

Economy and Use of Environmental Resources

Tables on Environmental-Economic Accounting Part 3: Air emissions



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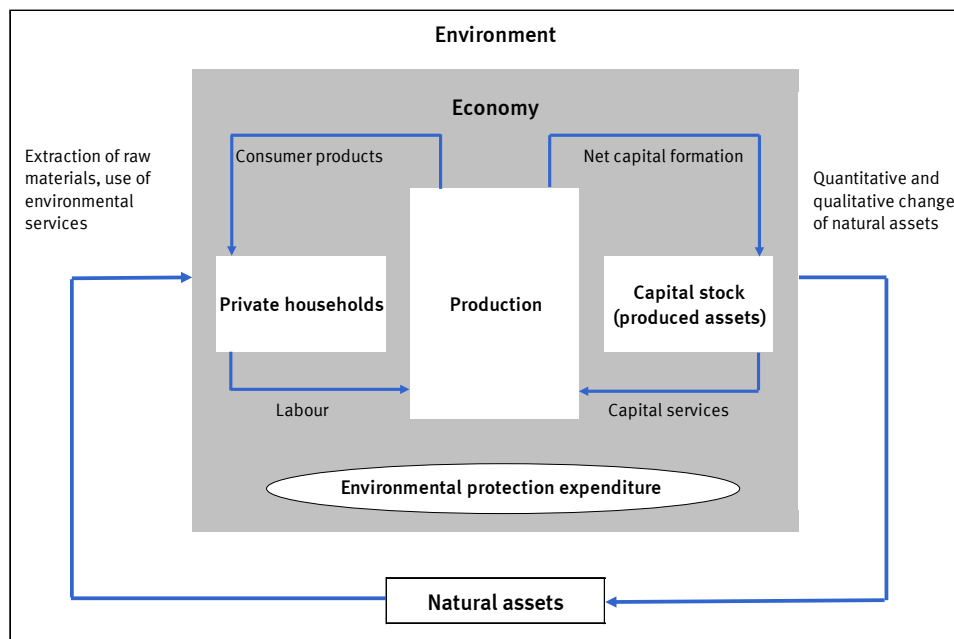
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1 Environmental-Economic Accounting of the Federal Statistical Office

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 in the simplified form in the diagram.

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.

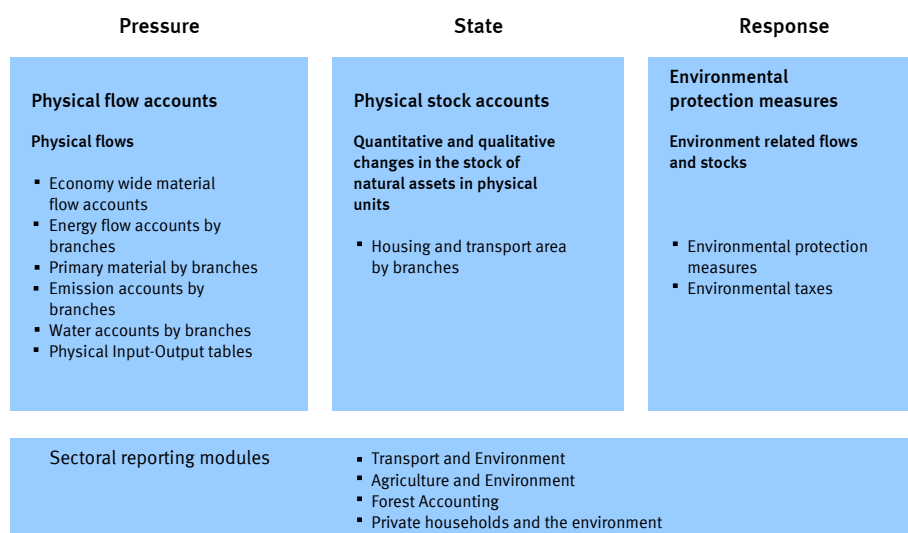
The concept underlying the EEA is to express the status quo and the change in natural assets in units of money, so as to be able to determine what is known as corrected macro-economic aggregates, such as the ecological domestic product. Particularly insofar as such evaluations do not assess the quantitative 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

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.

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

Introduction

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)
NM VOC	=	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 to 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 PM_{2.5}), 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.

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.

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/.

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 25 times 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 298 compared to CO ₂ .

Table 4.1.1: Direct emissions of greenhouse gases - all gasesCO₂ equivalent (1,000 tonnes (Gg))

No.	CPA ¹⁾	Homogeneous branches	2000						
			Total	of which					
				CO ₂ ²⁾	CH ₄	N ₂ O	HFC	PFC	SF ₆
1	A	Products of agriculture, forestry and fishing.....	77,913	13,373	34,309	30,231	0	0	0
2	01	Products of agriculture, hunting and related services.....	77,449	12,933	34,288	30,229	0	0	0
3	02	Products of forestry, logging and related services.....	411	388	22	1	0	0	0
4	03	Fish and other fishing products; aquaculture products.....	53	53	0	1	0	0	0
5	B	Mining and quarrying.....	23,676	6,855	16,755	66	0	0	0
6	05	Coal and lignite.....	19,329	2,710	16,563	55	0	0	0
7	06	Crude petroleum and natural gas.....	3,229	3,034	191	4	0	0	0
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	1,119	1,111	1	6	0	0	0
9	C	Manufactured products.....	203,522	190,163	1,083	6,317	1,542	842	3,576
10	10-12	Food products, beverages, tobacco products.....	10,674	10,603	19	53	0	0	0
11	13-15	Textiles, wearing apparel, leather and related products.....	1,818	1,806	3	9	0	0	0
12	16	Wood and products of wood and cork, except furniture.....	1,713	1,699	3	12	0	0	0
13	17	Paper and paper products.....	8,064	8,002	12	51	0	0	0
14	18	Printing and recording services.....	844	839	2	3	0	0	0
15	19	Coke and refined petroleum products.....	25,172	24,782	314	76	0	0	0
16	19.1	Coke oven products.....	6,284	6,245	19	20	0	0	0
17	19.2	Refined petroleum products.....	18,889	18,537	295	56	0	0	0
18	20	Chemicals and chemical products.....	33,109	25,439	599	5,345	1,521	0	205
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,897	2,880	3	14	0	0	0
20	22	Rubber and plastic products.....	2,165	2,153	4	8	0	0	0
21	23	Other non-metallic mineral products.....	44,622	43,268	21	175	0	0	1,157
22	23.1	Glass and glass products.....	5,676	5,644	6	27	0	0	0
23	23.2-9	Refractory products, cut, shaped and finished stone.....	38,945	37,624	15	149	0	0	1,157
24	24	Basic metals.....	54,225	53,563	79	160	0	413	10
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	47,668	47,456	73	129	0	0	10
26	24.4	Basic precious and other non-ferrous metals.....	4,757	4,325	3	16	0	413	0
27	24.5	Casting services of metal.....	1,800	1,782	2	15	0	0	0
28	25	Fabricated metal products, except machinery and equipment.....	4,848	4,821	9	18	0	0	0
29	26	Computer, electronic and optical products.....	2,949	997	2	357	21	429	1,143
30	27	Electrical equipment.....	829	824	1	4	0	0	0
31	28	Machinery and equipment n.e.c.....	3,131	3,114	5	12	0	0	0
32	29	Motor vehicles, trailers and semi-trailers.....	4,887	3,808	5	14	0	0	1,061
33	30	Other transport equipment.....	636	632	1	3	0	0	0
34	31-32	Furniture, other manufacture goods.....	766	762	1	3	0	0	0
35	33	Repair and installation services of machinery and equipment.....	172	171	0	1	0	0	0
36	D (35)	Electricity, gas, steam and air conditioning.....	370,308	363,472	4,415	2,421	0	0	0
37	35.1/3	Electricity, transmission and distribution services, steam.....	366,261	363,438	402	2,421	0	0	0
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	4,047	34	4,013	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	42,400	8,259	26,472	892	6,471	114	191
40	36	Natural water; water treatment and supply services.....	36	36	0	0	0	0	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	42,364	8,224	26,472	891	6,471	114	191
42	37	Sewerage services, sewerage sludge.....	1,322	676	95	550	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	41,042	7,548	26,377	341	6,471	114	191
44	F	Constructions and construction works.....	12,337	12,243	25	68	0	0	0
45	41-42	Building and building construction works.....	6,077	6,034	12	31	0	0	0
46	43	Specialised construction works.....	6,259	6,209	14	37	0	0	0
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	24,500	24,327	101	73	0	0	0
48	45	Wholesale and retail trade and repair services of motor vehicles.....	3,115	3,092	12	11	0	0	0
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	8,471	8,413	29	29	0	0	0
50	47	Retail trade services, except of motor vehicles and motorcycles.....	12,914	12,821	60	33	0	0	0
51	H	Transportation and storage services.....	62,252	57,782	4,058	413	0	0	0
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,310	2,303	2	6	0	0	0
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	14,288	10,193	4,040	54	0	0	0
54	50	Water transport services.....	8,586	8,487	2	96	0	0	0
55	51	Air transport services.....	23,863	23,641	4	217	0	0	0
56	52	Warehousing and support services for transportation.....	9,697	9,663	7	28	0	0	0
57	53	Postal and courier services.....	3,509	3,494	2	12	0	0	0
58	I	Accommodation and food services.....	5,609	5,557	39	14	0	0	0
59	J	Information and communication services.....	4,840	4,818	10	13	0	0	0
60	K	Financial and insurance services.....	2,503	2,484	14	6	0	0	0
61	L	Real estate services.....	1,016	1,009	4	4	0	0	0
62	M	Professional, scientific and technical services.....	8,541	8,491	19	31	0	0	0
63	N	Administrative and support services.....	1,123	1,117	5	2	0	0	0
64	O	Public administration and defence services; compulsory social security services.....	4,577	4,545	10	22	0	0	0
65	P	Education services.....	5,246	5,197	38	12	0	0	0
66	Q	Human health and social work services.....	7,584	7,031	62	491	0	0	0
67	R-T	Other services.....	10,360	10,308	29	23	0	0	0
68		All homogeneous branches.....	868,309	727,029	87,448	41,096	8,013	957	3,767
69		Private households.....	236,289	232,603	1,671	2,014	0	0	0
70		All homogeneous branches and private households 3).....	1,104,598	959,632	89,119	43,110	8,013	957	3,767
71		Transitional balance 4).....	-20,368	-20,130	-18	-220	0	0	0
72		Total emissions (gross domestic emissions)	1,084,230	939,502	89,101	42,890	8,013	957	3,767
73		Emissions/Absorptions from LULUCF 5).....	-39,316	-41,082	852	914	0	0	0
74		Total emissions (net domestic emissions)	1,044,915	898,420	89,954	43,804	8,013	957	3,767

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

2) Including emissions from biomass.

3) Residents concept, gross emissions.

