

Economy and Use of Environmental Resources

Tables on Environmental-Economic Accounting Part 3: Air emissions



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- 4.13.3 Direct process emissions of particulate matter
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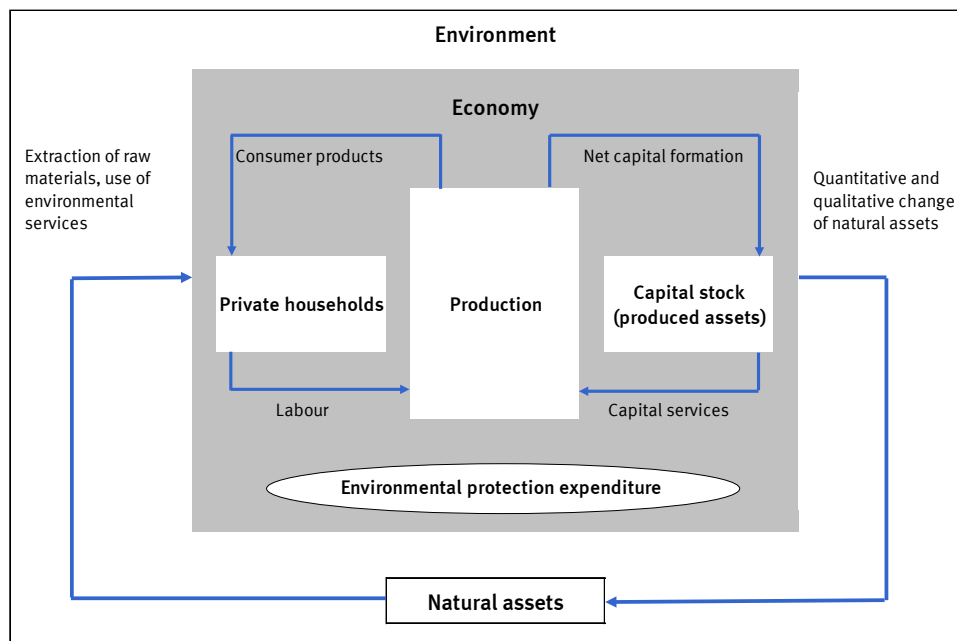
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1 Environmental-Economic Accounting of the Federal Statistical Office

Environmental-Economic Accounting (EEA) describes the **interrelationship between the economy and the environment**. For its economic activities, production and consumption an economy not only uses labour and produced assets but also natural assets. Natural assets include raw materials such as sources of energy, ores, other minerals and water as well as land that serves as a location for production, consumption and various leisure activities. These parts of natural assets are used directly. Other components of natural assets are ecosystems and other natural systems such as the atmosphere. They support economic activities by absorbing and eliminating residues and pollutants arising from production and consumption, such as atmospheric emissions, waste and effluent.

Figure 1 shows the interrelationship between economy¹ and environment. On the one hand natural assets are used as input for the economic process. On the other hand the economy discharges residues and pollutants.

Figure 1: Interrelationship economy environment



The use of natural assets – similar to the produced capital stock – generally involves depletion, which means that the burden or **impact on the environment** causes changes in its state and/or natural assets. On the one hand, these changes are of a quantitative nature (e.g. a decreasing amount of non-renewable raw materials); on the other, they have many qualitative aspects (deteriorating air quality due to emissions of pollutants, diminished biodiversity etc.). Attempts are being made to prevent these negative changes with targeted, appropriate environmental protection measures, such as by avoiding environmental burden (e.g. desulphurising flue gas) or remedying damage that has already been done (e.g. cleaning up polluted sites). The interdependencies between the economy and the environment therefore are not restricted to showing the burdens on the environment; in fact the pattern also includes changes to the state of

1 Both are shown the in simplified form in the diagram.

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the environment brought about by pollution and the steps taken to avoid it or repair the damage.

The EEA aims to describe all three forms of interdependence between economy and environment – environmental burden, the environmental state and environmental measures. The description of these interdependencies takes as its starting point the fact, mentioned above, that a national economy not only uses labour and capital but also nature. Therefore, the basic idea is to take the commonly accepted definition of a national economy and expand it by a "factor nature". The System of National Accounts (SNA) provides a comprehensive and systematic definition of economic activity. Principally, they show monetary transactions (flows) and assets using standardised classifications. EEA were conceived as a satellite system for the national accounts, the objective of which is to extend the presentation of the economic process by a depiction of the interrelationship between the economic system and the environment. The environmental flows and inventories are almost always presented in physical units. For example, air emissions are expressed in tonnes, energy consumption in Terajoules, area used for transport and settlement purposes (land use) in square metres.

An important feature is the full compatibility of both systems – the national accounts and the EEA. The underlying concepts, definitions, distinctions, and classifications in both systems match as far as this is logically sensible and possible. This also applies and particularly so for the economic classifications used in the EEA and the SNA. Because of these common concepts, definitions, distinctions and classifications the results of the EEA can be linked internally and to the identically categorised SNA data and they can be analysed jointly. Compatibility with the national accounts permits for example to relate the environmental parameters, which are mostly shown in physical units (such as in tonnes), to the economic indices (in euros). Of particular importance here are the data on the efficiency of environmental use, expressed as an arithmetical ratio of the figure of interest (such as raw materials consumption) to the gross value added (GVA) or to the gross domestic product (GDP). With regard to the details of calculating productivities and intensities see the notes on the tables in Part 1.

The concept underlying the EEA is to express the status quo and the change in natural assets in units of money, so as to be able to determine what is known as corrected macro-economic aggregates, such as the ecological domestic product. Particularly insofar as such evaluations do not assess the quantitative decrease of resources, but refer to qualitative changes of other components, they are problematic in many respects with regard to the methods used (valuation/aggregation problems, restricted knowledge about correlation between cause and effect and considerable regional differences). That is why such calculations tend not to be carried out by the Federal Statistical Office but by scientific research institutes. Consequently, when presenting environmental pollution and the state of the environment EEA of the Federal Statistical Office is restricted to physical data.

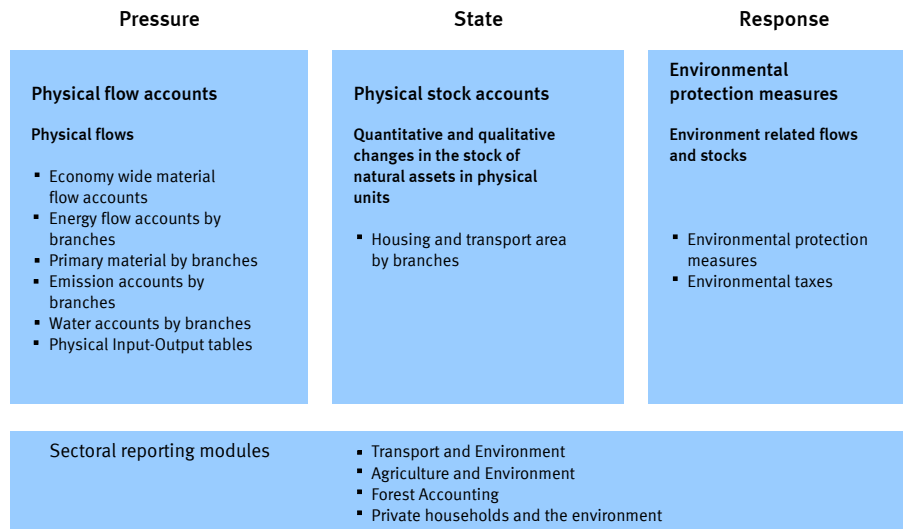
Environmental economic accounts and national accounts describe two dimensions of sustainable development– economy and environment – and their interrelationship. Therefore they provide an important and useful data base for political discussions concerning sustainability.

Figure 2 shows the different reporting **modules of the EEA** of the Federal Statistical Office. They reflect the internationally recognized pressure-state-response model, used to statistically show correlations between the environment and the economy. The **environmental pressures** reporting module shows the material flows listed behind it: the amount of raw materials extracted per year, the amount of pollutants emitted per year etc. This reporting module does not include produced goods or services, but raw materials extracted from nature and residual materials and hazardous substances emitted back into nature. The respective flows for each type of material are booked as

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consolidated quantities, in what is known as the material account, which charts the flows of material between a national economy and both the natural environment and the world's other national economies.

Figure 2: Modules of German Environmental-Economic Accounting



At present, the **state of the environment** reporting module of the German EEA only expresses the component of the natural capital presented by land area. Especially land use by housing and transport are in the focus of this reporting module. Looking at how much land area is used by which economic stakeholder, however, can not be realised for the time being. Landscapes and ecosystems form yet another essential component of the natural capital, which should principally be included by accounting. In Germany these aspect are dealt with by Agency for Nature Protection, not by environmental economic accounts. Displaying the stocks of mineral resources – a third aspect of the natural assets, which may be of great importance for countries rich in raw materials – has a fairly low priority as far as German EEA is concerned and has so far not been considered. A reporting module has so far only been developed for forest.

In the module **environmental protective measures**, components already included in the monetary transactions of the national accounts are shown separately and, as a rule, broken down further. Here, for example, environmentally relevant taxes, such as vehicle tax or fuel tax, are shown. Another important part of environmental protective measures consist of investment and ongoing expenditure for environmental protection in the government and manufacturing industry sectors, as well as privatised public enterprises. Contrary to the physical electric power accounts of the material and energy flow accounts and the physical asset accounts describing the state of the environment, the EEA shows the environmental protective measures in the form of monetary accounts.

The **sectoral reporting modules**, presently used for the transport, agriculture, forestry, and private households sectors, enable extending the EEA standard programme by single items for politically significant topics. For such sectors, these reporting modules provide a much more detailed picture of the complete range of interdependencies between the environment and the economy, across the EEA components mentioned above.

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Typical of EEA is considering the environmental impact (removing raw materials, land use, services of the environment) of economic activities from two angles: the first question is to what extent an environmental factor enters the economic cycle or is adversely affected in production or consumption of private households. Apart from this it is however also important to know what quantities of environmental factors are being employed and for what final purpose. This second assessment not only assigns directly consumed factor components to a specific category of use (such as the consumption activities of private households), but also those quantities needed to manufacture all the goods consumed by the households (at all stages of the production process) and therefore consumed, as it were, "indirectly" by the households. This contrasting of **direct and indirect parameters** is comparable with the presentation of origin and use in the national accounts, and applies to numerous subjects of EEA.

"Upstream" indirect consumption cannot be derived from the accounting system directly. Allocation takes place through a model approach based on input-output tables (IOT). IOTs are central elements of the national accounts; they include details of the upstream interdependencies between the individual production sectors, to name just one example.

The concept of Environmental Economic Accounts was established and further developed at **international level** by the United Nations, in particular, and adopted in February 2012 as an international statistical standard "System of Integrated Environmental and Economic Accounting (SEEA Central Framework 2012)"². In Germany substantial sections of the environmental economic accounts are drawn up based on these conceptual proposals in the SEEA.

² European Commission/Food and Agriculture Organisation/International Monetary Fund/Organisation for Economic Co-Operation and Development/ United Nations/World Bank (2012): System of Environmental-Economic Accounting – Central Framework, White cover publication, pre-edited text subject to official editing.

2 Overview on classification

2.1 Classification of homogeneous branches

No.	Branches	Classification of products by activity (CPA) in the European Community	
		Designation	No.
1	Products of agriculture, forestry and fishing	Products of agriculture, forestry and fishing	A
2	Products of agriculture, hunting and related services	Products of agriculture, hunting and related services	01
3	Products of forestry, logging and related services	Products of forestry, logging and related services	02
4	Fish and other fishing products; aquaculture products	Fish and other fishing products; aquaculture products; support services to fishing	03
5	Mining and quarrying	Mining and quarrying	B
6	Coal and lignite	Coal and lignite	05
7	Crude petroleum and natural gas	Crude petroleum and natural gas	06
8	Metal ores, other mining and quarrying products	Metal ores, other mining and quarrying products; mining support services	07 – 09
9	Manufactured products	Manufactured products	C
10	Food products; beverages; tobacco products	Food products; beverages; tobacco products	10 – 12
11	Textiles; wearing apparel; leather and related products	Textiles; wearing apparel; leather and related products	13 – 15
12	Wood and products of wood and cork, except furniture	Wood and products of wood and cork, except furniture; articles of straw and plaiting materials	16
13	Paper and paper products	Paper and paper products	17
14	Printing and recording services	Printing and recording services	18
15	Coke and refined petroleum products	Coke and refined petroleum products	19
16	Coke oven products	Coke oven products	19.1
17	Refined petroleum products	Refined petroleum products	19.2
18	Chemicals and chemical products	Chemicals and chemical products	20
19	Basic pharmaceutical products and pharmaceutical preparations	Basic pharmaceutical products and pharmaceutical preparations	21

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No.	Branches	Classification of products by activity (CPA) in the European Community	
		Designation	No.
20	Rubber and plastic products	Rubber and plastic products	22
21	Other non-metallic mineral products	Other non-metallic mineral products	23
22	Glass and glass products	Glass and glass products	23.1
23	Refractory products, cut, shaped and finished stone	Refractory products; clay building materials; other porcelain and ceramic products; cement, lime and plaster; articles of concrete, cement and plaster; cut, shaped and finished stone; other non-metallic mineral products	23.2 – 23.9
24	Basic metals	Basic metals	24
25	Basic iron and steel and ferro-alloys, other products of steel	Basic iron and steel and ferro-alloys; tubes, pipes, hollow profiles and related fittings of steel; other products of the first processing of steel	24.1 – 24.3
26	Basic precious and other non-ferrous metals	Basic precious and other non-ferrous metals	24.4
27	Casting services of metal	Casting services of metal	24.5
28	Fabricated metal products, except machinery and equipment	Fabricated metal products, except machinery and equipment	25
29	Computer, electronic and optical products	Computer, electronic and optical products	26
30	Electrical equipment	Electrical equipment	27
31	Machinery and equipment n. e. c.	Machinery and equipment n. e. c.	28
32	Motor vehicles, trailers and semi-trailers	Motor vehicles, trailers and semi-trailers	29
33	Other transport equipment	Other transport equipment	30
34	Furniture, other manufacture goods	Furniture, other manufacture goods	31 – 32
35	Repair and installation services of machinery and equipment	Repair and installation services of machinery and equipment	33
36	Electricity, gas, steam and air conditioning	Electricity, gas, steam and air conditioning	D
37	Electricity, transmission and distribution services, steam	Electricity, transmission and distribution services; steam and air conditioning supply services	35.1, 35.3

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No.	Branches	Classification of products by activity (CPA) in the European Community	
		Designation	No.
38	Manufactured gas	Manufacture gas; distribution services of gaseous fuels through mains	35.2
39	Water supply; sewerage, waste management and remediation services	Water supply; sewerage, waste management and remediation services	E
40	Natural water; water treatment and supply services	Natural water; water treatment and supply services	36
41	Sewerage services; waste collection and material recovery services	Sewerage services; waste collection and material recovery services	37 – 39
42	Sewerage services, sewerage sludge	Sewerage services, sewerage sludge	37
43	Waste collection, treatment and disposal services	Waste collection, treatment and disposal services; materials recovery services; remediation services and other waste management services	38 – 39
44	Constructions and construction works	Constructions and construction works	F
45	Building and building construction works	Building and building construction works	41 – 42
46	Specialised construction works	Specialised construction works	43
47	Wholesale and retail trade services; repair services of motor vehicles	Wholesale and retail trade services; repair services of motor vehicles and motorcycles	G
48	Wholesale and retail trade and repair services of motor vehicles	Wholesale and retail trade and repair services of motor vehicles and motorcycles	45
49	Wholesale trade services, except of motor vehicles and motorcycles	Wholesale trade services, except of motor vehicles and motorcycles	46
50	Retail trade services, except of motor vehicles and motorcycles	Retail trade services, except of motor vehicles and motorcycles	47
51	Transportation and storage services	Transportation and storage services	H
52	Passenger rail transport services, freight rail transport services	Passenger rail transport services, interurban; freight rail transport services	49.1 – 49.2
53	Other passenger land transport services, transport services via pipeline	Other passenger land transport services; freight transport services by road and removal services; transport services via pipeline	49.3 – 49.5

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No.	Branches	Classification of products by activity (CPA) in the European Community	
		Designation	No.
54	Water transport services	Water transport services	50
55	Air transport services	Air transport services	51
56	Warehousing and support services for transportation	Warehousing and support services for transportation	52
57	Postal and courier services	Postal and courier services	53
58	Accommodation and food services	Accommodation and food services	I
59	Information and communication services	Information and communication services	J
60	Financial and insurance services	Financial and insurance services	K
61	Real estate services	Real estate services	L
62	Professional, scientific and technical services	Professional, scientific and technical services	M
63	Administrative and support services	Administrative and support services	N
64	Public administration and defence services	Public administration and defence services	O
65	Education services	Education services	P
66	Human health and social work services	Human health and social work services	Q
67	Other services	Arts, entertainment and recreation services; other services; services of households as employers; undifferentiated goods and services produced by households for own use	R – T
68	All homogeneous branches	All homogeneous branches	

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2.2 Classification of industries

No.	Industries	Classification of economic activities, 2008 edition	
		Designation	No.
1	Agriculture, forestry and fishing	Agriculture, forestry and fishing	A
2	Crop and animal production, hunting and related services	Crop and animal production, hunting and related services	01
3	Forestry and logging	Forestry and logging	02
4	Fishing and aquaculture	Fishing and aquaculture	03
5	Mining and quarrying	Mining and quarrying	B
6	Mining of coal and lignite	Mining of coal and lignite	05
7	Extraction of crude petroleum and natural gas	Extraction of crude petroleum and natural gas	06
8	Mining of metal ores, other mining and quarrying	Mining of metal ores; other mining and quarrying; mining support service activities	07 – 09
9	Manufacturing	Manufacturing	C
10	Manufacture of food products, beverages and tobacco products	Manufacture of food products; manufacture of beverages and manufacture tobacco products	10 – 12
11	Manufacture of textiles, wearing apparel, leather	Manufacture of textiles; manufacture of wearing apparel; manufacture of leather and related products	13 – 15
12	Manufacture of wood and products of wood and cork, except furniture	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	16
13	Manufacture of paper and paper products	Manufacture of paper and paper products	17
14	Printing and reproduction of recorded media	Printing and reproduction of recorded media	18
15	Manufacture of coke and refined petroleum products	Manufacture of coke and refined petroleum products	19
16	Manufacture of coke oven products	Manufacture of coke oven products	19.1
17	Manufacture of refined petroleum products	Manufacture of refined petroleum products	19.2
18	Manufacture of chemicals and chemical products	Manufacture of chemicals and chemical products	20

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No.	Industries	Classification of economic activities, 2008 edition	
		Designation	No.
19	Manufacture of basic pharmaceutical products	Manufacture of basic pharmaceutical products and pharmaceutical preparations	21
20	Manufacture of rubber and plastic products	Manufacture of rubber and plastic products	22
21	Manufacture of other non-mineral products	Manufacture of other non-mineral products	23
22	Manufacture of glass and glass products	Manufacture of glass and glass products	23.1
23	Manufacture of refractory products, cutting, finishing of stone	Manufacture of refractory products; manufacture of clay building materials; manufacture of other porcelain and ceramic products; manufacture of cement, lime and plaster; manufacture of articles of concrete, cement and plaster; cutting, shaping and finishing of stone; manufacture of abrasive products and non-metallic mineral products n. e. c.	23.2 – 23.9
24	Manufacture of basic metals	Manufacture of basic metals	24
25	Iron and steel	Manufacture of basic iron and steel and ferro-alloys; manufacture of tubes, pipes, hollow profiles and related fittings of steel; manufacture of other products of first processing of steel	24.1 – 24.3
26	Manufacture of basic precious and non-ferrous metals	Manufacture of basic precious and other non-ferrous metals	24.4
27	Casting of metals	Casting of metals	24.5
28	Manufacture of fabricated metal products, except machinery	Manufacture of fabricated metal products, except machinery and equipment	25
29	Manufacture of computer, electronic and optical products	Manufacture of computer, electronic and optical products	26
30	Manufacture of electrical equipment	Manufacture of electrical equipment	27
31	Manufacture of machinery and equipment n. e. c.	Manufacture of machinery and equipment n. e. c.	28
32	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of motor vehicles, trailers and semi-trailers	29

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No.	Industries	Classification of economic activities, 2008 edition	
		Designation	No.
33	Manufacture of other transport equipment	Manufacture of other transport equipment	30
34	Manufacture of furniture; other manufacturing	Manufacture of furniture; other manufacturing	31 – 32
35	Repair and installation of machinery and equipment	Repair and installation of machinery and equipment	33
36	Electricity, gas, steam and air conditioning supply	Electricity, gas, steam and air conditioning	D
37	Electric power generation, transmission and distribution, steam	Electric power generation, transmission and distribution; steam and air conditioning supply	35.1/ 35.3
38	Manufacture of gas; distribution of gaseous fuels through mains	Manufacture of gas; distribution of gaseous fuels through mains	35.2
39	Water supply, sewerage, waste management and remediation activities	Water supply, sewerage, waste management and remediation activities	E
40	Water collection, treatment and supply	Water collection, treatment and supply	36
41	Sewerage, waste collection, treatment and disposal activities	Sewerage, waste collection, treatment and disposal activities; material recovery; remediation activities and other waste management services	37 – 39
42	Sewerage	Sewerage	37
43	Waste collection, treatment and disposal activities	Waste collection, treatment and disposal activities; material recovery; remediation activities and other waste management services	38 – 39
44	Construction	Construction	F
45	Construction of buildings, civil engineering	Construction of buildings, civil engineering	41 – 42
46	Specialised construction activities	Specialised construction activities	43
47	Wholesale and retail trade; repair of motor vehicles and motorcycles	Wholesale and retail trade; repair of motor vehicles and motorcycles	G
48	Wholesale and retail trade and repair of motor vehicles	Wholesale and retail trade and repair of motor vehicles and motorcycles	45
49	Wholesale trade, except of motor vehicles and motorcycles	Wholesale trade, except of motor vehicles and motorcycles	46

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No.	Industries	Classification of economic activities, 2008 edition	
		Designation	No.
50	Retail trade, except of motor vehicles and motorcycles	Retail trade, except of motor vehicles and motorcycles	47
51	Transportation and storage	Transportation and storage	H
52	Passenger rail transport, interurban; freight rail transport	Passenger rail transport, interurban; freight rail transport	49.1 – 49.2
53	Other passenger land transport; transport via pipeline	Other passenger land transport; freight transport by road and removal services; transport via pipeline	49.3 – 49.5
54	Water transport	Water transport	50
55	Air transport	Air transport	51
56	Warehousing and support activities for transportation	Warehousing and support activities for transportation	52
57	Postal and courier activities	Postal and courier activities	53
58	Accommodation and food service activities	Accommodation and food service activities	I
59	Information and communication	Information and communication	J
60	Financial and insurance activities	Financial and insurance activities	K
61	Real estate activities	Real estate activities	L
62	Professional, scientific and technical activities	Professional, scientific and technical activities	M
63	Administration and support service activities	Administration and support service activities	N
64	Public administration and defence; compulsory social security	Public administration and defence; compulsory social security	O
65	Education	Education	P
66	Human health and social work activities	Human health and social work activities	Q
67	Other service activities	Arts, entertainment and recreation; other service activities; activities of households and employers; undifferentiated goods and service producing activities of households for own use	R – T
68	All industries	All industries	

3 Abbreviations and symbols

Abbreviations – general

NH ₃	=	ammonia
CH ₄	=	methane
CO ₂	=	carbon dioxide
NO ₂	=	nitrogen dioxide
NO _x	=	nitric oxides (= nitrogen dioxide + nitrogen monoxide)
N ₂ O	=	nitrous oxide (= laughing gas)
NMVOOC	=	volatile organic compounds (not including methane)
SO ₂	=	sulphur dioxide
SF ₆	=	sulphur hexafluoride
PFCs	=	perfluorocarbons
HFCs	=	hydrofluorocarbons
H ₂ O	=	water
NE	=	Non-ferrous metals
No.	=	number
Incl.	=	including
EB	=	Energy balance
EEA	=	Environmental-Economic Accounting
SNA	=	System of National Accounts

Abbreviations – units of measure

Equ.	=	equivalent		
EUR	=	Euro		
J	=	Joule	1 J	= 1 watt seconds (Ws)
kJ	=	kilojoules	1 kJ	= 10 ³ J
MJ	=	megajoules	1 MJ	= 10 ⁶ J
GJ	=	gigajoules	1 GJ	= 10 ⁹ J
TJ	=	terajoules	1 TJ	= 10 ¹² J

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PJ	=	petajoule	1 PJ	=	10 ¹⁵ J
Kg	=	kilogram			
t	=	tonnes			
mn	=	million			
bn	=	billion			
MWh	=	megawatt hour			
h	=	hour			
m ³	=	cubic metre			
%	=	per cent			
m ²	=	square metre			
km ²	=	square kilometre			
ha	=	hectare	1 ha	=	10 000 m ²
t-km	=	ton-kilometre			
p-km	=	passenger-kilometre			
o. b.	=	without bark			

Explanation of symbols

0	=	less than half of 1 in the last digit occupied, but more than zero
...	=	data will be available later
X	=	cell blocked for logical reasons
.	=	numerical value unknown or not to be disclosed
-	=	no figures or magnitude zero

Deviations in the totals may occur because of rounding off.

Note

Since the release of the tables in 2011 homogeneous branches (WZ 2008) are presented in a break down comparable to the statistical classification of economic activities of the European Community. Until 2010, the tables were calculated according the WZ 1993 respectively on the basis of the WZ 2003.

The intensities are shown in the tables 2011 only for the years from 2000 onwards, as data on gross value added by homogeneous branches after the revision of the national accounts are available only as from the reference year 2000.

General notes

Greenhouse gases

According to the Kyoto Protocol¹, greenhouse gases held responsible for climate change include carbon dioxide (CO₂), nitrous monoxide (previously: nitrous oxide) = laughing gas (N₂O), methane (CH₄), fluorocarbons (FC)² and sulphur hexafluoride (SF₆). These gases are mainly emitted during the combustion of fossil fuels, such as coal, crude oil and natural gas. Other important sources are specific industrial processes, agricultural activities, waste treatment and the use of solvents. The almost unanimous position held by scientific community³ is that greenhouse gases contribute significantly to global warming.

The total greenhouse gas emissions are measured in so-called CO₂ equivalents. The basis for the calculation of total greenhouse gas emissions is formed by the information for the individual pollutants, measures in tonnes (t), which are converted to the unit of carbon dioxide using generally-accepted equivalence benchmarks in line with their potential to affect the climate system.

The calculation for carbon dioxide and other greenhouse gases by homogeneous branches and private households, measured in 1,000 tonnes, are initially based in Environmental-Economic Accounting on the data of the Federal Environmental Agency on emissions, use of energy and emission factors derived from so-called structural elements. Furthermore, the data on energy consumption and emission-relevant energy by homogeneous branches are used to break down emissions. These data are essentially based on the energy balances of the Working Group on Energy Balances (Arbeitsgemeinschaft Energiebilanzen - AGEB) and on the input-output-tables (Federal Statistical Office). The figures of Environmental-Economic accounting on CO₂, as well as on the other greenhouse gases, are fully compatible by groups of emitters with the corresponding information published by the Federal Environmental Agency, and can be transferred from one to the other taking account of the quantifiable differences in concept.

The cumulated CO₂ emissions are calculated under utilization of so-called hybrid input-output-tables. For the imports of emission-intensive branches to Germany, the production structures in the producing countries are considered. Also national CO₂ coefficients are taken for imported products.

Other air pollutants

Other air pollutants under observation due to the occurrence of harmful concentrations of emissions are, in particular, sulphur dioxide, nitrogen dioxide and nitrogen oxide, particles (PM10 and PM2.5), lead, benzene and carbon monoxide. Added to these, there are the low level ozone-forming precursor chemicals. These are mainly volatile organic compounds (VOC), excluding methane, as well as nitrogen oxide, which have already been mentioned for their various negative effects on, for example, biodiversity and groundwater.

¹ National Inventory Report 2012 (Federal Environment Agency): The Kyoto Protocol entered into force in February 2005.

Since the date, the international community of states is obliged to develop binding action plans and tools for the implementation of global climate protection. Within the framework of this obligation, the European Community (at that time made up of 15 Member States) undertook to reduce its greenhouse gas emissions by 8% in the period 2008-2012 compared to the base year (1990 or 1995). This obligation was split within a burden-sharing framework between the EU Member States involved. Accordingly, Germany took on a considerable share of the EU obligation by committing to reducing emissions by 21% compared to the base year.

² Fluorocarbons are subdivided into hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

³ Cf., in particular, statements by the "Intergovernmental Panel on Climate Change" at: www.ipcc.ch/.

The Federal Government's Sustainability Strategy deals with the subject of air pollutants in the four emission types of sulphur dioxide (SO₂), nitrogen oxide (NO_x), ammonia (NH₃) and non-methane volatile organic compounds (NMVOC). These substances are emitted during, among other things, the combustion of fossil fuels, such as coal, crude oil and natural gas. Other important sources are agricultural activities. In calculation for the air pollutant index – in accordance with the Sustainability Strategy - the unweighted average is taken from individual measurements (relating to the year 1990). Individual air pollutants can also be presented in tonnes.

Glossary

Air pollutants	Air pollutants (other than greenhouse gases, namely: SO ₂ , NO _x , NH ₃ and NMVOC) are atmospheric substances which could harm human beings, animals, the vegetation and other precious substances. The above mentioned air pollutants are seen as responsible for overfertilisation of land, acidification of ecosystems and for the Ozone depletion in the higher atmosphere.
CH₄	Methane (CH ₄) is a non-poisonous, colourless and odourless gas, generated by anaerobic decomposition of organic compounds. Methane is the second most important greenhouse gas after carbon dioxide. Its equivalent factor (Global Warming Potential Value) is 30times higher than those of carbon dioxide. The most important emission source for methane in Germany is the agriculture sector (animal breeding) with more than 60% in 2012.
CO₂	Carbon dioxide (CO ₂) is a non-poisonous, colourless and odourless gas which belongs in very small portions of about 280 ppm to the atmosphere by nature. The anthropogenic CO ₂ results before all from combustion of carbon and is considered as the most important greenhouse gas (> 85% in Germany).
CO₂ emissions	The anthropogenic emission of carbon dioxide (CO ₂) is seen as dominant reason for climate change. It results before all from the combustion of fossil fuels.
Direct emissions	Direct emissions of air pollutants are emissions resulting directly from specific activities like combustion and other manufacturing processes. They are usually calculated via extent of activity times specific emission coefficient.
Emissions	Emissions are air pollutants. In general, only those air pollutants (gaseous and solid air pollutants, sound, radiation etc.) are seen as emissions, which are capable to have harmful effects on nature and men's health.
Greenhouse gases	According to Kyoto Protocol the following elements are esteemed as Greenhouse gases: carbon dioxide (CO ₂), Nitrous oxide (N ₂ O), methane (CH ₄), semi-halogenated Fluorocarbons (H-FKW/HFC), perfluorinated hydrocarbons (FKW/PFC) and sulphur hexafluoride (SF ₆). These substances result before all from combustion of fossil fuels. Other important sources are "industrial processes", "agricultural activities", "waste management" and the "handling of solvents". The Greenhouse gases are seen as responsible for Climate Change (global warming).
Indirect emissions	Indirect emissions can be added (besides direct emissions) additionally to products via integration of emissions of intermediate products. Indirect emissions are those which are the consequence of production and transport of intermediate products necessary for the product production.
Kyoto Protocol	The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. The detailed rules for the implementation of the protocol were adopted at COP 7 in Marrakesh, Morocco, in 2001, and are referred to as the "Marrakesh Accords". Its first commitment period started in 2008 and ended in 2012. In Doha, Qatar, on 8 December 2012, the "Doha Amendment to the Kyoto Protocol" was adopted. The amendment includes before all new commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 1 January 2013 to 31 December 2020.
N₂O	Nitrous oxide (N ₂ O) is a relatively inert oxide of nitrogen produced as a result of microbial action in the soil, use of fertilizers containing nitrogen, burning of timber, and so forth. This nitrogen compound may contribute to greenhouse and ozone-depleting effects. The Global Warming Potential (GWP) of N ₂ O is factor 300 compared to CO ₂ .

