
1999	6,206	74	2,105	17,515	73	3,202
2000	5,868	74	2,163	16,587	73	3,189
2001	5,629	74	2,263	15,600	73	3,128
2002	5,284	74	2,317	14,526	73	3,036
2003	4,937	74	2,378	13,536	73	2,917
2004	4,640	74	2,435	12,437	73	2,787
2005	4,315	74	2,480	11,480	73	2,604
2006	3,940	74	2,528	10,459	73	2,393
2007	3,251	74	2,568	9,685	73	2,216
2008	2,523	74	2,621	9,047	73	2,033
2009	2,017	74	2,659	8,547	73	1,921
2010	1,698	74	2,716	8,183	73	1,766
2011	1,423	74	2,782	7,766	73	1,635
2012	1,139	74	2,811	7,386	73	1,459

Table 14 Emission factors for Navigation (diesel and residual) and Fisheries (diesel), 1990-2012.

	Navigation - diesel			Navigation and Fisheries - Residual			Fisheries - diesel		
	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O
1990	1,564	74	4,684	1,653	78	4,890	1,519	74	4,684
1991	1,571	74	4,684	1,645	78	4,890	1,530	74	4,684
1992	1,579	74	4,684	1,642	78	4,890	1,541	74	4,684
1993	1,582	74	4,684	1,646	78	4,890	1,553	74	4,684
1994	1,586	74	4,684	1,649	78	4,890	1,565	74	4,684
1995	1,600	74	4,684	1,651	78	4,890	1,578	74	4,684
1996	1,588	74	4,684	1,668	78	4,890	1,592	74	4,684
1997	1,502	74	4,684	1,694	78	4,890	1,606	74	4,684
1998	1,493	74	4,684	1,712	78	4,890	1,622	74	4,684
1999	1,461	74	4,684	1,724	78	4,890	1,639	74	4,684
2000	1,466	74	4,684	1,737	78	4,890	1,656	74	4,684
2001	1,486	74	4,684	1,753	78	4,890	1,673	74	4,684
2002	1,519	74	4,684	1,767	78	4,890	1,689	74	4,684
2003	1,513	74	4,684	1,820	78	4,890	1,704	74	4,684
2004	1,506	74	4,684	1,828	78	4,890	1,718	74	4,684
2005	1,510	74	4,684	1,869	78	4,890	1,731	74	4,684
2006	1,487	74	4,684	1,897	78	4,890	1,743	74	4,684
2007	1,498	74	4,684	1,906	78	4,890	1,753	74	4,684
2008	1,511	74	4,684	1,912	78	4,890	1,762	74	4,684
2009	1,515	74	4,684	1,925	78	4,890	1,770	74	4,684
2010	1,509	74	4,684	1,934	78	4,890	1,775	74	4,684
2011	1,502	74	4,684	1,943	78	4,890	1,780	74	4,684
2012	1,658	74	4,684	1,952	78	4,890	1,785	74	4,684



# DENMARK'S NATIONAL INVENTORY REPORT 2014

Emission Inventories 1990-2012 - Submitted under  
the United Nations Framework Convention on  
Climate Change and the Kyoto Protocol

This report is Denmark's National Inventory Report 2014.  
The report contains information on Denmark's emission in-  
ventories for all years' from 1990 to 2012 for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O,  
HFCs, PFCs and SF<sub>6</sub>, NO<sub>x</sub>, CO, NMVOC, SO<sub>2</sub>.

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