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

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

Table 4.1.1: Direct emissions of greenhouse gases - all gasesCO₂ equivalent (1,000 tonnes (Gg))

2007							2013							No.
Total	of which						Total	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	
71,984	12,754	31,451	27,779	0	0	0	82,991	20,738	32,742	29,511	0	0	0	1
71,413	12,210	31,427	27,777	0	0	0	82,579	20,331	32,740	29,508	0	0	0	2
515	489	24	2	0	0	0	361	357	2	2	0	0	0	3
56	55	0	1	0	0	0	51	50	0	0	0	0	0	4
12,559	7,555	4,919	85	0	0	0	10,697	7,007	3,609	82	0	0	0	5
8,342	3,459	4,816	67	0	0	0	6,496	2,912	3,522	62	0	0	0	6
3,306	3,191	102	13	0	0	0	3,436	3,337	86	14	0	0	0	7
911	905	1	6	0	0	0	765	758	1	6	0	0	0	8
198,363	182,424	1,059	11,282	278	461	2,859	179,082	172,419	976	1,686	93	247	3,660	9
10,049	9,980	19	50	0	0	0	9,381	9,313	19	49	0	0	0	10
1,331	1,321	3	7	0	0	0	777	771	2	4	0	0	0	11
3,179	3,147	9	23	0	0	0	4,274	4,227	13	34	0	0	0	12
10,668	10,592	16	59	0	0	0	8,677	8,622	14	42	0	0	0	13
997	992	2	3	0	0	0	877	873	2	3	0	0	0	14
25,029	24,711	249	69	0	0	0	22,315	22,015	243	57	0	0	0	15
4,119	4,100	12	7	0	0	0	5,019	5,001	11	7	0	0	0	16
20,910	20,611	237	62	0	0	0	17,296	17,014	232	50	0	0	0	17
38,994	27,505	617	10,518	248	0	107	32,320	30,648	546	978	47	0	101	18
1,734	1,719	4	11	0	0	0	1,229	1,220	2	7	0	0	0	19
2,080	2,067	4	8	0	0	0	2,120	2,104	5	10	0	0	0	20
42,855	41,104	22	158	0	0	1,572	39,565	37,088	20	141	0	0	2,316	21
5,001	4,973	5	23	0	0	0	4,905	4,879	5	21	0	0	0	22
37,854	36,130	17	135	0	0	1,572	34,660	32,209	15	120	0	0	2,316	23
44,686	44,029	89	155	8	224	181	41,060	40,126	84	169	33	108	541	24
38,664	38,274	84	125	0	0	181	35,812	35,050	80	141	0	0	541	25
3,933	3,687	2	12	8	224	0	3,305	3,150	2	12	33	108	0	26
2,088	2,068	2	19	0	0	0	1,943	1,926	2	16	0	0	0	27
4,803	4,774	9	19	0	0	0	4,779	4,748	9	23	0	0	0	28
2,064	862	2	155	22	237	786	1,549	758	1	108	14	140	528	29
1,111	937	1	5	0	0	168	1,100	929	2	7	0	0	162	30
3,323	3,302	6	15	0	0	0	3,137	3,113	5	19	0	0	0	31
3,901	3,834	5	18	0	0	45	4,029	3,986	5	26	0	0	12	32
522	518	1	3	0	0	0	652	646	1	5	0	0	0	33
873	868	2	4	0	0	0	848	842	2	4	0	0	0	34
165	164	0	1	0	0	0	394	391	1	3	0	0	0	35
431,119	425,027	3,252	2,840	0	0	0	416,378	409,860	3,713	2,805	0	0	0	36
429,095	424,952	1,304	2,840	0	0	0	414,829	409,721	2,304	2,805	0	0	0	37
2,024	75	1,948	0	0	0	0	1,549	139	1,409	1	0	0	0	38
34,395	7,202	16,363	995	9,608	127	100	28,571	6,044	10,661	1,094	10,649	16	107	39
39	38	0	1	0	0	0	77	76	0	1	0	0	0	40
34,356	7,164	16,363	995	9,608	127	100	28,494	5,968	10,661	1,093	10,649	16	107	41
1,120	515	79	527	0	0	0	1,021	434	65	522	0	0	0	42
33,235	6,649	16,284	468	9,608	127	100	27,474	5,534	10,595	571	10,649	16	107	43
10,032	9,945	19	69	0	0	0	10,933	10,830	15	89	0	0	0	44
4,914	4,876	9	30	0	0	0	4,305	4,265	5	35	0	0	0	45
5,118	5,069	10	39	0	0	0	6,628	6,565	10	54	0	0	0	46
19,679	19,521	71	87	0	0	0	20,366	20,162	58	145	0	0	0	47
2,133	2,112	9	13	0	0	0	2,447	2,419	9	19	0	0	0	48
6,756	6,700	14	42	0	0	0	6,858	6,759	12	87	0	0	0	49
10,790	10,710	48	32	0	0	0	11,061	10,984	38	40	0	0	0	50
93,823	88,346	4,740	737	0	0	0	93,154	86,887	5,335	932	0	0	0	51
1,609	1,603	1	4	0	0	0	1,189	1,184	1	5	0	0	0	52
18,430	13,640	4,684	106	0	0	0	21,135	15,624	5,274	236	0	0	0	53
30,088	29,771	44	273	0	0	0	29,060	28,754	48	258	0	0	0	54
30,486	30,204	5	277	0	0	0	27,964	27,698	4	261	0	0	0	55
9,785	9,727	5	53	0	0	0	9,158	9,030	6	122	0	0	0	56
3,426	3,400	2	23	0	0	0	4,649	4,597	2	50	0	0	0	57
4,466	4,428	28	11	0	0	0	4,946	4,911	24	11	0	0	0	58
4,298	4,268	11	19	0	0	0	3,439	3,394	11	35	0	0	0	59
2,133	2,115	13	5	0	0	0	2,187	2,168	12	7	0	0	0	60
1,276	1,268	4	4	0	0	0	1,209	1,200	3	7	0	0	0	61
8,443	8,389	17	36	0	0	0	9,053	8,975	18	60	0	0	0	62
1,185	1,179	4	2	0	0	0	1,207	1,199	5	4	0	0	0	63
3,595	3,569	12	13	0	0	0	3,287	3,258	12	17	0	0	0	64
4,471	4,428	34	10	0	0	0	4,651	4,614	26	11	0	0	0	65
6,717	6,444	52	221	0	0	0	7,947	7,748	45	154	0	0	0	66
6,808	6,756	23	29	0	0	0	6,345	6,282	15	48	0	0	0	67
915,346	795,617	62,073	44,224	9,885	588	2,959	886,446	777,695	57,279	36,698	10,742	264	3,768	68
207,049	204,524	1,396	1,129	0	0	0	228,357	225,896	1,416	1,045	0	0	0	69
1,122,395	1,000,142	63,468	45,353	9,885	588	2,959	1,114,803	1,003,592	58,695	37,742	10,742	264	3,768	70
-60,564	-60,019	-67	-478	0	0	0	-60,005	-59,445	-65	-495	0	0	0	71
1,061,831	940,122	63,401	44,875	9,885	588	2,959	1,054,798	944,146	58,631	37,247	10,742	264	3,768	72
-12,383	-14,094	848	863	0	0	0	-15,694	-17,481	846	941	0	0	0	73
1,049,448	926,028	64,250	45,738	9,885	588	2,959	1,039,104	926,666	59,477	38,188	10,742	264	3,768	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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	77,913	73,633	75,836	77,785	81,270	82,991
2	01	Products of agriculture, hunting and related services.....	77,449	73,104	75,344	77,303	80,862	82,579
3	02	Products of forestry, logging and related services.....	411	474	435	430	357	361
4	03	Fish and other fishing products; aquaculture products.....	53	55	58	52	51	51
5	B	Mining and quarrying.....	23,676	15,711	10,873	12,494	10,917	10,697
6	05	Coal and lignite.....	19,329	10,960	7,055	8,650	7,183	6,496
7	06	Crude petroleum and natural gas.....	3,229	3,726	2,964	3,076	3,054	3,436
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	1,119	1,025	855	768	681	765
9	C	Manufactured products.....	203,522	189,916	184,623	183,652	176,278	179,082
10	10-12	Food products, beverages, tobacco products.....	10,674	9,590	9,969	9,174	9,266	9,381
11	13-15	Textiles, wearing apparel, leather and related products.....	1,818	1,581	884	826	805	777
12	16	Wood and products of wood and cork, except furniture.....	1,713	3,598	4,105	5,912	4,188	4,274
13	17	Paper and paper products.....	8,064	14,856	10,437	9,155	8,448	8,677
14	18	Printing and recording services.....	844	819	920	842	880	877
15	19	Coke and refined petroleum products.....	25,172	26,814	23,494	22,992	22,649	22,315
16	19.1	Coke oven products.....	6,284	4,103	4,116	4,673	4,958	5,019
17	19.2	Refined petroleum products.....	18,889	22,711	19,378	18,320	17,691	17,296
18	20	Chemicals and chemical products.....	33,109	30,692	32,514	33,228	32,794	32,320
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,897	836	1,598	1,298	1,173	1,229
20	22	Rubber and plastic products.....	2,165	2,106	2,394	1,938	1,920	2,120
21	23	Other non-metallic mineral products.....	44,622	38,533	38,977	40,960	39,574	39,565
22	23.1	Glass and glass products.....	5,676	4,952	4,926	5,109	4,610	4,905
23	23.2-9	Refractory products, cut, shaped and finished stone.....	38,945	33,581	34,051	35,851	34,964	34,660
24	24	Basic metals.....	54,225	44,653	43,459	41,997	39,370	41,060
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	47,659	38,651	37,745	36,094	33,564	35,272
26	24.4	Basic precious and other non-ferrous metals.....	4,766	3,557	3,712	3,841	3,853	3,846
27	24.5	Casting services of metal.....	1,800	2,445	2,002	2,062	1,953	1,943
28	25	Fabricated metal products, except machinery and equipment.....	4,848	4,233	4,530	4,506	4,402	4,779
29	26	Computer, electronic and optical products.....	2,949	2,073	1,574	1,504	1,478	1,549
30	27	Electrical equipment.....	829	836	973	1,025	889	1,100
31	28	Machinery and equipment n.e.c.....	3,131	3,149	3,073	2,832	2,910	3,137
32	29	Motor vehicles, trailers and semi-trailers.....	4,887	4,077	3,856	3,828	3,837	4,029
33	30	Other transport equipment.....	636	589	684	554	576	652
34	31-32	Furniture, other manufacture goods.....	766	724	833	738	770	848
35	33	Repair and installation services of machinery and equipment.....	172	158	350	342	348	394
36	D (35)	Electricity, gas, steam and air conditioning.....	370,308	400,368	414,198	415,759	414,857	416,378
37	35.1/.3	Electricity, transmission and distribution services, steam.....	366,261	397,738	412,616	414,285	413,335	414,829
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	4,047	2,630	1,582	1,474	1,523	1,549
39	E	Water supply; sewerage, waste management and remediation services.....	42,400	36,171	30,536	30,163	29,282	28,571
40	36	Natural water; water treatment and supply services.....	36	41	83	78	74	77
41	37-39	Sewerage services; waste collection and materials recovery services.....	42,364	36,129	30,453	30,085	29,208	28,494
42	37	Sewerage services, sewerage sludge.....	1,322	1,062	1,058	1,029	1,015	1,021
43	38-39	Waste collection, treatment and disposal services; remediation services.....	41,042	35,067	29,395	29,056	28,193	27,474
44	F	Constructions and construction works.....	12,337	10,419	10,295	10,537	10,486	10,933
45	41-42	Building and building construction works.....	6,077	5,106	4,185	4,231	4,168	4,305
46	43	Specialised construction works.....	6,259	5,313	6,110	6,307	6,318	6,628
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	24,500	20,907	20,379	19,529	19,087	20,366
48	45	Wholesale and retail trade and repair services of motor vehicles.....	3,115	2,112	2,463	2,187	2,217	2,447
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	8,471	7,424	6,632	6,717	6,540	6,858
50	47	Retail trade services, except of motor vehicles and motorcycles.....	12,914	11,371	11,284	10,625	10,330	11,061
51	H	Transportation and storage services.....	62,252	81,156	91,104	86,613	91,873	93,154
52	49.1-2	Passenger rail transport services, interurban, freight rail transport services.....	2,310	1,691	1,331	1,333	1,236	1,189
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	14,288	16,950	20,818	21,160	20,985	21,135
54	50	Water transport services.....	8,586	21,735	28,906	24,525	28,291	29,060
55	51	Air transport services.....	23,863	27,625	26,564	25,912	27,894	27,964
56	52	Warehousing and support services for transportation.....	9,697	9,623	8,926	9,089	8,894	9,158
57	53	Postal and courier services.....	3,509	3,533	4,560	4,593	4,574	4,649
58	I	Accommodation and food services.....	5,609	5,234	4,955	4,656	4,511	4,946
59	J	Information and communication services.....	4,840	4,598	3,485	3,298	3,216	3,439
60	K	Financial and insurance services.....	2,503	2,341	2,167	1,934	1,977	2,187
61	L	Real estate services.....	1,016	1,240	1,195	1,156	1,177	1,209
62	M	Professional, scientific and technical services.....	8,541	8,327	8,915	8,481	8,478	9,053
63	N	Administrative and support services.....	1,123	1,303	1,174	1,135	1,091	1,207
64	O	Public administration and defence services; compulsory social security services.....	4,577	4,072	3,698	3,414	3,192	3,287
65	P	Education services.....	5,246	4,994	4,715	4,249	4,054	4,651
66	Q	Human health and social work services.....	7,584	6,825	8,113	7,364	7,118	7,947
67	R-T	Other services.....	10,360	7,706	6,744	6,153	5,992	6,345
68		All homogeneous branches.....	868,309	874,921	883,006	878,371	874,857	886,446
69		Private households.....	236,289	233,088	234,333	215,462	216,841	228,357
70		All homogeneous branches and private households 2).....	1,104,598	1,108,009	1,117,340	1,093,834	1,091,697	1,114,803
71		Transitional balance 3).....	-20,368	-50,105	-58,518	-54,115	-59,990	-60,005
72		Total emissions (gross domestic emissions).....	1,084,230	1,057,904	1,058,822	1,039,718	1,031,708	1,054,798
73		Emissions/Absorptions from LULUCF 4).....	-39,316	-12,199	-17,662	-17,098	-15,745	-15,694
74		Total emissions (net domestic emissions).....	1,044,915	1,045,705	1,041,160	1,022,621	1,015,962	1,039,104