Table 4.1.1: Direct emissions of greenhouse gases - all gases
CO₂ equivalent (1,000 tonnes (Gg))

No.	CPA ¹⁾	Homogeneous branches	1995						
			Total	of which					
				CO ₂ ²⁾	CH ₄	N ₂ O	HFC	PFC	SF ₆
1	A	Products of agriculture, forestry and fishing.....	87,303	11,464	31,157	44,681	-	-	-
2	01	Products of agriculture, hunting and related services.....	87,055	11,218	31,157	44,680	-	-	-
3	02	Products of forestry, logging and related services.....	99	99	0	0	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	149	148	0	1	-	-	-
5	B	Mining and quarrying.....	25,267	9,660	15,473	134	-	-	-
6	05	Coal and lignite.....	20,010	5,066	14,824	121	-	-	-
7	06	Crude petroleum and natural gas.....	3,605	2,953	648	4	-	-	-
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	1,652	1,640	2	10	-	-	-
9	C	Manufactured products.....	234,978	197,940	453	26,207	1,990	1,776	6,612
10	10-12	Food products, beverages, tobacco products.....	11,666	11,580	23	63	-	-	-
11	13-15	Textiles, wearing apparel, leather and related products.....	2,757	2,735	7	14	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	1,744	1,729	4	11	-	-	-
13	17	Paper and paper products.....	8,025	7,950	10	65	-	-	-
14	18	Printing and recording services.....	1,449	989	2	458	-	-	-
15	19	Coke and refined petroleum products.....	26,139	25,780	269	91	-	-	-
16	19.1	Coke oven products.....	7,697	7,641	24	32	-	-	-
17	19.2	Refined petroleum products.....	18,442	18,139	245	58	-	-	-
18	20	Chemicals and chemical products.....	60,335	34,112	26	24,664	1,534	-	-
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,154	2,139	1	14	-	-	-
20	22	Rubber and plastic products.....	2,264	2,251	3	11	-	-	-
21	23	Other non-metallic mineral products.....	45,610	45,393	19	199	-	-	-
22	23.1	Glass and glass products.....	5,858	5,823	5	30	-	-	-
23	23.2-9	Refractory products, cut, shaped and finished stone.....	42,328	39,569	13	169	-	-	2,576
24	24	Basic metals.....	44,758	44,545	60	152	-	-	-
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	39,739	39,368	55	119	-	-	197
26	24.4	Basic precious and other non-ferrous metals.....	5,365	3,353	2	17	442	1,552	-
27	24.5	Castings services of metal.....	1,844	1,824	3	17	-	-	-
28	25	Fabricated metal products, except machinery and equipment.....	5,940	5,516	11	413	-	-	-
29	26	Computer, electronic and optical products.....	2,878	1,421	3	5	14	225	1,210
30	27	Electrical equipment.....	1,615	1,605	3	7	-	-	-
31	28	Machinery and equipment n.e.c.....	4,269	4,246	6	17	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	6,649	4,002	4	14	-	-	2,629
33	30	Other transport equipment.....	841	836	1	4	-	-	-
34	31-32	Furniture, other manufacture goods.....	859	855	1	4	-	-	-
35	33	Repair and installation services of machinery and equipment.....	258	257	0	1	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	373,036	365,861	4,536	2,638	-	-	-
37	35.1/.3	Electricity, transmission and distribution services, steam.....	368,704	365,821	245	2,638	-	-	-
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	4,331	41	4,291	0	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	56,181	11,814	36,972	2,497	4,714	16	167
40	36	Natural water; water treatment and supply services.....	34	34	0	0	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	51,249	11,780	36,972	2,497	-	-	-
42	37	Sewerage services, sewerage sludge.....	2,941	298	307	2,336	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	53,205	11,482	36,665	161	4,714	16	167
44	F	Constructions and construction works.....	14,670	14,584	40	46	-	-	-
45	41-42	Building and building construction works.....	7,655	7,610	21	24	-	-	-
46	43	Specialised construction works.....	7,015	6,974	19	22	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	26,794	26,505	221	67	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	3,854	3,822	24	9	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	8,436	8,353	59	24	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	14,504	14,330	138	35	-	-	-
51	H	Transportation and storage services.....	52,290	51,524	411	354	-	-	-
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,976	2,961	3	12	-	-	-
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	8,835	8,435	368	32	-	-	-
54	50	Water transport services.....	14,294	14,166	24	104	-	-	-
55	51	Air transport services.....	19,142	18,959	3	181	-	-	-
56	52	Warehousing and support services for transportation.....	4,858	4,831	9	18	-	-	-
57	53	Postal and courier services.....	2,184	2,173	4	8	-	-	-
58	I	Accommodation and food services.....	6,021	5,943	64	14	-	-	-
59	J	Information and communication services.....	3,496	3,476	12	8	-	-	-
60	K	Financial and insurance services.....	2,868	2,838	24	6	-	-	-
61	L	Real estate services.....	1,260	1,252	5	3	-	-	-
62	M	Professional, scientific and technical services.....	6,809	6,772	21	16	-	-	-
63	N	Administrative and support services.....	1,000	991	6	2	-	-	-
64	O	Public administration and defence services; compulsory social security services.....	5,386	5,339	18	30	-	-	-
65	P	Education services.....	6,139	6,042	83	13	-	-	-
66	Q	Human health and social work services.....	8,480	8,029	128	19	304	-	-
67	R-T	Other services.....	7,536	7,462	56	17	-	-	-
68		All homogeneous branches.....	919,512	737,497	89,680	76,755	7,008	1,792	6,779
69		Private households.....	247,359	242,315	2,305	2,739	-	-	-
70		All homogeneous branches and private households (residents concept, gross em	1,166,871	979,812	91,985	79,495	7,008	1,792	6,779
71		Transitional balance 3).....	-22,411	-22,138	-32	-240	-	-	-
72		Total emissions (gross domestic emissions) 4).....	1,144,460	957,674	91,953	79,254	7,008	1,792	6,779
73		Emissions/Absorptions from LULUCF 5).....	-24,332	-24,739	3	404	-	-	-
74		Total emissions (net domestic emissions) 4).....	1,120,129	932,935	91,956	79,658	7,008	1,792	6,779

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from biomass.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

4) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

5) Absorptions/emissions from land use, land use changes and forestry.

Table 4.1.1: Direct emissions of greenhouse gases - all gases
CO₂ equivalent (1,000 tonnes (Gg))

Total	2007						2012						No.	
	of which						of which							
	CO ₂ ²⁾	CH ₄	N ₂ O	HFC	PFC	SF ₆	CO ₂ ²⁾	CH ₄	N ₂ O	HFC	PFC	SF ₆		
76,909	8,146	26,355	42,408	-	-	-	79,861	10,174	25,926	43,761	-	-	-	1
76,773	8,011	26,355	42,407	-	-	-	79,752	10,067	25,926	43,760	-	-	-	2
55	54	0	0	-	-	-	45	45	0	1	-	-	-	3
81	80	0	1	-	-	-	63	62	0	1	-	-	-	4
11,356	6,986	4,282	89	-	-	-	9,783	6,155	3,539	89	-	-	-	5
7,096	2,954	4,072	70	-	-	-	6,516	3,083	3,361	71	-	-	-	6
3,321	3,099	208	13	-	-	-	2,517	2,329	176	12	-	-	-	7
940	933	1	6	-	-	-	749	743	1	6	-	-	-	8
203,028	185,619	395	11,751	1,629	412	3,222	190,561	181,934	402	4,062	768	200	3,194	9
9,452	9,384	17	51	-	-	-	9,825	9,752	17	55	-	-	-	10
1,418	1,408	3	8	-	-	-	987	980	3	5	-	-	-	11
3,151	3,121	7	24	-	-	-	5,790	5,731	13	46	-	-	-	12
9,695	9,622	14	60	-	-	-	9,123	9,053	13	57	-	-	-	13
1,127	990	2	135	-	-	-	1,051	952	2	96	-	-	-	14
24,977	24,701	204	72	-	-	-	22,204	21,942	200	61	-	-	-	15
3,948	3,931	10	8	-	-	-	4,616	4,600	9	7	-	-	-	16
21,028	20,770	194	64	-	-	-	17,587	17,342	191	54	-	-	-	17
44,061	31,858	27	10,874	1,303	-	-	39,177	35,329	31	3,238	579	-	-	18
1,673	1,659	3	11	-	-	-	903	894	1	7	-	-	-	19
1,811	1,800	3	8	-	-	-	1,927	1,914	3	10	-	-	-	20
40,702	40,519	18	164	-	-	-	37,727	37,556	18	154	-	-	-	21
4,726	4,698	4	23	-	-	-	5,114	5,085	5	24	-	-	-	22
37,733	35,821	14	141	-	-	1,757	35,050	32,471	12	129	-	-	2,437	23
45,759	45,523	74	162	-	-	-	42,563	42,334	71	158	-	-	-	24
41,181	40,558	71	130	-	-	422	37,919	37,686	68	128	-	-	37	25
3,478	2,963	2	12	308	193	-	2,938	2,671	2	12	177	75	-	26
2,023	2,002	1	19	-	-	-	1,996	1,977	1	18	-	-	-	27
4,865	4,722	9	135	-	-	-	5,025	4,902	14	109	-	-	-	28
1,989	872	2	4	18	219	875	1,409	731	1	5	11	125	536	29
1,020	942	1	6	-	-	72	1,118	939	1	7	-	-	171	30
3,314	3,293	5	15	-	-	-	3,278	3,253	5	20	-	-	-	31
3,924	3,853	4	17	-	-	50	3,808	3,769	4	22	-	-	13	32
480	477	1	2	-	-	-	563	559	1	3	-	-	-	33
707	702	1	3	-	-	-	880	873	3	5	-	-	-	34
177	176	0	1	-	-	-	476	472	0	4	-	-	-	35
414,529	407,084	4,573	2,872	-	-	-	401,736	393,276	5,527	2,933	-	-	-	36
410,810	407,017	922	2,871	-	-	-	397,723	393,163	1,628	2,932	-	-	-	37
3,719	67	3,652	0	-	-	-	4,013	113	3,899	1	-	-	-	38
49,162	23,726	15,837	2,913	6,474	99	112	49,405	27,363	10,848	3,002	8,071	9	113	39
48	48	0	0	-	-	-	123	121	0	1	-	-	-	40
42,428	23,678	15,837	2,913	-	-	-	41,089	27,242	10,847	3,000	-	-	-	41
3,043	570	35	2,438	-	-	-	2,978	560	23	2,395	-	-	-	42
46,071	23,108	15,802	475	6,474	99	112	46,305	26,682	10,825	605	8,071	9	113	43
9,571	9,505	21	45	-	-	-	9,955	9,872	20	63	-	-	-	44
4,571	4,540	10	21	-	-	-	3,845	3,816	7	23	-	-	-	45
4,999	4,965	11	23	-	-	-	6,109	6,056	13	41	-	-	-	46
20,741	20,541	104	96	-	-	-	21,550	21,301	93	156	-	-	-	47
2,645	2,620	13	12	-	-	-	2,988	2,951	14	22	-	-	-	48
8,537	8,475	18	43	-	-	-	7,497	7,396	15	85	-	-	-	49
9,559	9,446	73	40	-	-	-	11,066	10,953	64	49	-	-	-	50
84,979	83,838	484	657	-	-	-	85,032	83,595	519	917	-	-	-	51
1,588	1,580	1	7	-	-	-	1,748	1,732	1	15	-	-	-	52
12,191	11,710	416	65	-	-	-	12,460	11,814	462	184	-	-	-	53
30,283	29,995	54	234	-	-	-	29,342	29,063	43	236	-	-	-	54
30,535	30,238	4	293	-	-	-	28,891	28,599	4	287	-	-	-	55
8,411	8,357	7	47	-	-	-	10,448	10,278	7	163	-	-	-	56
1,972	1,959	3	11	-	-	-	2,143	2,109	2	32	-	-	-	57
4,009	3,966	33	10	-	-	-	4,950	4,906	32	12	-	-	-	58
4,322	4,285	18	20	-	-	-	4,746	4,688	17	42	-	-	-	59
2,161	2,136	20	5	-	-	-	2,151	2,126	18	7	-	-	-	60
1,206	1,196	5	6	-	-	-	1,339	1,325	4	10	-	-	-	61
7,664	7,599	26	39	-	-	-	8,959	8,872	26	62	-	-	-	62
1,226	1,214	7	5	-	-	-	1,183	1,170	8	6	-	-	-	63
3,326	3,295	14	17	-	-	-	3,069	3,037	11	22	-	-	-	64
4,720	4,652	58	11	-	-	-	4,724	4,661	48	15	-	-	-	65
7,421	6,766	80	24	553	-	-	8,544	7,919	85	33	506	-	-	66
6,908	6,839	37	32	-	-	-	7,047	6,969	26	52	-	-	-	67
913,240	787,394	52,349	60,997	8,656	511	3,334	894,596	779,342	47,149	55,243	9,346	209	3,307	68
209,678	206,830	1,579	1,269	-	-	-	215,257	212,499	1,619	1,138	-	-	-	69
1,122,918	994,224	53,928	62,266	8,656	511	3,334	1,109,852	991,841	48,768	56,381	9,346	209	3,307	70
-61,280	-60,718	-59	-502	-	-	-	-61,014	-60,450	-47	-518	-	-	-	71
1,061,638	933,505	53,869	61,763	8,656	511	3,334	1,048,838	931,391	48,722	55,863	9,346	209	3,307	72
9,812	9,383	2	428	-	-	-	-3,488	-3,999	2	510	-	-	-	73
1,071,450	942,888	53,871	62,191	8,656	511	3,334	1,045,350	927,392	48,724	56,373	9,346	209	3,307	74

Table 4.1.2: Direct emissions of greenhouse gases (including emissions from biomass)
CO₂ equivalent (1,000 tonnes (Gg))

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	87,303	85,313	79,658	78,161	80,407	79,861
2	01	Products of agriculture, hunting and related services.....	87,055	85,139	79,520	78,040	80,292	79,752
3	02	Products of forestry, logging and related services.....	99	56	49	49	44	45
4	03	Fish and other fishing products; aquaculture products.....	149	117	89	72	71	63
5	B	Mining and quarrying.....	25,267	19,337	13,804	9,621	11,074	9,783
6	05	Coal and lignite.....	20,010	14,655	8,698	6,074	7,704	6,516
7	06	Crude petroleum and natural gas.....	3,605	3,719	4,029	2,691	2,607	2,517
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	1,652	963	1,076	856	763	749
9	C	Manufactured products.....	234,978	201,652	192,829	188,803	192,064	190,561
10	10-12	Food products, beverages, tobacco products.....	11,666	10,580	9,566	9,759	9,568	9,825
11	13-15	Textiles, wearing apparel, leather and related products.....	2,757	1,975	1,707	976	938	987
12	16	Wood and products of wood and cork, except furniture.....	1,744	1,710	3,578	4,083	5,922	5,790
13	17	Paper and paper products.....	8,025	7,612	8,930	9,932	9,074	9,123
14	18	Printing and recording services.....	1,449	1,472	1,163	1,044	1,000	1,051
15	19	Coke and refined petroleum products.....	26,139	24,921	26,836	22,195	22,253	22,204
16	19.1	Coke oven products.....	7,697	5,789	3,886	3,830	4,307	4,616
17	19.2	Refined petroleum products.....	18,442	19,132	22,950	18,365	17,946	17,587
18	20	Chemicals and chemical products.....	60,335	38,141	37,731	39,398	40,960	39,177
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,154	2,686	738	632	739	903
20	22	Rubber and plastic products.....	2,264	1,935	1,989	2,211	1,883	1,927
21	23	Other non-metallic mineral products.....	48,186	44,392	38,381	38,446	40,601	40,164
22	23.1	Glass and glass products.....	5,858	5,558	4,855	4,806	4,967	5,114
23	23.2-9	Refractory products, cut, shaped and finished stone.....	42,328	38,834	33,526	33,641	35,634	35,050
24	24	Basic metals.....	46,948	47,601	46,082	44,374	43,255	42,852
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	39,542	41,028	39,955	39,329	38,300	37,882
26	24.4	Basic precious and other non-ferrous metals.....	5,562	4,831	4,608	3,109	2,951	2,974
27	24.5	Casting services of metal.....	1,844	1,742	1,519	1,936	2,004	1,996
28	25	Fabricated metal products, except machinery and equipment.....	5,940	5,332	4,506	4,703	4,576	5,025
29	26	Computer, electronic and optical products.....	2,878	2,669	1,959	1,383	1,415	1,409
30	27	Electrical equipment.....	1,615	950	881	1,080	1,221	1,118
31	28	Machinery and equipment n.e.c.....	4,269	3,165	3,181	3,167	3,116	3,278
32	29	Motor vehicles, trailers and semi-trailers.....	6,649	4,986	4,144	3,515	3,720	3,808
33	30	Other transport equipment.....	841	595	560	602	520	563
34	31-32	Furniture, other manufacture goods.....	859	728	727	856	829	880
35	33	Repair and installation services of machinery and equipment.....	258	203	173	445	472	476
36	D (35)	Electricity, gas, steam and air conditioning.....	373,036	364,663	389,286	390,445	388,823	401,736
37	35.1/3	Electricity, transmission and distribution services, steam.....	368,704	360,590	385,320	386,474	384,798	397,723
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	4,331	4,073	3,966	3,972	4,025	4,013
39	E	Water supply; sewerage, waste management and remediation services.....	56,181	46,294	48,005	48,949	49,529	49,405
40	36	Natural water; water treatment and supply services.....	34	38	45	132	120	123
41	37-39	Sewerage services; waste collection and materials recovery services.....	56,146	46,256	47,960	48,817	49,410	49,283
42	37	Sewerage services, sewerage sludge.....	2,941	2,715	2,984	2,980	2,970	2,978
43	38-39	Waste collection, treatment and disposal services; remediation services.....	53,205	43,541	44,976	45,837	46,440	46,305
44	F	Constructions and construction works.....	14,670	12,059	10,095	10,060	9,701	9,955
45	41-42	Building and building construction works.....	7,655	5,947	4,838	3,983	3,825	3,845
46	43	Specialised construction works.....	7,015	6,113	5,256	6,077	5,876	6,109
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	26,794	22,988	22,578	20,394	20,780	21,550
48	45	Wholesale and retail trade and repair services of motor vehicles.....	3,854	3,604	2,732	2,610	2,677	2,988
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	8,436	7,136	9,472	7,111	7,288	7,497
50	47	Retail trade services, except of motor vehicles and motorcycles.....	14,504	12,249	10,374	10,673	10,814	11,066
51	H	Transportation and storage services.....	52,290	51,730	72,731	82,273	78,203	85,032
52	49.1-2	Passenger rail transport services, interurban, freight rail transport services.....	2,976	2,501	1,675	1,750	1,780	1,748
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	8,835	8,581	10,754	11,822	12,214	12,460
54	50	Water transport services.....	14,294	8,256	22,024	29,540	25,182	29,342
55	51	Air transport services.....	19,142	24,407	27,709	27,486	26,875	28,891
56	52	Warehousing and support services for transportation.....	4,858	5,588	8,277	9,615	10,037	10,448
57	53	Postal and courier services.....	2,184	2,396	2,293	2,059	2,115	2,143
58	I	Accommodation and food services.....	6,021	5,547	4,669	4,984	4,793	4,950
59	J	Information and communication services.....	3,496	4,250	4,620	4,516	4,581	4,746
60	K	Financial and insurance services.....	2,868	2,423	2,310	2,208	2,070	2,151
61	L	Real estate services.....	1,260	1,370	1,177	1,248	1,294	1,339
62	M	Professional, scientific and technical services.....	6,809	8,333	7,525	8,103	8,912	8,959
63	N	Administrative and support services.....	1,000	1,183	1,312	1,207	1,203	1,183
64	O	Public administration and defence services; compulsory social security services.....	5,386	3,974	3,707	3,448	3,319	3,069
65	P	Education services.....	6,139	5,493	4,928	4,987	4,611	4,724
66	Q	Human health and social work services.....	8,480	8,198	7,460	8,650	8,313	8,544
67	R-T	Other services.....	7,536	7,722	7,937	6,827	6,841	7,047
68		All homogeneous branches.....	919,512	852,527	874,631	874,884	876,518	894,596
69		Private households.....	247,359	248,638	235,025	236,605	211,719	215,257
70		All homogeneous branches and private households (residents concept, gross emissions)	1,166,871	1,101,165	1,109,656	1,111,489	1,088,236	1,109,852
71		Transitional balance 2).....	-22,411	-20,741	-50,911	-58,812	-54,443	-61,014
72		Total emissions (gross domestic emissions).....	1,144,460	1,080,424	1,058,745	1,052,677	1,033,793	1,048,838
73		Emissions/Absorptions from LULUCF 3).....	-24,332	-23,968	9,117	-4,694	-4,087	-3,488
74		Total emissions (net domestic emissions).....	1,120,129	1,056,456	1,067,862	1,047,983	1,029,707	1,045,350

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

3) Absorptions/emissions from land use, land use changes and forestry.

Table 4.2.1: Direct CO₂ emissions

1,000 tonnes (Gg)

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	11,464	9,341	8,246	9,633	9,864	10,174
2	01	Products of agriculture, hunting and related services.....	11,218	9,169	8,109	9,514	9,750	10,067
3	02	Products of forestry, logging and related services.....	99	56	49	48	44	45
4	03	Fish and other fishing products; aquaculture products.....	148	116	88	71	70	62
5	B	Mining and quarrying.....	9,660	6,313	7,644	6,558	8,121	6,155
6	05	Coal and lignite.....	5,066	2,204	2,886	3,218	4,996	3,083
7	06	Crude petroleum and natural gas.....	2,953	3,154	3,691	2,491	2,369	2,329
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	1,640	955	1,067	849	757	743
9	C	Manufactured products.....	197,940	188,113	178,035	179,407	182,944	181,934
10	10-12	Food products, beverages, tobacco products.....	11,580	10,503	9,497	9,687	9,497	9,752
11	13-15	Textiles, wearing apparel, leather and related products.....	2,735	1,960	1,695	969	931	980
12	16	Wood and products of wood and cork, except furniture.....	1,729	1,695	3,542	4,043	5,858	5,731
13	17	Paper and paper products.....	7,950	7,550	8,853	9,850	9,003	9,053
14	18	Printing and recording services.....	989	1,130	1,019	934	893	952
15	19	Coke and refined petroleum products.....	25,780	24,594	26,550	21,927	21,996	21,942
16	19.1	Coke oven products.....	7,641	5,753	3,869	3,813	4,291	4,600
17	19.2	Refined petroleum products.....	18,139	18,841	22,681	18,114	17,706	17,342
18	20	Chemicals and chemical products.....	34,112	31,624	28,281	34,813	36,658	35,329
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,139	2,669	734	627	732	894
20	22	Rubber and plastic products.....	2,251	1,924	1,976	2,197	1,871	1,914
21	23	Other non-metallic mineral products.....	45,393	42,889	36,721	36,059	38,109	37,556
22	23.1	Glass and glass products.....	5,823	5,526	4,827	4,778	4,938	5,085
23	23.2-9	Refractory products, cut, shaped and finished stone.....	39,569	37,363	31,895	31,281	33,171	32,471
24	24	Basic metals.....	44,545	46,134	44,551	43,722	42,715	42,334
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	39,368	40,842	39,776	39,139	38,103	37,686
26	24.4	Basic precious and other non-ferrous metals.....	3,353	3,568	3,270	2,665	2,629	2,671
27	24.5	Casting services of metal.....	1,824	1,724	1,504	1,917	1,984	1,977
28	25	Fabricated metal products, except machinery and equipment.....	5,516	5,013	4,360	4,579	4,454	4,902
29	26	Computer, electronic and optical products.....	1,421	1,044	781	611	659	731
30	27	Electrical equipment.....	1,605	944	804	876	984	939
31	28	Machinery and equipment n.e.c.....	4,246	3,147	3,162	3,145	3,093	3,253
32	29	Motor vehicles, trailers and semi-trailers.....	4,002	3,775	4,059	3,479	3,684	3,769
33	30	Other transport equipment.....	836	592	556	598	516	559
34	31-32	Furniture, other manufacture goods.....	855	724	722	850	823	873
35	33	Repair and installation services of machinery and equipment.....	257	202	172	441	468	472
36	D (35)	Electricity, gas, steam and air conditioning.....	365,861	357,852	381,998	382,513	380,621	393,276
37	35.1/3	Electricity, transmission and distribution services, steam.....	365,821	357,817	381,936	382,388	380,505	393,163
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	41	35	62	125	116	113
39	E	Water supply; sewerage, waste management and remediation services.....	11,814	12,815	19,794	25,812	26,985	27,363
40	36	Natural water; water treatment and supply services.....	34	38	44	131	118	121
41	37-39	Sewerage services; waste collection and materials recovery services.....	11,780	12,777	19,749	25,682	26,866	27,242
42	37	Sewerage services, sewerage sludge.....	298	264	505	523	553	560
43	38-39	Waste collection, treatment and disposal services.....	11,482	12,513	19,245	25,158	26,314	26,682
44	F	Constructions and construction works.....	14,584	11,987	10,036	9,983	9,623	9,872
45	41-42	Building and building construction works.....	7,610	5,911	4,811	3,955	3,797	3,816
46	43	Specialised construction works.....	6,974	6,076	5,225	6,028	5,826	6,056
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	26,505	22,770	22,399	20,179	20,534	21,301
48	45	Wholesale and retail trade and repair services of motor vehicles.....	3,822	3,575	2,711	2,583	2,643	2,951
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	8,353	7,070	9,416	7,028	7,194	7,396
50	47	Retail trade services, except of motor vehicles and motorcycles.....	14,330	12,125	10,272	10,568	10,697	10,953
51	H	Transportation and storage services.....	51,524	50,960	71,760	80,937	76,864	83,595
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,961	2,489	1,667	1,736	1,765	1,732
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	8,435	8,174	10,305	11,218	11,592	11,814
54	50	Water transport services.....	14,166	8,183	21,819	29,253	24,935	29,063
55	51	Air transport services.....	18,959	24,173	27,443	27,212	26,605	28,599
56	52	Warehousing and support services for transportation.....	4,831	5,557	8,243	9,485	9,883	10,278
57	53	Postal and courier services.....	2,173	2,384	2,283	2,032	2,084	2,109
58	I	Accommodation and food services.....	5,943	5,483	4,625	4,941	4,745	4,906
59	J	Information and communication services.....	3,476	4,222	4,590	4,470	4,527	4,688
60	K	Financial and insurance services.....	2,838	2,397	2,288	2,185	2,046	2,126
61	L	Real estate services.....	1,252	1,361	1,168	1,237	1,281	1,325
62	M	Professional, scientific and technical services.....	6,772	8,283	7,476	8,033	8,830	8,872
63	N	Administrative and support services.....	991	1,172	1,302	1,195	1,189	1,170
64	O	Public administration and defence services; compulsory social security services.....	5,339	3,942	3,675	3,411	3,283	3,037
65	P	Education services.....	6,042	5,411	4,863	4,931	4,552	4,661
66	Q	Human health and social work services.....	8,029	7,592	6,753	8,058	7,676	7,919
67	R-T	Other services.....	7,462	7,649	7,864	6,761	6,767	6,969
68		All homogeneous branches.....	737,497	707,663	744,518	760,244	760,451	779,342
69		Private households.....	242,315	244,331	231,862	233,626	208,939	212,499
70		All homogeneous branches and private households (residents concept, gross emissions).....	979,812	951,994	976,380	993,869	969,389	991,841
71		Transitional balance 2).....	-22,138	-20,491	-50,440	-58,267	-53,936	-60,450
72		Total emissions (gross domestic emissions) 3).....	957,674	931,503	925,940	935,602	915,453	931,391
73		Emissions/Absorptions from LULUCF 4).....	-24,739	-24,377	8,706	-5,171	-4,579	-3,999
74		Total emissions (net domestic emissions) 3).....	932,935	907,126	934,646	930,431	910,874	927,392

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

3) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

4) Absorptions/emissions from land use, land use changes and forestry.

Table 4.2.2: Direct CO₂ emissions per unit energy consumption (not including road transport and biomass)

1,000 tonnes (Gg)

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	9,177	7,552	6,589	6,647	6,690	6,807
2	01	Products of agriculture, hunting and related services.....	9,035	7,441	6,507	6,582	6,625	6,751
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	143	112	81	65	65	57
5	B	Mining and quarrying.....	7,598	4,225	5,596	5,032	6,688	4,840
6	05	Coal and lignite.....	4,992	2,165	2,850	3,065	4,852	2,948
7	06	Crude petroleum and natural gas.....	1,099	1,215	1,885	1,258	1,199	1,271
8	07-09	Metal ores, other mining and quarrying products.....	1,508	845	861	709	636	621
9	C	Manufactured products.....	131,138	118,756	106,260	110,044	110,692	110,534
10	10-12	Food products, beverages, tobacco products.....	10,763	9,863	8,803	8,580	8,494	8,756
11	13-15	Textiles, wearing apparel, leather and related products.....	2,526	1,823	1,599	867	809	876
12	16	Wood and products of wood and cork, except furniture.....	1,166	1,038	934	793	615	612
13	17	Paper and paper products.....	6,898	6,366	6,637	6,839	6,245	6,425
14	18	Printing and recording services.....	584	749	734	614	552	627
15	19	Coke and refined petroleum products.....	25,211	23,904	25,805	21,257	21,280	21,209
16	19.1	Coke oven products.....	7,641	5,753	3,868	3,809	4,286	4,595
17	19.2	Refined petroleum products.....	17,571	18,151	21,938	17,448	16,995	16,614
18	20	Chemicals and chemical products.....	18,827	14,716	11,050	16,279	18,696	17,273
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,017	2,562	581	208	203	190
20	22	Rubber and plastic products.....	1,956	1,688	1,615	1,946	1,540	1,589
21	23	Other non-metallic mineral products.....	22,030	20,208	15,701	16,465	17,065	16,864
22	23.1	Glass and glass products.....	4,996	4,753	4,035	4,034	4,053	4,217
23	23.2-9	Refractory products, cut, shaped and finished stone.....	17,034	15,455	11,666	12,432	13,012	12,647
24	24	Basic metals.....	24,987	24,705	22,402	25,570	25,338	25,477
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	20,744	20,428	18,658	21,664	21,480	21,556
26	24.4	Basic precious and other non-ferrous metals.....	2,461	2,589	2,281	2,026	1,922	1,994
27	24.5	Casting services of metal.....	1,782	1,687	1,463	1,880	1,935	1,927
28	25	Fabricated metal products, except machinery and equipment.....	4,679	4,229	3,659	3,813	3,612	4,065
29	26	Computer, electronic and optical products.....	1,180	759	553	398	380	449
30	27	Electrical equipment.....	1,113	509	412	561	574	525
31	28	Machinery and equipment n.e.c.....	3,406	2,440	2,451	2,406	2,122	2,272
32	29	Motor vehicles, trailers and semi-trailers.....	2,400	2,160	2,286	2,036	1,981	2,050
33	30	Other transport equipment.....	730	471	430	469	349	390
34	31-32	Furniture, other manufacture goods.....	665	564	601	690	614	662
35	33	Repair and installation services of machinery and equipment.....	0	2	8	251	223	225
36	D (35)	Electricity, gas, steam and air conditioning.....	363,248	352,151	366,835	348,080	343,874	354,041
37	35.1/.3	Electricity, transmission and distribution services, steam.....	363,248	352,151	366,822	348,042	343,845	354,019
38	35.2	Manufactured gas.....	-	-	12	38	29	22
39	E	Water supply; sewerage, waste management and remediation services.....	3,863	4,493	6,078	8,113	8,427	8,413
40	36	Natural water; water treatment and supply services.....	-	-	3	13	5	6
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,863	4,493	6,076	8,100	8,422	8,407
42	37	Sewerage services, sewerage sludge.....	-	-	2	2	2	2
43	38-39	Waste collection, treatment and disposal services.....	3,863	4,493	6,074	8,098	8,420	8,405
44	F	Constructions and construction works.....	7,914	6,656	5,757	5,608	5,411	5,627
45	41-42	Building and building construction works.....	4,140	3,309	2,812	2,545	2,435	2,447
46	43	Specialised construction works.....	3,774	3,348	2,945	3,064	2,976	3,179
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	17,063	13,489	10,692	10,585	9,592	10,256
48	45	Wholesale and retail trade and repair services of motor vehicles.....	2,682	2,296	1,343	1,430	1,291	1,583
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	3,829	3,151	2,368	1,401	1,213	1,325
50	47	Retail trade services, except of motor vehicles and motorcycles.....	10,552	8,042	6,981	7,754	7,088	7,348
51	H	Transportation and storage services.....	35,290	33,623	49,864	56,501	51,376	57,632
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,437	1,992	1,395	1,118	1,117	1,077
53	49.3-5	Other passenger land transport services, transport service via pipeline....	-	-	34	12	11	13
54	50	Water transport services.....	13,856	7,737	21,043	28,295	23,929	28,033
55	51	Air transport services.....	17,976	22,926	26,451	26,220	25,564	27,539
56	52	Warehousing and support services for transportation.....	665	700	705	619	558	773
57	53	Postal and courier services.....	356	267	236	236	197	197
58	I	Accommodation and food services.....	4,700	4,204	3,751	4,055	3,856	4,030
59	J	Information and communication services.....	1,312	1,461	1,768	1,633	1,416	1,547
60	K	Financial and insurance services.....	2,419	1,994	1,850	1,706	1,454	1,542
61	L	Real estate services.....	404	395	381	369	287	327
62	M	Professional, scientific and technical services.....	2,130	2,256	2,526	2,605	2,348	2,363
63	N	Administrative and support services.....	492	550	624	767	742	730
64	O	Public administration and defence services.....	4,036	2,736	2,241	1,869	1,703	1,428
65	P	Education services.....	5,900	5,255	4,731	4,762	4,371	4,504
66	Q	Human health and social work services.....	7,093	6,524	5,959	7,059	6,654	6,905
67	R-T	Other services.....	4,863	4,390	4,370	3,197	2,624	2,810
68		All homogeneous branches.....	608,640	570,711	585,873	578,632	568,207	584,335
69		Private households.....	123,655	113,139	106,814	101,295	85,331	89,074
70		All homogeneous branches and private households (residents concept) 2)...	732,295	683,850	692,687	679,928	653,538	673,409
71		Transitional balance 3).....	-21,034	-20,279	-36,336	-42,673	-37,980	-44,494
72		Total emissions (domestic concept) 2).....	711,260	663,571	656,351	637,254	615,558	628,915

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.2.3: Direct CO₂ process emissions

1,000 tonnes (Gg)

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	-	-	-	-	-	-
2	01	Products of agriculture, hunting and related services.....	-	-	-	-	-	-
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	1,831	1,927	1,766	1,187	1,126	1,012
6	05	Coal and lignite.....	13	15	2	1	3	1
7	06	Crude petroleum and natural gas.....	1,818	1,912	1,764	1,185	1,123	1,011
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	58,706	61,340	59,547	53,988	54,623	53,758
10	10-12	Food products, beverages, tobacco products.....	-	-	-	-	-	-
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	-	-	-	-	-	-
13	17	Paper and paper products.....	-	-	-	-	-	-
14	18	Printing and recording services.....	271	267	196	232	226	208
15	19	Coke and refined petroleum products.....	435	492	531	442	430	444
16	19.1	Coke oven products.....	-	-	-	-	-	-
17	19.2	Refined petroleum products.....	435	492	531	442	430	444
18	20	Chemicals and chemical products.....	14,796	16,479	16,809	16,677	17,096	17,210
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	22,839	21,933	19,166	17,973	19,121	18,672
22	23.1	Glass and glass products.....	775	731	706	709	725	695
23	23.2-9	Refractory products, cut, shaped and finished stone.....	22,064	21,202	18,460	17,265	18,395	17,977
24	24	Basic metals.....	19,225	21,152	21,821	17,861	16,995	16,475
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	18,439	20,272	20,938	17,311	16,404	15,914
26	24.4	Basic precious and other non-ferrous metals.....	786	880	883	551	591	561
27	24.5	Casting services of metal.....	-	-	-	-	-	-
28	25	Fabricated metal products, except machinery and equipment.....	322	325	263	261	234	223
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	819	691	761	541	521	526
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1-/3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.2	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	-	-	-	-	-	-
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	-	-	-	-	-	-
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	-	-	-	-	-	-
44	F	Constructions and construction works.....	-	-	-	-	-	-
45	41-42	Building and building construction works.....	-	-	-	-	-	-
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	-	-	-	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	-	-	-	-	-	-
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	-	-	-	-	-
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	-	-	-	-
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	-	-	-	3	3	3
68		All homogeneous branches.....	60,537	63,267	61,313	55,177	55,751	54,773
69		Private households.....	430	423	310	392	382	365
70		All homogeneous branches and private households.....	60,967	63,690	61,624	55,569	56,133	55,137