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

2) Residents concept, gross emissions.

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) 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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	13,373	12,767	15,653	16,300	19,776	20,738
2	01	Products of agriculture, hunting and related services.....	12,933	12,264	15,176	15,830	19,373	20,331
3	02	Products of forestry, logging and related services.....	388	449	419	418	353	357
4	03	Fish and other fishing products; aquaculture products.....	53	54	57	51	50	50
5	B	Mining and quarrying.....	6,855	7,902	7,342	9,136	6,688	7,007
6	05	Coal and lignite.....	2,710	3,325	3,619	5,386	3,062	2,912
7	06	Crude petroleum and natural gas.....	3,034	3,561	2,875	2,989	2,951	3,337
8	07-09	Metal ores, other mining and quarrying products, mining support services .	1,111	1,016	848	761	675	758
9	C	Manufactured products.....	190,163	176,138	177,479	176,731	169,660	172,419
10	10-12	Food products, beverages, tobacco products.....	10,603	9,521	9,897	9,105	9,196	9,313
11	13-15	Textiles, wearing apparel, leather and related products.....	1,806	1,570	877	821	799	771
12	16	Wood and products of wood and cork, except furniture.....	1,699	3,561	4,065	5,846	4,141	4,227
13	17	Paper and paper products.....	8,002	14,767	10,354	9,084	8,387	8,622
14	18	Printing and recording services.....	839	814	915	837	876	873
15	19	Coke and refined petroleum products.....	24,782	26,481	23,184	22,695	22,352	22,015
16	19.1	Coke oven products.....	6,245	4,084	4,098	4,655	4,940	5,001
17	19.2	Refined petroleum products.....	18,537	22,397	19,086	18,040	17,412	17,014
18	20	Chemicals and chemical products.....	25,439	21,078	30,150	31,344	31,186	30,648
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,880	831	1,588	1,287	1,165	1,220
20	22	Rubber and plastic products.....	2,153	2,092	2,378	1,925	1,906	2,104
21	23	Other non-metallic mineral products.....	43,268	37,119	36,768	38,667	37,186	37,088
22	23.1	Glass and glass products.....	5,644	4,924	4,899	5,080	4,586	4,879
23	23.2-9	Refractory products, cut, shaped and finished stone.....	37,624	32,195	31,869	33,587	32,600	32,209
24	24	Basic metals.....	53,563	43,976	42,646	40,990	38,315	40,126
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	47,456	38,465	37,547	35,888	33,370	35,050
26	24.4	Basic precious and other non-ferrous metals.....	4,325	3,080	3,114	3,060	3,010	3,150
27	24.5	Casting services of metal.....	1,782	2,430	1,984	2,042	1,935	1,926
28	25	Fabricated metal products, except machinery and equipment.....	4,821	4,208	4,502	4,473	4,372	4,748
29	26	Computer, electronic and optical products.....	997	757	646	628	690	758
30	27	Electrical equipment.....	824	771	785	808	727	929
31	28	Machinery and equipment n.e.c.....	3,114	3,130	3,052	2,810	2,887	3,113
32	29	Motor vehicles, trailers and semi-trailers.....	3,808	4,001	3,817	3,790	3,797	3,986
33	30	Other transport equipment.....	632	585	678	549	571	646
34	31-32	Furniture, other manufacture goods.....	762	720	828	732	764	842
35	33	Repair and installation services of machinery and equipment.....	171	157	347	339	344	391
36	D (35)	Electricity, gas, steam and air conditioning.....	363,472	394,246	408,069	409,528	408,297	409,860
37	35.1/.3	Electricity, transmission and distribution services, steam.....	363,438	394,180	407,965	409,417	408,167	409,721
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains....	34	66	104	111	131	139
39	E	Water supply; sewerage, waste management and remediation services.....	8,259	6,731	6,540	6,426	6,066	6,044
40	36	Natural water; water treatment and supply services.....	36	41	82	77	73	76
41	37-39	Sewerage services; waste collection and materials recovery services.....	8,224	6,690	6,458	6,349	5,993	5,968
42	37	Sewerage services, sewerage sludge.....	676	449	460	437	425	434
43	38-39	Waste collection, treatment and disposal services; remediation services .	7,548	6,241	5,997	5,912	5,567	5,534
44	F	Constructions and construction works.....	12,243	10,339	10,198	10,440	10,385	10,830
45	41-42	Building and building construction works.....	6,034	5,070	4,146	4,192	4,128	4,265
46	43	Specialised construction works.....	6,209	5,269	6,052	6,248	6,257	6,565
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	24,327	20,766	20,190	19,319	18,892	20,162
48	45	Wholesale and retail trade and repair services of motor vehicles.....	3,092	2,095	2,437	2,159	2,191	2,419
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	8,413	7,373	6,550	6,624	6,444	6,759
50	47	Retail trade services, except of motor vehicles and motorcycles.....	12,821	11,299	11,203	10,536	10,256	10,984
51	H	Transportation and storage services.....	57,782	75,980	85,286	80,664	85,735	86,887
52	49.1-2	Passenger rail transport services, interurban, freight rail transport services.	2,303	1,686	1,325	1,327	1,230	1,184
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	10,193	12,325	15,702	15,892	15,592	15,624
54	50	Water transport services.....	8,487	21,506	28,597	24,259	27,990	28,754
55	51	Air transport services.....	23,641	27,370	26,312	25,665	27,629	27,698
56	52	Warehousing and support services for transportation.....	9,663	9,579	8,831	8,974	8,771	9,030
57	53	Postal and courier services.....	3,494	3,514	4,519	4,546	4,523	4,597
58	I	Accommodation and food services.....	5,557	5,196	4,919	4,615	4,478	4,911
59	J	Information and communication services.....	4,818	4,573	3,449	3,255	3,171	3,394
60	K	Financial and insurance services.....	2,484	2,325	2,149	1,915	1,959	2,168
61	L	Real estate services.....	1,009	1,233	1,186	1,146	1,167	1,200
62	M	Professional, scientific and technical services.....	8,491	8,280	8,855	8,410	8,405	8,975
63	N	Administrative and support services.....	1,117	1,297	1,166	1,126	1,083	1,199
64	O	Public administration and defence services; compulsory social security serv	4,545	4,046	3,667	3,383	3,166	3,258
65	P	Education services.....	5,197	4,949	4,677	4,207	4,018	4,614
66	Q	Human health and social work services.....	7,031	6,553	7,873	7,122	6,907	7,748
67	R-T	Other services.....	10,308	7,654	6,690	6,088	5,930	6,282
68		All homogeneous branches.....	727,029	750,975	775,388	769,812	765,784	777,695
69		Private households.....	232,603	230,387	231,524	212,852	214,451	225,896
70		All homogeneous branches and private households 2).....	959,632	981,362	1,006,912	982,664	980,235	1,003,592
71		Transitional balance 3).....	-20,130	-49,652	-57,987	-53,624	-59,440	-59,445
72		Total emissions (gross domestic emissions) 4).....	939,502	931,710	948,925	929,040	920,795	944,146
73		Emissions/Absorptions from LULUCF 5).....	-41,082	-13,891	-19,410	-18,856	-17,516	-17,481
74		Total emissions (net domestic emissions) 4).....	898,420	917,819	929,515	910,184	903,279	926,666

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

2) Residents concept, gross emissions.

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 4.2.2: Direct CO₂ emissions per unit energy consumption (not including road transport and biomass)
1,000 tonnes (Gg)

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	6,342	5,868	6,035	5,761	5,517	5,831
2	01	Products of agriculture, hunting and related services.....	6,049	5,536	5,766	5,513	5,330	5,642
3	02	Products of forestry, logging and related services.....	252	294	232	214	153	156
4	03	Fish and other fishing products; aquaculture products.....	41	37	36	34	33	33
5	B	Mining and quarrying.....	4,198	5,559	4,996	6,656	4,262	4,547
6	05	Coal and lignite.....	2,142	2,813	3,031	4,820	2,507	2,348
7	06	Crude petroleum and natural gas.....	1,212	1,884	1,258	1,199	1,195	1,563
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	844	862	708	637	560	635
9	C	Manufactured products.....	126,288	112,842	116,408	114,168	110,071	113,905
10	10-12	Food products, beverages, tobacco products.....	10,017	8,893	8,912	8,422	8,412	8,575
11	13-15	Textiles, wearing apparel, leather and related products.....	1,678	1,484	810	753	729	701
12	16	Wood and products of wood and cork, except furniture.....	1,048	936	792	610	575	607
13	17	Paper and paper products.....	6,822	12,560	7,227	6,284	6,013	6,321
14	18	Printing and recording services.....	753	734	611	544	601	606
15	19	Coke and refined petroleum products.....	23,553	25,172	22,065	21,572	21,206	20,879
16	19.1	Coke oven products.....	5,950	3,815	3,838	4,400	4,683	4,735
17	19.2	Refined petroleum products.....	17,603	21,357	18,227	17,172	16,523	16,144
18	20	Chemicals and chemical products.....	16,567	12,044	19,422	21,450	21,336	20,905
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,776	688	1,207	840	941	933
20	22	Rubber and plastic products.....	1,926	1,752	2,164	1,699	1,627	1,864
21	23	Other non-metallic mineral products.....	20,200	15,696	16,785	17,256	16,271	16,852
22	23.1	Glass and glass products.....	4,758	4,038	4,040	4,101	3,733	3,972
23	23.2-9	Refractory products, cut, shaped and finished stone.....	15,442	11,658	12,746	13,155	12,537	12,881
24	24	Basic metals.....	29,754	22,460	25,864	24,873	22,650	24,680
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	25,409	18,669	21,878	20,954	18,864	20,856
26	24.4	Basic precious and other non-ferrous metals.....	2,625	2,305	2,067	1,945	1,922	1,968
27	24.5	Casting services of metal.....	1,720	1,487	1,919	1,974	1,864	1,855
28	25	Fabricated metal products, except machinery and equipment.....	4,231	3,659	3,756	3,635	3,501	3,857
29	26	Computer, electronic and optical products.....	755	555	397	380	433	498
30	27	Electrical equipment.....	508	420	517	537	446	648
31	28	Machinery and equipment n.e.c.....	2,458	2,452	2,406	2,120	2,172	2,397
32	29	Motor vehicles, trailers and semi-trailers.....	2,160	2,286	2,037	1,981	1,902	2,131
33	30	Other transport equipment.....	470	428	470	348	364	436
34	31-32	Furniture, other manufacture goods.....	611	611	731	639	667	744
35	33	Repair and installation services of machinery and equipment.....	2	10	235	224	225	270
36	D (35)	Electricity, gas, steam and air conditioning.....	353,590	370,652	354,134	351,197	363,072	363,133
37	35.1./3	Electricity, transmission and distribution services, steam.....	353,590	370,637	354,100	351,166	363,055	363,121
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	0	15	34	30	18	12
39	E	Water supply; sewerage, waste management and remediation services.....	1,245	1,289	1,068	1,088	1,079	1,057
40	36	Natural water; water treatment and supply services.....	0	1	1	1	1	0
41	37-39	Sewerage services; waste collection and materials recovery services.....	1,245	1,288	1,067	1,088	1,078	1,057
42	37	Sewerage services, sewerage sludge.....	0	1	1	1	1	1
43	38-39	Waste collection, treatment and disposal services; remediation services.....	1,245	1,287	1,066	1,087	1,077	1,056
44	F	Constructions and construction works.....	7,862	6,774	6,481	6,432	6,292	6,685
45	41-42	Building and building construction works.....	3,889	3,318	2,909	2,847	2,760	2,886
46	43	Specialised construction works.....	3,973	3,456	3,572	3,585	3,532	3,799
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	13,462	10,469	10,321	9,317	8,866	10,149
48	45	Wholesale and retail trade and repair services of motor vehicles.....	2,303	1,323	1,476	1,344	1,371	1,596
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	3,155	2,309	1,441	1,365	1,251	1,606
50	47	Retail trade services, except of motor vehicles and motorcycles.....	8,004	6,836	7,403	6,609	6,244	6,947
51	H	Transportation and storage services.....	33,869	49,659	56,978	51,885	57,463	58,553
52	49.1-2	Passenger rail transport services, interurban, freight rail transport services.....	2,014	1,420	1,146	1,149	1,060	1,022
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	45	12	11	11	27
54	50	Water transport services.....	7,830	20,799	28,491	24,154	27,886	28,651
55	51	Air transport services.....	22,927	26,452	26,220	25,574	27,539	27,608
56	52	Warehousing and support services for transportation.....	830	703	890	818	791	1,029
57	53	Postal and courier services.....	269	240	218	179	178	215
58	I	Accommodation and food services.....	4,618	4,311	4,037	3,721	3,570	4,004
59	J	Information and communication services.....	1,580	1,801	1,542	1,411	1,409	1,647
60	K	Financial and insurance services.....	2,041	1,890	1,676	1,412	1,435	1,647
61	L	Real estate services.....	407	392	339	289	287	318
62	M	Professional, scientific and technical services.....	2,312	2,575	2,512	2,182	2,167	2,726
63	N	Administrative and support services.....	567	637	800	738	669	783
64	O	Public administration and defence services; compulsory social security services.....	2,746	2,298	1,761	1,504	1,252	1,323
65	P	Education services.....	5,100	4,825	4,541	4,065	3,829	4,404
66	Q	Human health and social work services.....	6,304	5,712	6,807	6,002	5,679	6,484
67	R-T	Other services.....	4,295	4,136	3,060	2,559	2,394	2,710
68		All homogeneous branches.....	576,826	591,688	583,494	570,388	579,314	589,908
69		Private households.....	113,006	106,755	102,542	87,334	91,480	100,741
70		All homogeneous branches and private households (residents concept) 2).....	689,832	698,443	686,036	657,722	670,794	690,649
71		Transitional balance 3).....	-19,918	-35,548	-42,393	-37,669	-43,966	-45,746
72		Total emissions (domestic concept) 2).....	669,914	662,895	643,643	620,053	626,828	644,902

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	2,723	2,279	2,285	2,592	2,532	2,652
2	01	Products of agriculture, hunting and related services.....	2,723	2,279	2,285	2,592	2,532	2,652
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	2,269	2,110	1,910	2,064	2,026	2,060
6	05	Coal and lignite.....	485	473	425	430	433	442
7	06	Crude petroleum and natural gas.....	1,785	1,637	1,485	1,634	1,593	1,618
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	56,312	51,609	45,947	46,628	45,944	45,022
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.....	0	0	232	226	206	198
15	19	Coke and refined petroleum products.....	1,042	1,117	937	919	935	924
16	19.1	Coke oven products.....	294	268	258	253	256	265
17	19.2	Refined petroleum products.....	748	849	679	665	679	659
18	20	Chemicals and chemical products.....	8,409	8,655	8,891	9,178	9,396	9,314
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	22,332	19,583	18,410	19,574	19,107	18,513
22	23.1	Glass and glass products.....	846	803	829	835	823	875
23	23.2-9	Refractory products, cut, shaped and finished stone.....	21,486	18,780	17,581	18,739	18,284	17,637
24	24	Basic metals.....	23,547	21,219	16,485	15,781	15,329	15,111
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	21,911	19,633	15,506	14,747	14,327	14,014
26	24.4	Basic precious and other non-ferrous metals.....	1,610	679	954	1,008	976	1,071
27	24.5	Casting services of metal.....	26	907	25	26	26	26
28	25	Fabricated metal products, except machinery and equipment.....	160	155	324	299	291	297
29	26	Computer, electronic and optical products.....	-	-	-	-	-	-
30	27	Electrical equipment.....	-	-	-	-	-	-
31	28	Machinery and equipment n.e.c.....	44	40	42	43	44	43
32	29	Motor vehicles, trailers and semi-trailers.....	734	801	583	564	593	578
33	30	Other transport equipment.....	44	40	42	43	44	43
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.....	22	20	21	22	22	22
45	41-42	Building and building construction works.....	22	20	21	22	22	22
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.....	65	60	63	65	65	65
52	49.1-2	Passenger rail transport services, freight rail transport services.....	13	12	13	13	13	13
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	9	8	8	9	9	9
54	50	Water transport services.....	22	20	21	22	22	22
55	51	Air transport services.....	22	20	21	22	22	22
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	60	63	65	65	65
65	P	Education services.....	-	-	-	-	-	-
66	Q	Human health and social work services.....	-	-	-	-	-	-
67	R-T	Other services.....	-	-	3	3	3	3
68		All homogeneous branches.....	61,456	56,137	50,293	51,436	50,656	49,888
69		Private households.....	1,319	1,200	1,000	955	918	972
70		All homogeneous branches and private households	62,776	57,337	51,293	52,391	51,574	50,859