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.2.4: Direct CO₂ emissions from utilisation of biomass (excluding road transport)

1,000 tonnes (Gg)

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	973	973	1,049	2,405	2,644	2,829
2	01	Products of agriculture, hunting and related services.....	973	973	1,049	2,405	2,644	2,829
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	-	-	0	142	114	107
6	05	Coal and lignite.....	-	-	0	103	94	86
7	06	Crude petroleum and natural gas.....	-	-	-	-	-	-
8	07-09	Metal ores, other mining and quarrying products.....	-	-	0	39	21	21
9	C	Manufactured products.....	1,541	2,176	6,774	9,909	10,519	10,455
10	10-12	Food products, beverages, tobacco products.....	-	-	134	489	195	180
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	1	24	19	0
12	16	Wood and products of wood and cork, except furniture.....	411	551	2,523	3,163	5,134	5,008
13	17	Paper and paper products.....	895	1,049	2,102	2,878	2,584	2,453
14	18	Printing and recording services.....	-	-	0	0	0	-
15	19	Coke and refined petroleum products.....	-	26	-	-	-	-
16	19.1	Coke oven products.....	-	0	-	-	-	-
17	19.2	Refined petroleum products.....	-	26	-	-	-	-
18	20	Chemicals and chemical products.....	-	-	15	1,452	337	311
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	54	288	358	532
20	22	Rubber and plastic products.....	-	-	142	26	36	28
21	23	Other non-metallic mineral products.....	235	550	1,712	1,455	1,714	1,807
22	23.1	Glass and glass products.....	0	0	55	1	114	127
23	23.2-9	Refractory products, cut, shaped and finished stone.....	235	550	1,657	1,453	1,600	1,680
24	24	Basic metals.....	-	-	27	10	15	9
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	-	-	12	8	13	9
26	24.4	Basic precious and other non-ferrous metals.....	-	-	14	2	1	1
27	24.5	Casting services of metal.....	-	-	1	-	-	-
28	25	Fabricated metal products, except machinery and equipment.....	-	-	10	80	61	61
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	12	22	38	39
32	29	Motor vehicles, trailers and semi-trailers.....	-	-	41	21	28	26
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	0	0	0	1
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	2,337	5,471	14,851	34,060	36,377	38,861
37	35.1/.3	Electricity, transmission and distribution services, steam.....	2,337	5,471	14,851	34,060	36,377	38,858
38	35.2	Manufactured gas.....	-	-	-	-	-	3
39	E	Water supply; sewerage, waste management and remediation services.....	3,922	4,544	6,912	10,410	10,947	11,204
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,922	4,544	6,912	10,410	10,947	11,204
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	3,922	4,544	6,912	10,410	10,947	11,204
44	F	Constructions and construction works.....	180	162	213	362	364	335
45	41-42	Building and building construction works.....	86	67	92	164	166	153
46	43	Specialised construction works.....	93	95	121	199	198	182
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	470	437	438	447	447	435
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	220	206	206	206	206	206
50	47	Retail trade services, except of motor vehicles and motorcycles.....	250	231	232	241	241	229
51	H	Transportation and storage services.....	-	-	48	133	137	126
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	-	28	68	69	65
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	-	2	2	-
54	50	Water transport services.....	-	-	20	51	56	61
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	0	12	10	-
58	I	Accommodation and food services.....	612	638	639	653	650	637
59	J	Information and communication services.....	46	60	59	82	75	58
60	K	Financial and insurance services.....	207	192	191	209	202	191
61	L	Real estate services.....	73	81	80	88	85	80
62	M	Professional, scientific and technical services.....	113	116	115	142	136	114
63	N	Administrative and support services.....	44	50	49	63	60	49
64	O	Public administration and defence services.....	-	-	9	19	22	30
65	P	Education services.....	-	-	1	35	30	5
66	Q	Human health and social work services.....	342	362	362	379	375	367
67	R-T	Other services.....	21	33	34	76	84	41
68		All homogeneous branches.....	10,882	15,296	31,823	59,615	63,267	65,923
69		Private households.....	9,354	16,848	18,839	29,209	24,828	27,177
70		All homogeneous branches and private households.....	20,237	32,144	50,662	88,823	88,096	93,100

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.2.5: Direct CO₂ emissions of road transport (excluding biodiesel)

1,000 tonnes (Gg)

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	1,312	808	578	546	500	507
2	01	Products of agriculture, hunting and related services.....	1,209	748	525	495	454	460
3	02	Products of forestry, logging and related services.....	99	56	47	45	41	42
4	03	Fish and other fishing products; aquaculture products.....	5	4	6	6	5	5
5	B	Mining and quarrying.....	230	160	267	185	182	185
6	05	Coal and lignite.....	62	25	32	45	44	45
7	06	Crude petroleum and natural gas.....	36	26	39	45	44	45
8	07-09	Metal ores, other mining and quarrying products.....	132	110	195	95	94	95
9	C	Manufactured products.....	6,547	5,792	5,195	5,142	6,728	6,793
10	10-12	Food products, beverages, tobacco products.....	816	635	533	581	764	772
11	13-15	Textiles, wearing apparel, leather and related products.....	209	136	91	74	97	98
12	16	Wood and products of wood and cork, except furniture.....	151	104	81	81	103	104
13	17	Paper and paper products.....	157	135	109	124	164	165
14	18	Printing and recording services.....	134	113	84	83	109	110
15	19	Coke and refined petroleum products.....	133	169	204	214	271	274
16	19.1	Coke oven products.....	0	0	1	3	5	5
17	19.2	Refined petroleum products.....	133	169	203	211	266	269
18	20	Chemicals and chemical products.....	488	425	387	381	501	505
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	122	106	94	123	162	163
20	22	Rubber and plastic products.....	294	234	209	211	278	281
21	23	Other non-metallic mineral products.....	289	196	136	156	198	200
22	23.1	Glass and glass products.....	53	41	29	33	43	44
23	23.2-9	Refractory products, cut, shaped and finished stone.....	236	155	106	123	155	157
24	24	Basic metals.....	333	274	288	265	348	352
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	185	140	161	148	194	196
26	24.4	Basic precious and other non-ferrous metals.....	106	98	88	82	108	109
27	24.5	Casting services of metal.....	42	37	39	35	46	47
28	25	Fabricated metal products, except machinery and equipment.....	515	456	407	399	518	523
29	26	Computer, electronic and optical products.....	240	282	217	200	264	267
30	27	Electrical equipment.....	492	432	373	296	388	392
31	28	Machinery and equipment n.e.c.....	839	701	666	674	882	891
32	29	Motor vehicles, trailers and semi-trailers.....	782	916	924	829	1,093	1,103
33	30	Other transport equipment.....	106	120	120	121	158	160
34	31-32	Furniture, other manufacture goods.....	190	159	115	150	197	199
35	33	Repair and installation services of machinery and equipment.....	257	199	156	179	231	234
36	D (35)	Electricity, gas, steam and air conditioning.....	276	227	298	351	350	354
37	35.1/3	Electricity, transmission and distribution services, steam.....	236	193	250	269	268	271
38	35.2	Manufactured gas.....	41	35	47	82	82	83
39	E	Water supply; sewerage, waste management and remediation services.....	4,024	3,739	6,438	6,841	7,183	7,305
40	36	Natural water; water treatment and supply services.....	34	38	40	110	107	108
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,989	3,701	6,398	6,731	7,077	7,197
42	37	Sewerage services, sewerage sludge.....	297	262	478	490	521	527
43	38-39	Waste collection, treatment and disposal services.....	3,692	3,439	5,920	6,240	6,556	6,669
44	F	Constructions and construction works.....	6,482	5,118	3,855	3,768	3,635	3,690
45	41-42	Building and building construction works.....	3,379	2,510	1,808	1,171	1,130	1,147
46	43	Specialised construction works.....	3,103	2,607	2,047	2,598	2,505	2,543
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	8,962	8,768	10,708	8,607	9,930	10,027
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,138	1,270	1,303	1,084	1,279	1,292
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	4,299	3,676	6,478	5,091	5,455	5,536
50	47	Retail trade services, except of motor vehicles and motorcycles.....	3,525	3,823	2,927	2,431	3,196	3,199
51	H	Transportation and storage services.....	16,210	17,149	20,647	22,798	23,918	24,357
52	49.1-2	Passenger rail transport services, freight rail transport services.....	524	491	230	516	546	556
53	49.3-5	Other passenger land transport services, transport service via pipeline....	8,422	8,085	9,706	10,510	10,925	11,125
54	50	Water transport services.....	310	440	714	850	897	913
55	51	Air transport services.....	981	1,234	937	931	982	1,000
56	52	Warehousing and support services for transportation.....	4,160	4,804	7,125	8,317	8,798	8,960
57	53	Postal and courier services.....	1,814	2,094	1,935	1,674	1,770	1,802
58	I	Accommodation and food services.....	631	639	226	220	227	227
59	J	Information and communication services.....	2,115	2,678	2,623	2,588	2,868	2,909
60	K	Financial and insurance services.....	212	210	237	254	369	372
61	L	Real estate services.....	774	877	676	735	860	868
62	M	Professional, scientific and technical services.....	4,524	5,862	4,637	4,985	6,010	6,049
63	N	Administrative and support services.....	454	567	598	344	366	369
64	O	Public administration and defence services.....	1,301	1,194	1,355	1,432	1,472	1,491
65	P	Education services.....	143	154	124	127	142	144
66	Q	Human health and social work services.....	593	700	416	586	615	613
67	R-T	Other services.....	2,575	3,195	3,283	3,275	3,832	3,885
68		All homogeneous branches.....	57,365	57,837	62,162	62,785	69,188	70,145
69		Private households.....	108,843	113,605	103,668	98,270	94,247	91,637
70		All homogeneous branches and private households (residents concept).....	166,208	171,441	165,830	161,055	163,435	161,782
71		Transitional balance 2).....	-1,104	-212	-14,104	-15,594	-15,956	-15,956
72		Total emissions (domestic concept).....	165,104	171,230	151,726	145,461	147,479	145,826

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.2.6: Direct CO₂ emissions of road transport from biodiesel

1,000 tonnes (Gg)

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	1	7	30	35	29	30
2	01	Products of agriculture, hunting and related services.....	1	7	28	32	26	27
3	02	Products of forestry, logging and related services.....	0	1	2	3	2	2
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	0	2	15	12	11	11
6	05	Coal and lignite.....	0	0	2	3	3	3
7	06	Crude petroleum and natural gas.....	0	0	2	3	3	3
8	07-09	Metal ores, other mining and quarrying products.....	0	1	11	6	6	6
9	C	Manufactured products.....	8	50	260	324	383	395
10	10-12	Food products, beverages, tobacco products.....	1	5	27	37	43	45
11	13-15	Textiles, wearing apparel, leather and related products.....	0	1	5	5	6	6
12	16	Wood and products of wood and cork, except furniture.....	0	1	4	5	6	6
13	17	Paper and paper products.....	0	1	5	8	9	10
14	18	Printing and recording services.....	0	1	4	5	6	6
15	19	Coke and refined petroleum products.....	0	1	10	14	16	16
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	0	1	10	13	15	16
18	20	Chemicals and chemical products.....	1	4	19	24	28	29
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	0	1	5	8	9	9
20	22	Rubber and plastic products.....	0	2	10	13	16	16
21	23	Other non-metallic mineral products.....	0	2	7	10	11	12
22	23.1	Glass and glass products.....	0	0	1	2	2	3
23	23.2-9	Refractory products, cut, shaped and finished stone.....	0	1	5	8	9	9
24	24	Basic metals.....	0	2	14	17	20	20
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	0	1	8	9	11	11
26	24.4	Basic precious and other non-ferrous metals.....	0	1	4	5	6	6
27	24.5	Casting services of metal.....	0	0	2	2	3	3
28	25	Fabricated metal products, except machinery and equipment.....	1	4	21	25	30	30
29	26	Computer, electronic and optical products.....	0	2	11	13	15	15
30	27	Electrical equipment.....	1	4	19	19	22	23
31	28	Machinery and equipment n.e.c.....	1	6	33	42	50	52
32	29	Motor vehicles, trailers and semi-trailers.....	1	8	46	52	62	64
33	30	Other transport equipment.....	0	1	6	8	9	9
34	31-32	Furniture, other manufacture goods.....	0	1	6	9	11	12
35	33	Repair and installation services of machinery and equipment.....	0	2	8	11	13	14
36	D (35)	Electricity, gas, steam and air conditioning.....	0	2	15	22	20	21
37	35.1/3	Electricity, transmission and distribution services, steam.....	0	2	13	17	15	16
38	35.2	Manufactured gas.....	0	0	2	5	5	5
39	E	Water supply; sewerage, waste management and remediation services.....	6	39	366	448	427	441
40	36	Natural water; water treatment and supply services.....	0	0	2	7	6	7
41	37-39	Sewerage services; waste collection and materials recovery services.....	6	39	364	441	421	434
42	37	Sewerage services, sewerage sludge.....	0	2	25	31	30	31
43	38-39	Waste collection, treatment and disposal services.....	5	37	339	409	391	403
44	F	Constructions and construction works.....	8	50	211	244	214	221
45	41-42	Building and building construction works.....	4	25	99	76	66	69
46	43	Specialised construction works.....	4	26	112	168	147	152
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	10	76	561	540	566	583
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1	10	66	68	73	75
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	6	37	364	330	320	330
50	47	Retail trade services, except of motor vehicles and motorcycles.....	3	29	131	142	172	177
51	H	Transportation and storage services.....	24	188	1,200	1,505	1,434	1,480
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1	5	13	34	33	34
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	13	89	565	694	655	676
54	50	Water transport services.....	0	5	42	56	54	55
55	51	Air transport services.....	1	14	55	61	59	61
56	52	Warehousing and support services for transportation.....	6	53	414	549	527	544
57	53	Postal and courier services.....	3	23	112	110	106	109
58	I	Accommodation and food services.....	0	2	9	13	12	12
59	J	Information and communication services.....	2	24	140	167	168	173
60	K	Financial and insurance services.....	0	1	10	15	21	21
61	L	Real estate services.....	1	8	31	45	49	50
62	M	Professional, scientific and technical services.....	5	50	199	302	335	346
63	N	Administrative and support services.....	1	5	31	21	21	21
64	O	Public administration and defence services.....	2	12	70	91	85	88
65	P	Education services.....	0	1	6	8	8	8
66	Q	Human health and social work services.....	1	6	16	33	33	34
67	R-T	Other services.....	3	31	176	210	224	231
68		All homogeneous branches.....	73	553	3,346	4,035	4,038	4,166
69		Private households.....	33	316	2,230	4,460	4,150	4,246
70		All homogeneous branches and private households.....	106	869	5,576	8,495	8,188	8,412

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.2.7: International comparison – CO₂ emissions *) 1990 and 2012

No.	Country	1990	2012	Change in 2012 as against 1990	Share of CO ₂ emissions 2012 in the EU	Emissions 2012 per inhabitant
		1,000 tonnes				
1	European Union (27).....	4,437,028	3,717,117	-16.2		
2	Belgium.....	118,989	100,659	-15.4	2.7	9.7
3	Bulgaria.....	80,232	48,364	-39.7	1.3	7.1
4	Denmark.....	54,200	40,799	-24.7	1.1	8.2
5	Germany.....	1,042,066	821,718	-21.1	22.1	10.0
6	Estonia.....	36,701	17,079	-53.5	0.5	13.7
7	Finland.....	56,644	50,733	-10.4	1.4	10.5
8	France.....	398,770	368,671	-7.5	9.9	5.8
9	Greece.....	82,998	90,472	9.0	2.4	8.3
10	United Kingdom.....	591,499	483,424	-18.3	13.0	7.4
11	Ireland.....	32,424	38,011	17.2	1.0	8.3
12	Italy.....	434,656	386,667	-11.0	10.4	6.8
13	Latvia.....	19,052	7,434	-61.0	0.2	3.5
14	Lithuania.....	35,785	14,182	-60.4	0.4	4.2
15	Luxembourg.....	11,950	10,870	-9.0	0.3	21.6
16	Malta.....	1,867	2,807	50.3	0.1	6.4
17	Netherlands.....	159,236	165,262	3.8	4.4	10.1
18	Austria.....	62,018	67,733	9.2	1.8	8.4
19	Poland.....	374,812	320,862	-14.4	8.6	8.6
20	Portugal.....	45,013	50,310	11.8	1.4	4.8
21	Romania.....	178,134	83,861	-52.9	2.3	4.0
22	Sweden.....	57,141	45,710	-20.0	1.2	5.1
23	Slovak Republic.....	61,805	35,238	-43.0	0.9	6.8
24	Slovenia.....	14,792	15,675	6.0	0.4	7.9
25	Spain.....	227,508	276,637	21.6	7.4	6.0
26	Czech Republic.....	164,694	111,302	-32.4	3.0	10.9
27	Hungary.....	72,475	46,072	-36.4	1.2	5.0
28	Cyprus.....	4,627	7,083	53.1	0.2	6.8
29	Iceland.....	2,160	3,324	53.9		10.3
30	Croatia.....	23,340	19,233	-17.6		4.8
31	Lichtenstein.....	201	189	-6.0		5.0
32	Monaco.....	105	83	-21.0		2.3
33	Norway.....	34,836	44,101	26.6		9.1
34	Russia.....	2,505,380	1,656,774	-33.9		11.5
35	Switzerland.....	44,639	43,251	-3.1		5.4
36	Turkey.....	141,560	357,498	152.5		4.7
37	Ukraine.....	718,894	302,749	-57.9		6.8
38	Belarus.....	103,807	57,491	-44.6		5.8
39	Australia.....	276,138	397,831	44.1		17.6
40	Japan.....	1,141,138	1,275,611	11.8		9.8
41	Canada.....	459,038	550,547	19.9		16.2
42	New Zealand.....	24,916	34,258	37.5		7.5
43	United States of America.....	5,100,606	5,375,003	5.4		17.8

1) Not including emissions from biomass. Not including absorptions/emissions from land use, land use changes and forestry.

Source: UNFCCC 2014, Statistical Yearbook 2013

Table 4.2.8: Total supply of CO₂ emissions and CO₂ content of goods by final use categories

No.	Specification	2000	2010	Change in 2010 as against 2000
		CO₂ emissions 1,000 tonnes		in percent
1	Of domestic origin.....	954,109	972,687	1.9
2	Domestic production 1).....	721,639	741,904	2.8
3	Private households.....	232,469	230,782	-0.7
4	+ Imports 2).....	379,286	404,899	6.8
5	= Supply.....	1,333,394	1,377,585	3.3
6	= Final use.....	1,333,394	1,377,585	3.3
7	- Exports 2).....	412,027	512,696	24.4
8	= Final domestic use.....	921,368	864,889	-6.1
9	Domestic final consumption of private households 3).....	656,785	651,724	-0.8
10	direct.....	232,469	230,782	-0.7
11	CO ₂ content of consumer goods.....	424,316	420,942	-0.8
12	Other final uses.....	264,583	213,165	-19.4
		Macroeconomic reference data EUR bn at current prices⁴⁾		
13	Of domestic origin.....	3,786	4,819	27.3
14	+ Imports 2).....	538	761	41.4
15	= Supply.....	4,324	5,580	29.0
16	- Intermediate consumption.....	1,883	2,515	33.6
17	= Final use 3).....	2,441	3,064	25.5
18	- Exports 2).....	577	935	62.2
19	= Final domestic uses.....	1,864	2,129	14.2
20	Domestic final consumption of private households	1,024	1,212	18.3
21	Consumption expenditure of non-profit institutions serving households.....	34	39	16.1
22	Government final consumption expenditure.....	388	481	24.0
23	Gross fixed capital formation.....	411	400	-2.8
24	Changes in stocks, acquisitions less disposals of valuables.....	7	-3	-
		CO₂ intensity CO₂ emissions per macroeconomic reference data at current prices kg per EUR 1,000		
25	= Final use.....	546	450	
26	- Exports 2).....	715	548	
27	= Final domestic use.....	494	406	
28	Consumer goods.....	414	347	
29	memorandum item: Imports 2).....	705	532	

1) Based on conceptual differences of bunkering there are discrepancies between the aggregates calculated by Destatis and the Federal Environment Agency. Including CO₂ emissions from biomass.

2) Excl. re-exports.

3) Incl. Direct emissions.

4) At producer's prices excl. taxes on goods.

Table 4.2.9: CO₂ content of goods for final use 2010

No.	Goods groups	Total final use			including:	
					Domestic final consumption of private households	Exports and ocean bunkering
		indirect	direct ¹⁾	cumulated	indirect	
1,000 tonnes						
1	Products of agriculture, hunting and related services.....	18,304	-	18,304	11,361	3,791
2	Products of forestry, logging and related services.....	324	32,028	32,353	231	67
3	Fish and other fishing products; aquaculture products.....	273	-	273	230	44
4	Hard coal.....	-219	2,920	2,702	172	94
5	Lignite.....	141	2,265	2,406	78	90
6	Crude petroleum and natural gas.....	2,030	57,380	59,410	2,766	3
7	Metal ores; Other mining and quarrying products; Mining support services.....	773	-	773	32	438
8	Food products; Beverages; Tobacco products.....	68,997	-	68,997	52,460	18,496
9	Textiles; Wearing apparel; Leather and related products.....	16,811	-	16,811	13,059	4,643
10	Wood, products of wood and cork, except furniture.....	8,963	-	8,963	1,978	4,198
11	Paper and paper products.....	25,752	-	25,752	5,113	20,255
12	Printing and recording services.....	1,506	-	1,506	967	961
13	Coke oven products.....	797	-	797	17	71
14	Refined petroleum products.....	22,878	136,189	159,067	15,896	6,690
15	Basic chemicals.....	77,010	-	77,010	1,845	74,512
16	Other chemical products.....	35,484	-	35,484	7,674	26,556
17	Pharmaceutical products.....	12,803	-	12,803	2,676	8,413
18	Rubber and plastics products.....	22,864	-	22,864	3,167	18,654
19	Glass and glass products.....	6,297	-	6,297	1,351	4,781
20	Ceramic products; Cut, shaped and finished stone.....	15,668	-	15,668	3,172	9,977
21	Basic iron and steel; other products of the first processing of steel.....	54,757	-	54,757	0	53,347
22	Aluminium.....	10,372	-	10,372	0	9,085
23	Other non-ferrous metals.....	10,897	-	10,897	0	10,410
24	Casting services of metals.....	493	-	493	0	214
25	Fabricated metal products.....	21,233	-	21,233	1,924	14,256
26	Computer, electronic and optical products.....	23,059	-	23,059	3,442	12,910
27	Electrical equipment.....	16,612	-	16,612	2,086	11,509
28	Machinery and equipment n.e.c.....	54,480	-	54,480	578	38,566
29	Motor vehicles, trailers and semi-trailers.....	88,873	-	88,873	20,428	58,785
30	Other transport equipment.....	12,519	-	12,519	641	8,398
31	Furniture; Other manufactured goods.....	15,431	-	15,431	6,462	5,230
32	Repair and installation services of machinery and equipment.....	3,737	-	3,737	117	832
33	Electricity, transmission and distribution services.....	138,525	-	138,525	87,981	35,445
34	Manufactured gas; distribution services of gaseous fuels through mains.....	737	-	737	0	0
35	Steam supply services.....	21,602	-	21,602	17,824	25
36	Natural water; water treatment and supply services.....	1,446	-	1,446	3,642	0
37	Sewerage, Waste management and remediation services.....	7,393	-	7,393	6,317	1,641
38	Buildings and building construction works.....	25,908	-	25,908	0	0
39	Specialised construction works.....	29,303	-	29,303	1,429	213
40	Wholesale and retail trade and repair services of motor vehicles.....	7,697	-	7,697	6,034	352
41	Wholesale trade services, except of motor vehicles and motorcycles.....	17,417	-	17,417	4,181	10,347
42	Retail trade services, except of motor vehicles and motorcycles.....	32,090	-	32,090	28,858	0
43	Rail transport services.....	10,194	-	10,194	9,376	806
44	Other land transport services.....	5,340	-	5,340	4,631	643
45	Water transport services.....	11,170	-	11,170	261	10,850
46	Air transport services.....	30,023	-	30,023	18,360	11,622
47	Warehousing and support services for transportation.....	4,049	-	4,049	732	2,280
48	Postal and courier services.....	1,216	-	1,216	781	435
49	Accommodation and food serving services.....	21,378	-	21,378	19,434	1,851
50	Publishing services.....	3,742	-	3,742	3,100	633
51	Motion picture, video and television programme services.....	1,958	-	1,958	1,178	288
52	Telecommunications services.....	6,106	-	6,106	5,473	629
53	Information services.....	2,719	-	2,719	20	1,095
54	Financial and insurance services.....	7,514	-	7,514	5,928	1,549
55	Real estate services.....	11,710	-	11,710	11,369	89
56	Legal and accounting services, business services, architectural services.....	5,242	-	5,242	437	2,712
57	Scientific research and development services.....	1,681	-	1,681	26	1,350
58	Advertising and market research services; Security.....	2,918	-	2,918	1,372	1,281
59	Public administration and defence services;.....	23,092	-	23,092	1,779	146
60	Compulsory social security services.....	2,387	-	2,387	0	0
61	Education services.....	14,851	-	14,851	2,853	0
62	Human health services.....	22,272	-	22,272	5,424	0
63	Residential care services; Social work services.....	9,649	-	9,649	1,561	0
64	Arts, entertainment and recreation services.....	6,176	-	6,176	3,354	120
65	Services furnished by membership organisations.....	2,248	-	2,248	203	0
66	Repair services of computers and personal and household goods.....	7,134	-	7,134	7,104	19
67	Total final domestic uses.....	1,146,803	230,782	1,377,585	420,942	512,696

1) Direct emissions of private households.

2) Negative values because of depletion or decrease of resources.

Table 4.2.9: CO₂ content of goods for final use 2010

No.	Goods groups	Total final use			including:	
					Domestic final consumption of private households	Exports and ocean bunkering
		indirect	direct ¹⁾	cumulated	indirect	
		percentage of total				
1	Products of agriculture, hunting and related services.....	1.6	-	1.3	2.7	0.7
2	Products of forestry, logging and related services.....	0.0	13.9	2.3	0.1	0.0
3	Fish and other fishing products; aquaculture products.....	0.0	-	0.0	0.1	0.0
4	Hard coal.....	0.0	1.3	0.2	0.0	0.0
5	Lignite.....	0.0	1.0	0.2	0.0	0.0
6	Crude petroleum and natural gas.....	0.2	24.9	4.3	0.7	0.0
7	Metal ores; Other mining and quarrying products; Mining support services.....	0.1	-	0.1	0.0	0.1
8	Food products; Beverages; Tobacco products.....	6.0	-	5.0	12.5	3.6
9	Textiles; Wearing apparel; Leather and related products.....	1.5	-	1.2	3.1	0.9
10	Wood, products of wood and cork, except furniture.....	0.8	-	0.7	0.5	0.8
11	Paper and paper products.....	2.2	-	1.9	1.2	4.0
12	Printing and recording services.....	0.1	-	0.1	0.2	0.2
13	Coke oven products.....	0.1	-	0.1	0.0	0.0
14	Refined petroleum products.....	2.0	59.0	11.5	3.8	1.3
15	Basic chemicals.....	6.7	-	5.6	0.4	14.5
16	Other chemical products.....	3.1	-	2.6	1.8	5.2
17	Pharmaceutical products.....	1.1	-	0.9	0.6	1.6
18	Rubber and plastics products.....	2.0	-	1.7	0.8	3.6
19	Glass and glass products.....	0.5	-	0.5	0.3	0.9
20	Ceramic products; Cut, shaped and finished stone.....	1.4	-	1.1	0.8	1.9
21	Basic iron and steel; other products of the first processing of steel.....	4.8	-	4.0	0.0	10.4
22	Aluminium.....	0.9	-	0.8	0.0	1.8
23	Other non-ferrous metals.....	1.0	-	0.8	0.0	2.0
24	Casting services of metals.....	0.0	-	0.0	0.0	0.0
25	Fabricated metal products.....	1.9	-	1.5	0.5	2.8
26	Computer, electronic and optical products.....	2.0	-	1.7	0.8	2.5
27	Electrical equipment.....	1.4	-	1.2	0.5	2.2
28	Machinery and equipment n.e.c.....	4.8	-	4.0	0.1	7.5
29	Motor vehicles, trailers and semi-trailers.....	7.7	-	6.5	4.9	11.5
30	Other transport equipment.....	1.1	-	0.9	0.2	1.6
31	Furniture; Other manufactured goods.....	1.3	-	1.1	1.5	1.0
32	Repair and installation services of machinery and equipment.....	0.3	-	0.3	0.0	0.2
33	Electricity, transmission and distribution services.....	12.1	-	10.1	20.9	6.9
34	Manufactured gas; distribution services of gaseous fuels through mains.....	0.1	-	0.1	0.0	0.0
35	Steam supply services.....	1.9	-	1.6	4.2	0.0
36	Natural water; water treatment and supply services.....	0.1	-	0.1	0.9	0.0
37	Sewerage, Waste management and remediation services.....	0.6	-	0.5	1.5	0.3
38	Buildings and building construction works.....	2.3	-	1.9	0.0	0.0
39	Specialised construction works.....	2.6	-	2.1	0.3	0.0
40	Wholesale and retail trade and repair services of motor vehicles.....	0.7	-	0.6	1.4	0.1
41	Wholesale trade services, except of motor vehicles and motorcycles.....	1.5	-	1.3	1.0	2.0
42	Retail trade services, except of motor vehicles and motorcycles.....	2.8	-	2.3	6.9	0.0
43	Rail transport services.....	0.9	-	0.7	2.2	0.2
44	Other land transport services.....	0.5	-	0.4	1.1	0.1
45	Water transport services.....	1.0	-	0.8	0.1	2.1
46	Air transport services.....	2.6	-	2.2	4.4	2.3
47	Warehousing and support services for transportation.....	0.4	-	0.3	0.2	0.4
48	Postal and courier services.....	0.1	-	0.1	0.2	0.1
49	Accommodation and food serving services.....	1.9	-	1.6	4.6	0.4
50	Publishing services.....	0.3	-	0.3	0.7	0.1
51	Motion picture, video and television programme services.....	0.2	-	0.1	0.3	0.1
52	Telecommunications services.....	0.5	-	0.4	1.3	0.1
53	Information services.....	0.2	-	0.2	0.0	0.2
54	Financial and insurance services.....	0.7	-	0.5	1.4	0.3
55	Real estate services.....	1.0	-	0.9	2.7	0.0
56	Legal and accounting services, business services, architectural services.....	0.5	-	0.4	0.1	0.5
57	Scientific research and development services.....	0.1	-	0.1	0.0	0.3
58	Advertising and market research services; Security.....	0.3	-	0.2	0.3	0.2
59	Public administration and defence services;.....	2.0	-	1.7	0.4	0.0
60	Compulsory social security services.....	0.2	-	0.2	0.0	0.0
61	Education services.....	1.3	-	1.1	0.7	0.0
62	Human health services.....	1.9	-	1.6	1.3	0.0
63	Residential care services; Social work services.....	0.8	-	0.7	0.4	0.0
64	Arts, entertainment and recreation services.....	0.5	-	0.4	0.8	0.0
65	Services furnished by membership organisations.....	0.2	-	0.2	0.0	0.0
66	Repair services of computers and personal and household goods.....	0.6	-	0.5	1.7	0.0
67	Total final domestic uses.....	100	100	100	100	100

1) Direct emissions of private households.

2) Negative values because of depletion or decrease of resources.

Table 4.2.10: CO₂ emissions of industries on the national territory and abroad at the production of goods for final use 2010

No.	Goods groups	Final use			
		Domestic	including:	Imports	Total
			Exports ¹⁾		
1,000 tonnes					
1	Products of agriculture, hunting and related services.....	15,264	4,464	12,396	27,660
2	Products of forestry, logging and related services.....	178	64	153	331
3	Fish and other fishing products; aquaculture products.....	80	25	185	265
4	Hard coal.....	713	390	4,689	5,402
5	Lignite.....	1,656	701	477	2,133
6	Crude petroleum and natural gas.....	1,445	521	17,791	19,236
7	Metal ores; Other mining and quarrying products; Mining support services.....	897	510	2,755	3,651
8	Food products; Beverages; Tobacco products.....	10,062	3,020	3,804	13,866
9	Textiles; Wearing apparel; Leather and related products.....	941	615	1,903	2,844
10	Wood, products of wood and cork, except furniture.....	6,470	2,710	2,806	9,276
11	Paper and paper products.....	10,625	7,450	9,539	20,163
12	Printing and recording services.....	888	301	276	1,164
13	Coke oven products.....	1,804	1,406	3,477	5,281
14	Refined petroleum products.....	17,801	7,437	15,120	32,921
15	Basic chemicals.....	32,730	31,468	42,607	75,337
16	Other chemical products.....	2,871	2,414	2,353	5,224
17	Pharmaceutical products.....	631	587	720	1,351
18	Rubber and plastics products.....	2,216	1,604	1,322	3,538
19	Glass and glass products.....	4,765	3,276	3,830	8,595
20	Ceramic products; Cut, shaped and finished stone.....	33,275	10,258	9,028	42,303
21	Basic iron and steel; other products of the first processing of steel.....	39,735	34,952	45,987	85,722
22	Aluminium.....	726	605	4,126	4,851
23	Other non-ferrous metals.....	1,307	1,236	3,006	4,314
24	Casting services of metals.....	2,145	1,504	909	3,054
25	Fabricated metal products.....	3,752	2,382	1,763	5,515
26	Computer, electronic and optical products.....	606	549	1,076	1,682
27	Electrical equipment.....	867	608	639	1,505
28	Machinery and equipment n.e.c.....	3,128	2,385	1,207	4,336
29	Motor vehicles, trailers and semi-trailers.....	3,524	2,621	1,634	5,158
30	Other transport equipment.....	599	579	649	1,248
31	Furniture; Other manufactured goods.....	898	426	565	1,463
32	Repair and installation services of machinery and equipment.....	432	203	320	752
33	Electricity, transmission and distribution services.....	350,543	145,461	141,813	492,356
34	Manufactured gas; distribution services of gaseous fuels through mains.....	1,517	889	1,174	2,691
35	Steam supply services.....	46,858	11,987	16,545	63,403
36	Natural water; water treatment and supply services.....	96	20	121	217
37	Sewerage, Waste management and remediation services.....	4,886	1,480	7,242	12,128
38	Buildings and building construction works.....	3,596	77	95	3,691
39	Specialised construction works.....	5,251	423	490	5,741
40	Wholesale and retail trade and repair services of motor vehicles.....	1,957	420	309	2,266
41	Wholesale trade services, except of motor vehicles and motorcycles.....	6,075	3,019	1,920	7,995
42	Retail trade services, except of motor vehicles and motorcycles.....	10,986	705	654	11,640
43	Rail transport services.....	1,841	327	689	2,530
44	Other land transport services.....	11,389	4,264	16,371	27,760
45	Water transport services.....	6,130	5,742	1,420	7,550
46	Air transport services.....	27,164	11,214	5,966	33,130
47	Warehousing and support services for transportation.....	10,719	5,236	4,192	14,911
48	Postal and courier services.....	3,341	903	736	4,077
49	Accommodation and food serving services.....	3,750	394	379	4,129
50	Publishing services.....	1,495	338	245	1,740
51	Motion picture, video and television programme services.....	123	26	73	196
52	Telecommunications services.....	1,565	294	239	1,804
53	Information services.....	621	249	281	902
54	Financial and insurance services.....	1,877	429	426	2,303
55	Real estate services.....	1,312	123	136	1,448
56	Legal and accounting services, business services, architectural services.....	7,080	3,032	2,678	9,758
57	Scientific research and development services.....	162	104	356	518
58	Advertising and market research services; Security.....	3,133	1,179	2,212	5,345
59	Public administration and defence services;.....	6,899	410	474	7,373
60	Compulsory social security services.....	491	0	0	492
61	Education services.....	4,363	77	86	4,449
62	Human health services.....	4,163	16	16	4,179
63	Residential care services; Social work services.....	2,784	0	0	2,784
64	Arts, entertainment and recreation services.....	2,774	129	93	2,868
65	Services furnished by membership organisations.....	622	44	57	679
66	Repair services of computers and personal and household goods.....	3,310	260	302	3,613
67	Total final domestic uses.....	741,904	326,542	404,899	1,146,803

1)Excl. re-exports.