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	973	1,041	3,166	3,551	7,186	7,523
2	01	Products of agriculture, hunting and related services.....	973	1,038	3,154	3,539	7,177	7,514
3	02	Products of forestry, logging and related services.....	0	4	12	12	9	8
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	0	0	142	115	79	83
6	05	Coal and lignite.....	0	0	103	94	76	74
7	06	Crude petroleum and natural gas.....	0	0	0	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	0	0	39	21	3	10
9	C	Manufactured products.....	2,176	6,774	10,019	10,628	8,160	7,994
10	10-12	Food products, beverages, tobacco products.....	0	126	465	177	261	214
11	13-15	Textiles, wearing apparel, leather and related products.....	0	0	0	0	0	0
12	16	Wood and products of wood and cork, except furniture.....	551	2,530	3,182	5,170	3,498	3,551
13	17	Paper and paper products.....	1,049	2,103	3,009	2,686	2,255	2,181
14	18	Printing and recording services.....	0	0	0	0	0	0
15	19	Coke and refined petroleum products.....	26	0	0	0	0	0
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	26	0	0	0	0	0
18	20	Chemicals and chemical products.....	0	15	1,473	353	79	53
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	0	55	289	360	133	195
20	22	Rubber and plastic products.....	0	143	16	27	74	34
21	23	Other non-metallic mineral products.....	550	1,713	1,454	1,714	1,681	1,595
22	23.1	Glass and glass products.....	0	55	1	115	0	2
23	23.2-9	Refractory products, cut, shaped and finished stone.....	550	1,657	1,452	1,599	1,680	1,593
24	24	Basic metals.....	0	26	9	14	2	1
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	0	12	8	13	0	0
26	24.4	Basic precious and other non-ferrous metals.....	0	14	1	1	2	1
27	24.5	Casting services of metal.....	0	0	0	0	0	0
28	25	Fabricated metal products, except machinery and equipment.....	0	10	80	61	85	97
29	26	Computer, electronic and optical products.....	0	0	0	0	0	0
30	27	Electrical equipment.....	0	0	0	0	0	0
31	28	Machinery and equipment n.e.c.....	0	12	22	38	42	41
32	29	Motor vehicles, trailers and semi-trailers.....	0	42	21	28	51	31
33	30	Other transport equipment.....	0	0	0	0	0	0
34	31-32	Furniture, other manufacture goods.....	0	0	0	0	1	0
35	33	Repair and installation services of machinery and equipment.....	0	0	0	0	0	0
36	D (35)	Electricity, gas, steam and air conditioning.....	9,661	23,301	53,448	57,787	44,641	46,136
37	35.1/.3	Electricity, transmission and distribution services, steam.....	9,661	23,297	53,442	57,779	44,607	46,089
38	35.2	Manufactured gas.....	0	4	6	7	34	47
39	E	Water supply; sewerage, waste management and remediation services.....	1,557	886	719	737	681	713
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.....	1,557	886	719	737	681	713
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	1,557	886	719	737	681	713
44	F	Constructions and construction works.....	166	219	356	370	359	340
45	41-42	Building and building construction works.....	69	95	164	171	165	156
46	43	Specialised construction works.....	97	124	192	199	194	184
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	438	435	435	435	435	435
48	45	Wholesale and retail trade and repair services of motor vehicles.....	0	0	0	0	0	0
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	206	206	206	206	206	206
50	47	Retail trade services, except of motor vehicles and motorcycles.....	232	229	229	229	229	229
51	H	Transportation and storage services.....	0	35	84	85	80	69
52	49.1-2	Passenger rail transport services, freight rail transport services.....	0	28	67	68	62	54
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	0	0	0	0	0
54	50	Water transport services.....	0	7	17	17	17	15
55	51	Air transport services.....	0	0	0	0	0	0
56	52	Warehousing and support services for transportation.....	0	0	0	0	0	0
57	53	Postal and courier services.....	0	0	0	0	0	0
58	I	Accommodation and food services.....	638	637	637	637	637	637
59	J	Information and communication services.....	62	58	58	58	58	58
60	K	Financial and insurance services.....	197	191	191	191	191	191
61	L	Real estate services.....	83	80	80	80	80	80
62	M	Professional, scientific and technical services.....	117	114	114	114	114	114
63	N	Administrative and support services.....	50	49	49	49	49	49
64	O	Public administration and defence services.....	0	9	19	23	31	32
65	P	Education services.....	0	6	9	12	56	78
66	Q	Human health and social work services.....	365	370	374	379	449	484
67	R-T	Other services.....	33	43	47	52	118	151
68		All homogeneous branches.....	16,516	34,248	69,949	75,301	63,404	65,167
69		Private households.....	16,848	18,839	29,209	24,828	23,617	24,117
70		All homogeneous branches and private households	33,365	53,087	99,157	100,129	87,020	89,284

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	3,300	3,385	3,910	4,148	4,281	4,499
2	01	Products of agriculture, hunting and related services.....	3,154	3,226	3,726	3,951	4,085	4,300
3	02	Products of forestry, logging and related services.....	135	143	164	181	180	183
4	03	Fish and other fishing products; aquaculture products.....	12	16	20	16	16	17
5	B	Mining and quarrying.....	384	220	276	285	303	301
6	05	Coal and lignite.....	83	37	57	40	44	45
7	06	Crude petroleum and natural gas.....	37	38	124	147	153	148
8	07-09	Metal ores, other mining and quarrying products.....	264	146	95	97	106	107
9	C	Manufactured products.....	5,345	4,689	4,808	5,023	5,184	5,236
10	10-12	Food products, beverages, tobacco products.....	581	479	491	479	495	500
11	13-15	Textiles, wearing apparel, leather and related products.....	128	82	63	64	66	67
12	16	Wood and products of wood and cork, except furniture.....	99	91	86	62	65	65
13	17	Paper and paper products.....	130	98	112	108	112	113
14	18	Printing and recording services.....	86	76	68	63	65	66
15	19	Coke and refined petroleum products.....	159	184	171	193	200	202
16	19.1	Coke oven products.....	0	1	1	1	1	1
17	19.2	Refined petroleum products.....	159	183	170	192	199	201
18	20	Chemicals and chemical products.....	459	347	343	343	355	358
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	103	84	87	83	86	87
20	22	Rubber and plastic products.....	226	188	187	188	194	196
21	23	Other non-metallic mineral products.....	184	121	113	117	121	122
22	23.1	Glass and glass products.....	39	26	27	27	28	28
23	23.2-9	Refractory products, cut, shaped and finished stone.....	145	95	85	90	93	94
24	24	Basic metals.....	261	258	271	305	315	318
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	135	145	146	164	169	171
26	24.4	Basic precious and other non-ferrous metals.....	90	78	87	101	104	105
27	24.5	Casting services of metal.....	36	35	37	40	42	42
28	25	Fabricated metal products, except machinery and equipment.....	427	366	321	452	468	473
29	26	Computer, electronic and optical products.....	241	193	235	235	243	248
30	27	Electrical equipment.....	313	335	253	257	265	268
31	28	Machinery and equipment n.e.c.....	607	598	548	576	596	602
32	29	Motor vehicles, trailers and semi-trailers.....	907	833	1,107	1,151	1,181	1,186
33	30	Other transport equipment.....	118	112	157	150	155	159
34	31-32	Furniture, other manufacture goods.....	150	104	91	88	91	93
35	33	Repair and installation services of machinery and equipment.....	169	141	105	109	113	115
36	D (35)	Electricity, gas, steam and air conditioning.....	220	279	459	515	552	563
37	35.1/.3	Electricity, transmission and distribution services, steam.....	186	235	398	446	477	487
38	35.2	Manufactured gas.....	34	45	61	70	75	77
39	E	Water supply; sewerage, waste management and remediation services.....	5,407	4,317	4,464	4,344	4,063	4,066
40	36	Natural water; water treatment and supply services.....	35	38	77	72	68	72
41	37-39	Sewerage services; waste collection and materials recovery services.....	5,371	4,279	4,388	4,272	3,994	3,994
42	37	Sewerage services, sewerage sludge.....	670	427	433	412	401	412
43	38-39	Waste collection, treatment and disposal services.....	4,701	3,851	3,955	3,860	3,593	3,581
44	F	Constructions and construction works.....	4,155	3,156	3,138	3,416	3,503	3,598
45	41-42	Building and building construction works.....	2,035	1,555	989	1,089	1,115	1,143
46	43	Specialised construction works.....	2,120	1,602	2,150	2,327	2,388	2,456
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	10,339	9,382	8,882	9,049	9,061	9,121
48	45	Wholesale and retail trade and repair services of motor vehicles.....	782	733	903	770	774	784
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	5,002	4,605	4,609	4,774	4,707	4,708
50	47	Retail trade services, except of motor vehicles and motorcycles.....	4,555	4,044	3,371	3,505	3,581	3,629
51	H	Transportation and storage services.....	23,593	24,796	26,422	27,015	26,512	26,814
52	49.1-2	Passenger rail transport services, freight rail transport services.....	273	214	93	92	90	90
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	10,077	11,603	14,714	14,976	14,678	14,821
54	50	Water transport services.....	629	643	64	63	62	62
55	51	Air transport services.....	685	849	66	66	64	65
56	52	Warehousing and support services for transportation.....	8,737	8,389	7,449	7,695	7,521	7,608
57	53	Postal and courier services.....	3,192	3,098	4,037	4,123	4,098	4,167
58	I	Accommodation and food services.....	300	240	232	244	257	258
59	J	Information and communication services.....	3,149	2,580	1,740	1,689	1,610	1,608
60	K	Financial and insurance services.....	244	235	267	296	315	315
61	L	Real estate services.....	517	728	724	736	757	764
62	M	Professional, scientific and technical services.....	6,026	5,363	5,877	5,793	5,794	5,847
63	N	Administrative and support services.....	496	582	298	321	345	349
64	O	Public administration and defence services.....	1,719	1,599	1,715	1,695	1,716	1,749
65	P	Education services.....	96	113	120	123	125	125
66	Q	Human health and social work services.....	360	454	656	704	739	744
67	R-T	Other services.....	5,923	3,300	3,366	3,285	3,224	3,254
68		All homogeneous branches.....	71,572	65,418	67,353	68,681	68,341	69,211
69		Private households.....	101,219	101,503	94,589	95,565	94,084	95,960
70		All homogeneous branches and private households (residents concept).....	172,791	166,921	161,942	164,246	162,425	165,171
71		Transitional balance 2).....	-212	-14,104	-15,594	-15,956	-15,474	-13,699
72		Total emissions (domestic concept).....	172,579	152,817	146,348	148,291	146,952	151,472

^{*)} Includes liquefied petroleum gas. Further tables for CO₂ emissions of road transport cf. "Tables on EEA", part 6, chapter 11: transport.