Table 4.2.10: CO₂ emissions of industries on the national territory and abroad at the production of goods for final use 2010

No.	Goods groups	Final use			
		Domestic	including:	Imports	Total
			Exports ¹⁾ Domestic = 100		
percentage of total					
1	Products of agriculture, hunting and related services.....	55.2	29.2	44.8	100
2	Products of forestry, logging and related services.....	53.8	36.0	46.2	100
3	Fish and other fishing products; aquaculture products.....	30.2	30.7	69.8	100
4	Hard coal.....	13.2	54.7	86.8	100
5	Lignite.....	77.6	42.4	22.4	100
6	Crude petroleum and natural gas.....	7.5	36.1	92.5	100
7	Metal ores; Other mining and quarrying products; Mining support services.....	24.6	56.8	75.4	100
8	Food products; Beverages; Tobacco products.....	72.6	30.0	27.4	100
9	Textiles; Wearing apparel; Leather and related products.....	33.1	65.4	66.9	100
10	Wood, products of wood and cork, except furniture.....	69.7	41.9	30.3	100
11	Paper and paper products.....	52.7	70.1	47.3	100
12	Printing and recording services.....	76.3	33.9	23.7	100
13	Coke oven products.....	34.2	77.9	65.8	100
14	Refined petroleum products.....	54.1	41.8	45.9	100
15	Basic chemicals.....	43.4	96.1	56.6	100
16	Other chemical products.....	55.0	84.1	45.0	100
17	Pharmaceutical products.....	46.7	93.0	53.3	100
18	Rubber and plastics products.....	62.6	72.4	37.4	100
19	Glass and glass products.....	55.4	68.7	44.6	100
20	Ceramic products; Cut, shaped and finished stone.....	78.7	30.8	21.3	100
21	Basic iron and steel; other products of the first processing of steel.....	46.4	88.0	53.6	100
22	Aluminium.....	15.0	83.3	85.0	100
23	Other non-ferrous metals.....	30.3	94.6	69.7	100
24	Casting services of metals.....	70.2	70.1	29.8	100
25	Fabricated metal products.....	68.0	63.5	32.0	100
26	Computer, electronic and optical products.....	36.0	90.6	64.0	100
27	Electrical equipment.....	57.6	70.2	42.4	100
28	Machinery and equipment n.e.c.....	72.2	76.2	27.8	100
29	Motor vehicles, trailers and semi-trailers.....	68.3	74.4	31.7	100
30	Other transport equipment.....	48.0	96.6	52.0	100
31	Furniture; Other manufactured goods.....	61.4	47.4	38.6	100
32	Repair and installation services of machinery and equipment.....	57.5	46.9	42.5	100
33	Electricity, transmission and distribution services.....	71.2	41.5	28.8	100
34	Manufactured gas; distribution services of gaseous fuels through mains.....	56.4	58.6	43.6	100
35	Steam supply services.....	73.9	25.6	26.1	100
36	Natural water; water treatment and supply services.....	44.2	21.1	55.8	100
37	Sewerage, Waste management and remediation services.....	40.3	30.3	59.7	100
38	Buildings and building construction works.....	97.4	2.2	2.6	100
39	Specialised construction works.....	91.5	8.1	8.5	100
40	Wholesale and retail trade and repair services of motor vehicles.....	86.4	21.5	13.6	100
41	Wholesale trade services, except of motor vehicles and motorcycles.....	76.0	49.7	24.0	100
42	Retail trade services, except of motor vehicles and motorcycles.....	94.4	6.4	5.6	100
43	Rail transport services.....	72.8	17.8	27.2	100
44	Other land transport services.....	41.0	37.4	59.0	100
45	Water transport services.....	81.2	93.7	18.8	100
46	Air transport services.....	82.0	41.3	18.0	100
47	Warehousing and support services for transportation.....	71.9	48.8	28.1	100
48	Postal and courier services.....	81.9	27.0	18.1	100
49	Accommodation and food serving services.....	90.8	10.5	9.2	100
50	Publishing services.....	85.9	22.6	14.1	100
51	Motion picture, video and television programme services.....	62.7	20.8	37.3	100
52	Telecommunications services.....	86.8	18.8	13.2	100
53	Information services.....	68.9	40.1	31.1	100
54	Financial and insurance services.....	81.5	22.9	18.5	100
55	Real estate services.....	90.6	9.4	9.4	100
56	Legal and accounting services, business services, architectural services.....	72.6	42.8	27.4	100
57	Scientific research and development services.....	31.3	64.3	68.7	100
58	Advertising and market research services; Security.....	58.6	37.6	41.4	100
59	Public administration and defence services;.....	93.6	5.9	6.4	100
60	Compulsory social security services.....	99.9	0.0	0.1	100
61	Education services.....	98.1	1.8	1.9	100
62	Human health services.....	99.6	0.4	0.4	100
63	Residential care services; Social work services.....	100.0	0.0	0.0	100
64	Arts, entertainment and recreation services.....	96.8	4.6	3.2	100
65	Services furnished by membership organisations.....	91.6	7.0	8.4	100
66	Repair services of computers and personal and household goods.....	91.6	7.9	8.4	100
67	Total final domestic uses.....	64.7	44.0	35.3	100

1)Excl. re-exports.

Table 4.3.1: Direct CH₄ emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	1,483,687	1,390,287	1,290,260	1,255,073	1,234,727	1,234,555
2	01	Products of agriculture, hunting and related services.....	1,483,670	1,390,275	1,290,251	1,255,066	1,234,720	1,234,549
3	02	Products of forestry, logging and related services.....	3	1	1	1	1	1
4	03	Fish and other fishing products; aquaculture products.....	14	11	8	6	6	5
5	B	Mining and quarrying.....	736,826	616,909	289,120	141,708	136,014	168,513
6	05	Coal and lignite.....	705,881	590,152	273,681	132,699	125,173	160,071
7	06	Crude petroleum and natural gas.....	30,850	26,713	15,392	8,960	10,803	8,404
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	94	44	47	49	38	38
9	C	Manufactured products.....	21,566	20,190	18,285	18,799	18,560	19,166
10	10-12	Food products, beverages, tobacco products.....	1,090	1,039	830	842	813	833
11	13-15	Textiles, wearing apparel, leather and related products.....	353	250	165	106	113	146
12	16	Wood and products of wood and cork, except furniture.....	174	142	392	420	672	624
13	17	Paper and paper products.....	492	458	647	704	620	616
14	18	Printing and recording services.....	83	92	82	81	84	88
15	19	Coke and refined petroleum products.....	12,798	11,856	9,950	9,682	9,171	9,529
16	19.1	Coke oven products.....	1,136	767	459	451	438	435
17	19.2	Refined petroleum products.....	11,662	11,089	9,491	9,232	8,733	9,094
18	20	Chemicals and chemical products.....	1,217	1,127	1,103	1,581	1,565	1,477
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	59	112	61	39	48	63
20	22	Rubber and plastic products.....	132	117	151	149	133	137
21	23	Other non-metallic mineral products.....	889	854	772	799	837	843
22	23.1	Glass and glass products.....	251	242	236	227	237	249
23	23.2-9	Refractory products, cut, shaped and finished stone.....	638	612	536	573	599	594
24	24	Basic metals.....	2,870	3,066	3,075	3,191	3,382	3,384
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	2,638	2,864	2,917	3,027	3,222	3,217
26	24.4	Basic precious and other non-ferrous metals.....	89	104	96	99	92	97
27	24.5	Casting services of metal.....	144	98	61	66	68	70
28	25	Fabricated metal products, except machinery and equipment.....	533	425	375	475	413	675
29	26	Computer, electronic and optical products.....	165	126	77	53	55	62
30	27	Electrical equipment.....	155	65	39	58	67	61
31	28	Machinery and equipment n.e.c.....	275	216	234	234	219	230
32	29	Motor vehicles, trailers and semi-trailers.....	189	172	226	204	203	207
33	30	Other transport equipment.....	49	36	42	42	35	39
34	31-32	Furniture, other manufacture goods.....	41	36	61	115	109	127
35	33	Repair and installation services of machinery and equipment.....	3	2	2	23	21	22
36	D (35)	Electricity, gas, steam and air conditioning.....	215,992	205,893	218,252	245,681	256,081	263,191
37	35.1/3	Electricity, transmission and distribution services, steam.....	11,682	13,611	32,367	62,561	69,979	77,512
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	204,310	192,282	185,885	183,120	186,102	185,680
39	E	Water supply; sewerage, waste management and remediation services.....	1,760,568	1,203,680	884,779	600,094	556,238	516,548
40	36	Natural water; water treatment and supply services.....	1	1	1	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	1,760,567	1,203,679	884,778	600,093	556,237	516,546
42	37	Sewerage services, sewerage sludge.....	14,635	2,884	1,996	1,313	1,195	1,076
43	38-39	Waste collection, treatment and disposal services.....	1,745,933	1,200,796	882,782	598,780	555,042	515,470
44	F	Constructions and construction works.....	1,915	1,411	949	860	839	933
45	41-42	Building and building construction works.....	1,014	683	433	367	314	314
46	43	Specialised construction works.....	901	728	516	493	524	619
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	10,512	7,147	5,028	4,190	4,564	4,451
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,129	883	552	507	600	688
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,790	2,051	1,319	672	724	703
50	47	Retail trade services, except of motor vehicles and motorcycles.....	6,593	4,214	3,156	3,011	3,240	3,061
51	H	Transportation and storage services.....	19,570	19,345	22,327	25,086	24,284	24,738
52	49.1-2	Passenger rail transport services, freight rail transport services.....	130	93	50	38	39	39
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	17,542	17,841	19,808	22,033	21,607	22,003
54	50	Water transport services.....	1,146	646	1,841	2,499	2,104	2,055
55	51	Air transport services.....	158	174	179	177	185	180
56	52	Warehousing and support services for transportation.....	422	449	348	241	245	356
57	53	Postal and courier services.....	172	141	103	98	104	104
58	I	Accommodation and food services.....	3,034	2,425	1,614	1,460	1,667	1,546
59	J	Information and communication services.....	572	695	668	697	774	822
60	K	Financial and insurance services.....	1,125	979	772	829	843	868
61	L	Real estate services.....	221	223	193	199	207	213
62	M	Professional, scientific and technical services.....	1,016	1,139	947	1,099	1,206	1,219
63	N	Administrative and support services.....	308	351	274	329	377	361
64	O	Public administration and defence services; compulsory social security services.....	855	536	642	743	662	527
65	P	Education services.....	3,948	3,326	2,545	2,114	2,286	2,270
66	Q	Human health and social work services.....	6,083	4,707	3,450	3,583	4,124	4,057
67	R-T	Other services.....	2,687	2,439	2,150	1,291	1,183	1,228
68		All homogeneous branches.....	4,270,485	3,481,684	2,742,253	2,303,836	2,244,637	2,245,205
69		Private households.....	109,761	94,734	83,447	83,091	77,319	77,100
70		All homogeneous branches and private households (residents concept, gross emissions).....	4,380,246	3,576,418	2,825,700	2,386,927	2,321,956	2,322,305
71		Transitional balance 2).....	-1,535	-820	-2,375	-2,687	-2,293	-2,225
72		Total emissions (gross domestic emissions) 3).....	4,378,710	3,575,598	2,823,325	2,384,241	2,319,663	2,320,080
73		Emissions/Absorptions from LULUCF 4).....	164	174	57	168	70	88
74		Total emissions (net domestic emissions) 3).....	4,378,874	3,575,772	2,823,383	2,384,409	2,319,732	2,320,168

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

3) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

4) Absorptions/emissions from land use, land use changes and forestry.

Table 4.3.2: Direct CH₄ emissions per unit energy consumption (not including road transport)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	1,563	1,386	1,173	5,152	5,977	6,607
2	01	Products of agriculture, hunting and related services.....	1,549	1,375	1,165	5,146	5,971	6,602
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	13	11	8	6	6	5
5	B	Mining and quarrying.....	350	177	379	346	316	300
6	05	Coal and lignite.....	219	92	46	81	60	38
7	06	Crude petroleum and natural gas.....	39	43	289	217	219	224
8	07-09	Metal ores, other mining and quarrying products.....	92	42	44	48	37	37
9	C	Manufactured products.....	7,956	7,503	8,098	8,709	8,880	9,047
10	10-12	Food products, beverages, tobacco products.....	525	500	668	717	682	709
11	13-15	Textiles, wearing apparel, leather and related products.....	138	105	121	69	65	64
12	16	Wood and products of wood and cork, except furniture.....	69	66	370	389	635	588
13	17	Paper and paper products.....	479	448	643	699	614	610
14	18	Printing and recording services.....	23	42	62	50	44	51
15	19	Coke and refined petroleum products.....	1,075	786	581	500	468	451
16	19.1	Coke oven products.....	592	320	47	50	47	40
17	19.2	Refined petroleum products.....	483	466	534	450	421	411
18	20	Chemicals and chemical products.....	1,087	1,001	980	1,446	1,422	1,335
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	56	110	60	38	46	62
20	22	Rubber and plastic products.....	126	114	146	147	129	134
21	23	Other non-metallic mineral products.....	883	852	770	797	834	840
22	23.1	Glass and glass products.....	250	242	236	227	237	248
23	23.2-9	Refractory products, cut, shaped and finished stone.....	633	610	534	571	597	592
24	24	Basic metals.....	2,568	2,793	2,850	2,971	3,150	3,159
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	2,447	2,659	2,722	2,834	3,022	3,025
26	24.4	Basic precious and other non-ferrous metals.....	86	102	95	98	91	96
27	24.5	Casting services of metal.....	35	32	33	39	37	39
28	25	Fabricated metal products, except machinery and equipment.....	346	268	298	353	292	523
29	26	Computer, electronic and optical products.....	61	34	35	28	29	33
30	27	Electrical equipment.....	91	31	23	39	44	38
31	28	Machinery and equipment n.e.c.....	180	133	195	181	161	169
32	29	Motor vehicles, trailers and semi-trailers.....	164	151	216	190	184	189
33	30	Other transport equipment.....	47	34	41	40	33	37
34	31-32	Furniture, other manufacture goods.....	37	34	37	35	32	35
35	33	Repair and installation services of machinery and equipment.....	0	0	1	20	17	19
36	D (35)	Electricity, gas, steam and air conditioning.....	11,677	13,608	32,362	62,555	69,973	77,505
37	35.1/.3	Electricity, transmission and distribution services, steam.....	11,677	13,608	32,362	62,555	69,973	77,505
38	35.2	Manufactured gas.....	-	-	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	2,909	4,518	1,258	1,184	1,339	1,770
40	36	Natural water; water treatment and supply services.....	-	-	0	0	0	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,909	4,518	1,258	1,184	1,339	1,770
42	37	Sewerage services, sewerage sludge.....	-	-	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	2,909	4,518	1,258	1,184	1,339	1,770
44	F	Constructions and construction works.....	719	405	258	269	173	167
45	41-42	Building and building construction works.....	371	191	121	143	79	76
46	43	Specialised construction works.....	348	214	138	126	94	91
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	3,998	1,240	482	431	590	418
48	45	Wholesale and retail trade and repair services of motor vehicles.....	373	113	20	21	36	76
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	859	324	122	134	159	129
50	47	Retail trade services, except of motor vehicles and motorcycles.....	2,766	802	341	276	395	213
51	H	Transportation and storage services.....	1,360	865	2,032	2,689	2,305	2,252
52	49.1-2	Passenger rail transport services, freight rail transport services.....	77	63	29	21	22	22
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	0	0	0	0
54	50	Water transport services.....	1,141	641	1,833	2,495	2,101	2,053
55	51	Air transport services.....	142	159	168	172	181	176
56	52	Warehousing and support services for transportation.....	1	1	1	1	1	1
57	53	Postal and courier services.....	0	0	0	1	0	0
58	I	Accommodation and food services.....	1,359	698	366	384	434	351
59	J	Information and communication services.....	43	43	31	32	31	31
60	K	Financial and insurance services.....	195	139	96	97	96	97
61	L	Real estate services.....	68	58	40	40	40	40
62	M	Professional, scientific and technical services.....	107	85	59	61	60	60
63	N	Administrative and support services.....	42	36	25	26	25	25
64	O	Public administration and defence services.....	820	513	626	721	640	507
65	P	Education services.....	525	149	37	47	77	159
66	Q	Human health and social work services.....	2,335	843	342	484	720	690
67	R-T	Other services.....	318	113	42	75	67	123
68		All homogeneous branches.....	36,346	32,379	47,706	83,302	91,742	100,150
69		Private households.....	25,709	26,296	23,899	38,826	34,406	34,971
70		All homogeneous branches and private households (resident concept) 2)....	62,055	58,674	71,605	122,128	126,148	135,121
71		Transitional balance 3).....	-527	-54	-1,165	-1,753	-1,377	-1,377
72		Total emissions (domestic concept) 2).....	61,529	58,621	70,439	120,376	124,771	133,745

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.3.3: Direct CH₄ processemissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	1,482,088	1,388,886	1,289,079	1,249,912	1,228,742	1,227,940
2	01	Products of agriculture, hunting and related services.....	1,482,088	1,388,886	1,289,079	1,249,912	1,228,742	1,227,940
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	736,471	616,730	288,737	141,361	135,697	168,212
6	05	Coal and lignite.....	705,661	590,060	273,635	132,618	125,113	160,032
7	06	Crude petroleum and natural gas.....	30,810	26,669	15,102	8,743	10,584	8,179
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	13,483	12,611	10,144	10,038	9,610	10,054
10	10-12	Food products, beverages, tobacco products.....	549	530	157	119	123	117
11	13-15	Textiles, wearing apparel, leather and related products.....	211	144	43	36	48	81
12	16	Wood and products of wood and cork, except furniture.....	101	74	22	30	35	35
13	17	Paper and paper products.....	10	8	3	4	5	5
14	18	Printing and recording services.....	57	48	19	31	39	35
15	19	Coke and refined petroleum products.....	11,720	11,068	9,367	9,181	8,701	9,075
16	19.1	Coke oven products.....	544	447	411	400	392	394
17	19.2	Refined petroleum products.....	11,176	10,621	8,956	8,780	8,310	8,681
18	20	Chemicals and chemical products.....	120	120	120	131	137	138
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	3	1	1	1
21	23	Other non-metallic mineral products.....	-	-	0	0	0	1
22	23.1	Glass and glass products.....	-	-	-	-	-	-
23	23.2-9	Refractory products, cut, shaped and finished stone.....	-	-	-	-	-	-
24	24	Basic metals.....	296	269	222	218	228	221
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	187	203	194	192	198	191
26	24.4	Basic precious and other non-ferrous metals.....	0	0	0	0	0	0
27	24.5	Casting services of metal.....	109	66	28	26	31	31
28	25	Fabricated metal products, except machinery and equipment.....	176	151	74	118	115	147
29	26	Computer, electronic and optical products.....	99	88	39	22	23	26
30	27	Electrical equipment.....	54	29	13	16	19	20
31	28	Machinery and equipment n.e.c.....	79	73	33	45	49	52
32	29	Motor vehicles, trailers and semi-trailers.....	9	9	3	6	8	8
33	30	Other transport equipment.....	-	-	0	1	1	1
34	31-32	Furniture, other manufacture goods.....	-	-	23	78	76	90
35	33	Repair and installation services of machinery and equipment.....	-	-	0	1	1	1
36	D (35)	Electricity, gas, steam and air conditioning.....	204,309	192,282	185,887	183,122	186,104	185,682
37	35.1/.3	Electricity, transmission and distribution services, steam.....	-	-	2	3	3	4
38	35.2	Manufactured gas.....	204,309	192,282	185,884	183,119	186,101	185,679
39	E	Water supply; sewerage, waste management and remediation services.....	1,757,567	1,199,098	883,448	598,865	554,858	514,740
40	36	Natural water; water treatment and supply services.....	-	-	0	0	0	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	1,757,567	1,199,098	883,448	598,864	554,858	514,740
42	37	Sewerage services, sewerage sludge.....	14,628	2,879	1,991	1,308	1,189	1,071
43	38-39	Waste collection, treatment and disposal services.....	1,742,939	1,196,218	881,457	597,557	553,668	513,668
44	F	Constructions and construction works.....	1,062	923	644	553	632	734
45	41-42	Building and building construction works.....	574	451	290	212	224	228
46	43	Specialised construction works.....	488	472	354	341	407	506
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	6,344	5,800	4,447	3,662	3,864	3,931
48	45	Wholesale and retail trade and repair services of motor vehicles.....	735	756	521	474	550	599
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,847	1,675	1,129	502	527	539
50	47	Retail trade services, except of motor vehicles and motorcycles.....	3,762	3,368	2,796	2,686	2,786	2,793
51	H	Transportation and storage services.....	17,873	18,232	20,070	22,270	21,870	22,387
52	49.1-2	Passenger rail transport services, freight rail transport services.....	45	24	18	15	15	16
53	49.3-5	Other passenger land transport services, transport service via pipeline....	17,333	17,702	19,697	21,959	21,543	21,944
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	-	-	1	1	1	1
56	52	Warehousing and support services for transportation.....	353	391	271	205	214	328
57	53	Postal and courier services.....	142	115	82	90	97	98
58	I	Accommodation and food services.....	1,663	1,721	1,246	1,070	1,227	1,189
59	J	Information and communication services.....	490	617	613	644	722	771
60	K	Financial and insurance services.....	926	839	674	729	742	767
61	L	Real estate services.....	139	155	148	148	157	163
62	M	Professional, scientific and technical services.....	827	982	856	960	1,059	1,078
63	N	Administrative and support services.....	258	308	243	299	347	332
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	3,420	3,174	2,507	2,066	2,208	2,110
66	Q	Human health and social work services.....	3,737	3,856	3,106	3,086	3,391	3,354
67	R-T	Other services.....	2,319	2,282	2,079	1,187	1,085	1,075
68		All homogeneous branches.....	4,232,975	3,448,494	2,693,928	2,219,970	2,152,314	2,144,518
69		Private households.....	51,068	47,645	46,589	36,525	35,442	35,186
70		All homogeneous branches and private households.....	4,284,043	3,496,140	2,740,517	2,256,494	2,187,756	2,179,704

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.3.4: Direct CH₄ emissions of road transport
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	36	15	8	10	9	8
2	01	Products of agriculture, hunting and related services.....	33	14	7	9	8	7
3	02	Products of forestry, logging and related services.....	3	1	1	1	1	1
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	5	2	3	2	2	1
6	05	Coal and lignite.....	1	0	0	0	0	0
7	06	Crude petroleum and natural gas.....	1	0	0	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	3	2	2	1	1	1
9	C	Manufactured products.....	127	75	44	52	70	65
10	10-12	Food products, beverages, tobacco products.....	16	8	4	6	8	7
11	13-15	Textiles, wearing apparel, leather and related products.....	4	2	1	1	1	1
12	16	Wood and products of wood and cork, except furniture.....	3	1	1	1	1	1
13	17	Paper and paper products.....	3	2	1	1	2	2
14	18	Printing and recording services.....	3	1	1	1	1	1
15	19	Coke and refined petroleum products.....	3	2	2	2	3	2
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	3	2	2	2	2	2
18	20	Chemicals and chemical products.....	10	6	3	4	5	5
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2	1	1	1	2	2
20	22	Rubber and plastic products.....	6	3	2	2	3	3
21	23	Other non-metallic mineral products.....	6	3	1	2	2	2
22	23.1	Glass and glass products.....	1	1	0	0	0	0
23	23.2-9	Refractory products, cut, shaped and finished stone.....	5	2	1	1	2	1
24	24	Basic metals.....	7	4	2	3	4	3
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	4	2	1	2	2	2
26	24.4	Basic precious and other non-ferrous metals.....	2	1	1	1	1	1
27	24.5	Casting services of metal.....	1	0	0	0	0	0
28	25	Fabricated metal products, except machinery and equipment.....	10	6	4	4	5	5
29	26	Computer, electronic and optical products.....	5	4	2	2	3	3
30	27	Electrical equipment.....	10	6	3	3	4	4
31	28	Machinery and equipment n.e.c.....	17	9	6	7	9	9
32	29	Motor vehicles, trailers and semi-trailers.....	16	12	8	9	11	11
33	30	Other transport equipment.....	2	2	1	1	2	2
34	31-32	Furniture, other manufacture goods.....	4	2	1	2	2	2
35	33	Repair and installation services of machinery and equipment.....	3	2	1	2	2	2
36	D (35)	Electricity, gas, steam and air conditioning.....	6	3	3	4	4	4
37	35.1/3	Electricity, transmission and distribution services, steam.....	5	3	2	3	3	3
38	35.2	Manufactured gas.....	1	1	0	1	1	1
39	E	Water supply; sewerage, waste management and remediation services.....	92	65	72	45	41	38
40	36	Natural water; water treatment and supply services.....	1	1	0	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	91	64	72	45	40	37
42	37	Sewerage services, sewerage sludge.....	7	4	4	5	5	5
43	38-39	Waste collection, treatment and disposal services.....	84	60	67	39	35	32
44	F	Constructions and construction works.....	134	82	47	38	34	31
45	41-42	Building and building construction works.....	70	40	22	12	11	10
46	43	Specialised construction works.....	64	42	25	26	23	22
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	170	108	99	97	111	102
48	45	Wholesale and retail trade and repair services of motor vehicles.....	21	14	11	12	13	12
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	83	51	69	37	38	35
50	47	Retail trade services, except of motor vehicles and motorcycles.....	66	43	19	49	59	55
51	H	Transportation and storage services.....	336	248	226	127	108	100
52	49.1-2	Passenger rail transport services, freight rail transport services.....	9	6	2	2	2	2
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	209	140	110	75	64	59
54	50	Water transport services.....	5	5	8	4	3	3
55	51	Air transport services.....	16	15	10	4	3	3
56	52	Warehousing and support services for transportation.....	68	58	75	35	30	27
57	53	Postal and courier services.....	30	25	20	7	6	6
58	I	Accommodation and food services.....	11	6	2	6	6	6
59	J	Information and communication services.....	40	35	24	22	22	20
60	K	Financial and insurance services.....	4	2	1	3	4	4
61	L	Real estate services.....	14	11	5	10	11	10
62	M	Professional, scientific and technical services.....	82	72	31	78	87	80
63	N	Administrative and support services.....	8	7	5	4	4	4
64	O	Public administration and defence services.....	35	23	16	22	21	20
65	P	Education services.....	3	2	1	1	1	1
66	Q	Human health and social work services.....	12	9	3	14	14	13
67	R-T	Other services.....	50	44	29	30	31	29
68		All homogeneous branches.....	1,165	811	619	564	581	536
69		Private households.....	32,983	20,793	12,959	7,740	7,471	6,943
70		All homogeneous branches and private households.....	34,148	21,604	13,578	8,305	8,052	7,479
71		Transitional balance 2).....	-1,009	-766	-1,209	-934	-917	-848
72		Total emissions (domestic concept).....	33,139	20,838	12,369	7,371	7,135	6,631

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.4.1: Direct N₂O emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	144,132	150,887	142,956	136,034	143,915	141,163
2	01	Products of agriculture, hunting and related services.....	144,128	150,884	142,953	136,031	143,912	141,160
3	02	Products of forestry, logging and related services.....	1	1	1	1	2	2
4	03	Fish and other fishing products; aquaculture products.....	4	3	2	2	2	2
5	B	Mining and quarrying.....	433	221	284	282	312	286
6	05	Coal and lignite.....	389	185	210	226	256	229
7	06	Crude petroleum and natural gas.....	13	14	49	37	37	38
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	31	21	25	19	19	19
9	C	Manufactured products.....	84,538	21,118	29,372	15,121	14,257	13,105
10	10-12	Food products, beverages, tobacco products.....	203	177	166	175	173	179
11	13-15	Textiles, wearing apparel, leather and related products.....	46	31	28	17	14	15
12	16	Wood and products of wood and cork, except furniture.....	37	39	88	101	163	149
13	17	Paper and paper products.....	210	169	204	217	190	185
14	18	Printing and recording services.....	1,478	1,098	460	349	338	311
15	19	Coke and refined petroleum products.....	292	252	248	210	208	198
16	19.1	Coke oven products.....	104	64	24	24	23	23
17	19.2	Refined petroleum products.....	188	188	224	186	184	175
18	20	Chemicals and chemical products.....	79,560	17,054	26,625	12,479	11,533	10,444
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	44	46	11	17	19	23
20	22	Rubber and plastic products.....	34	26	30	35	32	34
21	23	Other non-metallic mineral products.....	642	590	457	478	509	496
22	23.1	Glass and glass products.....	97	89	75	73	77	78
23	23.2-9	Refractory products, cut, shaped and finished stone.....	545	500	383	405	432	417
24	24	Basic metals.....	491	511	469	501	515	510
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	383	407	377	408	419	414
26	24.4	Basic precious and other non-ferrous metals.....	54	52	48	39	37	39
27	24.5	Casting services of metal.....	54	51	43	55	58	57
28	25	Fabricated metal products, except machinery and equipment.....	1,333	999	445	367	366	351
29	26	Computer, electronic and optical products.....	17	12	10	12	14	15
30	27	Electrical equipment.....	22	13	13	18	21	22
31	28	Machinery and equipment n.e.c.....	56	41	46	56	60	65
32	29	Motor vehicles, trailers and semi-trailers.....	45	41	51	58	66	71
33	30	Other transport equipment.....	13	8	8	11	10	11
34	31-32	Furniture, other manufacture goods.....	12	10	10	13	14	15
35	33	Repair and installation services of machinery and equipment.....	4	3	3	9	11	12
36	D (35)	Electricity, gas, steam and air conditioning.....	8,511	8,022	8,726	8,944	9,111	9,460
37	35.1/.3	Electricity, transmission and distribution services, steam.....	8,511	8,022	8,725	8,942	9,108	9,457
38	35.3	Manufactured gas; distribution services of gaseous fuels through mains.....	0	0	1	3	3	3
39	E	Water supply; sewerage, waste management and remediation services.....	8,056	8,821	9,348	9,568	9,639	9,683
40	36	Natural water; water treatment and supply services.....	0	0	1	4	4	5
41	37-39	Sewerage services; waste collection and materials recovery services.....	8,056	8,821	9,347	9,565	9,635	9,678
42	37	Sewerage services, sewerage sludge.....	7,535	7,711	7,864	7,837	7,715	7,726
43	38-39	Waste collection, treatment and disposal services.....	521	1,110	1,483	1,728	1,919	1,952
44	F	Constructions and construction works.....	148	140	125	191	192	204
45	41-42	Building and building construction works.....	77	69	60	67	69	73
46	43	Specialised construction works.....	71	71	65	123	123	131
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	218	220	240	412	484	504
48	45	Wholesale and retail trade and repair services of motor vehicles.....	28	32	29	53	69	71
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	77	74	93	222	254	275
50	47	Retail trade services, except of motor vehicles and motorcycles.....	112	114	117	136	160	157
51	H	Transportation and storage services.....	1,144	1,174	1,619	2,610	2,674	2,959
52	49.1-2	Passenger rail transport services, freight rail transport services.....	39	34	21	41	46	48
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	105	106	107	457	541	594
54	50	Water transport services.....	335	192	536	757	652	761
55	51	Air transport services.....	582	743	847	873	860	927
56	52	Warehousing and support services for transportation.....	57	70	84	402	479	526
57	53	Postal and courier services.....	25	30	23	80	95	104
58	I	Accommodation and food services.....	44	41	33	40	43	38
59	J	Information and communication services.....	27	42	51	102	123	135
60	K	Financial and insurance services.....	20	16	17	19	20	22
61	L	Real estate services.....	10	13	14	25	29	32
62	M	Professional, scientific and technical services.....	51	83	94	152	184	199
63	N	Administrative and support services.....	8	11	13	17	18	19
64	O	Public administration and defence services; compulsory social security services.....	96	70	59	71	74	70
65	P	Education services.....	43	40	36	37	38	49
66	Q	Human health and social work services.....	63	66	60	81	82	108
67	R-T	Other services.....	56	70	90	126	158	169
68		All homogeneous branches.....	247,598	191,056	193,137	173,830	181,352	178,203
69		Private households.....	8,837	7,476	4,551	3,981	3,730	3,671
70		All homogeneous branches and private households (residents concept, gross emissions).....	256,434	198,531	197,688	177,811	185,082	181,874
71		Transitional balance 2).....	-775	-752	-1,359	-1,577	-1,480	-1,670
72		Total emissions (gross domestic emissions) 3).....	255,659	197,780	196,329	176,235	183,601	180,204
73		Emissions/Absorptions from LULUCF 4).....	1,302	1,308	1,323	1,527	1,584	1,644
74		Total emissions (net domestic emissions) 3).....	256,962	199,088	197,652	177,762	185,185	181,848

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

3) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

4) Absorptions/emissions from land use, land use changes and forestry.