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	35	194	257	248	260	233
2	01	Products of agriculture, hunting and related services.....	33	185	245	236	249	222
3	02	Products of forestry, logging and related services.....	1	8	11	11	11	9
4	03	Fish and other fishing products; aquaculture products.....	0	1	1	1	1	1
5	B	Mining and quarrying.....	4	12	18	17	18	16
6	05	Coal and lignite.....	1	2	4	2	3	2
7	06	Crude petroleum and natural gas.....	0	2	8	9	9	8
8	07-09	Metal ores, other mining and quarrying products.....	3	8	6	6	6	6
9	C	Manufactured products.....	42	224	297	285	301	262
10	10-12	Food products, beverages, tobacco products.....	5	23	30	27	29	25
11	13-15	Textiles, wearing apparel, leather and related products.....	1	4	4	4	4	3
12	16	Wood and products of wood and cork, except furniture.....	1	5	5	4	4	3
13	17	Paper and paper products.....	1	5	7	6	7	6
14	18	Printing and recording services.....	1	4	4	4	4	3
15	19	Coke and refined petroleum products.....	1	9	10	11	12	10
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	1	9	10	11	12	10
18	20	Chemicals and chemical products.....	4	17	21	19	21	18
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	1	4	5	5	5	4
20	22	Rubber and plastic products.....	2	9	11	11	11	10
21	23	Other non-metallic mineral products.....	1	6	7	7	7	6
22	23.1	Glass and glass products.....	0	1	2	2	2	1
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1	5	5	5	5	5
24	24	Basic metals.....	2	12	17	17	18	16
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	1	7	9	9	10	9
26	24.4	Basic precious and other non-ferrous metals.....	1	4	5	6	6	5
27	24.5	Casting services of metal.....	0	2	2	2	2	2
28	25	Fabricated metal products, except machinery and equipment.....	3	18	20	26	27	24
29	26	Computer, electronic and optical products.....	2	9	14	13	14	12
30	27	Electrical equipment.....	2	16	16	15	15	13
31	28	Machinery and equipment n.e.c.....	5	29	34	33	35	30
32	29	Motor vehicles, trailers and semi-trailers.....	7	40	69	66	69	60
33	30	Other transport equipment.....	1	5	10	8	9	8
34	31-32	Furniture, other manufacture goods.....	1	5	6	5	5	5
35	33	Repair and installation services of machinery and equipment.....	1	7	6	6	6	6
36	D (35)	Electricity, gas, steam and air conditioning.....	2	14	28	29	32	28
37	35.1/.3	Electricity, transmission and distribution services, steam.....	2	12	25	25	28	24
38	35.2	Manufactured gas.....	0	2	4	4	4	4
39	E	Water supply; sewerage, waste management and remediation services.....	51	239	289	256	244	208
40	36	Natural water; water treatment and supply services.....	0	2	5	4	4	4
41	37-39	Sewerage services; waste collection and materials recovery services.....	51	237	284	252	240	205
42	37	Sewerage services, sewerage sludge.....	6	21	27	24	23	21
43	38-39	Waste collection, treatment and disposal services.....	45	216	257	228	216	184
44	F	Constructions and construction works.....	39	170	202	201	210	184
45	41-42	Building and building construction works.....	19	83	63	64	67	58
46	43	Specialised construction works.....	20	87	139	137	143	126
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	87	480	553	517	529	458
48	45	Wholesale and retail trade and repair services of motor vehicles.....	8	39	58	45	46	40
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	49	252	295	279	280	240
50	47	Retail trade services, except of motor vehicles and motorcycles.....	30	189	200	193	203	178
51	H	Transportation and storage services.....	254	1,431	1,738	1,615	1,614	1,386
52	49.1-2	Passenger rail transport services, freight rail transport services.....	3	12	6	5	5	5
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	108	670	969	896	894	767
54	50	Water transport services.....	7	37	4	4	4	3
55	51	Air transport services.....	8	49	4	4	4	3
56	52	Warehousing and support services for transportation.....	96	486	491	461	459	394
57	53	Postal and courier services.....	33	176	264	245	248	215
58	I	Accommodation and food services.....	1	9	13	13	14	12
59	J	Information and communication services.....	27	134	110	98	95	81
60	K	Financial and insurance services.....	1	9	16	16	18	15
61	L	Real estate services.....	3	33	44	41	43	38
62	M	Professional, scientific and technical services.....	36	228	352	321	329	288
63	N	Administrative and support services.....	4	29	18	18	20	17
64	O	Public administration and defence services.....	15	81	108	98	101	88
65	P	Education services.....	1	6	7	7	7	6
66	Q	Human health and social work services.....	2	17	37	37	40	35
67	R-T	Other services.....	56	175	214	191	191	165
68		All homogeneous branches.....	658	3,484	4,299	4,006	4,068	3,522
69		Private households.....	211	2,089	4,184	4,169	4,353	4,107
70		All homogeneous branches and private households	869	5,573	8,483	8,175	8,421	7,629

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		%		tonnes/inhabitant
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	2011	Change in 2011 as against 2000
		CO₂ emissions 1,000 tonnes		in percent
1	Of domestic origin.....	957,409	982,669	2.6
2	Domestic production 1).....	721,639	768,528	6.5
3	Private households.....	235,769	214,141	-9.2
4	+ Imports 2).....	379,286	472,938	24.7
5	= Supply.....	1,336,694	1,455,607	8.9
6	= Final use.....	1,336,694	1,455,607	8.9
7	- Exports 2).....	412,027	551,892	33.9
8	= Final domestic use.....	924,668	903,715	-2.3
9	Domestic final consumption of private households 3).....	660,085	656,130	-0.6
10	direct.....	235,769	214,141	-9.2
11	CO ₂ content of consumer goods.....	424,316	441,989	4.2
12	Other final uses.....	264,583	247,585	-6.4
		Macroeconomic reference data EUR bn at current prices⁴⁾		
13	Of domestic origin.....	3,786	5,288	39.7
14	+ Imports 2).....	538	839	56.1
15	= Supply.....	4,324	6,128	41.7
16	- Intermediate consumption.....	1,883	2,799	48.6
17	= Final use 3).....	2,441	3,329	36.4
18	- Exports 2).....	577	1,005	74.4
19	= Final domestic uses.....	1,864	2,323	24.6
20	Domestic final consumption of private households	1,024	1,269	23.9
21	Consumption expenditure of non-profit institutions serving households.....	34	41	20.2
22	Government final consumption expenditure.....	388	500	28.8
23	Gross fixed capital formation.....	411	502	22.1
24	Changes in stocks, acquisitions less disposals of valuables.....	7	12	-
		CO₂ intensity CO₂ emissions per macroeconomic reference data at current prices kg per EUR 1,000		
25	= Final use.....	548	437	
26	- Exports 2).....	715	549	
27	= Final domestic use.....	496	389	
28	Consumer goods.....	414	348	
29	memorandum item: Imports 2).....	705	563	

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 2011

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.....	17,672	0	17,672	11,926	3,934
2	Products of forestry, logging and related services.....	426	24,816	25,243	310	67
3	Fish and other fishing products; aquaculture products.....	234	0	234	189	43
4	Hard coal.....	171	3,657	3,828	267	93
5	Lignite.....	171	1,926	2,097	72	108
6	Crude petroleum and natural gas.....	3,313	47,796	51,109	3,334	2
7	Metal ores; Other mining and quarrying products; Mining support services.....	492	0	492	33	435
8	Food products; Beverages; Tobacco products.....	78,410	0	78,410	52,539	21,738
9	Textiles; Wearing apparel; Leather and related products.....	19,447	0	19,447	13,683	4,732
10	Wood, products of wood and cork, except furniture.....	9,291	0	9,291	2,064	4,500
11	Paper and paper products.....	25,869	0	25,869	6,336	21,469
12	Printing and recording services.....	2,531	0	2,531	1,353	1,115
13	Coke oven products.....	1,104	0	1,104	26	77
14	Refined petroleum products.....	26,340	135,945	162,286	18,719	7,553
15	Basic chemicals.....	76,190	0	76,190	2,053	73,388
16	Other chemical products.....	36,214	0	36,214	8,633	28,389
17	Pharmaceutical products.....	12,888	0	12,888	3,303	8,091
18	Rubber and plastics products.....	26,991	0	26,991	4,297	21,168
19	Glass and glass products.....	6,876	0	6,876	1,910	5,219
20	Ceramic products; Cut, shaped and finished stone.....	19,575	0	19,575	4,103	10,373
21	Basic iron and steel; other products of the first processing of steel.....	49,558	0	49,558	0	47,074
22	Aluminium.....	13,509	0	13,509	0	12,708
23	Other non-ferrous metals.....	11,043	0	11,043	0	10,253
24	Casting services of metals.....	853	0	853	0	188
25	Fabricated metal products.....	28,193	0	28,193	2,673	15,378
26	Computer, electronic and optical products.....	22,440	0	22,440	4,524	12,641
27	Electrical equipment.....	20,879	0	20,879	2,697	13,631
28	Machinery and equipment n.e.c.....	64,868	0	64,868	446	43,768
29	Motor vehicles, trailers and semi-trailers.....	100,472	0	100,472	23,734	66,306
30	Other transport equipment.....	10,640	0	10,640	817	7,227
31	Furniture; Other manufactured goods.....	18,128	0	18,128	7,471	5,576
32	Repair and installation services of machinery and equipment.....	4,819	0	4,819	138	639
33	Electricity, transmission and distribution services.....	142,638	0	142,638	90,876	34,958
34	Manufactured gas; distribution services of gaseous fuels through mains.....	479	0	479	0	0
35	Steam supply services.....	20,869	0	20,869	17,112	25
36	Natural water; water treatment and supply services.....	4,270	0	4,270	4,257	0
37	Sewerage, Waste management and remediation services.....	7,478	0	7,478	4,377	3,700
38	Buildings and building construction works.....	28,655	0	28,655	0	0
39	Specialised construction works.....	29,899	0	29,899	1,565	170
40	Wholesale and retail trade and repair services of motor vehicles.....	6,111	0	6,111	4,218	761
41	Wholesale trade services, except of motor vehicles and motorcycles.....	20,500	0	20,500	9,044	9,431
42	Retail trade services, except of motor vehicles and motorcycles.....	28,055	0	28,055	25,785	0
43	Rail transport services.....	8,443	0	8,443	7,807	613
44	Other land transport services.....	5,835	0	5,835	7,909	769
45	Water transport services.....	30,193	0	30,193	1,353	30,307
46	Air transport services.....	29,671	0	29,671	18,851	7,849
47	Warehousing and support services for transportation.....	3,625	0	3,625	778	2,009
48	Postal and courier services.....	1,148	0	1,148	716	394
49	Accommodation and food serving services.....	21,585	0	21,585	19,497	1,950
50	Publishing services.....	3,331	0	3,331	2,566	758
51	Motion picture, video and television programme services.....	1,825	0	1,825	1,239	210
52	Telecommunications services.....	5,255	0	5,255	4,726	517
53	Information services.....	3,014	0	3,014	25	1,199
54	Financial and insurance services.....	7,569	0	7,569	5,804	1,729
55	Real estate services.....	12,701	0	12,701	12,408	89
56	Legal and accounting services, business services, architectural services.....	5,691	0	5,691	418	2,945
57	Scientific research and development services.....	14,147	0	14,147	0	2,024
58	Advertising and market research services; Security.....	4,032	0	4,032	2,269	1,301
59	Public administration and defence services;.....	21,765	0	21,765	692	162
60	Compulsory social security services.....	2,001	0	2,001	0	0
61	Education services.....	13,041	0	13,041	1,609	0
62	Human health services.....	22,240	0	22,240	5,620	0
63	Residential care services; Social work services.....	9,666	0	9,666	1,706	0
64	Arts, entertainment and recreation services.....	6,513	0	6,513	3,618	119
65	Services furnished by membership organisations.....	2,300	0	2,300	216	0
66	Repair services of computers and personal and household goods.....	7,314	0	7,314	7,277	19
67	Total final domestic uses.....	1,241,466	214,141	1,455,607	441,989	551,892