Table 4.4.2: Direct N₂O emissions per unit energy consumption (not including road transport)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	126	117	107	146	158	164
2	01	Products of agriculture, hunting and related services.....	122	114	105	145	156	162
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	4	3	2	2	2	2
5	B	Mining and quarrying.....	430	218	280	275	305	278
6	05	Coal and lignite.....	389	185	209	224	254	227
7	06	Crude petroleum and natural gas.....	12	13	48	35	35	36
8	07-09	Metal ores, other mining and quarrying products.....	30	20	23	16	16	15
9	C	Manufactured products.....	2,643	2,176	1,952	2,181	2,215	2,159
10	10-12	Food products, beverages, tobacco products.....	197	169	158	156	147	150
11	13-15	Textiles, wearing apparel, leather and related products.....	44	29	26	14	11	11
12	16	Wood and products of wood and cork, except furniture.....	36	38	87	98	160	146
13	17	Paper and paper products.....	208	168	202	213	184	179
14	18	Printing and recording services.....	6	9	10	8	7	8
15	19	Coke and refined petroleum products.....	290	250	244	202	198	187
16	19.1	Coke oven products.....	104	64	24	24	23	23
17	19.2	Refined petroleum products.....	186	186	220	178	174	164
18	20	Chemicals and chemical products.....	511	264	184	380	363	335
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	43	45	10	12	13	17
20	22	Rubber and plastic products.....	32	23	27	28	23	23
21	23	Other non-metallic mineral products.....	640	587	455	472	502	488
22	23.1	Glass and glass products.....	97	89	74	72	75	77
23	23.2-9	Refractory products, cut, shaped and finished stone.....	543	499	381	401	427	412
24	24	Basic metals.....	432	445	399	440	452	449
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	325	343	310	350	362	359
26	24.4	Basic precious and other non-ferrous metals.....	53	51	47	36	34	35
27	24.5	Casting services of metal.....	53	51	43	53	57	55
28	25	Fabricated metal products, except machinery and equipment.....	61	55	52	62	66	73
29	26	Computer, electronic and optical products.....	15	8	7	5	5	6
30	27	Electrical equipment.....	18	8	7	8	8	7
31	28	Machinery and equipment n.e.c.....	49	33	35	34	30	32
32	29	Motor vehicles, trailers and semi-trailers.....	39	30	36	30	30	30
33	30	Other transport equipment.....	13	6	6	7	5	5
34	31-32	Furniture, other manufacture goods.....	10	8	8	8	7	8
35	33	Repair and installation services of machinery and equipment.....	0	0	0	3	3	3
36	D (35)	Electricity, gas, steam and air conditioning.....	8,509	8,020	8,721	8,934	9,100	9,449
37	35.1/.3	Electricity, transmission and distribution services, steam.....	8,509	8,020	8,721	8,934	9,100	9,449
38	35.3	Manufactured gas.....	-	-	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	101	127	302	449	485	490
40	36	Natural water; water treatment and supply services.....	-	-	0	0	0	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	101	127	301	449	485	490
42	37	Sewerage services, sewerage sludge.....	-	-	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	101	127	301	449	485	490
44	F	Constructions and construction works.....	92	81	70	70	65	64
45	41-42	Building and building construction works.....	47	40	34	30	30	30
46	43	Specialised construction works.....	45	41	36	40	35	35
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	141	119	94	96	101	86
48	45	Wholesale and retail trade and repair services of motor vehicles.....	21	19	11	13	20	17
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	32	27	18	15	13	11
50	47	Retail trade services, except of motor vehicles and motorcycles.....	89	74	66	68	68	58
51	H	Transportation and storage services.....	941	947	1,390	1,568	1,434	1,600
52	49.1-2	Passenger rail transport services, freight rail transport services.....	32	28	19	16	16	15
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	0	0	0	0
54	50	Water transport services.....	332	187	528	717	604	708
55	51	Air transport services.....	570	726	837	829	808	870
56	52	Warehousing and support services for transportation.....	5	5	5	5	5	5
57	53	Postal and courier services.....	3	2	2	1	1	1
58	I	Accommodation and food services.....	42	38	30	34	37	31
59	J	Information and communication services.....	10	10	12	10	9	10
60	K	Financial and insurance services.....	19	15	13	11	10	10
61	L	Real estate services.....	4	3	3	2	2	2
62	M	Professional, scientific and technical services.....	16	16	17	17	14	16
63	N	Administrative and support services.....	4	4	4	5	5	5
64	O	Public administration and defence services.....	84	57	41	33	32	25
65	P	Education services.....	42	38	34	33	33	43
66	Q	Human health and social work services.....	59	58	53	67	66	91
67	R-T	Other services.....	35	32	31	23	29	28
68		All homogeneous branches.....	13,298	12,075	13,155	13,958	14,099	14,552
69		Private households.....	1,495	1,281	1,138	1,434	1,349	1,351
70		All homogeneous branches and private households (residents concept) 2)...	14,793	13,356	14,293	15,392	15,449	15,903
71		Transitional balance 3).....	-635	-639	-1,072	-1,234	-1,110	-1,289
72		Total emissions (domestic concept) 2).....	14,159	12,718	13,222	14,159	14,339	14,615

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.4.3: Direct N₂O process emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	143,999	150,763	142,842	135,870	143,739	140,979
2	01	Products of agriculture, hunting and related services.....	143,999	150,763	142,842	135,870	143,739	140,979
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	1	1	1	0	0	0
6	05	Coal and lignite.....	-	-	-	-	-	-
7	06	Crude petroleum and natural gas.....	1	1	1	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	81,841	18,874	27,335	12,768	11,812	10,695
10	10-12	Food products, beverages, tobacco products.....	-	-	-	-	-	-
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	-	-	-	-	-	-
13	17	Paper and paper products.....	-	-	-	-	-	-
14	18	Printing and recording services.....	1,471	1,088	449	338	327	299
15	19	Coke and refined petroleum products.....	1	0	0	0	0	0
16	19.1	Coke oven products.....	-	-	-	-	-	-
17	19.2	Refined petroleum products.....	1	0	0	0	0	0
18	20	Chemicals and chemical products.....	79,045	16,785	26,434	12,086	11,152	10,090
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	-	-	-	-	-	-
22	23.1	Glass and glass products.....	-	-	-	-	-	-
23	23.2-9	Refractory products, cut, shaped and finished stone.....	-	-	-	-	-	-
24	24	Basic metals.....	56	62	65	53	50	48
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	56	62	65	53	50	48
26	24.4	Basic precious and other non-ferrous metals.....	-	-	-	-	-	-
27	24.5	Casting services of metal.....	-	-	-	-	-	-
28	25	Fabricated metal products, except machinery and equipment.....	1,268	938	387	291	282	258
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	-	-	-	-	-	-
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1/.3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.3	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	7,918	8,651	8,972	8,863	8,841	8,850
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	7,918	8,651	8,972	8,863	8,841	8,850
42	37	Sewerage services, sewerage sludge.....	7,533	7,708	7,857	7,821	7,698	7,707
43	38-39	Waste collection, treatment and disposal services.....	385	943	1,115	1,042	1,143	1,143
44	F	Constructions and construction works.....	-	-	-	-	-	-
45	41-42	Building and building construction works.....	-	-	-	-	-	-
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	-	-	-	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	-	-	-	-	-	-
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	-	-	-	-	-
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	-	-	-	-
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	-	-	-	-	-	-
68		All homogeneous branches.....	233,759	178,288	179,149	157,501	164,393	160,525
69		Private households.....	2,333	1,726	712	536	519	474
70		All homogeneous branches and private households.....	236,092	180,014	179,861	158,037	164,912	161,000

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.4.4: Direct N₂O emissions of road transport
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	7	8	7	18	18	20
2	01	Products of agriculture, hunting and related services.....	7	7	6	16	17	18
3	02	Products of forestry, logging and related services.....	1	1	1	1	2	2
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	2	2	3	6	7	7
6	05	Coal and lignite.....	1	0	0	2	2	2
7	06	Crude petroleum and natural gas.....	0	0	1	2	2	2
8	07-09	Metal ores, other mining and quarrying products.....	1	1	2	3	3	4
9	C	Manufactured products.....	54	69	85	171	230	250
10	10-12	Food products, beverages, tobacco products.....	6	8	9	19	26	28
11	13-15	Textiles, wearing apparel, leather and related products.....	2	2	2	2	3	4
12	16	Wood and products of wood and cork, except furniture.....	1	1	1	3	4	4
13	17	Paper and paper products.....	1	2	2	4	6	6
14	18	Printing and recording services.....	1	1	1	3	4	4
15	19	Coke and refined petroleum products.....	1	2	3	8	10	11
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	1	2	3	8	10	11
18	20	Chemicals and chemical products.....	4	5	6	13	17	19
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	1	1	2	4	5	6
20	22	Rubber and plastic products.....	2	3	3	7	9	10
21	23	Other non-metallic mineral products.....	2	2	2	5	7	7
22	23.1	Glass and glass products.....	0	0	0	1	1	2
23	23.2-9	Refractory products, cut, shaped and finished stone.....	2	2	2	4	5	6
24	24	Basic metals.....	3	3	5	9	12	13
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	1	2	3	5	7	7
26	24.4	Basic precious and other non-ferrous metals.....	1	1	1	3	4	4
27	24.5	Casting services of metal.....	0	0	1	1	2	2
28	25	Fabricated metal products, except machinery and equipment.....	4	5	7	14	18	20
29	26	Computer, electronic and optical products.....	2	3	3	7	9	10
30	27	Electrical equipment.....	4	5	6	10	13	14
31	28	Machinery and equipment n.e.c.....	7	8	11	22	30	33
32	29	Motor vehicles, trailers and semi-trailers.....	6	11	15	27	37	40
33	30	Other transport equipment.....	1	1	2	4	5	6
34	31-32	Furniture, other manufacture goods.....	1	2	2	5	7	7
35	33	Repair and installation services of machinery and equipment.....	4	3	3	6	8	9
36	D (35)	Electricity, gas, steam and air conditioning.....	2	2	5	10	10	11
37	35.1/3	Electricity, transmission and distribution services, steam.....	2	2	4	8	8	9
38	35.3	Manufactured gas.....	0	0	1	2	2	3
39	E	Water supply; sewerage, waste management and remediation services.....	37	43	75	256	313	343
40	36	Natural water; water treatment and supply services.....	0	0	1	4	4	4
41	37-39	Sewerage services; waste collection and materials recovery services.....	36	43	74	252	309	339
42	37	Sewerage services, sewerage sludge.....	2	3	7	15	18	19
43	38-39	Waste collection, treatment and disposal services.....	34	40	67	236	292	319
44	F	Constructions and construction works.....	57	59	55	121	128	139
45	41-42	Building and building construction works.....	30	29	26	37	40	43
46	43	Specialised construction works.....	27	30	29	83	88	96
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	76	101	145	316	383	417
48	45	Wholesale and retail trade and repair services of motor vehicles.....	8	14	19	40	49	54
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	45	47	76	207	241	264
50	47	Retail trade services, except of motor vehicles and motorcycles.....	24	40	51	69	92	99
51	H	Transportation and storage services.....	202	228	228	1,042	1,239	1,359
52	49.1-2	Passenger rail transport services, freight rail transport services.....	6	7	3	25	30	33
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	105	106	107	457	541	594
54	50	Water transport services.....	4	6	8	40	48	52
55	51	Air transport services.....	13	17	10	44	52	57
56	52	Warehousing and support services for transportation.....	53	65	79	397	475	520
57	53	Postal and courier services.....	22	28	22	79	94	103
58	I	Accommodation and food services.....	2	3	3	6	6	7
59	J	Information and communication services.....	17	31	38	91	114	124
60	K	Financial and insurance services.....	1	1	4	7	11	12
61	L	Real estate services.....	6	10	12	22	27	29
62	M	Professional, scientific and technical services.....	35	67	76	135	170	184
63	N	Administrative and support services.....	4	7	9	11	13	14
64	O	Public administration and defence services.....	12	13	18	38	41	45
65	P	Education services.....	1	2	2	4	5	5
66	Q	Human health and social work services.....	4	7	6	14	15	17
67	R-T	Other services.....	21	38	59	102	129	141
68		All homogeneous branches.....	540	692	832	2,371	2,860	3,126
69		Private households.....	5,008	4,469	2,701	2,011	1,861	1,845
70		All homogeneous branches and private households (residents concept).....	5,548	5,161	3,533	4,382	4,721	4,971
71		Transitional balance 2).....	-140	-113	-287	-343	-370	-381
72		Total emissions (domestic concept).....	5,408	5,048	3,246	4,039	4,351	4,590

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.5: Direct domestic hydrofluorocarbon emissions (HFC)
CO₂ equivalent 1,000 tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	C	Manufactured products.....	1,990	1,782	1,444	881	874	768
2	20	Chemicals and chemical products.....	1,534	1,206	1,173	683	694	579
3	24.4	Basic precious and other non-ferrous metals.....	442	559	255	188	170	177
4	26	Computer, electronic and optical products.....	14	17	16	10	10	11
5	E	Water supply; sewerage, waste management and remediation services.....	4,714	5,162	6,388	7,504	7,755	8,071
6	38-39	Waste collection, treatment and disposal services.....	4,714	5,162	6,388	7,504	7,755	8,071
7	Q	Human health and social work services.....	304	486	616	491	525	506
8		All homogeneous branches.....	7,008	7,430	8,448	8,877	9,153	9,346
9		Private households.....	-	-	-	-	-	-
10		All homogeneous branches and private households (residents concept).....	7,008	7,430	8,448	8,877	9,153	9,346

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.6: Direct domestic perfluorocarbon emissions (PFC)
CO₂ equivalent 1,000 tonnes

No.	CPA ¹	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	C	Manufactured products.....	1,776	732	620	273	223	200
2	24.4	Basic precious and other non-ferrous metals.....	1,552	356	338	135	82	75
3	26	Computer, electronic and optical products.....	225	376	282	138	141	125
4	E	Water supply; sewerage, waste management and remediation services.....	16	90	106	30	19	9
5	38-39	Waste collection, treatment and disposal services.....	16	90	106	30	19	9
6		All homogeneous branches.....	1,792	823	726	302	241	209
7		Private households.....	-	-	-	-	-	-
8		All homogeneous branches and private households (residents concept).....	1,792	823	726	302	241	209

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.7: Direct domestic sulphur hexafluoride (SF₆) emissions
CO₂ equivalent 1,000 tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	C	Manufactured products.....	6,612	4,054	3,241	3,159	3,214	3,194
2	20	Chemicals and chemical products.....	0	0	0	0	0	0
3	23.2-9	Refractory products, cut, shaped and finished stone.....	2,576	1,303	1,502	2,223	2,317	2,437
4	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	197	330	728	107	58	37
5	26	Computer, electronic and optical products.....	1,210	1,226	875	619	600	536
6	27	Electrical equipment.....	0	0	72	197	229	171
7	29	Motor vehicles, trailers and semi-trailers.....	2,629	1,195	65	14	11	13
8	E	Water supply; sewerage, waste management and remediation services.....	167	215	239	35	102	113
9	38-39	Waste collection, treatment and disposal services.....	167	215	239	35	102	113
10		All homogeneous branches.....	6,779	4,269	3,480	3,194	3,316	3,307
11		Private households.....	-	-	-	-	-	-
12		All homogeneous branches and private households (residents concept).....	6,779	4,269	3,480	3,194	3,316	3,307

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.8.1: Direct NH₃ emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	558,612	549,816	530,375	514,044	526,315	512,654
2	01	Products of agriculture, hunting and related services.....	558,604	549,809	530,370	514,040	526,311	512,650
3	02	Products of forestry, logging and related services.....	0	0	0	1	1	1
4	03	Fish and other fishing products; aquaculture products.....	8	6	4	4	4	3
5	B	Mining and quarrying.....	58	34	36	33	35	32
6	05	Coal and lignite.....	38	17	18	20	23	20
7	06	Crude petroleum and natural gas.....	4	4	6	4	4	4
8	07-09	Metal ores, other mining and quarrying products.....	16	13	13	9	8	8
9	C	Manufactured products.....	14,361	15,050	14,427	13,736	14,110	13,906
10	10-12	Food products, beverages, tobacco products.....	191	137	103	99	92	93
11	13-15	Textiles, wearing apparel, leather and related products.....	34	20	20	9	9	10
12	16	Wood and products of wood and cork, except furniture.....	113	44	29	44	49	58
13	17	Paper and paper products.....	59	33	37	44	39	38
14	18	Printing and recording services.....	480	510	509	509	510	509
15	19	Coke and refined petroleum products.....	653	679	751	597	590	567
16	19.1	Coke oven products.....	41	33	24	18	18	18
17	19.2	Refined petroleum products.....	613	646	728	580	572	549
18	20	Chemicals and chemical products.....	9,055	9,625	9,317	9,305	9,476	9,367
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	51	50	5	14	15	17
20	22	Rubber and plastic products.....	27	21	23	36	25	25
21	23	Other non-metallic mineral products.....	2,945	3,109	2,906	2,262	2,471	2,388
22	23.1	Glass and glass products.....	1,289	1,261	1,186	599	690	693
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1,656	1,849	1,721	1,662	1,781	1,694
24	24	Basic metals.....	115	216	159	193	190	191
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	84	64	54	97	82	82
26	24.4	Basic precious and other non-ferrous metals.....	22	21	18	17	15	15
27	24.5	Casting services of metal.....	9	130	87	79	93	94
28	25	Fabricated metal products, except machinery and equipment.....	473	486	475	483	483	484
29	26	Computer, electronic and optical products.....	24	15	9	10	11	12
30	27	Electrical equipment.....	24	14	11	16	17	17
31	28	Machinery and equipment n.e.c.....	65	46	36	51	57	58
32	29	Motor vehicles, trailers and semi-trailers.....	26	25	20	32	43	42
33	30	Other transport equipment.....	8	5	4	8	7	6
34	31-32	Furniture, other manufacture goods.....	17	12	12	15	17	15
35	33	Repair and installation services of machinery and equipment.....	2	2	1	7	10	8
36	D (35)	Electricity, gas, steam and air conditioning.....	2,601	2,100	2,119	2,151	2,199	2,272
37	35.1/.3	Electricity, transmission and distribution services, steam.....	2,601	2,100	2,119	2,149	2,196	2,270
38	35.2	Manufactured gas.....	0	0	0	2	2	2
39	E	Water supply; sewerage, waste management and remediation services.....	975	254	227	265	297	295
40	36	Natural water; water treatment and supply services.....	0	0	0	2	2	2
41	37-39	Sewerage services; waste collection and materials recovery services.....	975	253	226	263	295	293
42	37	Sewerage services, sewerage sludge.....	2	2	3	11	12	12
43	38-39	Waste collection, treatment and disposal services.....	973	251	223	252	283	282
44	F	Constructions and construction works.....	329	294	256	291	290	287
45	41-42	Building and building construction works.....	170	146	126	128	128	126
46	43	Specialised construction works.....	159	148	130	163	162	160
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	393	320	262	409	454	451
48	45	Wholesale and retail trade and repair services of motor vehicles.....	71	63	35	52	57	59
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	88	72	73	91	106	104
50	47	Retail trade services, except of motor vehicles and motorcycles.....	233	185	154	265	291	288
51	H	Transportation and storage services.....	1,697	1,701	2,593	2,985	2,729	3,045
52	49.1-2	Passenger rail transport services, freight rail transport services.....	18	16	10	9	9	9
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	29	31	41	54	57	58
54	50	Water transport services.....	627	356	1,038	1,419	1,193	1,399
55	51	Air transport services.....	981	1,253	1,446	1,434	1,399	1,507
56	52	Warehousing and support services for transportation.....	28	31	45	55	57	59
57	53	Postal and courier services.....	15	15	14	13	12	13
58	I	Accommodation and food services.....	108	95	88	103	99	102
59	J	Information and communication services.....	42	52	53	68	67	66
60	K	Financial and insurance services.....	58	44	42	35	32	33
61	L	Real estate services.....	15	17	13	31	33	32
62	M	Professional, scientific and technical services.....	76	100	94	247	269	255
63	N	Administrative and support services.....	12	13	17	23	22	22
64	O	Public administration and defence services.....	104	75	77	80	77	73
65	P	Education services.....	95	71	72	68	59	62
66	Q	Human health and social work services.....	106	89	93	123	108	111
67	R-T	Other services.....	107	95	94	113	114	113
68		All homogeneous branches.....	579,750	570,218	550,937	534,804	547,308	533,810
69		Private households.....	19,824	32,092	25,710	18,297	17,123	16,017
70		All homogeneous branches and private households (residents concept) 2)...	599,574	602,310	576,647	553,101	564,431	549,827
71		Transitional balance 3).....	-1,662	-2,257	-4,042	-4,155	-3,849	-4,032
72		Total emissions (domestic concept) 2).....	597,913	600,052	572,604	548,947	560,582	545,795

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.8.2: Direct NH₃ emissions per unit energy consumption (not including road transport)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	382	324	290	302	307	307
2	01	Products of agriculture, hunting and related services.....	374	318	285	299	304	304
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	8	6	4	4	4	3
5	B	Mining and quarrying.....	57	32	35	31	33	30
6	05	Coal and lignite.....	38	17	17	19	23	19
7	06	Crude petroleum and natural gas.....	4	4	5	4	3	4
8	07-09	Metal ores, other mining and quarrying products.....	16	12	12	8	7	7
9	C	Manufactured products.....	1,701	1,350	1,274	1,247	1,258	1,225
10	10-12	Food products, beverages, tobacco products.....	186	132	100	85	70	72
11	13-15	Textiles, wearing apparel, leather and related products.....	33	19	19	7	7	8
12	16	Wood and products of wood and cork, except furniture.....	112	43	28	42	46	55
13	17	Paper and paper products.....	58	32	36	41	34	33
14	18	Printing and recording services.....	9	7	6	4	4	4
15	19	Coke and refined petroleum products.....	650	675	748	591	581	559
16	19.1	Coke oven products.....	38	31	22	16	16	16
17	19.2	Refined petroleum products.....	612	644	727	575	565	543
18	20	Chemicals and chemical products.....	130	104	86	157	258	220
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	51	49	5	11	10	12
20	22	Rubber and plastic products.....	25	19	22	30	17	17
21	23	Other non-metallic mineral products.....	118	69	63	71	66	72
22	23.1	Glass and glass products.....	21	14	10	7	9	13
23	23.2-9	Refractory products, cut, shaped and finished stone.....	97	55	53	64	57	58
24	24	Basic metals.....	113	59	46	84	64	66
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	83	36	27	68	50	51
26	24.4	Basic precious and other non-ferrous metals.....	22	20	18	15	12	13
27	24.5	Casting services of metal.....	9	2	1	1	1	2
28	25	Fabricated metal products, except machinery and equipment.....	65	49	39	41	35	37
29	26	Computer, electronic and optical products.....	23	13	8	5	4	5
30	27	Electrical equipment.....	21	11	8	9	6	6
31	28	Machinery and equipment n.e.c.....	61	40	32	35	31	34
32	29	Motor vehicles, trailers and semi-trailers.....	22	17	14	12	11	11
33	30	Other transport equipment.....	8	4	3	5	2	2
34	31-32	Furniture, other manufacture goods.....	16	11	11	12	11	10
35	33	Repair and installation services of machinery and equipment.....	0	0	0	3	3	2
36	D (35)	Electricity, gas, steam and air conditioning.....	2,600	2,098	2,117	2,142	2,189	2,263
37	35.1/.3	Electricity, transmission and distribution services, steam.....	2,600	2,098	2,117	2,142	2,189	2,263
38	35.2	Manufactured gas.....	-	-	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	956	232	195	201	226	226
40	36	Natural water; water treatment and supply services.....	-	-	0	0	0	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	956	232	195	200	226	226
42	37	Sewerage services, sewerage sludge.....	-	-	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	956	232	195	200	226	226
44	F	Constructions and construction works.....	300	259	234	233	232	231
45	41-42	Building and building construction works.....	155	129	116	110	110	109
46	43	Specialised construction works.....	145	130	118	123	122	122
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	341	245	201	185	163	179
48	45	Wholesale and retail trade and repair services of motor vehicles.....	64	50	27	26	22	26
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	67	48	41	24	21	22
50	47	Retail trade services, except of motor vehicles and motorcycles.....	210	147	133	135	120	130
51	H	Transportation and storage services.....	1,639	1,631	2,505	2,866	2,603	2,917
52	49.1-2	Passenger rail transport services, freight rail transport services.....	16	13	9	7	7	6
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	0	0	0	0
54	50	Water transport services.....	626	354	1,035	1,414	1,188	1,394
55	51	Air transport services.....	977	1,248	1,442	1,429	1,394	1,501
56	52	Warehousing and support services for transportation.....	12	11	14	11	11	12
57	53	Postal and courier services.....	8	5	5	4	3	3
58	I	Accommodation and food services.....	102	83	86	90	86	89
59	J	Information and communication services.....	31	29	39	26	19	20
60	K	Financial and insurance services.....	57	41	40	25	20	21
61	L	Real estate services.....	10	9	8	6	4	5
62	M	Professional, scientific and technical services.....	49	45	57	45	34	36
63	N	Administrative and support services.....	10	9	13	13	11	11
64	O	Public administration and defence services.....	98	67	68	47	41	40
65	P	Education services.....	94	70	72	65	56	59
66	Q	Human health and social work services.....	102	81	89	88	71	77
67	R-T	Other services.....	94	71	75	53	43	47
68		All homogeneous branches.....	8,622	6,675	7,395	7,666	7,395	7,782
69		Private households.....	2,411	2,125	1,904	1,652	1,374	1,462
70		All homogeneous branches and private households (residents concept) 2)...	11,033	8,800	9,299	9,318	8,769	9,244
71		Transitional balance 3).....	-1,141	-1,115	-1,944	-2,269	-2,027	-2,367
72		Total emissions (domestic concept) 2).....	9,892	7,685	7,354	7,049	6,742	6,877

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.8.3: Direct NH₃ process emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	558,225	549,486	530,082	513,731	525,998	512,337
2	01	Products of agriculture, hunting and related services.....	558,225	549,486	530,082	513,731	525,998	512,337
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	-	-	-	-	-	-
6	05	Coal and lignite.....	-	-	-	-	-	-
7	06	Crude petroleum and natural gas.....	-	-	-	-	-	-
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	12,625	13,648	13,120	12,366	12,655	12,497
10	10-12	Food products, beverages, tobacco products.....	-	-	-	-	-	-
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	-	-	-	-	-	-
13	17	Paper and paper products.....	-	-	-	-	-	-
14	18	Printing and recording services.....	470	502	502	502	502	502
15	19	Coke and refined petroleum products.....	3	2	2	2	2	2
16	19.1	Coke oven products.....	3	2	2	2	2	2
17	19.2	Refined petroleum products.....	-	-	-	-	-	-
18	20	Chemicals and chemical products.....	8,922	9,517	9,228	9,139	9,203	9,133
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	2,825	3,039	2,843	2,187	2,399	2,311
22	23.1	Glass and glass products.....	1,267	1,247	1,176	591	679	679
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1,558	1,792	1,667	1,595	1,720	1,632
24	24	Basic metals.....	-	155	111	103	116	116
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	-	27	26	25	26	25
26	24.4	Basic precious and other non-ferrous metals.....	-	-	-	-	-	-
27	24.5	Casting services of metal.....	-	128	85	77	90	91
28	25	Fabricated metal products, except machinery and equipment.....	405	433	433	433	433	433
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	-	-	-	-	-	-
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1-/3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.2	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	-	-	-	-	-	-
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	-	-	-	-	-	-
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	-	-	-	-	-	-
44	F	Constructions and construction works.....	-	-	-	-	-	-
45	41-42	Building and building construction works.....	-	-	-	-	-	-
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	-	-	-	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	-	-	-	-	-	-
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	-	-	-	-	-
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	-	-	-	-
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	-	-	-	-	-	-
68		All homogeneous branches.....	570,849	563,135	543,202	526,096	538,653	524,834
69		Private households.....	745	797	797	797	797	797
70		All homogeneous branches and private households.....	571,595	563,932	543,998	526,893	539,450	525,631

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.8.4: Direct NH₃ emissions of road transport
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	5	6	4	11	10	10
2	01	Products of agriculture, hunting and related services.....	5	5	3	10	9	9
3	02	Products of forestry, logging and related services.....	0	0	0	1	1	1
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	1	1	1	2	2	2
6	05	Coal and lignite.....	0	0	0	0	1	0
7	06	Crude petroleum and natural gas.....	0	0	0	0	1	0
8	07-09	Metal ores, other mining and quarrying products.....	1	1	1	1	1	1
9	C	Manufactured products.....	36	51	33	123	196	184
10	10-12	Food products, beverages, tobacco products.....	4	6	3	14	23	21
11	13-15	Textiles, wearing apparel, leather and related products.....	1	1	1	2	3	3
12	16	Wood and products of wood and cork, except furniture.....	1	1	1	2	3	3
13	17	Paper and paper products.....	1	1	1	3	5	5
14	18	Printing and recording services.....	1	1	1	2	3	3
15	19	Coke and refined petroleum products.....	1	1	1	4	7	7
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	1	1	1	4	7	6
18	20	Chemicals and chemical products.....	3	4	2	9	15	14
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	1	1	1	3	5	4
20	22	Rubber and plastic products.....	2	2	1	5	8	8
21	23	Other non-metallic mineral products.....	2	2	1	4	6	5
22	23.1	Glass and glass products.....	0	0	0	1	1	1
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1	1	1	3	4	4
24	24	Basic metals.....	2	2	2	6	10	10
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	1	1	1	4	6	5
26	24.4	Basic precious and other non-ferrous metals.....	1	1	1	2	3	3
27	24.5	Casting services of metal.....	0	0	0	1	1	1
28	25	Fabricated metal products, except machinery and equipment.....	3	4	3	9	15	14
29	26	Computer, electronic and optical products.....	1	3	1	5	8	7
30	27	Electrical equipment.....	3	4	2	7	11	11
31	28	Machinery and equipment n.e.c.....	5	6	4	16	26	24
32	29	Motor vehicles, trailers and semi-trailers.....	4	8	6	20	32	30
33	30	Other transport equipment.....	1	1	1	3	5	4
34	31-32	Furniture, other manufacture goods.....	1	1	1	4	6	5
35	33	Repair and installation services of machinery and equipment.....	2	2	1	4	7	6
36	D (35)	Electricity, gas, steam and air conditioning.....	1	2	2	9	10	9
37	35.1/3	Electricity, transmission and distribution services, steam.....	1	2	2	7	7	7
38	35.2	Manufactured gas.....	0	0	0	2	2	2
39	E	Water supply; sewerage, waste management and remediation services.....	19	22	32	64	71	69
40	36	Natural water; water treatment and supply services.....	0	0	0	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	19	22	32	63	69	68
42	37	Sewerage services, sewerage sludge.....	2	2	3	11	12	12
43	38-39	Waste collection, treatment and disposal services.....	17	19	29	52	57	56
44	F	Constructions and construction works.....	29	35	22	58	58	56
45	41-42	Building and building construction works.....	15	17	10	18	18	17
46	43	Specialised construction works.....	14	18	12	40	40	38
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	52	75	61	224	291	272
48	45	Wholesale and retail trade and repair services of motor vehicles.....	8	13	8	26	35	33
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	21	24	32	67	85	81
50	47	Retail trade services, except of motor vehicles and motorcycles.....	24	38	21	130	170	158
51	H	Transportation and storage services.....	58	70	88	119	126	128
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2	2	1	3	3	3
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	29	31	40	54	57	58
54	50	Water transport services.....	1	2	3	5	5	5
55	51	Air transport services.....	4	5	4	5	5	5
56	52	Warehousing and support services for transportation.....	16	20	31	43	46	47
57	53	Postal and courier services.....	7	10	8	9	10	10
58	I	Accommodation and food services.....	5	12	2	13	14	13
59	J	Information and communication services.....	11	23	15	42	48	46
60	K	Financial and insurance services.....	2	4	2	9	12	12
61	L	Real estate services.....	5	8	5	25	29	27
62	M	Professional, scientific and technical services.....	27	55	37	202	235	219
63	N	Administrative and support services.....	2	4	4	10	11	11
64	O	Public administration and defence services.....	6	9	9	32	35	33
65	P	Education services.....	1	1	1	3	4	3
66	Q	Human health and social work services.....	4	7	4	35	37	34
67	R-T	Other services.....	13	23	19	60	70	67
68		All homogeneous branches.....	279	408	341	1,042	1,260	1,194
69		Private households.....	16,668	29,170	23,009	15,848	14,952	13,758
70		All homogeneous branches and private households (residents concept).....	16,947	29,578	23,350	16,890	16,212	14,952
71		Transitional balance 2).....	-520	-1,142	-2,098	-1,885	-1,822	-1,665
72		Total emissions (domestic concept).....	16,426	28,435	21,252	15,004	14,390	13,287

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.9.1: Direct SO₂ emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	13,490	4,643	2,693	3,930	4,251	4,511
2	01	Products of agriculture, hunting and related services.....	12,274	3,727	2,035	3,403	3,724	4,050
3	02	Products of forestry, logging and related services.....	56	9	0	0	0	0
4	03	Fish and other fishing products; aquaculture products.....	1,160	906	659	527	527	461
5	B	Mining and quarrying.....	20,981	5,312	5,818	5,026	6,633	4,844
6	05	Coal and lignite.....	18,555	4,071	4,237	4,121	5,527	3,852
7	06	Crude petroleum and natural gas.....	80	31	25	18	16	15
8	07-09	Metal ores, other mining and quarrying products.....	2,346	1,209	1,555	887	1,090	977
9	C	Manufactured products.....	282,066	201,719	165,925	147,761	144,441	142,205
10	10-12	Food products, beverages, tobacco products.....	15,639	10,460	5,746	3,784	3,872	3,823
11	13-15	Textiles, wearing apparel, leather and related products.....	2,545	901	685	230	144	175
12	16	Wood and products of wood and cork, except furniture.....	2,326	1,196	629	688	780	705
13	17	Paper and paper products.....	25,459	14,023	6,806	6,208	5,619	5,520
14	18	Printing and recording services.....	419	176	120	67	59	56
15	19	Coke and refined petroleum products.....	75,668	52,340	50,319	37,157	34,398	32,895
16	19.1	Coke oven products.....	4,188	3,314	2,440	1,834	1,794	1,807
17	19.2	Refined petroleum products.....	71,479	49,026	47,880	35,324	32,605	31,087
18	20	Chemicals and chemical products.....	61,950	33,371	31,004	37,435	39,171	37,806
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	1,875	993	85	73	98	104
20	22	Rubber and plastic products.....	1,624	621	473	568	377	378
21	23	Other non-metallic mineral products.....	26,409	26,723	20,943	21,863	22,604	21,955
22	23.1	Glass and glass products.....	11,796	11,311	8,159	9,637	9,727	9,508
23	23.2-9	Refractory products, cut, shaped and finished stone.....	14,613	15,411	12,784	12,226	12,877	12,446
24	24	Basic metals.....	54,227	55,681	45,538	36,867	34,403	35,808
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	41,147	43,591	35,392	30,474	27,764	29,484
26	24.4	Basic precious and other non-ferrous metals.....	11,501	10,992	9,313	5,428	5,486	5,160
27	24.5	Casting services of metal.....	1,579	1,097	833	965	1,154	1,164
28	25	Fabricated metal products, except machinery and equipment.....	3,383	1,738	1,162	1,083	1,235	1,456
29	26	Computer, electronic and optical products.....	1,065	380	178	77	60	71
30	27	Electrical equipment.....	1,755	642	423	234	210	203
31	28	Machinery and equipment n.e.c.....	3,512	1,278	769	647	544	600
32	29	Motor vehicles, trailers and semi-trailers.....	2,289	770	749	442	411	422
33	30	Other transport equipment.....	876	81	48	83	22	23
34	31-32	Furniture, other manufacture goods.....	864	313	245	211	189	171
35	33	Repair and installation services of machinery and equipment.....	181	32	4	42	247	34
36	D (35)	Electricity, gas, steam and air conditioning.....	1,157,404	304,443	214,061	203,983	203,748	210,893
37	35.1/3	Electricity, transmission and distribution services, steam.....	1,157,377	304,438	214,059	203,981	203,746	210,891
38	35.2	Manufactured gas.....	27	5	1	2	2	2
39	E	Water supply; sewerage, waste management and remediation services.....	8,758	5,354	3,545	2,167	2,235	2,354
40	36	Natural water; water treatment and supply services.....	23	6	2	11	5	5
41	37-39	Sewerage services; waste collection and materials recovery services.....	8,735	5,348	3,543	2,156	2,230	2,349
42	37	Sewerage services, sewerage sludge.....	196	42	3	3	3	3
43	38-39	Waste collection, treatment and disposal services.....	8,539	5,306	3,540	2,152	2,226	2,346
44	F	Constructions and construction works.....	11,669	4,076	1,549	1,340	1,133	1,165
45	41-42	Building and building construction works.....	6,090	2,022	699	375	388	404
46	43	Specialised construction works.....	5,579	2,054	849	965	745	761
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	22,227	10,255	5,318	5,002	5,036	4,582
48	45	Wholesale and retail trade and repair services of motor vehicles.....	3,245	1,809	677	718	945	867
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	6,187	2,347	1,000	780	662	613
50	47	Retail trade services, except of motor vehicles and motorcycles.....	12,795	6,099	3,642	3,504	3,429	3,102
51	H	Transportation and storage services.....	235,001	124,487	363,798	487,095	407,369	483,958
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,680	604	34	19	15	17
53	49.3-5	Other passenger land transport services, transport service via pipeline....	5,288	1,216	46	50	51	52
54	50	Water transport services.....	217,888	118,275	360,943	484,976	405,323	481,757
55	51	Air transport services.....	4,406	2,842	2,291	1,677	1,634	1,760
56	52	Warehousing and support services for transportation.....	3,268	1,067	358	292	282	310
57	53	Postal and courier services.....	1,472	482	126	81	62	62
58	I	Accommodation and food services.....	4,449	2,705	1,874	2,110	2,132	1,961
59	J	Information and communication services.....	2,317	1,205	893	513	415	439
60	K	Financial and insurance services.....	1,926	1,122	906	524	409	438
61	L	Real estate services.....	776	361	185	114	88	101
62	M	Professional, scientific and technical services.....	4,136	1,997	1,213	860	687	730
63	N	Administrative and support services.....	573	306	293	267	232	238
64	O	Public administration and defence services.....	3,668	1,952	1,273	1,376	1,180	962
65	P	Education services.....	3,797	2,135	1,663	1,484	1,406	1,835
66	Q	Human health and social work services.....	6,399	3,498	2,541	2,714	2,560	3,569
67	R-T	Other services.....	5,180	2,601	1,741	1,232	1,473	1,449
68		All homogeneous branches.....	1,784,818	678,170	775,288	867,498	785,425	866,234
69		Private households.....	137,713	78,974	47,482	48,870	45,283	44,276
70		All homogeneous branches and private households (residents concept) 2)...	1,922,531	757,143	822,771	916,368	830,708	910,510
71		Transitional balance 3).....	-116,484	-9,951	-232,292	-342,762	-265,055	-349,996
72		Total emissions (domestic concept) 2).....	1,806,047	747,192	590,479	573,606	565,653	560,514

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.9.2: Direct SO₂ emissions per unit energy consumption (not including road transport)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	12,736	4,508	2,691	3,928	4,249	4,508
2	01	Products of agriculture, hunting and related services.....	11,580	3,602	2,032	3,401	3,722	4,047
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	1,157	906	659	527	527	461
5	B	Mining and quarrying.....	20,809	5,279	5,814	5,023	6,630	4,842
6	05	Coal and lignite.....	18,512	4,067	4,237	4,121	5,526	3,852
7	06	Crude petroleum and natural gas.....	48	21	22	16	14	13
8	07-09	Metal ores, other mining and quarrying products.....	2,249	1,191	1,554	886	1,090	977
9	C	Manufactured products.....	190,256	84,667	73,592	61,106	56,174	53,439
10	10-12	Food products, beverages, tobacco products.....	15,140	10,364	5,744	3,781	3,868	3,818
11	13-15	Textiles, wearing apparel, leather and related products.....	2,416	881	684	230	144	175
12	16	Wood and products of wood and cork, except furniture.....	2,233	1,180	628	688	779	704
13	17	Paper and paper products.....	10,524	5,199	5,368	4,999	4,394	4,261
14	18	Printing and recording services.....	337	159	119	67	58	56
15	19	Coke and refined petroleum products.....	65,749	45,036	45,776	33,518	30,670	29,364
16	19.1	Coke oven products.....	3,633	3,020	2,319	1,803	1,763	1,776
17	19.2	Refined petroleum products.....	62,115	42,015	43,457	31,715	28,907	27,588
18	20	Chemicals and chemical products.....	36,618	8,505	5,259	9,112	7,548	6,226
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	1,800	977	85	72	97	103
20	22	Rubber and plastic products.....	1,442	585	472	567	375	376
21	23	Other non-metallic mineral products.....	5,192	3,363	3,471	3,751	3,865	3,924
22	23.1	Glass and glass products.....	1,143	50	208	12	56	290
23	23.2-9	Refractory products, cut, shaped and finished stone.....	4,049	3,313	3,263	3,739	3,810	3,634
24	24	Basic metals.....	37,006	3,677	2,422	1,518	1,479	1,473
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	31,926	1,535	667	729	716	719
26	24.4	Basic precious and other non-ferrous metals.....	3,527	2,103	1,733	559	464	455
27	24.5	Casting services of metal.....	1,553	39	21	231	299	299
28	25	Fabricated metal products, except machinery and equipment.....	3,066	1,669	1,160	1,081	1,232	1,453
29	26	Computer, electronic and optical products.....	922	338	177	76	58	70
30	27	Electrical equipment.....	1,449	576	421	233	208	201
31	28	Machinery and equipment n.e.c.....	2,993	1,173	766	643	539	596
32	29	Motor vehicles, trailers and semi-trailers.....	1,809	632	745	438	404	416
33	30	Other transport equipment.....	810	63	47	83	21	22
34	31-32	Furniture, other manufacture goods.....	748	289	245	210	188	170
35	33	Repair and installation services of machinery and equipment.....	0	0	3	41	246	33
36	D (35)	Electricity, gas, steam and air conditioning.....	1,157,217	304,408	214,059	203,981	203,746	210,891
37	35.1/3	Electricity, transmission and distribution services, steam.....	1,157,217	304,408	214,058	203,980	203,744	210,889
38	35.2	Manufactured gas.....	-	-	1	1	1	1
39	E	Water supply; sewerage, waste management and remediation services.....	5,486	4,619	3,473	2,085	2,148	2,266
40	36	Natural water; water treatment and supply services.....	-	-	2	10	4	5
41	37-39	Sewerage services; waste collection and materials recovery services.....	5,486	4,619	3,471	2,074	2,144	2,262
42	37	Sewerage services, sewerage sludge.....	-	-	1	1	1	1
43	38-39	Waste collection, treatment and disposal services.....	5,486	4,619	3,471	2,073	2,143	2,261
44	F	Constructions and construction works.....	7,313	3,220	1,530	1,320	1,114	1,146
45	41-42	Building and building construction works.....	3,819	1,603	691	369	382	398
46	43	Specialised construction works.....	3,494	1,618	840	951	731	748
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	16,794	8,971	5,270	4,959	4,985	4,531
48	45	Wholesale and retail trade and repair services of motor vehicles.....	2,642	1,640	671	713	938	861
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	3,242	1,738	970	755	635	585
50	47	Retail trade services, except of motor vehicles and motorcycles.....	10,910	5,593	3,629	3,491	3,412	3,085
51	H	Transportation and storage services.....	224,389	121,792	363,706	486,993	407,264	483,851
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,331	525	33	16	13	14
53	49.3-5	Other passenger land transport services, transport service via pipeline....	-	-	4	4	4	5
54	50	Water transport services.....	217,679	118,204	360,940	484,972	405,319	481,753
55	51	Air transport services.....	3,721	2,639	2,287	1,672	1,630	1,755
56	52	Warehousing and support services for transportation.....	394	280	325	254	243	270
57	53	Postal and courier services.....	264	144	117	74	55	54
58	I	Accommodation and food services.....	4,308	2,663	1,874	2,109	2,131	1,959
59	J	Information and communication services.....	1,000	795	881	499	400	424
60	K	Financial and insurance services.....	1,839	1,105	906	523	407	436
61	L	Real estate services.....	322	231	182	110	83	96
62	M	Professional, scientific and technical services.....	1,522	1,137	1,194	833	654	698
63	N	Administrative and support services.....	293	219	290	265	230	236
64	O	Public administration and defence services.....	2,812	1,764	1,267	1,368	1,172	954
65	P	Education services.....	3,699	2,109	1,662	1,484	1,405	1,834
66	Q	Human health and social work services.....	6,079	3,397	2,539	2,711	2,557	3,565
67	R-T	Other services.....	3,411	2,064	1,725	1,214	1,452	1,429
68		All homogeneous branches.....	1,660,285	552,950	682,655	780,512	696,800	777,104
69		Private households.....	106,385	68,782	46,891	48,317	44,753	43,761
70		All homogeneous branches and private households (residents concept) 2)...	1,766,670	621,732	729,546	828,829	741,552	820,865
71		Transitional balance 3).....	-117,735	-10,432	-232,223	-342,687	-264,978	-349,920
72		Total emissions (domestic concept) 2).....	1,648,935	611,300	497,324	486,143	476,574	470,945

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.9.3: Direct SO₂ process emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	-	-	-	-	-	-
2	01	Products of agriculture, hunting and related services.....	-	-	-	-	-	-
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	5	5	3	2	2	2
6	05	Coal and lignite.....	-	-	-	-	-	-
7	06	Crude petroleum and natural gas.....	5	5	3	2	2	2
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	87,759	116,176	92,309	86,627	88,230	88,728
10	10-12	Food products, beverages, tobacco products.....	-	-	-	-	-	-
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	-	-	-	-	-	-
13	17	Paper and paper products.....	14,839	8,803	1,437	1,209	1,224	1,259
14	18	Printing and recording services.....	-	-	-	-	-	-
15	19	Coke and refined petroleum products.....	9,835	7,278	4,543	3,639	3,727	3,529
16	19.1	Coke oven products.....	555	293	121	31	31	31
17	19.2	Refined petroleum products.....	9,280	6,985	4,422	3,608	3,696	3,498
18	20	Chemicals and chemical products.....	25,032	24,802	25,743	28,320	31,620	31,577
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	21,037	23,330	17,471	18,111	18,737	18,030
22	23.1	Glass and glass products.....	10,620	11,255	7,950	9,624	9,671	9,218
23	23.2-9	Refractory products, cut, shaped and finished stone.....	10,417	12,075	9,520	8,487	9,066	8,812
24	24	Basic metals.....	17,016	51,963	43,115	35,348	32,922	34,334
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	9,107	42,035	34,724	29,745	27,046	28,765
26	24.4	Basic precious and other non-ferrous metals.....	7,909	8,875	7,580	4,869	5,021	4,705
27	24.5	Casting services of metal.....	-	1,052	811	734	855	865
28	25	Fabricated metal products, except machinery and equipment.....	-	-	-	-	-	-
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	-	-	-	-	-	-
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1/.3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.2	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	36	37	41	48	52	52
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	36	37	41	48	52	52
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	36	37	41	48	52	52
44	F	Constructions and construction works.....	-	-	-	-	-	-
45	41-42	Building and building construction works.....	-	-	-	-	-	-
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	-	-	-	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	-	-	-	-	-	-
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	-	-	-	-	-
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	-	-	-	-
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	-	-	-	-	-	-
68		All homogeneous branches.....	87,799	116,218	92,353	86,677	88,284	88,782
69		Private households.....	-	-	-	-	-	-
70		All homogeneous branches and private households.....	87,799	116,218	92,353	86,677	88,284	88,782

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.9.4: Direct SO₂ emissions of road transport
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	754	134	3	3	3	3
2	01	Products of agriculture, hunting and related services.....	694	124	2	3	2	2
3	02	Products of forestry, logging and related services.....	56	9	0	0	0	0
4	03	Fish and other fishing products; aquaculture products.....	3	1	0	0	0	0
5	B	Mining and quarrying.....	168	27	1	1	1	1
6	05	Coal and lignite.....	43	4	0	0	0	0
7	06	Crude petroleum and natural gas.....	28	5	0	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	97	19	1	0	0	0
9	C	Manufactured products.....	4,052	875	24	28	37	38
10	10-12	Food products, beverages, tobacco products.....	499	95	2	3	4	4
11	13-15	Textiles, wearing apparel, leather and related products.....	128	20	0	0	1	1
12	16	Wood and products of wood and cork, except furniture.....	94	16	0	0	1	1
13	17	Paper and paper products.....	96	20	1	1	1	1
14	18	Printing and recording services.....	82	17	0	0	1	1
15	19	Coke and refined petroleum products.....	84	26	1	1	1	1
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	84	26	1	1	1	1
18	20	Chemicals and chemical products.....	300	64	2	2	3	3
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	75	16	0	1	1	1
20	22	Rubber and plastic products.....	182	35	1	1	2	2
21	23	Other non-metallic mineral products.....	179	30	1	1	1	1
22	23.1	Glass and glass products.....	33	6	0	0	0	0
23	23.2-9	Refractory products, cut, shaped and finished stone.....	147	24	0	1	1	1
24	24	Basic metals.....	205	41	1	1	2	2
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	113	21	1	1	1	1
26	24.4	Basic precious and other non-ferrous metals.....	65	15	0	0	1	1
27	24.5	Casting services of metal.....	26	6	0	0	0	0
28	25	Fabricated metal products, except machinery and equipment.....	316	69	2	2	3	3
29	26	Computer, electronic and optical products.....	143	42	1	1	1	1
30	27	Electrical equipment.....	306	66	2	2	2	2
31	28	Machinery and equipment n.e.c.....	519	106	3	4	5	5
32	29	Motor vehicles, trailers and semi-trailers.....	480	137	4	4	6	6
33	30	Other transport equipment.....	66	18	1	1	1	1
34	31-32	Furniture, other manufacture goods.....	116	24	1	1	1	1
35	33	Repair and installation services of machinery and equipment.....	181	32	1	1	1	1
36	D (35)	Electricity, gas, steam and air conditioning.....	187	36	1	2	2	2
37	35.1/3	Electricity, transmission and distribution services, steam.....	160	30	1	1	1	1
38	35.2	Manufactured gas.....	27	5	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	3,236	698	31	34	35	36
40	36	Natural water; water treatment and supply services.....	23	6	0	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,213	692	31	33	34	35
42	37	Sewerage services, sewerage sludge.....	196	42	2	2	3	3
43	38-39	Waste collection, treatment and disposal services.....	3,017	650	28	31	32	32
44	F	Constructions and construction works.....	4,356	856	19	20	19	19
45	41-42	Building and building construction works.....	2,271	419	9	6	6	6
46	43	Specialised construction works.....	2,086	436	10	14	13	13
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	5,433	1,284	48	43	51	51
48	45	Wholesale and retail trade and repair services of motor vehicles.....	603	169	6	5	7	7
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,945	610	30	25	27	27
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,885	506	12	13	17	17
51	H	Transportation and storage services.....	10,613	2,695	92	101	105	107
52	49.1-2	Passenger rail transport services, freight rail transport services.....	349	79	1	2	2	2
53	49.3-5	Other passenger land transport services, transport service via pipeline....	5,288	1,216	42	46	47	48
54	50	Water transport services.....	209	71	3	4	4	4
55	51	Air transport services.....	685	203	4	4	4	4
56	52	Warehousing and support services for transportation.....	2,874	788	32	38	39	40
57	53	Postal and courier services.....	1,209	338	9	8	8	8
58	I	Accommodation and food services.....	141	42	1	1	1	1
59	J	Information and communication services.....	1,317	410	12	13	15	15
60	K	Financial and insurance services.....	87	17	1	1	2	2
61	L	Real estate services.....	454	130	3	4	5	5
62	M	Professional, scientific and technical services.....	2,614	860	18	27	33	33
63	N	Administrative and support services.....	281	86	3	2	2	2
64	O	Public administration and defence services.....	856	188	6	8	8	8
65	P	Education services.....	98	26	1	1	1	1
66	Q	Human health and social work services.....	319	101	2	3	3	3
67	R-T	Other services.....	1,769	537	16	17	21	21
68		All homogeneous branches.....	36,733	9,002	280	308	342	347
69		Private households.....	31,328	10,191	591	553	530	516
70		All homogeneous branches and private households (residents concept).....	68,062	19,193	871	861	872	863
71		Transitional balance 2).....	1,251	481	-70	-75	-77	-75
72		Total emissions (domestic concept).....	69,313	19,674	802	786	795	787

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.10.1: Direct NO_x emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	186,385	188,690	164,772	154,872	162,549	155,120
2	01	Products of agriculture, hunting and related services.....	182,206	185,481	162,441	153,062	160,775	153,550
3	02	Products of forestry, logging and related services.....	668	455	309	204	172	166
4	03	Fish and other fishing products; aquaculture products.....	3,510	2,754	2,022	1,606	1,602	1,404
5	B	Mining and quarrying.....	9,865	5,286	9,724	7,677	8,433	6,587
6	05	Coal and lignite.....	5,971	2,388	2,969	3,069	4,355	2,863
7	06	Crude petroleum and natural gas.....	1,162	1,137	4,626	3,428	3,042	2,723
8	07-09	Metal ores, other mining and quarrying products.....	2,733	1,762	2,129	1,180	1,036	1,001
9	C	Manufactured products.....	288,309	246,183	215,639	197,218	197,578	195,428
10	10-12	Food products, beverages, tobacco products.....	16,309	13,526	12,246	11,581	11,185	11,096
11	13-15	Textiles, wearing apparel, leather and related products.....	4,042	2,717	2,058	1,153	1,139	1,107
12	16	Wood and products of wood and cork, except furniture.....	3,060	2,748	5,620	7,112	8,205	10,217
13	17	Paper and paper products.....	9,326	8,290	9,938	11,451	9,736	9,200
14	18	Printing and recording services.....	1,472	1,496	1,212	928	938	964
15	19	Coke and refined petroleum products.....	44,744	32,637	27,646	22,078	21,421	20,561
16	19.1	Coke oven products.....	11,785	10,230	5,036	4,636	4,563	4,540
17	19.2	Refined petroleum products.....	32,959	22,406	22,610	17,442	16,857	16,021
18	20	Chemicals and chemical products.....	44,884	40,384	42,666	49,311	48,546	46,508
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,755	3,122	1,241	1,320	1,359	1,808
20	22	Rubber and plastic products.....	4,144	3,352	3,034	2,712	2,582	2,542
21	23	Other non-metallic mineral products.....	76,517	61,208	48,192	40,140	41,169	39,340
22	23.1	Glass and glass products.....	19,875	14,082	13,743	12,230	12,422	12,142
23	23.2-9	Refractory products, cut, shaped and finished stone.....	56,642	47,126	34,449	27,910	28,748	27,198
24	24	Basic metals.....	42,508	42,438	33,039	26,532	26,269	27,484
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	38,073	38,162	29,279	23,616	23,219	24,392
26	24.4	Basic precious and other non-ferrous metals.....	3,000	2,929	2,528	1,768	1,736	1,757
27	24.5	Casting services of metal.....	1,435	1,347	1,232	1,148	1,314	1,335
28	25	Fabricated metal products, except machinery and equipment.....	8,036	7,180	5,925	5,334	5,515	5,517
29	26	Computer, electronic and optical products.....	2,698	2,665	1,838	1,273	1,472	1,471
30	27	Electrical equipment.....	4,658	3,666	2,751	1,860	2,188	2,065
31	28	Machinery and equipment n.e.c.....	9,262	7,338	6,584	5,328	5,727	5,665
32	29	Motor vehicles, trailers and semi-trailers.....	8,212	8,825	8,218	5,829	6,594	6,418
33	30	Other transport equipment.....	1,531	1,338	1,183	985	1,001	997
34	31-32	Furniture, other manufacture goods.....	1,995	1,675	1,240	1,244	1,341	1,310
35	33	Repair and installation services of machinery and equipment.....	2,157	1,578	1,008	1,048	1,191	1,160
36	D (35)	Electricity, gas, steam and air conditioning.....	313,971	262,727	278,656	311,893	312,157	319,223
37	35.1/3	Electricity, transmission and distribution services, steam.....	313,646	262,462	278,344	311,495	311,793	318,873
38	35.2	Manufactured gas.....	325	265	311	398	364	350
39	E	Water supply; sewerage, waste management and remediation services.....	49,447	41,151	51,190	44,542	44,049	43,391
40	36	Natural water; water treatment and supply services.....	277	293	259	487	429	416
41	37-39	Sewerage services; waste collection and materials recovery services.....	49,170	40,859	50,931	44,056	43,620	42,975
42	37	Sewerage services, sewerage sludge.....	2,333	2,046	3,011	2,143	2,119	2,051
43	38-39	Waste collection, treatment and disposal services.....	46,837	38,812	47,920	41,912	41,501	40,925
44	F	Constructions and construction works.....	95,055	81,951	53,391	39,379	36,404	34,461
45	41-42	Building and building construction works.....	48,733	40,543	25,809	16,145	15,045	14,163
46	43	Specialised construction works.....	46,323	41,408	27,582	23,234	21,359	20,297
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	76,138	71,370	73,195	43,092	45,336	44,271
48	45	Wholesale and retail trade and repair services of motor vehicles.....	8,918	9,650	8,733	5,525	5,989	5,883
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	37,586	31,905	43,649	23,230	22,871	22,215
50	47	Retail trade services, except of motor vehicles and motorcycles.....	29,634	29,816	20,814	14,337	16,476	16,174
51	H	Transportation and storage services.....	549,817	432,873	735,077	865,067	760,516	861,073
52	49.1-2	Passenger rail transport services, freight rail transport services.....	41,712	35,116	22,047	17,380	17,798	17,021
53	49.3-5	Other passenger land transport services, transport service via pipeline....	62,694	59,631	58,967	41,748	39,918	38,696
54	50	Water transport services.....	312,644	177,282	486,216	653,444	552,498	646,157
55	51	Air transport services.....	83,739	105,114	110,034	110,489	109,572	119,671
56	52	Warehousing and support services for transportation.....	34,472	39,015	45,444	34,912	33,857	32,860
57	53	Postal and courier services.....	14,556	16,715	12,369	7,095	6,872	6,668
58	I	Accommodation and food services.....	5,153	5,023	3,727	3,717	3,601	3,595
59	J	Information and communication services.....	16,534	21,027	17,429	12,588	12,772	12,460
60	K	Financial and insurance services.....	2,675	2,128	2,487	2,278	2,605	2,604
61	L	Real estate services.....	5,728	6,685	4,237	3,485	3,788	3,689
62	M	Professional, scientific and technical services.....	32,607	43,620	26,366	23,283	26,068	25,316
63	N	Administrative and support services.....	3,666	4,588	4,107	1,967	1,921	1,875
64	O	Public administration and defence services.....	25,561	18,780	19,187	12,923	12,125	11,429
65	P	Education services.....	4,690	4,176	3,305	3,002	2,802	2,989
66	Q	Human health and social work services.....	8,502	8,978	5,669	6,502	6,034	6,380
67	R-T	Other services.....	23,977	28,842	24,438	17,040	18,298	17,855
68		All homogeneous branches.....	1,698,080	1,474,081	1,692,597	1,750,525	1,657,035	1,747,747
69		Private households.....	807,721	667,639	490,649	349,063	303,310	293,162
70		All homogeneous branches and private households (residents concept) 2)...	2,505,801	2,141,720	2,183,246	2,099,588	1,960,345	2,040,910
71		Transitional balance 3).....	-185,026	-61,232	-434,597	-568,252	-468,191	-581,726
72		Total emissions (domestic concept) 2).....	2,320,775	2,080,488	1,748,649	1,531,336	1,492,154	1,459,184

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.10.2: Direct NO_x emissions per unit energy consumption (not including road transport)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	61,237	58,693	48,635	48,660	48,302	46,427
2	01	Products of agriculture, hunting and related services.....	57,767	55,976	46,659	47,079	46,721	45,044
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	3,470	2,717	1,976	1,581	1,581	1,383
5	B	Mining and quarrying.....	7,874	3,950	8,027	6,885	7,706	5,883
6	05	Coal and lignite.....	5,459	2,193	2,768	2,876	4,178	2,692
7	06	Crude petroleum and natural gas.....	829	911	4,377	3,237	2,868	2,554
8	07-09	Metal ores, other mining and quarrying products.....	1,586	846	882	773	660	638
9	C	Manufactured products.....	146,169	85,441	79,275	84,045	79,397	79,459
10	10-12	Food products, beverages, tobacco products.....	10,351	8,835	8,839	8,861	7,832	7,854
11	13-15	Textiles, wearing apparel, leather and related products.....	2,510	1,717	1,474	808	712	695
12	16	Wood and products of wood and cork, except furniture.....	1,943	1,970	5,098	6,734	7,753	9,780
13	17	Paper and paper products.....	8,176	6,857	8,001	9,252	7,327	6,793
14	18	Printing and recording services.....	493	663	670	539	458	499
15	19	Coke and refined petroleum products.....	38,527	28,084	25,078	20,086	19,180	18,482
16	19.1	Coke oven products.....	11,785	10,230	5,028	4,620	4,544	4,521
17	19.2	Refined petroleum products.....	26,743	17,854	20,051	15,466	14,636	13,961
18	20	Chemicals and chemical products.....	22,132	15,712	11,568	19,249	18,436	16,461
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	1,861	2,336	640	745	650	1,122
20	22	Rubber and plastic products.....	1,978	1,624	1,696	1,722	1,360	1,360
21	23	Other non-metallic mineral products.....	9,310	3,269	3,016	3,122	3,075	3,263
22	23.1	Glass and glass products.....	1,775	1,241	1,169	894	1,024	1,262
23	23.2-9	Refractory products, cut, shaped and finished stone.....	7,536	2,028	1,847	2,228	2,051	2,002
24	24	Basic metals.....	35,715	4,399	3,573	3,352	3,942	4,369
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	32,368	2,059	1,490	1,768	2,480	2,854
26	24.4	Basic precious and other non-ferrous metals.....	2,221	2,203	1,967	1,385	1,264	1,301
27	24.5	Casting services of metal.....	1,125	137	116	199	197	214
28	25	Fabricated metal products, except machinery and equipment.....	4,260	3,783	3,307	3,479	3,257	3,333
29	26	Computer, electronic and optical products.....	986	599	455	334	312	349
30	27	Electrical equipment.....	1,007	431	352	474	486	419
31	28	Machinery and equipment n.e.c.....	3,070	2,143	2,302	2,172	1,857	1,922
32	29	Motor vehicles, trailers and semi-trailers.....	2,489	2,068	2,286	1,944	1,795	1,776
33	30	Other transport equipment.....	748	451	411	420	307	326
34	31-32	Furniture, other manufacture goods.....	613	498	500	542	475	472
35	33	Repair and installation services of machinery and equipment.....	0	1	7	213	181	183
36	D (35)	Electricity, gas, steam and air conditioning.....	311,747	260,975	276,737	310,275	310,670	317,785
37	35.1/3	Electricity, transmission and distribution services, steam.....	311,747	260,975	276,731	310,257	310,655	317,773
38	35.2	Manufactured gas.....	-	-	6	18	15	12
39	E	Water supply; sewerage, waste management and remediation services.....	10,779	6,651	8,043	13,561	14,270	14,518
40	36	Natural water; water treatment and supply services.....	-	-	1	8	3	4
41	37-39	Sewerage services; waste collection and materials recovery services.....	10,779	6,651	8,041	13,553	14,266	14,515
42	37	Sewerage services, sewerage sludge.....	-	-	1	1	1	1
43	38-39	Waste collection, treatment and disposal services.....	10,779	6,651	8,040	13,552	14,265	14,514
44	F	Constructions and construction works.....	43,284	39,953	27,468	21,877	20,835	19,384
45	41-42	Building and building construction works.....	21,747	19,954	13,677	10,710	10,207	9,478
46	43	Specialised construction works.....	21,537	20,000	13,791	11,167	10,628	9,906
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	11,238	8,249	6,207	6,042	5,652	5,900
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,669	1,336	734	796	801	866
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,574	1,987	1,457	955	858	899
50	47	Retail trade services, except of motor vehicles and motorcycles.....	6,995	4,926	4,016	4,291	3,992	4,135
51	H	Transportation and storage services.....	423,971	300,702	606,924	772,296	671,111	774,408
52	49.1-2	Passenger rail transport services, freight rail transport services.....	37,571	31,231	20,589	15,248	15,733	15,020
53	49.3-5	Other passenger land transport services, transport service via pipeline....	-	-	17	6	6	7
54	50	Water transport services.....	310,170	173,784	481,700	649,903	549,071	642,835
55	51	Air transport services.....	75,623	95,146	104,106	106,613	105,822	116,035
56	52	Warehousing and support services for transportation.....	391	387	383	407	380	408
57	53	Postal and courier services.....	215	153	130	118	98	102
58	I	Accommodation and food services.....	3,380	2,948	2,614	2,810	2,735	2,761
59	J	Information and communication services.....	824	879	1,022	880	787	855
60	K	Financial and insurance services.....	1,617	1,297	1,185	1,068	919	974
61	L	Real estate services.....	298	292	280	255	223	243
62	M	Professional, scientific and technical services.....	1,345	1,356	1,476	1,446	1,241	1,332
63	N	Administrative and support services.....	321	344	384	451	423	428
64	O	Public administration and defence services.....	15,379	9,552	10,490	6,234	5,693	5,204
65	P	Education services.....	3,526	2,917	2,505	2,420	2,188	2,395
66	Q	Human health and social work services.....	4,677	4,002	3,522	4,025	3,623	4,057
67	R-T	Other services.....	2,927	2,484	2,369	1,696	1,470	1,561
68		All homogeneous branches.....	1,050,593	790,687	1,087,163	1,284,928	1,177,244	1,283,574
69		Private households.....	85,662	75,634	66,311	71,308	61,283	64,544
70		All homogeneous branches and private households (residents concept) 2)...	1,136,255	866,321	1,153,474	1,356,236	1,238,527	1,348,117
71		Transitional balance 3).....	-188,659	-81,133	-373,741	-526,375	-427,900	-543,474
72		Total emissions (domestic concept) 2).....	947,596	785,188	779,733	829,860	810,627	804,643

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.10.3: Direct NO_x processemissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	116,188	123,398	112,317	103,753	112,173	106,685
2	01	Products of agriculture, hunting and related services.....	116,188	123,398	112,317	103,753	112,173	106,685
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	0	0	0	0	0	0
6	05	Coal and lignite.....	-	-	-	-	-	-
7	06	Crude petroleum and natural gas.....	0	0	0	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	93,807	117,727	103,043	89,141	88,707	87,461
10	10-12	Food products, beverages, tobacco products.....	-	-	-	-	-	-
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	-	-	-	-	-	-
13	17	Paper and paper products.....	-	441	1,239	1,617	1,690	1,712
14	18	Printing and recording services.....	-	-	-	-	-	-
15	19	Coke and refined petroleum products.....	5,213	3,280	1,260	1,012	1,078	954
16	19.1	Coke oven products.....	-	-	-	-	-	-
17	19.2	Refined petroleum products.....	5,213	3,280	1,260	1,012	1,078	954
18	20	Chemicals and chemical products.....	19,176	21,525	28,618	28,281	27,914	27,923
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	65,066	56,473	44,302	36,290	37,225	35,236
22	23.1	Glass and glass products.....	17,711	12,536	12,386	11,183	11,208	10,697
23	23.2-9	Refractory products, cut, shaped and finished stone.....	47,354	43,936	31,917	25,107	26,017	24,540
24	24	Basic metals.....	4,352	36,008	27,624	21,941	20,799	21,636
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	4,352	35,069	26,757	21,157	19,886	20,713
26	24.4	Basic precious and other non-ferrous metals.....	-	-	-	-	-	-
27	24.5	Casting services of metal.....	-	940	867	784	914	924
28	25	Fabricated metal products, except machinery and equipment.....	-	-	-	-	-	-
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	-	-	-	-	-	-
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1/.3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.2	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	261	271	301	352	376	382
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	261	271	301	352	376	382
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	261	271	301	352	376	382
44	F	Constructions and construction works.....	-	-	-	-	-	-
45	41-42	Building and building construction works.....	-	-	-	-	-	-
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	-	-	-	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	-	-	-	-	-	-
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	-	-	-	-	-
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	-	-	-	-	-
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	-	-	-	-	-	-
68		All homogeneous branches.....	210,256	241,396	215,661	193,247	201,256	194,529
69		Private households.....	-	-	-	-	-	-
70		All homogeneous branches and private households.....	210,256	241,396	215,661	193,247	201,256	194,529