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 2011

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.....	1.4	-	1.2	2.7	0.7
2	Products of forestry, logging and related services.....	0.0	11.6	1.7	0.1	0.0
3	Fish and other fishing products; aquaculture products.....	0.0	-	0.0	0.0	0.0
4	Hard coal.....	0.0	1.7	0.3	0.1	0.0
5	Lignite.....	0.0	0.9	0.1	0.0	0.0
6	Crude petroleum and natural gas.....	0.3	22.3	3.5	0.8	0.0
7	Metal ores; Other mining and quarrying products; Mining support services.....	0.0	-	0.0	0.0	0.1
8	Food products; Beverages; Tobacco products.....	6.3	-	5.4	11.9	3.9
9	Textiles; Wearing apparel; Leather and related products.....	1.6	-	1.3	3.1	0.9
10	Wood, products of wood and cork, except furniture.....	0.7	-	0.6	0.5	0.8
11	Paper and paper products.....	2.1	-	1.8	1.4	3.9
12	Printing and recording services.....	0.2	-	0.2	0.3	0.2
13	Coke oven products.....	0.1	-	0.1	0.0	0.0
14	Refined petroleum products.....	2.1	63.5	11.1	4.2	1.4
15	Basic chemicals.....	6.1	-	5.2	0.5	13.3
16	Other chemical products.....	2.9	-	2.5	2.0	5.1
17	Pharmaceutical products	1.0	-	0.9	0.7	1.5
18	Rubber and plastics products.....	2.2	-	1.9	1.0	3.8
19	Glass and glass products	0.6	-	0.5	0.4	0.9
20	Ceramic products; Cut, shaped and finished stone.....	1.6	-	1.3	0.9	1.9
21	Basic iron and steel; other products of the first processing of steel.....	4.0	-	3.4	0.0	8.5
22	Aluminium.....	1.1	-	0.9	0.0	2.3
23	Other non-ferrous metals.....	0.9	-	0.8	0.0	1.9
24	Casting services of metals.....	0.1	-	0.1	0.0	0.0
25	Fabricated metal products.....	2.3	-	1.9	0.6	2.8
26	Computer, electronic and optical products.....	1.8	-	1.5	1.0	2.3
27	Electrical equipment.....	1.7	-	1.4	0.6	2.5
28	Machinery and equipment n.e.c.....	5.2	-	4.5	0.1	7.9
29	Motor vehicles, trailers and semi-trailers.....	8.1	-	6.9	5.4	12.0
30	Other transport equipment.....	0.9	-	0.7	0.2	1.3
31	Furniture; Other manufactured goods.....	1.5	-	1.2	1.7	1.0
32	Repair and installation services of machinery and equipment.....	0.4	-	0.3	0.0	0.1
33	Electricity, transmission and distribution services.....	11.5	-	9.8	20.6	6.3
34	Manufactured gas; distribution services of gaseous fuels through mains.....	0.0	-	0.0	0.0	0.0
35	Steam supply services.....	1.7	-	1.4	3.9	0.0
36	Natural water; water treatment and supply services.....	0.3	-	0.3	1.0	0.0
37	Sewerage, Waste management and remediation services.....	0.6	-	0.5	1.0	0.7
38	Buildings and building construction works.....	2.3	-	2.0	0.0	0.0
39	Specialised construction works.....	2.4	-	2.1	0.4	0.0
40	Wholesale and retail trade and repair services of motor vehicles	0.5	-	0.4	1.0	0.1
41	Wholesale trade services, except of motor vehicles and motorcycles.....	1.7	-	1.4	2.0	1.7
42	Retail trade services, except of motor vehicles and motorcycles.....	2.3	-	1.9	5.8	0.0
43	Rail transport services.....	0.7	-	0.6	1.8	0.1
44	Other land transport services.....	0.5	-	0.4	1.8	0.1
45	Water transport services.....	2.4	-	2.1	0.3	5.5
46	Air transport services.....	2.4	-	2.0	4.3	1.4
47	Warehousing and support services for transportation.....	0.3	-	0.2	0.2	0.4
48	Postal and courier services.....	0.1	-	0.1	0.2	0.1
49	Accommodation and food serving services.....	1.7	-	1.5	4.4	0.4
50	Publishing services.....	0.3	-	0.2	0.6	0.1
51	Motion picture, video and television programme services.....	0.1	-	0.1	0.3	0.0
52	Telecommunications services.....	0.4	-	0.4	1.1	0.1
53	Information services.....	0.2	-	0.2	0.0	0.2
54	Financial and insurance services.....	0.6	-	0.5	1.3	0.3
55	Real estate services.....	1.0	-	0.9	2.8	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.....	1.1	-	1.0	0.0	0.4
58	Advertising and market research services; Security	0.3	-	0.3	0.5	0.2
59	Public administration and defence services;	1.8	-	1.5	0.2	0.0
60	Compulsory social security services.....	0.2	-	0.1	0.0	0.0
61	Education services.....	1.1	-	0.9	0.4	0.0
62	Human health services.....	1.8	-	1.5	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	1.6	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 2011

No.	Goods groups	Final use			
		Domestic	including: Exports ¹⁾	Imports	Total
		1,000 tonnes			
1	Products of agriculture, hunting and related services.....	16,726	5,474	13,472	30,198
2	Products of forestry, logging and related services.....	190	57	539	730
3	Fish and other fishing products; aquaculture products.....	82	29	194	277
4	Hard coal.....	2,859	1,468	4,466	7,325
5	Lignite.....	1,789	741	501	2,290
6	Crude petroleum and natural gas.....	1,943	691	24,508	26,451
7	Metal ores; Other mining and quarrying products; Mining support services.....	781	467	4,911	5,692
8	Food products; Beverages; Tobacco products.....	9,111	2,883	4,721	13,832
9	Textiles; Wearing apparel; Leather and related products.....	819	474	2,081	2,899
10	Wood, products of wood and cork, except furniture.....	6,657	2,790	2,840	9,497
11	Paper and paper products.....	9,859	6,813	9,974	19,833
12	Printing and recording services.....	831	272	262	1,093
13	Coke oven products.....	2,168	1,548	4,127	6,294
14	Refined petroleum products.....	17,226	7,203	18,126	35,352
15	Basic chemicals.....	28,912	26,071	47,445	76,357
16	Other chemical products.....	2,665	2,189	3,000	5,665
17	Pharmaceutical products	1,041	962	959	1,999
18	Rubber and plastics products.....	1,909	1,341	2,060	3,969
19	Glass and glass products	5,070	3,403	6,157	11,228
20	Ceramic products; Cut, shaped and finished stone.....	34,812	9,996	11,245	46,057
21	Basic iron and steel; other products of the first processing of steel.....	37,007	31,104	49,557	86,564
22	Aluminium.....	724	631	4,457	5,181
23	Other non-ferrous metals.....	1,197	1,091	5,560	6,757
24	Casting services of metals.....	2,257	1,489	841	3,098
25	Fabricated metal products.....	3,611	2,095	1,573	5,184
26	Computer, electronic and optical products.....	619	535	976	1,595
27	Electrical equipment.....	808	538	570	1,378
28	Machinery and equipment n.e.c.....	2,807	2,073	1,081	3,888
29	Motor vehicles, trailers and semi-trailers.....	3,868	2,764	1,377	5,246
30	Other transport equipment.....	544	474	444	988
31	Furniture; Other manufactured goods.....	908	392	592	1,499
32	Repair and installation services of machinery and equipment.....	336	135	221	557
33	Electricity, transmission and distribution services.....	360,822	145,904	170,365	531,188
34	Manufactured gas; distribution services of gaseous fuels through mains.....	1,206	706	929	2,134
35	Steam supply services.....	46,423	14,399	19,387	65,811
36	Natural water; water treatment and supply services.....	76	8	10	86
37	Sewerage, Waste management and remediation services.....	5,794	3,013	8,910	14,704
38	Buildings and building construction works.....	3,446	61	120	3,566
39	Specialised construction works.....	5,423	462	740	6,163
40	Wholesale and retail trade and repair services of motor vehicles	2,048	649	519	2,567
41	Wholesale trade services, except of motor vehicles and motorcycles.....	6,232	2,728	2,677	8,908
42	Retail trade services, except of motor vehicles and motorcycles.....	9,726	887	376	10,103
43	Rail transport services.....	1,332	235	492	1,823
44	Other land transport services.....	15,733	5,522	18,696	34,429
45	Water transport services.....	25,763	25,522	288	26,051
46	Air transport services.....	29,142	9,695	7,514	36,656
47	Warehousing and support services for transportation.....	8,882	3,855	4,656	13,538
48	Postal and courier services.....	4,513	1,403	1,237	5,750
49	Accommodation and food serving services.....	3,666	354	390	4,056
50	Publishing services.....	1,281	323	289	1,571
51	Motion picture, video and television programme services.....	127	20	26	153
52	Telecommunications services.....	1,110	207	303	1,413
53	Information services.....	571	214	308	879
54	Financial and insurance services.....	1,621	409	364	1,985
55	Real estate services.....	1,042	101	95	1,138
56	Legal and accounting services, business services, architectural services.....	6,222	2,629	2,596	8,818
57	Scientific research and development services.....	123	19	17	141
58	Advertising and market research services; Security	2,833	1,010	1,509	4,342
59	Public administration and defence services;	6,812	505	838	7,650
60	Compulsory social security services.....	138	0	1	139
61	Education services.....	3,984	64	52	4,036
62	Human health services.....	3,669	3	4	3,673
63	Residential care services; Social work services	2,683	0	0	2,683
64	Arts, entertainment and recreation services.....	2,416	102	135	2,552
65	Services furnished by membership organisations.....	535	33	41	576
66	Repair services of computers and personal and household goods.....	2,996	198	214	3,209
67	Total final domestic uses.....	768,528	339,437	472,938	1,241,466