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

**Table 4.10.4: Direct NO_x emissions of road transport
tonnes**

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	8,960	6,598	3,821	2,459	2,074	2,008
2	01	Products of agriculture, hunting and related services.....	8,252	6,107	3,466	2,229	1,881	1,820
3	02	Products of forestry, logging and related services.....	668	455	309	204	172	166
4	03	Fish and other fishing products; aquaculture products.....	40	37	46	26	22	21
5	B	Mining and quarrying.....	1,991	1,336	1,697	792	726	704
6	05	Coal and lignite.....	512	195	200	194	177	171
7	06	Crude petroleum and natural gas.....	333	225	249	191	174	169
8	07-09	Metal ores, other mining and quarrying products.....	1,147	916	1,247	407	375	363
9	C	Manufactured products.....	48,333	43,015	33,322	24,031	29,475	28,508
10	10-12	Food products, beverages, tobacco products.....	5,958	4,691	3,407	2,720	3,352	3,242
11	13-15	Textiles, wearing apparel, leather and related products.....	1,532	1,000	584	345	426	412
12	16	Wood and products of wood and cork, except furniture.....	1,117	777	521	378	452	437
13	17	Paper and paper products.....	1,150	993	698	582	718	695
14	18	Printing and recording services.....	978	833	542	389	480	464
15	19	Coke and refined petroleum products.....	1,003	1,272	1,307	980	1,163	1,125
16	19.1	Coke oven products.....	0	0	8	16	20	19
17	19.2	Refined petroleum products.....	1,003	1,272	1,299	964	1,143	1,106
18	20	Chemicals and chemical products.....	3,576	3,147	2,481	1,782	2,196	2,124
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	894	787	601	575	709	686
20	22	Rubber and plastic products.....	2,166	1,728	1,338	990	1,222	1,182
21	23	Other non-metallic mineral products.....	2,140	1,466	873	728	868	840
22	23.1	Glass and glass products.....	389	305	188	154	190	183
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1,752	1,162	685	575	679	657
24	24	Basic metals.....	2,442	2,031	1,842	1,239	1,528	1,478
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	1,353	1,034	1,033	691	853	825
26	24.4	Basic precious and other non-ferrous metals.....	779	726	561	383	471	456
27	24.5	Casting services of metal.....	310	271	249	165	204	197
28	25	Fabricated metal products, except machinery and equipment.....	3,776	3,397	2,618	1,856	2,258	2,184
29	26	Computer, electronic and optical products.....	1,712	2,066	1,383	939	1,160	1,122
30	27	Electrical equipment.....	3,651	3,235	2,399	1,386	1,703	1,647
31	28	Machinery and equipment n.e.c.....	6,192	5,195	4,282	3,155	3,870	3,743
32	29	Motor vehicles, trailers and semi-trailers.....	5,723	6,757	5,933	3,885	4,799	4,641
33	30	Other transport equipment.....	783	887	772	565	694	671
34	31-32	Furniture, other manufacture goods.....	1,383	1,177	740	702	866	838
35	33	Repair and installation services of machinery and equipment.....	2,157	1,576	1,002	835	1,010	977
36	D (35)	Electricity, gas, steam and air conditioning.....	2,225	1,752	1,919	1,618	1,487	1,439
37	35.1/3	Electricity, transmission and distribution services, steam.....	1,900	1,487	1,614	1,238	1,138	1,101
38	35.2	Manufactured gas.....	325	265	305	380	349	338
39	E	Water supply; sewerage, waste management and remediation services.....	38,406	34,229	42,846	30,628	29,404	28,491
40	36	Natural water; water treatment and supply services.....	277	293	257	479	426	412
41	37-39	Sewerage services; waste collection and materials recovery services.....	38,129	33,937	42,588	30,150	28,978	28,078
42	37	Sewerage services, sewerage sludge.....	2,333	2,046	3,011	2,142	2,118	2,050
43	38-39	Waste collection, treatment and disposal services.....	35,796	31,890	39,578	28,007	26,859	26,029
44	F	Constructions and construction works.....	51,771	41,998	25,923	17,502	15,569	15,077
45	41-42	Building and building construction works.....	26,985	20,589	12,132	5,435	4,838	4,685
46	43	Specialised construction works.....	24,786	21,409	13,791	12,067	10,731	10,392
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	64,900	63,121	66,988	37,050	39,684	38,372
48	45	Wholesale and retail trade and repair services of motor vehicles.....	7,248	8,313	7,998	4,729	5,188	5,017
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	35,012	29,918	42,192	22,275	22,013	21,316
50	47	Retail trade services, except of motor vehicles and motorcycles.....	22,639	24,890	16,798	10,045	12,484	12,038
51	H	Transportation and storage services.....	125,846	132,171	128,152	92,771	89,405	86,666
52	49.1-2	Passenger rail transport services, freight rail transport services.....	4,141	3,885	1,458	2,132	2,064	2,001
53	49.3-5	Other passenger land transport services, transport service via pipeline....	62,694	59,631	58,950	41,742	39,912	38,689
54	50	Water transport services.....	2,474	3,497	4,516	3,541	3,427	3,322
55	51	Air transport services.....	8,116	9,968	5,928	3,875	3,751	3,636
56	52	Warehousing and support services for transportation.....	34,081	38,628	45,060	34,505	33,477	32,452
57	53	Postal and courier services.....	14,340	16,562	12,239	6,976	6,774	6,566
58	I	Accommodation and food services.....	1,774	2,076	1,113	907	866	834
59	J	Information and communication services.....	15,709	20,148	16,407	11,708	11,985	11,605
60	K	Financial and insurance services.....	1,058	831	1,302	1,210	1,685	1,630
61	L	Real estate services.....	5,429	6,394	3,956	3,230	3,565	3,446
62	M	Professional, scientific and technical services.....	31,262	42,264	24,890	21,837	24,827	23,984
63	N	Administrative and support services.....	3,345	4,245	3,722	1,516	1,497	1,448
64	O	Public administration and defence services.....	10,181	9,228	8,697	6,689	6,433	6,225
65	P	Education services.....	1,164	1,259	800	582	614	594
66	Q	Human health and social work services.....	3,825	4,976	2,148	2,477	2,411	2,323
67	R-T	Other services.....	21,051	26,358	22,070	15,344	16,828	16,294
68		All homogeneous branches.....	437,232	441,999	389,773	272,350	278,534	269,645
69		Private households.....	722,059	592,004	424,339	277,755	242,028	228,619
70		All homogeneous branches and private households (residents concept).....	1,159,291	1,034,003	814,111	550,105	520,562	498,264
71		Transitional balance 2).....	3,632	19,901	-60,857	-41,877	-40,291	-38,252
72		Total emissions (domestic concept).....	1,162,923	1,053,904	753,255	508,229	480,271	460,012

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.11.1: Direct NMVOC emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	23,454	19,128	14,504	12,789	12,518	11,875
2	01	Products of agriculture, hunting and related services.....	23,124	18,989	14,414	12,720	12,453	11,817
3	02	Products of forestry, logging and related services.....	219	56	31	20	18	16
4	03	Fish and other fishing products; aquaculture products.....	111	83	60	48	48	42
5	B	Mining and quarrying.....	1,016	791	566	347	387	309
6	05	Coal and lignite.....	320	121	152	139	185	121
7	06	Crude petroleum and natural gas.....	489	547	266	135	138	128
8	07-09	Metal ores, other mining and quarrying products.....	208	123	148	73	64	60
9	C	Manufactured products.....	853,372	733,057	693,226	612,884	585,314	573,748
10	10-12	Food products, beverages, tobacco products.....	17,469	14,559	14,729	14,331	15,396	15,797
11	13-15	Textiles, wearing apparel, leather and related products.....	362	169	109	52	56	55
12	16	Wood and products of wood and cork, except furniture.....	5,401	5,819	6,862	5,182	5,896	5,649
13	17	Paper and paper products.....	652	1,339	3,149	3,995	4,036	4,002
14	18	Printing and recording services.....	123,387	121,400	88,998	105,392	102,839	94,730
15	19	Coke and refined petroleum products.....	72,508	63,666	50,464	48,829	45,883	47,157
16	19.1	Coke oven products.....	1,854	882	807	786	769	774
17	19.2	Refined petroleum products.....	70,654	62,784	49,657	48,043	45,114	46,383
18	20	Chemicals and chemical products.....	100,050	52,111	53,122	61,519	59,017	56,926
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	232	168	78	135	179	220
20	22	Rubber and plastic products.....	432	232	202	157	151	146
21	23	Other non-metallic mineral products.....	3,177	3,465	2,592	2,414	2,660	2,639
22	23.1	Glass and glass products.....	965	892	843	814	975	986
23	23.2-9	Refractory products, cut, shaped and finished stone.....	2,211	2,573	1,749	1,601	1,684	1,652
24	24	Basic metals.....	6,450	5,760	5,625	4,778	4,393	4,748
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	4,909	4,416	4,321	4,059	3,575	3,920
26	24.4	Basic precious and other non-ferrous metals.....	282	218	166	119	118	119
27	24.5	Casting services of metal.....	1,258	1,126	1,137	600	700	708
28	25	Fabricated metal products, except machinery and equipment.....	147,367	148,233	120,089	119,078	106,775	101,549
29	26	Computer, electronic and optical products.....	354	221	109	72	87	84
30	27	Electrical equipment.....	702	337	177	112	132	123
31	28	Machinery and equipment n.e.c.....	1,112	583	385	313	359	348
32	29	Motor vehicles, trailers and semi-trailers.....	373,153	314,652	346,335	246,338	237,247	239,379
33	30	Other transport equipment.....	156	98	64	55	56	54
34	31-32	Furniture, other manufacture goods.....	262	140	75	71	80	75
35	33	Repair and installation services of machinery and equipment.....	147	106	61	60	74	68
36	D (35)	Electricity, gas, steam and air conditioning.....	8,895	8,160	11,178	14,751	15,433	16,611
37	35.1/3	Electricity, transmission and distribution services, steam.....	8,847	8,134	11,156	14,727	15,409	16,588
38	35.2	Manufactured gas.....	48	26	21	25	24	22
39	E	Water supply; sewerage, waste management and remediation services.....	4,631	3,333	3,216	1,772	1,580	1,498
40	36	Natural water; water treatment and supply services.....	40	29	18	30	26	24
41	37-39	Sewerage services; waste collection and materials recovery services.....	4,591	3,304	3,198	1,743	1,554	1,474
42	37	Sewerage services, sewerage sludge.....	407	220	203	146	144	133
43	38-39	Waste collection, treatment and disposal services.....	4,184	3,083	2,995	1,596	1,410	1,341
44	F	Constructions and construction works.....	17,824	12,553	7,921	5,196	4,814	4,497
45	41-42	Building and building construction works.....	9,055	6,208	3,876	2,346	2,196	2,053
46	43	Specialised construction works.....	8,769	6,345	4,046	2,850	2,618	2,444
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	57,869	29,198	17,184	11,923	12,158	9,160
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,983	993	563	355	427	385
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	46,753	24,397	15,119	10,100	10,008	7,202
50	47	Retail trade services, except of motor vehicles and motorcycles.....	9,133	3,809	1,502	1,468	1,724	1,573
51	H	Transportation and storage services.....	39,160	30,274	36,474	35,859	32,230	34,971
52	49.1-2	Passenger rail transport services, freight rail transport services.....	3,471	2,546	1,293	928	973	953
53	49.3-5	Other passenger land transport services, transport service via pipeline....	17,299	14,159	12,168	9,303	8,876	8,723
54	50	Water transport services.....	10,772	5,974	14,963	19,623	16,747	19,519
55	51	Air transport services.....	3,427	4,149	4,119	4,254	4,170	4,435
56	52	Warehousing and support services for transportation.....	2,880	2,390	3,091	1,452	1,212	1,112
57	53	Postal and courier services.....	1,311	1,056	839	299	251	230
58	I	Accommodation and food services.....	3,608	1,860	762	781	793	757
59	J	Information and communication services.....	2,311	1,813	1,148	748	724	674
60	K	Financial and insurance services.....	807	467	276	264	283	277
61	L	Real estate services.....	959	673	316	311	333	314
62	M	Professional, scientific and technical services.....	5,003	3,877	1,922	1,927	2,140	1,992
63	N	Administrative and support services.....	526	418	306	160	162	155
64	O	Public administration and defence services.....	8,201	4,990	4,458	3,036	2,933	2,510
65	P	Education services.....	1,097	394	148	130	132	178
66	Q	Human health and social work services.....	4,624	1,885	667	823	842	934
67	R-T	Other services.....	3,114	2,283	1,396	2,135	2,233	2,153
68		All homogeneous branches.....	1,036,471	855,153	795,667	705,839	675,008	662,611
69		Private households.....	754,361	532,023	361,754	353,678	338,234	324,939
70		All homogeneous branches and private households (residents concept) 2)...	1,790,833	1,387,176	1,157,421	1,059,517	1,013,242	987,550
71		Transitional balance 3).....	-18,880	-11,606	-29,571	-30,880	-27,758	-30,019
72		Total emissions (domestic concept) 2).....	1,771,952	1,375,570	1,127,851	1,028,637	985,484	957,531

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.11.2: Direct NMVOC emissions per unit energy consumption (not including road transport)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	20,589	18,314	14,123	12,545	12,305	11,679
2	01	Products of agriculture, hunting and related services.....	20,489	18,236	14,066	12,499	12,260	11,639
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	100	78	57	46	46	40
5	B	Mining and quarrying.....	380	207	210	182	219	157
6	05	Coal and lignite.....	250	103	136	125	172	109
7	06	Crude petroleum and natural gas.....	50	55	29	13	9	12
8	07-09	Metal ores, other mining and quarrying products.....	80	49	46	44	37	36
9	C	Manufactured products.....	5,462	3,675	4,553	5,181	5,410	5,130
10	10-12	Food products, beverages, tobacco products.....	641	526	448	512	423	430
11	13-15	Textiles, wearing apparel, leather and related products.....	125	79	74	31	29	31
12	16	Wood and products of wood and cork, except furniture.....	91	71	912	1,054	1,828	1,636
13	17	Paper and paper products.....	475	319	487	541	418	341
14	18	Printing and recording services.....	20	24	27	20	18	20
15	19	Coke and refined petroleum products.....	1,084	885	1,044	807	772	740
16	19.1	Coke oven products.....	189	7	1	0	1	1
17	19.2	Refined petroleum products.....	895	878	1,043	806	771	740
18	20	Chemicals and chemical products.....	840	601	445	1,087	807	706
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	94	98	42	101	135	179
20	22	Rubber and plastic products.....	101	78	120	98	75	76
21	23	Other non-metallic mineral products.....	348	167	245	181	198	210
22	23.1	Glass and glass products.....	68	43	54	29	70	82
23	23.2-9	Refractory products, cut, shaped and finished stone.....	280	124	191	152	128	128
24	24	Basic metals.....	666	270	233	213	181	196
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	340	108	97	107	80	90
26	24.4	Basic precious and other non-ferrous metals.....	164	154	131	96	88	92
27	24.5	Casting services of metal.....	162	7	5	11	12	14
28	25	Fabricated metal products, except machinery and equipment.....	365	207	156	219	236	266
29	26	Computer, electronic and optical products.....	78	36	22	16	14	17
30	27	Electrical equipment.....	153	48	27	30	26	24
31	28	Machinery and equipment n.e.c.....	177	121	119	125	117	125
32	29	Motor vehicles, trailers and semi-trailers.....	120	92	105	84	84	86
33	30	Other transport equipment.....	37	19	16	22	12	14
34	31-32	Furniture, other manufacture goods.....	47	35	29	29	26	25
35	33	Repair and installation services of machinery and equipment.....	0	0	0	11	11	10
36	D (35)	Electricity, gas, steam and air conditioning.....	8,571	7,987	11,043	14,648	15,331	16,516
37	35.1/3	Electricity, transmission and distribution services, steam.....	8,571	7,987	11,043	14,647	15,331	16,516
38	35.2	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	484	557	222	119	129	166
40	36	Natural water; water treatment and supply services.....	0	0	0	0	0	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	484	557	222	119	129	166
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	484	557	222	119	129	166
44	F	Constructions and construction works.....	10,653	8,709	5,885	4,043	3,805	3,570
45	41-42	Building and building construction works.....	5,327	4,331	2,927	1,988	1,883	1,765
46	43	Specialised construction works.....	5,326	4,378	2,958	2,055	1,923	1,805
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	7,323	2,263	723	701	735	654
48	45	Wholesale and retail trade and repair services of motor vehicles.....	643	203	38	46	80	64
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,675	629	231	231	222	213
50	47	Retail trade services, except of motor vehicles and motorcycles.....	5,006	1,431	453	424	433	376
51	H	Transportation and storage services.....	16,435	11,616	19,584	24,421	21,570	24,616
52	49.1-2	Passenger rail transport services, freight rail transport services.....	3,095	2,300	1,194	840	900	886
53	49.3-5	Other passenger land transport services, transport service via pipeline....	0	0	0	0	0	0
54	50	Water transport services.....	10,552	5,754	14,654	19,473	16,621	19,404
55	51	Air transport services.....	2,762	3,542	3,714	4,090	4,033	4,309
56	52	Warehousing and support services for transportation.....	16	13	15	13	13	14
57	53	Postal and courier services.....	10	6	5	4	3	3
58	I	Accommodation and food services.....	2,656	1,377	653	664	676	648
59	J	Information and communication services.....	136	123	90	76	72	73
60	K	Financial and insurance services.....	518	337	206	192	186	188
61	L	Real estate services.....	169	131	77	74	73	74
62	M	Professional, scientific and technical services.....	303	224	154	142	133	136
63	N	Administrative and support services.....	109	86	56	56	54	55
64	O	Public administration and defence services.....	6,451	3,948	3,709	2,510	2,427	2,044
65	P	Education services.....	924	279	98	91	93	142
66	Q	Human health and social work services.....	3,880	1,399	496	523	529	644
67	R-T	Other services.....	605	246	122	98	137	129
68		All homogeneous branches.....	85,649	61,481	62,004	66,265	63,885	66,621
69		Private households.....	57,088	52,222	35,049	54,109	47,115	49,724
70		All homogeneous branches and private households (residents concept) 2)...	142,737	113,703	97,053	120,374	111,001	116,344
71		Transitional balance 3).....	-4,138	-2,377	-10,975	-15,674	-12,778	-16,106
72		Total emissions (domestic concept) 2).....	138,599	111,325	86,079	104,700	98,223	100,239

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.11.3: Direct NMVOC processemissions
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	-	-	-	-	-	-
2	01	Products of agriculture, hunting and related services.....	-	-	-	-	-	-
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	404	474	217	108	116	105
6	05	Coal and lignite.....	-	-	-	-	-	-
7	06	Crude petroleum and natural gas.....	404	474	217	108	116	105
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	840,674	725,584	686,619	606,274	578,067	566,922
10	10-12	Food products, beverages, tobacco products.....	15,907	13,616	14,072	13,656	14,763	15,173
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	5,139	5,679	5,918	4,105	4,039	3,986
13	17	Paper and paper products.....	-	931	2,620	3,419	3,573	3,620
14	18	Printing and recording services.....	123,216	121,301	88,938	105,349	102,791	94,682
15	19	Coke and refined petroleum products.....	71,275	62,667	49,340	47,966	45,042	46,354
16	19.1	Coke oven products.....	1,665	875	806	784	767	773
17	19.2	Refined petroleum products.....	69,610	61,792	48,534	47,182	44,275	45,581
18	20	Chemicals and chemical products.....	98,659	51,230	52,525	60,325	58,072	56,093
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	2,503	3,166	2,291	2,189	2,407	2,379
22	23.1	Glass and glass products.....	838	822	777	775	894	894
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1,665	2,344	1,514	1,414	1,513	1,485
24	24	Basic metals.....	5,409	5,310	5,279	4,491	4,116	4,463
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	4,360	4,216	4,161	3,912	3,441	3,781
26	24.4	Basic precious and other non-ferrous metals.....	-	-	-	-	-	-
27	24.5	Casting services of metal.....	1,049	1,094	1,117	580	675	683
28	25	Fabricated metal products, except machinery and equipment.....	146,423	147,727	119,769	118,751	106,400	101,156
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	372,144	313,955	345,868	246,022	236,863	239,016
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1/3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.2	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	4	4	5	6	6	6
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	4	4	5	6	6	6
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	4	4	5	6	6	6
44	F	Constructions and construction works.....	-	-	-	-	-	-
45	41-42	Building and building construction works.....	-	-	-	-	-	-
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	41,030	21,491	11,998	8,686	8,633	5,928
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	41,030	21,491	11,998	8,686	8,633	5,928
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	8,710	8,448	7,679	7,352	7,265	7,248
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	-	-	-	-	-
53	49.3-5	Other passenger land transport services, transport service via pipeline....	8,710	8,448	7,679	7,352	7,265	7,248
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	-	-	-	-	-	-
68		All homogeneous branches.....	890,823	756,001	706,518	623,598	595,269	581,390
69		Private households.....	195,446	192,409	141,074	177,984	173,630	165,758
70		All homogeneous branches and private households	1,086,268	948,411	847,592	801,582	768,898	747,148

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.11.4: Direct NMVOC emissions of road transport
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	2,865	813	382	244	213	196
2	01	Products of agriculture, hunting and related services.....	2,635	753	348	221	193	178
3	02	Products of forestry, logging and related services.....	219	56	31	20	18	16
4	03	Fish and other fishing products; aquaculture products.....	11	4	3	3	2	2
5	B	Mining and quarrying.....	232	109	138	58	51	47
6	05	Coal and lignite.....	70	18	16	14	12	11
7	06	Crude petroleum and natural gas.....	35	18	20	14	12	11
8	07-09	Metal ores, other mining and quarrying products.....	128	73	102	30	26	24
9	C	Manufactured products.....	7,235	3,797	2,055	1,430	1,837	1,696
10	10-12	Food products, beverages, tobacco products.....	921	416	209	162	210	194
11	13-15	Textiles, wearing apparel, leather and related products.....	237	89	36	21	27	25
12	16	Wood and products of wood and cork, except furniture.....	171	70	32	24	29	27
13	17	Paper and paper products.....	178	89	43	35	45	41
14	18	Printing and recording services.....	151	74	33	23	30	28
15	19	Coke and refined petroleum products.....	149	114	80	56	69	63
16	19.1	Coke oven products.....	0	0	1	1	1	1
17	19.2	Refined petroleum products.....	149	114	80	55	67	62
18	20	Chemicals and chemical products.....	552	280	152	106	137	127
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	138	70	37	34	44	41
20	22	Rubber and plastic products.....	331	154	82	59	76	71
21	23	Other non-metallic mineral products.....	326	131	55	44	55	50
22	23.1	Glass and glass products.....	60	27	11	9	12	11
23	23.2-9	Refractory products, cut, shaped and finished stone.....	266	104	44	35	43	39
24	24	Basic metals.....	375	180	113	74	96	88
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	209	92	63	41	53	49
26	24.4	Basic precious and other non-ferrous metals.....	118	64	34	23	30	27
27	24.5	Casting services of metal.....	48	24	15	10	13	12
28	25	Fabricated metal products, except machinery and equipment.....	580	299	164	109	139	128
29	26	Computer, electronic and optical products.....	276	185	86	56	73	67
30	27	Electrical equipment.....	549	288	150	83	106	98
31	28	Machinery and equipment n.e.c.....	934	462	267	188	242	223
32	29	Motor vehicles, trailers and semi-trailers.....	889	605	362	231	300	277
33	30	Other transport equipment.....	119	79	47	34	43	40
34	31-32	Furniture, other manufacture goods.....	215	105	46	42	54	50
35	33	Repair and installation services of machinery and equipment.....	147	106	61	50	63	58
36	D (35)	Electricity, gas, steam and air conditioning.....	324	173	135	103	103	95
37	35.1/3	Electricity, transmission and distribution services, steam.....	276	147	113	79	78	72
38	35.2	Manufactured gas.....	48	26	21	24	24	22
39	E	Water supply; sewerage, waste management and remediation services.....	4,143	2,771	2,989	1,647	1,445	1,326
40	36	Natural water; water treatment and supply services.....	40	29	18	29	26	23
41	37-39	Sewerage services; waste collection and materials recovery services.....	4,103	2,742	2,971	1,618	1,420	1,302
42	37	Sewerage services, sewerage sludge.....	407	220	203	146	144	133
43	38-39	Waste collection, treatment and disposal services.....	3,696	2,522	2,768	1,472	1,275	1,169
44	F	Constructions and construction works.....	7,171	3,843	2,036	1,153	1,008	927
45	41-42	Building and building construction works.....	3,728	1,877	949	358	313	288
46	43	Specialised construction works.....	3,443	1,967	1,087	795	695	639
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	9,516	5,444	4,463	2,536	2,791	2,579
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,340	789	525	310	347	321
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	4,048	2,277	2,890	1,183	1,153	1,061
50	47	Retail trade services, except of motor vehicles and motorcycles.....	4,128	2,378	1,049	1,044	1,291	1,197
51	H	Transportation and storage services.....	14,014	10,210	9,211	4,087	3,395	3,108
52	49.1-2	Passenger rail transport services, freight rail transport services.....	376	246	99	88	73	67
53	49.3-5	Other passenger land transport services, transport service via pipeline....	8,588	5,711	4,489	1,951	1,611	1,475
54	50	Water transport services.....	220	220	309	150	126	115
55	51	Air transport services.....	665	607	405	164	138	126
56	52	Warehousing and support services for transportation.....	2,864	2,377	3,075	1,439	1,200	1,098
57	53	Postal and courier services.....	1,301	1,050	834	295	248	227
58	I	Accommodation and food services.....	952	483	109	116	118	109
59	J	Information and communication services.....	2,175	1,690	1,058	672	652	600
60	K	Financial and insurance services.....	289	130	70	72	97	89
61	L	Real estate services.....	790	541	238	237	259	240
62	M	Professional, scientific and technical services.....	4,701	3,653	1,768	1,785	2,007	1,856
63	N	Administrative and support services.....	418	332	250	104	108	100
64	O	Public administration and defence services.....	1,749	1,041	749	527	506	466
65	P	Education services.....	173	116	50	39	39	36
66	Q	Human health and social work services.....	743	486	171	300	313	290
67	R-T	Other services.....	2,509	2,037	1,273	864	914	842
68		All homogeneous branches.....	60,000	37,671	27,145	15,975	15,854	14,600
69		Private households.....	501,828	287,391	185,631	121,586	117,489	109,457
70		All homogeneous branches and private households (residents concept).....	561,828	325,063	212,776	137,561	133,344	124,058
71		Transitional balance 2).....	-14,742	-9,228	-18,596	-15,206	-14,980	-13,913
72		Total emissions (domestic concept).....	547,085	315,834	194,180	122,355	118,363	110,145

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.12.1: Direct emissions of particulate matter (PM₁₀)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	52,011	49,741	46,980	46,733	46,908	46,679
2	01	Products of agriculture, hunting and related services.....	51,839	49,616	46,886	46,659	46,836	46,614
3	02	Products of forestry, logging and related services.....	53	32	26	19	17	16
4	03	Fish and other fishing products; aquaculture products.....	119	93	69	55	55	48
5	B	Mining and quarrying.....	23,168	19,884	16,902	15,288	16,539	16,172
6	05	Coal and lignite.....	7,603	5,082	5,198	4,849	5,097	5,260
7	06	Crude petroleum and natural gas.....	30	18	29	23	22	22
8	07-09	Metal ores, other mining and quarrying products.....	15,536	14,785	11,675	10,416	11,420	10,891
9	C	Manufactured products.....	57,203	43,612	34,449	24,375	24,360	23,971
10	10-12	Food products, beverages, tobacco products.....	1,222	920	944	753	804	796
11	13-15	Textiles, wearing apparel, leather and related products.....	220	96	59	28	28	27
12	16	Wood and products of wood and cork, except furniture.....	1,791	1,585	2,216	1,594	1,925	1,849
13	17	Paper and paper products.....	711	341	485	380	309	257
14	18	Printing and recording services.....	6,339	6,340	6,333	5,414	5,322	5,334
15	19	Coke and refined petroleum products.....	2,687	1,722	1,784	1,127	1,092	948
16	19.1	Coke oven products.....	123	105	75	100	98	99
17	19.2	Refined petroleum products.....	2,564	1,618	1,709	1,026	994	849
18	20	Chemicals and chemical products.....	2,192	1,192	844	1,127	972	897
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	221	93	55	82	99	121
20	22	Rubber and plastic products.....	233	133	136	80	80	76
21	23	Other non-metallic mineral products.....	8,683	6,957	4,405	3,181	3,447	3,284
22	23.1	Glass and glass products.....	249	134	144	159	181	184
23	23.2-9	Refractory products, cut, shaped and finished stone.....	8,434	6,823	4,261	3,022	3,266	3,100
24	24	Basic metals.....	24,346	17,112	10,410	5,045	4,735	4,863
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	18,424	14,188	9,191	4,296	3,913	4,050
26	24.4	Basic precious and other non-ferrous metals.....	2,058	1,645	618	537	591	596
27	24.5	Casting services of metal.....	3,865	1,279	601	212	231	217
28	25	Fabricated metal products, except machinery and equipment.....	6,517	5,700	5,644	4,825	4,759	4,774
29	26	Computer, electronic and optical products.....	174	140	92	58	62	59
30	27	Electrical equipment.....	369	229	163	88	93	88
31	28	Machinery and equipment n.e.c.....	575	369	306	212	226	216
32	29	Motor vehicles, trailers and semi-trailers.....	589	456	405	244	263	248
33	30	Other transport equipment.....	108	60	51	37	37	35
34	31-32	Furniture, other manufacture goods.....	133	85	54	47	50	47
35	33	Repair and installation services of machinery and equipment.....	93	81	63	52	57	52
36	D (35)	Electricity, gas, steam and air conditioning.....	18,726	11,396	11,282	10,780	10,848	11,297
37	35.1/3	Electricity, transmission and distribution services, steam.....	18,699	11,376	11,260	10,747	10,818	11,268
38	35.2	Manufactured gas.....	27	19	22	33	31	29
39	E	Water supply; sewerage, waste management and remediation services.....	3,811	2,579	2,703	2,091	2,011	1,913
40	36	Natural water; water treatment and supply services.....	23	22	19	36	33	31
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,787	2,557	2,684	2,055	1,978	1,882
42	37	Sewerage services, sewerage sludge.....	190	147	199	165	168	159
43	38-39	Waste collection, treatment and disposal services.....	3,598	2,410	2,486	1,890	1,810	1,723
44	F	Constructions and construction works.....	14,950	12,063	7,750	6,614	6,571	6,465
45	41-42	Building and building construction works.....	9,895	8,163	5,311	4,486	4,526	4,528
46	43	Specialised construction works.....	5,055	3,900	2,439	2,129	2,045	1,937
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	7,468	4,339	4,440	2,643	2,724	2,560
48	45	Wholesale and retail trade and repair services of motor vehicles.....	800	547	506	307	333	310
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	3,167	1,912	2,576	1,404	1,364	1,290
50	47	Retail trade services, except of motor vehicles and motorcycles.....	3,500	1,880	1,358	932	1,027	960
51	H	Transportation and storage services.....	61,118	55,863	57,529	68,306	68,696	69,776
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1,664	4,573	3,385	3,309	3,322	3,185
53	49.3-5	Other passenger land transport services, transport service via pipeline....	6,093	36,748	29,194	35,808	39,543	37,670
54	50	Water transport services.....	48,024	9,878	19,612	25,120	21,939	25,035
55	51	Air transport services.....	1,716	1,919	1,995	1,850	1,797	1,912
56	52	Warehousing and support services for transportation.....	2,547	1,922	2,628	1,835	1,732	1,633
57	53	Postal and courier services.....	1,074	823	715	383	363	342
58	I	Accommodation and food services.....	1,027	655	525	517	519	505
59	J	Information and communication services.....	1,281	1,312	1,128	803	823	779
60	K	Financial and insurance services.....	262	203	209	169	177	175
61	L	Real estate services.....	471	446	313	299	321	306
62	M	Professional, scientific and technical services.....	2,505	2,668	1,978	1,847	2,078	1,964
63	N	Administrative and support services.....	291	282	287	139	133	128
64	O	Public administration and defence services.....	1,636	1,019	1,103	804	742	693
65	P	Education services.....	443	165	91	75	76	93
66	Q	Human health and social work services.....	1,631	750	437	465	469	505
67	R-T	Other services.....	1,938	1,813	1,642	1,232	1,364	1,287
68		All homogeneous branches.....	249,940	208,790	189,748	183,180	185,360	185,267
69		Private households.....	57,389	58,817	55,108	62,869	56,424	56,663
70		All homogeneous branches and private households (residents concept) 2)...	307,329	267,608	244,856	246,049	241,785	241,930
71		Transitional balance 3).....	-3,929	-692	-14,513	-18,931	-15,595	-19,083
72		Total emissions (domestic concept) 2).....	303,400	266,916	230,343	227,118	226,189	222,847

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.12.2: Direct emissions of particulate matter (PM₁₀) per unit energy consumption (not including road transport) tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	15,125	12,564	9,481	8,165	8,012	7,550
2	01	Products of agriculture, hunting and related services.....	15,009	12,474	9,415	8,112	7,960	7,503
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	116	91	66	53	53	46
5	B	Mining and quarrying.....	1,651	238	236	157	199	151
6	05	Coal and lignite.....	1,573	192	180	124	165	120
7	06	Crude petroleum and natural gas.....	2	1	10	7	7	7
8	07-09	Metal ores, other mining and quarrying products.....	76	45	46	26	26	24
9	C	Manufactured products.....	5,562	2,581	3,492	2,791	2,783	2,563
10	10-12	Food products, beverages, tobacco products.....	288	142	281	209	164	163
11	13-15	Textiles, wearing apparel, leather and related products.....	99	31	22	8	6	7
12	16	Wood and products of wood and cork, except furniture.....	119	77	664	517	863	802
13	17	Paper and paper products.....	558	267	425	328	254	204
14	18	Printing and recording services.....	15	5	4	3	2	2
15	19	Coke and refined petroleum products.....	2,231	1,269	1,377	813	747	657
16	19.1	Coke oven products.....	123	105	74	99	97	98
17	19.2	Refined petroleum products.....	2,108	1,164	1,303	714	650	559
18	20	Chemicals and chemical products.....	1,112	355	222	543	337	272
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	151	42	17	48	62	87
20	22	Rubber and plastic products.....	63	22	52	21	17	17
21	23	Other non-metallic mineral products.....	181	113	184	86	104	110
22	23.1	Glass and glass products.....	74	5	24	3	23	33
23	23.2-9	Refractory products, cut, shaped and finished stone.....	107	108	161	83	81	77
24	24	Basic metals.....	184	112	123	101	107	113
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	128	107	110	89	94	100
26	24.4	Basic precious and other non-ferrous metals.....	47	3	12	8	9	9
27	24.5	Casting services of metal.....	9	1	1	4	5	5
28	25	Fabricated metal products, except machinery and equipment.....	150	53	35	55	62	72
29	26	Computer, electronic and optical products.....	40	10	5	3	2	3
30	27	Electrical equipment.....	79	18	9	6	5	5
31	28	Machinery and equipment n.e.c.....	88	34	31	24	24	26
32	29	Motor vehicles, trailers and semi-trailers.....	137	20	31	15	16	16
33	30	Other transport equipment.....	46	3	2	3	1	1
34	31-32	Furniture, other manufacture goods.....	24	9	7	6	5	5
35	33	Repair and installation services of machinery and equipment.....	0	0	0	2	4	1
36	D (35)	Electricity, gas, steam and air conditioning.....	18,540	11,267	11,142	10,639	10,718	11,174
37	35.1/.3	Electricity, transmission and distribution services, steam.....	18,540	11,267	11,142	10,639	10,718	11,174
38	35.2	Manufactured gas.....	-	-	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	679	127	191	190	192	200
40	36	Natural water; water treatment and supply services.....	-	-	0	0	0	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	679	127	191	190	192	200
42	37	Sewerage services, sewerage sludge.....	-	-	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	679	127	191	190	192	200
44	F	Constructions and construction works.....	5,950	4,618	2,667	2,038	2,011	1,914
45	41-42	Building and building construction works.....	2,978	2,299	1,323	1,001	993	945
46	43	Specialised construction works.....	2,972	2,319	1,344	1,037	1,018	969
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	2,605	697	415	406	418	387
48	45	Wholesale and retail trade and repair services of motor vehicles.....	247	60	16	19	32	26
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	581	217	151	150	147	143
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,776	420	247	237	240	217
51	H	Transportation and storage services.....	12,825	8,123	18,101	23,569	20,189	23,442
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1,356	930	434	285	304	301
53	49.3-5	Other passenger land transport services, transport service via pipeline....	-	-	0	0	0	0
54	50	Water transport services.....	10,340	5,759	16,007	21,642	18,284	21,413
55	51	Air transport services.....	1,112	1,425	1,651	1,636	1,594	1,720
56	52	Warehousing and support services for transportation.....	10	7	7	5	5	6
57	53	Postal and courier services.....	7	3	2	2	1	1
58	I	Accommodation and food services.....	899	535	442	447	451	440
59	J	Information and communication services.....	56	57	54	47	44	45
60	K	Financial and insurance services.....	185	153	138	130	127	128
61	L	Real estate services.....	57	59	54	52	51	52
62	M	Professional, scientific and technical services.....	115	103	96	89	85	86
63	N	Administrative and support services.....	37	38	37	36	35	36
64	O	Public administration and defence services.....	689	308	440	265	222	202
65	P	Education services.....	349	78	39	36	36	56
66	Q	Human health and social work services.....	1,333	432	298	307	309	355
67	R-T	Other services.....	242	87	60	49	65	62
68		All homogeneous branches.....	66,899	42,065	47,381	49,412	45,950	48,841
69		Private households.....	23,633	22,392	21,480	34,793	29,633	30,846
70		All homogeneous branches and private households (residents concept) 2)...	90,532	64,457	68,861	84,205	75,583	79,686
71		Transitional balance 3).....	-4,760	-1,129	-10,784	-15,781	-12,472	-16,118
72		Total emissions (domestic concept) 2).....	85,772	63,328	58,077	68,424	63,111	63,569

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.12.3: Direct process emissions of particulate matter (PM₁₀)

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	36,181	36,706	37,184	38,337	38,689	38,934
2	01	Products of agriculture, hunting and related services.....	36,181	36,706	37,184	38,337	38,689	38,934
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	21,352	19,552	16,542	15,065	16,277	15,962
6	05	Coal and lignite.....	5,986	4,875	5,002	4,709	4,916	5,125
7	06	Crude petroleum and natural gas.....	-	-	-	-	-	-
8	07-09	Metal ores, other mining and quarrying products.....	15,366	14,676	11,541	10,356	11,361	10,836
9	C	Manufactured products.....	47,903	38,283	28,846	20,160	20,048	19,967
10	10-12	Food products, beverages, tobacco products.....	465	479	448	383	467	470
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	1,583	1,458	1,519	1,054	1,037	1,023
13	17	Paper and paper products.....	63	10	16	18	18	18
14	18	Printing and recording services.....	6,247	6,281	6,295	5,389	5,295	5,308
15	19	Coke and refined petroleum products.....	376	371	325	257	285	234
16	19.1	Coke oven products.....	-	-	-	-	-	-
17	19.2	Refined petroleum products.....	376	371	325	257	285	234
18	20	Chemicals and chemical products.....	798	636	466	479	521	518
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	8,332	6,748	4,164	3,049	3,296	3,128
22	23.1	Glass and glass products.....	145	109	109	147	148	142
23	23.2-9	Refractory products, cut, shaped and finished stone.....	8,187	6,639	4,056	2,902	3,147	2,987
24	24	Basic metals.....	23,970	16,870	10,171	4,871	4,549	4,676
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	18,188	14,015	9,015	4,166	3,775	3,908
26	24.4	Basic precious and other non-ferrous metals.....	1,950	1,596	571	507	559	565
27	24.5	Casting services of metal.....	3,832	1,260	585	199	216	203
28	25	Fabricated metal products, except machinery and equipment.....	6,069	5,430	5,442	4,661	4,580	4,591
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	-	-	-	-	-	-
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1/.3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.2	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	-	-	-	-	-	-
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	-	-	-	-	-	-
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	-	-	-	-	-	-
44	F	Constructions and construction works.....	4,655	4,357	3,038	2,994	3,071	3,149
45	41-42	Building and building construction works.....	4,655	4,357	3,038	2,994	3,071	3,149
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	-	-	-	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	37,500	40,239	31,744	39,678	43,765	41,867
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	3,451	2,867	2,914	2,914	2,786
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	32,842	25,535	33,482	37,382	35,634
54	50	Water transport services.....	37,500	3,946	3,342	3,282	3,469	3,447
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	38	7	7	9	9	9
68		All homogeneous branches.....	147,628	139,143	117,361	116,243	121,860	119,889
69		Private households.....	9,910	9,963	9,985	8,548	8,399	8,419
70		All homogeneous branches and private households.....	157,538	149,106	127,345	124,790	130,259	128,308

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.12.4: Direct emissions of particulate matter (PM₁₀) of road transport
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	706	471	316	231	207	195
2	01	Products of agriculture, hunting and related services.....	650	436	288	210	187	177
3	02	Products of forestry, logging and related services.....	53	32	26	19	17	16
4	03	Fish and other fishing products; aquaculture products.....	3	3	3	2	2	2
5	B	Mining and quarrying.....	166	94	124	66	63	59
6	05	Coal and lignite.....	43	14	17	16	15	15
7	06	Crude petroleum and natural gas.....	28	17	19	16	15	14
8	07-09	Metal ores, other mining and quarrying products.....	95	63	88	34	32	30
9	C	Manufactured products.....	3,738	2,748	2,111	1,423	1,529	1,441
10	10-12	Food products, beverages, tobacco products.....	469	299	215	161	173	163
11	13-15	Textiles, wearing apparel, leather and related products.....	121	64	37	20	22	21
12	16	Wood and products of wood and cork, except furniture.....	89	51	33	24	25	23
13	17	Paper and paper products.....	91	64	44	34	37	35
14	18	Printing and recording services.....	77	54	34	23	25	23
15	19	Coke and refined petroleum products.....	80	83	82	57	60	57
16	19.1	Coke oven products.....	0	0	1	1	1	1
17	19.2	Refined petroleum products.....	80	83	82	56	59	56
18	20	Chemicals and chemical products.....	282	202	157	105	113	107
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	71	50	38	34	37	34
20	22	Rubber and plastic products.....	171	111	84	58	63	59
21	23	Other non-metallic mineral products.....	170	96	56	46	48	45
22	23.1	Glass and glass products.....	31	20	12	9	10	9
23	23.2-9	Refractory products, cut, shaped and finished stone.....	140	77	45	37	38	36
24	24	Basic metals.....	192	130	116	73	79	74
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	107	66	65	41	44	41
26	24.4	Basic precious and other non-ferrous metals.....	61	46	35	23	24	23
27	24.5	Casting services of metal.....	24	17	16	10	10	10
28	25	Fabricated metal products, except machinery and equipment.....	298	217	167	109	117	110
29	26	Computer, electronic and optical products.....	135	131	87	55	60	56
30	27	Electrical equipment.....	290	212	154	82	88	83
31	28	Machinery and equipment n.e.c.....	487	335	274	188	202	190
32	29	Motor vehicles, trailers and semi-trailers.....	452	435	374	229	247	233
33	30	Other transport equipment.....	62	57	49	33	36	34
34	31-32	Furniture, other manufacture goods.....	109	76	47	41	45	42
35	33	Repair and installation services of machinery and equipment.....	93	81	63	50	53	50
36	D (35)	Electricity, gas, steam and air conditioning.....	186	129	140	140	130	123
37	35.1/.3	Electricity, transmission and distribution services, steam.....	159	109	118	107	100	94
38	35.2	Manufactured gas.....	27	19	22	33	31	29
39	E	Water supply; sewerage, waste management and remediation services.....	3,131	2,452	2,512	1,901	1,818	1,713
40	36	Natural water; water treatment and supply services.....	23	22	19	35	33	31
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,108	2,430	2,494	1,866	1,786	1,682
42	37	Sewerage services, sewerage sludge.....	190	147	199	165	168	159
43	38-39	Waste collection, treatment and disposal services.....	2,919	2,284	2,295	1,700	1,617	1,523
44	F	Constructions and construction works.....	4,345	3,088	2,045	1,583	1,488	1,402
45	41-42	Building and building construction works.....	2,262	1,507	950	491	461	435
46	43	Specialised construction works.....	2,083	1,581	1,095	1,092	1,026	967
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	4,863	3,643	4,026	2,237	2,306	2,173
48	45	Wholesale and retail trade and repair services of motor vehicles.....	553	487	489	288	301	284
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,587	1,695	2,426	1,254	1,217	1,147
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,724	1,460	1,111	696	788	743
51	H	Transportation and storage services.....	10,793	7,501	7,685	5,058	4,742	4,467
52	49.1-2	Passenger rail transport services, freight rail transport services.....	308	192	85	110	104	98
53	49.3-5	Other passenger land transport services, transport service via pipeline....	6,093	3,906	3,659	2,326	2,161	2,036
54	50	Water transport services.....	184	173	262	196	185	175
55	51	Air transport services.....	604	494	344	215	203	191
56	52	Warehousing and support services for transportation.....	2,537	1,916	2,621	1,829	1,727	1,627
57	53	Postal and courier services.....	1,067	820	713	381	362	341
58	I	Accommodation and food services.....	128	120	83	70	68	64
59	J	Information and communication services.....	1,225	1,255	1,074	757	779	734
60	K	Financial and insurance services.....	77	50	71	40	50	47
61	L	Real estate services.....	415	387	259	247	270	254
62	M	Professional, scientific and technical services.....	2,391	2,565	1,881	1,758	1,993	1,878
63	N	Administrative and support services.....	253	244	251	103	98	92
64	O	Public administration and defence services.....	947	711	663	539	521	490
65	P	Education services.....	94	87	52	39	40	37
66	Q	Human health and social work services.....	298	318	140	158	160	151
67	R-T	Other services.....	1,657	1,720	1,574	1,174	1,290	1,215
68		All homogeneous branches.....	35,413	27,582	25,007	17,525	17,551	16,537
69		Private households.....	23,847	26,463	23,643	19,528	18,392	17,398
70		All homogeneous branches and private households (residents concept).....	59,260	54,045	48,650	37,054	35,943	33,936
71		Transitional balance 2).....	830	437	-3,729	-3,150	-3,123	-2,966
72		Total emissions (domestic concept).....	60,090	54,482	44,921	33,903	32,820	30,970

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.13.1: Direct emissions of particulate matter (PM_{2.5})

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	21,841	18,920	15,562	14,349	14,192	13,766
2	01	Products of agriculture, hunting and related services.....	21,677	18,800	15,474	14,280	14,126	13,707
3	02	Products of forestry, logging and related services.....	46	27	21	14	12	11
4	03	Fish and other fishing products; aquaculture products.....	118	93	68	54	54	48
5	B	Mining and quarrying.....	4,567	2,840	2,531	2,220	2,403	2,325
6	05	Coal and lignite.....	2,801	1,218	1,188	1,065	1,148	1,133
7	06	Crude petroleum and natural gas.....	26	15	24	18	17	17
8	07-09	Metal ores, other mining and quarrying products.....	1,740	1,607	1,319	1,137	1,237	1,176
9	C	Manufactured products.....	35,826	28,222	23,034	17,092	17,072	16,740
10	10-12	Food products, beverages, tobacco products.....	925	645	673	518	531	523
11	13-15	Textiles, wearing apparel, leather and related products.....	193	82	50	22	21	21
12	16	Wood and products of wood and cork, except furniture.....	1,227	1,072	1,623	1,177	1,471	1,411
13	17	Paper and paper products.....	614	297	423	330	264	218
14	18	Printing and recording services.....	4,164	4,155	4,146	3,815	3,749	3,757
15	19	Coke and refined petroleum products.....	2,180	1,333	1,415	902	860	749
16	19.1	Coke oven products.....	39	34	21	90	88	89
17	19.2	Refined petroleum products.....	2,140	1,299	1,395	812	771	661
18	20	Chemicals and chemical products.....	1,713	879	621	866	708	643
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	195	80	46	67	81	102
20	22	Rubber and plastic products.....	203	112	114	62	60	57
21	23	Other non-metallic mineral products.....	6,628	5,235	3,318	2,434	2,646	2,518
22	23.1	Glass and glass products.....	179	89	96	99	118	123
23	23.2-9	Refractory products, cut, shaped and finished stone.....	6,450	5,145	3,222	2,335	2,527	2,395
24	24	Basic metals.....	11,607	9,364	5,964	2,933	2,736	2,824
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	7,545	7,228	5,088	2,362	2,109	2,202
26	24.4	Basic precious and other non-ferrous metals.....	1,694	1,351	505	439	483	487
27	24.5	Casting services of metal.....	2,367	785	370	132	143	135
28	25	Fabricated metal products, except machinery and equipment.....	4,398	3,780	3,723	3,413	3,366	3,377
29	26	Computer, electronic and optical products.....	153	118	74	43	45	42
30	27	Electrical equipment.....	323	192	131	65	68	63
31	28	Machinery and equipment n.e.c.....	500	310	249	163	170	161
32	29	Motor vehicles, trailers and semi-trailers.....	513	381	328	181	191	178
33	30	Other transport equipment.....	94	50	41	27	27	25
34	31-32	Furniture, other manufacture goods.....	115	71	44	36	37	34
35	33	Repair and installation services of machinery and equipment.....	80	67	51	38	42	37
36	D (35)	Electricity, gas, steam and air conditioning.....	16,601	10,095	9,980	9,581	9,636	10,030
37	35.1/3	Electricity, transmission and distribution services, steam.....	16,577	10,078	9,962	9,557	9,614	10,010
38	35.2	Manufactured gas.....	24	16	18	24	22	20
39	E	Water supply; sewerage, waste management and remediation services.....	3,256	2,151	2,177	1,547	1,463	1,373
40	36	Natural water; water treatment and supply services.....	20	18	15	26	24	22
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,236	2,133	2,162	1,521	1,439	1,351
42	37	Sewerage services, sewerage sludge.....	164	122	159	121	120	112
43	38-39	Waste collection, treatment and disposal services.....	3,072	2,011	2,002	1,401	1,319	1,240
44	F	Constructions and construction works.....	10,146	7,613	4,600	3,480	3,372	3,205
45	41-42	Building and building construction works.....	5,388	3,987	2,386	1,655	1,627	1,562
46	43	Specialised construction works.....	4,758	3,627	2,215	1,825	1,745	1,642
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	6,635	3,677	3,603	1,996	2,024	1,876
48	45	Wholesale and retail trade and repair services of motor vehicles.....	712	464	409	228	246	225
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,774	1,608	2,080	1,047	999	932
50	47	Retail trade services, except of motor vehicles and motorcycles.....	3,148	1,606	1,115	721	779	719
51	H	Transportation and storage services.....	29,658	23,313	30,734	35,196	32,336	34,959
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1,622	1,802	1,106	948	961	927
53	49.3-5	Other passenger land transport services, transport service via pipeline....	5,269	10,672	8,113	8,394	9,023	8,560
54	50	Water transport services.....	17,999	6,715	16,903	22,441	19,111	22,226
55	51	Air transport services.....	1,634	1,836	1,927	1,792	1,739	1,855
56	52	Warehousing and support services for transportation.....	2,204	1,602	2,111	1,340	1,241	1,151
57	53	Postal and courier services.....	929	686	575	280	260	241
58	I	Accommodation and food services.....	934	581	454	443	444	431
59	J	Information and communication services.....	1,112	1,097	911	594	597	557
60	K	Financial and insurance services.....	235	180	179	143	147	145
61	L	Real estate services.....	410	374	255	226	238	224
62	M	Professional, scientific and technical services.....	2,173	2,230	1,597	1,362	1,502	1,399
63	N	Administrative and support services.....	253	237	234	107	101	96
64	O	Public administration and defence services.....	1,486	893	966	649	587	541
65	P	Education services.....	411	148	80	63	64	79
66	Q	Human health and social work services.....	1,493	658	376	387	387	420
67	R-T	Other services.....	1,698	1,520	1,326	910	990	920
68		All homogeneous branches.....	138,733	104,750	98,599	90,345	87,556	89,086
69		Private households.....	49,375	49,506	45,841	53,103	47,041	47,350
70		All homogeneous branches and private households (residents concept) 2)...	188,108	154,255	144,440	143,448	134,597	136,436
71		Transitional balance 3).....	-3,873	-335	-13,720	-17,997	-14,632	-18,136
72		Total emissions (domestic concept) 2).....	184,235	153,920	130,720	125,450	119,965	118,300

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.13.2: Direct emissions of particulate matter (PM_{2.5}) per unit energy consumption (not including road transport) tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	15,003	12,486	9,433	8,106	7,950	7,485
2	01	Products of agriculture, hunting and related services.....	14,887	12,395	9,368	8,053	7,897	7,439
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	116	91	66	53	53	46
5	B	Mining and quarrying.....	1,468	213	210	142	179	137
6	05	Coal and lignite.....	1,399	171	161	112	149	108
7	06	Crude petroleum and natural gas.....	1	1	9	6	6	7
8	07-09	Metal ores, other mining and quarrying products.....	68	40	41	24	24	22
9	C	Manufactured products.....	4,811	2,172	2,997	2,445	2,428	2,234
10	10-12	Food products, beverages, tobacco products.....	259	128	251	187	147	145
11	13-15	Textiles, wearing apparel, leather and related products.....	88	28	20	7	5	6
12	16	Wood and products of wood and cork, except furniture.....	102	65	590	462	767	717
13	17	Paper and paper products.....	496	237	377	293	226	182
14	18	Printing and recording services.....	14	5	4	2	2	2
15	19	Coke and refined petroleum products.....	1,913	1,069	1,179	725	666	586
16	19.1	Coke oven products.....	39	34	20	89	87	88
17	19.2	Refined petroleum products.....	1,873	1,035	1,158	636	579	498
18	20	Chemicals and chemical products.....	988	315	197	484	299	242
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	134	38	15	43	55	78
20	22	Rubber and plastic products.....	56	20	46	19	15	15
21	23	Other non-metallic mineral products.....	161	101	164	77	92	98
22	23.1	Glass and glass products.....	66	4	21	2	20	30
23	23.2-9	Refractory products, cut, shaped and finished stone.....	95	96	143	74	72	69
24	24	Basic metals.....	91	35	45	37	40	42
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	41	31	33	26	29	30
26	24.4	Basic precious and other non-ferrous metals.....	42	3	11	7	8	8
27	24.5	Casting services of metal.....	8	1	1	3	4	4
28	25	Fabricated metal products, except machinery and equipment.....	138	48	31	50	56	65
29	26	Computer, electronic and optical products.....	36	9	4	2	2	2
30	27	Electrical equipment.....	72	16	8	5	5	4
31	28	Machinery and equipment n.e.c.....	79	31	28	26	26	27
32	29	Motor vehicles, trailers and semi-trailers.....	122	18	27	14	14	14
33	30	Other transport equipment.....	41	2	2	3	1	1
34	31-32	Furniture, other manufacture goods.....	21	8	7	6	5	5
35	33	Repair and installation services of machinery and equipment.....	0	0	0	1	3	1
36	D (35)	Electricity, gas, steam and air conditioning.....	16,439	9,987	9,868	9,479	9,543	9,944
37	35.1/.3	Electricity, transmission and distribution services, steam.....	16,439	9,987	9,868	9,478	9,543	9,943
38	35.2	Manufactured gas.....	-	-	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	548	110	160	160	161	167
40	36	Natural water; water treatment and supply services.....	-	-	0	0	0	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	548	110	160	160	161	167
42	37	Sewerage services, sewerage sludge.....	-	-	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	548	110	160	160	161	167
44	F	Constructions and construction works.....	5,920	4,604	2,653	2,023	1,998	1,901
45	41-42	Building and building construction works.....	2,963	2,293	1,317	996	988	939
46	43	Specialised construction works.....	2,957	2,311	1,336	1,028	1,010	962
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	2,429	644	372	364	374	346
48	45	Wholesale and retail trade and repair services of motor vehicles.....	234	58	16	18	30	25
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	537	197	133	132	128	125
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,658	389	223	213	215	196
51	H	Transportation and storage services.....	12,825	8,123	18,101	23,569	20,189	23,442
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1,356	930	434	285	304	301
53	49.3-5	Other passenger land transport services, transport service via pipeline....	-	-	0	0	0	0
54	50	Water transport services.....	10,340	5,759	16,007	21,642	18,284	21,413
55	51	Air transport services.....	1,112	1,425	1,651	1,636	1,594	1,720
56	52	Warehousing and support services for transportation.....	10	7	7	5	5	6
57	53	Postal and courier services.....	7	3	2	2	1	1
58	I	Accommodation and food services.....	823	480	387	392	395	386
59	J	Information and communication services.....	52	52	50	42	39	40
60	K	Financial and insurance services.....	169	138	122	114	111	112
61	L	Real estate services.....	51	52	47	45	45	45
62	M	Professional, scientific and technical services.....	106	94	87	79	75	76
63	N	Administrative and support services.....	34	34	33	32	31	31
64	O	Public administration and defence services.....	667	301	433	256	214	196
65	P	Education services.....	330	75	39	35	35	53
66	Q	Human health and social work services.....	1,236	393	264	272	273	314
67	R-T	Other services.....	230	83	57	46	60	57
68		All homogeneous branches.....	63,140	40,043	45,312	47,600	44,100	46,965
69		Private households.....	22,246	20,914	20,329	32,817	27,944	29,158
70		All homogeneous branches and private households (residents concept) 2)...	85,386	60,957	65,641	80,416	72,044	76,123
71		Transitional balance 3).....	-4,760	-1,129	-10,784	-15,781	-12,472	-16,118
72		Total emissions (domestic concept) 2).....	80,626	59,828	54,857	64,635	59,572	60,005

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Including emissions from international navigation, which are separately accounted (as Memo item) in Kyoto Reporting.

3) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.

Table 4.13.3: Direct process emissions of particulate matter (PM_{2.5})

tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	6,228	6,042	5,875	6,074	6,095	6,144
2	01	Products of agriculture, hunting and related services.....	6,228	6,042	5,875	6,074	6,095	6,144
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	2,955	2,549	2,221	2,030	2,178	2,147
6	05	Coal and lignite.....	1,364	1,035	1,014	942	989	1,015
7	06	Crude petroleum and natural gas.....	-	-	-	-	-	-
8	07-09	Metal ores, other mining and quarrying products.....	1,591	1,514	1,207	1,088	1,190	1,132
9	C	Manufactured products.....	27,783	23,761	18,343	13,609	13,550	13,491
10	10-12	Food products, beverages, tobacco products.....	260	268	250	214	261	263
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	1,048	965	1,006	698	687	678
13	17	Paper and paper products.....	40	6	10	11	12	12
14	18	Printing and recording services.....	4,083	4,106	4,114	3,796	3,730	3,739
15	19	Coke and refined petroleum products.....	198	195	171	135	150	123
16	19.1	Coke oven products.....	-	-	-	-	-	-
17	19.2	Refined petroleum products.....	198	195	171	135	150	123
18	20	Chemicals and chemical products.....	481	396	298	305	328	326
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	6,320	5,054	3,109	2,324	2,519	2,388
22	23.1	Glass and glass products.....	86	69	66	90	91	87
23	23.2-9	Refractory products, cut, shaped and finished stone.....	6,234	4,986	3,043	2,234	2,428	2,301
24	24	Basic metals.....	11,350	9,220	5,826	2,843	2,639	2,729
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	7,412	7,142	5,003	2,306	2,049	2,142
26	24.4	Basic precious and other non-ferrous metals.....	1,600	1,310	466	415	458	463
27	24.5	Casting services of metal.....	2,338	769	357	121	132	124
28	25	Fabricated metal products, except machinery and equipment.....	4,003	3,550	3,558	3,283	3,226	3,234
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	-	-	-	-	-	-
32	29	Motor vehicles, trailers and semi-trailers.....	-	-	-	-	-	-
33	30	Other transport equipment.....	-	-	-	-	-	-
34	31-32	Furniture, other manufacture goods.....	-	-	-	-	-	-
35	33	Repair and installation services of machinery and equipment.....	-	-	-	-	-	-
36	D (35)	Electricity, gas, steam and air conditioning.....	-	-	-	-	-	-
37	35.1/.3	Electricity, transmission and distribution services, steam.....	-	-	-	-	-	-
38	35.2	Manufactured gas.....	-	-	-	-	-	-
39	E	Water supply; sewerage, waste management and remediation services.....	-	-	-	-	-	-
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	-	-	-	-	-	-
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	-	-	-	-	-	-
44	F	Constructions and construction works.....	469	439	306	301	309	317
45	41-42	Building and building construction works.....	469	439	306	301	309	317
46	43	Specialised construction works.....	-	-	-	-	-	-
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	-	-	-	-	-	-
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	7,500	8,944	6,465	7,936	8,753	8,373
52	49.1-2	Passenger rail transport services, freight rail transport services.....	-	712	604	583	583	557
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	-	7,420	5,176	6,696	7,476	7,127
54	50	Water transport services.....	7,500	812	685	656	694	689
55	51	Air transport services.....	-	-	-	-	-	-
56	52	Warehousing and support services for transportation.....	-	-	-	-	-	-
57	53	Postal and courier services.....	-	-	-	-	-	-
58	I	Accommodation and food services.....	-	-	-	-	-	-
59	J	Information and communication services.....	-	-	-	-	-	-
60	K	Financial and insurance services.....	-	-	-	-	-	-
61	L	Real estate services.....	-	-	-	-	-	-
62	M	Professional, scientific and technical services.....	-	-	-	-	-	-
63	N	Administrative and support services.....	-	-	-	-	-	-
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	35	5	6	7	7	7
68		All homogeneous branches.....	44,970	41,739	33,216	29,956	30,892	30,480
69		Private households.....	6,477	6,512	6,526	6,021	5,916	5,930
70		All homogeneous branches and private households.....	51,447	48,251	39,742	35,977	36,808	36,410

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

Table 4.13.4: Direct emissions of particulate matter (PM_{2.5}) of road transport
tonnes

No.	CPA ¹⁾	Homogeneous branches	1995	2000	2005	2010	2011	2012
1	A	Products of agriculture, forestry and fishing.....	610	393	254	169	148	137
2	01	Products of agriculture, hunting and related services.....	562	363	231	153	134	124
3	02	Products of forestry, logging and related services.....	46	27	21	14	12	11
4	03	Fish and other fishing products; aquaculture products.....	3	2	2	2	2	1
5	B	Mining and quarrying.....	143	78	99	48	45	42
6	05	Coal and lignite.....	37	12	13	12	11	10
7	06	Crude petroleum and natural gas.....	24	14	15	12	11	10
8	07-09	Metal ores, other mining and quarrying products.....	82	53	71	25	23	21
9	C	Manufactured products.....	3,232	2,288	1,694	1,039	1,095	1,015
10	10-12	Food products, beverages, tobacco products.....	406	249	172	117	124	115
11	13-15	Textiles, wearing apparel, leather and related products.....	104	54	30	15	16	15
12	16	Wood and products of wood and cork, except furniture.....	77	42	27	17	18	16
13	17	Paper and paper products.....	79	53	35	25	26	25
14	18	Printing and recording services.....	67	45	27	17	18	16
15	19	Coke and refined petroleum products.....	69	69	66	42	43	40
16	19.1	Coke oven products.....	0	0	0	1	1	1
17	19.2	Refined petroleum products.....	69	69	65	41	42	39
18	20	Chemicals and chemical products.....	244	168	126	77	81	75
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	61	42	30	25	26	24
20	22	Rubber and plastic products.....	148	92	68	43	45	42
21	23	Other non-metallic mineral products.....	147	80	45	33	35	32
22	23.1	Glass and glass products.....	26	16	10	7	7	6
23	23.2-9	Refractory products, cut, shaped and finished stone.....	121	64	36	27	28	25
24	24	Basic metals.....	166	108	93	53	56	52
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	92	55	52	30	31	29
26	24.4	Basic precious and other non-ferrous metals.....	53	39	28	16	17	16
27	24.5	Casting services of metal.....	21	15	13	7	8	7
28	25	Fabricated metal products, except machinery and equipment.....	258	181	134	80	84	78
29	26	Computer, electronic and optical products.....	116	109	70	40	43	40
30	27	Electrical equipment.....	250	176	123	60	63	59
31	28	Machinery and equipment n.e.c.....	421	279	220	137	144	134
32	29	Motor vehicles, trailers and semi-trailers.....	391	363	300	167	177	164
33	30	Other transport equipment.....	53	47	39	24	26	24
34	31-32	Furniture, other manufacture goods.....	94	63	38	30	32	30
35	33	Repair and installation services of machinery and equipment.....	80	67	51	37	38	35
36	D (35)	Electricity, gas, steam and air conditioning.....	161	107	112	102	93	86
37	35.1/.3	Electricity, transmission and distribution services, steam.....	138	91	95	78	71	66
38	35.2	Manufactured gas.....	24	16	18	24	22	20
39	E	Water supply; sewerage, waste management and remediation services.....	2,708	2,042	2,017	1,387	1,302	1,206
40	36	Natural water; water treatment and supply services.....	20	18	15	26	24	22
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,688	2,024	2,001	1,361	1,278	1,184
42	37	Sewerage services, sewerage sludge.....	164	122	159	121	120	112
43	38-39	Waste collection, treatment and disposal services.....	2,524	1,902	1,842	1,241	1,158	1,072
44	F	Constructions and construction works.....	3,757	2,571	1,641	1,155	1,065	987
45	41-42	Building and building construction works.....	1,956	1,255	763	358	330	306
46	43	Specialised construction works.....	1,801	1,316	879	797	735	681
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	4,205	3,033	3,231	1,633	1,651	1,530
48	45	Wholesale and retail trade and repair services of motor vehicles.....	478	406	393	210	216	200
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,237	1,411	1,947	915	871	807
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,491	1,216	891	508	564	523
51	H	Transportation and storage services.....	9,333	6,246	6,168	3,691	3,394	3,144
52	49.1-2	Passenger rail transport services, freight rail transport services.....	266	160	68	81	74	69
53	49.3-5	Other passenger land transport services, transport service via pipeline....	5,269	3,252	2,937	1,697	1,547	1,433
54	50	Water transport services.....	159	144	210	143	133	123
55	51	Air transport services.....	522	411	276	157	145	135
56	52	Warehousing and support services for transportation.....	2,194	1,595	2,104	1,335	1,236	1,145
57	53	Postal and courier services.....	922	683	572	278	259	240
58	I	Accommodation and food services.....	111	100	66	51	49	45
59	J	Information and communication services.....	1,059	1,045	862	552	558	517
60	K	Financial and insurance services.....	66	42	57	29	36	33
61	L	Real estate services.....	359	322	208	180	193	179
62	M	Professional, scientific and technical services.....	2,067	2,136	1,510	1,283	1,427	1,322
63	N	Administrative and support services.....	219	203	201	75	70	65
64	O	Public administration and defence services.....	819	592	532	393	373	345
65	P	Education services.....	81	72	42	28	28	26
66	Q	Human health and social work services.....	258	265	112	115	114	106
67	R-T	Other services.....	1,433	1,432	1,264	857	923	856
68		All homogeneous branches.....	30,623	22,968	20,071	12,789	12,564	11,641
69		Private households.....	20,652	22,079	18,986	14,266	13,181	12,262
70		All homogeneous branches and private households (residents concept).....	51,275	45,047	39,057	27,055	25,744	23,903
71		Transitional balance 2).....	887	794	-2,936	-2,216	-2,160	-2,018
72		Total emissions (domestic concept).....	52,162	45,841	36,121	24,839	23,585	21,885

1) Statistical Classification of Products by Activity (CPA) of the European Union (2008 edition).

2) Emissions of non-resident production units in Germany less production units located in the rest of the world that are resident in Germany.