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 2011

No.	Goods groups	Final use			
		Domestic	including: Exports Domestic = 100	Imports	Total
		percentage of total			
1	Products of agriculture, hunting and related services.....	55.4	32.7	44.6	100
2	Products of forestry, logging and related services.....	26.1	30.0	73.9	100
3	Fish and other fishing products; aquaculture products.....	29.7	35.7	70.3	100
4	Hard coal.....	39.0	51.4	61.0	100
5	Lignite.....	78.1	41.4	21.9	100
6	Crude petroleum and natural gas.....	7.3	35.6	92.7	100
7	Metal ores; Other mining and quarrying products; Mining support services.....	13.7	59.8	86.3	100
8	Food products; Beverages; Tobacco products.....	65.9	31.6	34.1	100
9	Textiles; Wearing apparel; Leather and related products.....	28.2	57.9	71.8	100
10	Wood, products of wood and cork, except furniture.....	70.1	41.9	29.9	100
11	Paper and paper products.....	49.7	69.1	50.3	100
12	Printing and recording services.....	76.0	32.7	24.0	100
13	Coke oven products.....	34.4	71.4	65.6	100
14	Refined petroleum products.....	48.7	41.8	51.3	100
15	Basic chemicals.....	37.9	90.2	62.1	100
16	Other chemical products.....	47.0	82.1	53.0	100
17	Pharmaceutical products.....	52.1	92.4	47.9	100
18	Rubber and plastics products.....	48.1	70.3	51.9	100
19	Glass and glass products.....	45.2	67.1	54.8	100
20	Ceramic products; Cut, shaped and finished stone.....	75.6	28.7	24.4	100
21	Basic iron and steel; other products of the first processing of steel.....	42.8	84.0	57.2	100
22	Aluminium.....	14.0	87.1	86.0	100
23	Other non-ferrous metals.....	17.7	91.1	82.3	100
24	Casting services of metals.....	72.8	66.0	27.2	100
25	Fabricated metal products.....	69.7	58.0	30.3	100
26	Computer, electronic and optical products.....	38.8	86.5	61.2	100
27	Electrical equipment.....	58.6	66.6	41.4	100
28	Machinery and equipment n.e.c.....	72.2	73.9	27.8	100
29	Motor vehicles, trailers and semi-trailers.....	73.7	71.4	26.3	100
30	Other transport equipment.....	55.0	87.1	45.0	100
31	Furniture; Other manufactured goods.....	60.5	43.1	39.5	100
32	Repair and installation services of machinery and equipment.....	60.3	40.2	39.7	100
33	Electricity, transmission and distribution services.....	67.9	40.4	32.1	100
34	Manufactured gas; distribution services of gaseous fuels through mains.....	56.5	58.6	43.5	100
35	Steam supply services.....	70.5	31.0	29.5	100
36	Natural water; water treatment and supply services.....	88.2	10.4	11.8	100
37	Sewerage, Waste management and remediation services.....	39.4	52.0	60.6	100
38	Buildings and building construction works.....	96.6	1.8	3.4	100
39	Specialised construction works.....	88.0	8.5	12.0	100
40	Wholesale and retail trade and repair services of motor vehicles.....	79.8	31.7	20.2	100
41	Wholesale trade services, except of motor vehicles and motorcycles.....	70.0	43.8	30.0	100
42	Retail trade services, except of motor vehicles and motorcycles.....	96.3	9.1	3.7	100
43	Rail transport services.....	73.0	17.7	27.0	100
44	Other land transport services.....	45.7	35.1	54.3	100
45	Water transport services.....	98.9	99.1	1.1	100
46	Air transport services.....	79.5	33.3	20.5	100
47	Warehousing and support services for transportation.....	65.6	43.4	34.4	100
48	Postal and courier services.....	78.5	31.1	21.5	100
49	Accommodation and food serving services.....	90.4	9.6	9.6	100
50	Publishing services.....	81.6	25.2	18.4	100
51	Motion picture, video and television programme services.....	83.0	16.1	17.0	100
52	Telecommunications services.....	78.6	18.7	21.4	100
53	Information services.....	65.0	37.5	35.0	100
54	Financial and insurance services.....	81.7	25.2	18.3	100
55	Real estate services.....	91.6	9.7	8.4	100
56	Legal and accounting services, business services, architectural services.....	70.6	42.2	29.4	100
57	Scientific research and development services.....	87.6	15.7	12.4	100
58	Advertising and market research services; Security.....	65.2	35.7	34.8	100
59	Public administration and defence services;.....	89.0	7.4	11.0	100
60	Compulsory social security services.....	99.6	0.3	0.4	100
61	Education services.....	98.7	1.6	1.3	100
62	Human health services.....	99.9	0.1	0.1	100
63	Residential care services; Social work services.....	100.0	0.0	0.0	100
64	Arts, entertainment and recreation services.....	94.7	4.2	5.3	100
65	Services furnished by membership organisations.....	92.9	6.1	7.1	100
66	Repair services of computers and personal and household goods.....	93.3	6.6	6.7	100
67	Total final domestic uses.....	61.9	44.2	38.1	100

1)Excl. re-exports.

Table 4.3.1: Direct CH₄ emissions

tonnes

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	1,372,370	1,283,859	1,278,537	1,270,621	1,289,941	1,309,679
2	01	Products of agriculture, hunting and related services.....	1,371,506	1,282,912	1,278,003	1,270,220	1,289,852	1,309,606
3	02	Products of forestry, logging and related services.....	863	947	533	400	89	73
4	03	Fish and other fishing products; aquaculture products.....	1	1	1	0	0	0
5	B	Mining and quarrying.....	670,201	308,989	137,873	130,603	165,898	144,343
6	05	Coal and lignite.....	662,537	302,933	134,722	127,512	162,199	140,867
7	06	Crude petroleum and natural gas.....	7,620	6,011	3,103	3,055	3,667	3,436
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	44	46	49	37	32	40
9	C	Manufactured products.....	43,309	42,499	40,121	40,105	38,474	39,041
10	10-12	Food products, beverages, tobacco products.....	760	750	782	742	739	759
11	13-15	Textiles, wearing apparel, leather and related products.....	134	125	79	72	69	63
12	16	Wood and products of wood and cork, except furniture.....	115	400	416	681	524	530
13	17	Paper and paper products.....	462	739	713	594	544	560
14	18	Printing and recording services.....	76	74	67	68	64	63
15	19	Coke and refined petroleum products.....	12,577	10,361	9,916	9,438	9,574	9,727
16	19.1	Coke oven products.....	773	459	450	438	434	443
17	19.2	Refined petroleum products.....	11,804	9,902	9,466	9,000	9,140	9,284
18	20	Chemicals and chemical products.....	23,960	24,949	22,834	22,747	21,652	21,838
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	116	64	99	133	89	98
20	22	Rubber and plastic products.....	163	188	208	130	177	196
21	23	Other non-metallic mineral products.....	855	775	802	901	794	799
22	23.1	Glass and glass products.....	243	237	227	263	205	217
23	23.2-9	Refractory products, cut, shaped and finished stone.....	612	538	575	637	589	581
24	24	Basic metals.....	3,140	3,078	3,190	3,456	3,298	3,364
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	2,935	2,918	3,023	3,284	3,138	3,209
26	24.4	Basic precious and other non-ferrous metals.....	108	99	102	99	94	94
27	24.5	Casting services of metal.....	97	61	65	73	66	62
28	25	Fabricated metal products, except machinery and equipment.....	341	339	367	517	345	370
29	26	Computer, electronic and optical products.....	80	62	43	49	46	51
30	27	Electrical equipment.....	50	35	46	45	41	61
31	28	Machinery and equipment n.e.c.....	203	224	213	196	193	207
32	29	Motor vehicles, trailers and semi-trailers.....	181	236	203	196	188	206
33	30	Other transport equipment.....	39	44	42	38	35	41
34	31-32	Furniture, other manufacture goods.....	52	52	80	83	80	83
35	33	Repair and installation services of machinery and equipment.....	3	3	22	20	20	24
36	D (35)	Electricity, gas, steam and air conditioning.....	176,595	138,646	134,277	135,377	147,619	148,513
37	35.1/.3	Electricity, transmission and distribution services, steam.....	16,070	36,093	75,176	80,903	91,965	92,147
38	35.2	Manufactured gas; distribution services of gaseous fuels through mains.....	160,525	102,552	59,101	54,474	55,654	56,366
39	E	Water supply; sewerage, waste management and remediation services.....	1,058,898	768,009	515,576	485,926	455,533	426,423
40	36	Natural water; water treatment and supply services.....	2	2	1	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	1,058,895	768,007	515,575	485,925	455,532	426,423
42	37	Sewerage services, sewerage sludge.....	3,812	3,388	2,905	2,837	2,729	2,615
43	38-39	Waste collection, treatment and disposal services.....	1,055,083	764,620	512,670	483,088	452,803	423,808
44	F	Constructions and construction works.....	1,018	745	616	496	577	593
45	41-42	Building and building construction works.....	475	334	237	161	211	209
46	43	Specialised construction works.....	543	411	380	335	366	385
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	4,021	2,698	2,509	2,706	2,180	2,331
48	45	Wholesale and retail trade and repair services of motor vehicles.....	469	285	322	438	310	348
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,168	714	478	451	419	475
50	47	Retail trade services, except of motor vehicles and motorcycles.....	2,384	1,699	1,709	1,817	1,451	1,507
51	H	Transportation and storage services.....	162,328	183,424	199,718	204,167	208,722	213,403
52	49.1-2	Passenger rail transport services, freight rail transport services.....	81	43	34	36	34	31
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	161,617	181,814	197,430	202,236	206,458	210,979
54	50	Water transport services.....	93	1,168	1,799	1,415	1,794	1,927
55	51	Air transport services.....	172	175	179	188	181	171
56	52	Warehousing and support services for transportation.....	278	160	218	232	200	233
57	53	Postal and courier services.....	88	65	58	61	55	61
58	I	Accommodation and food services.....	1,561	1,080	950	1,132	908	953
59	J	Information and communication services.....	399	373	387	457	411	422
60	K	Financial and insurance services.....	562	441	480	522	473	483
61	L	Real estate services.....	156	130	125	135	124	121
62	M	Professional, scientific and technical services.....	757	620	641	712	641	734
63	N	Administrative and support services.....	189	152	185	199	181	191
64	O	Public administration and defence services; compulsory social security services.....	384	462	590	513	393	472
65	P	Education services.....	1,528	1,353	1,077	1,220	1,014	1,052
66	Q	Human health and social work services.....	2,469	1,804	2,009	2,292	1,820	1,818
67	R-T	Other services.....	1,176	1,045	683	679	589	590
68		All homogeneous branches.....	3,497,920	2,736,329	2,316,354	2,277,862	2,315,499	2,291,164
69		Private households.....	66,857	59,293	66,468	61,707	56,545	56,655
70		All homogeneous branches and private households 2).....	3,564,778	2,795,623	2,382,822	2,339,570	2,372,044	2,347,819
71		Transitional balance 3).....	-718	-2,205	-2,594	-2,203	-2,560	-2,581
72		Total emissions (gross domestic emissions) 4).....	3,564,059	2,793,418	2,380,228	2,337,367	2,369,484	2,345,238
73		Emissions/Absorptions from LULUCF 5).....	34,098	33,944	33,958	33,884	33,887	33,850
74		Total emissions (net domestic emissions) 4).....	3,598,158	2,827,362	2,414,186	2,371,251	2,403,371	2,379,088

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

2) Residents concept, gross emissions.

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

tonnes

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	1,950	1,866	5,505	6,203	21,596	22,801
2	01	Products of agriculture, hunting and related services.....	1,088	920	4,972	5,803	21,507	22,728
3	02	Products of forestry, logging and related services.....	861	945	533	400	88	72
4	03	Fish and other fishing products; aquaculture products.....	1	0	0	0	0	0
5	B	Mining and quarrying.....	177	379	346	314	287	346
6	05	Coal and lignite.....	92	46	81	60	34	33
7	06	Crude petroleum and natural gas.....	43	289	217	219	221	274
8	07-09	Metal ores, other mining and quarrying products.....	42	44	48	36	32	39
9	C	Manufactured products.....	7,687	8,245	8,725	9,052	8,392	8,621
10	10-12	Food products, beverages, tobacco products.....	502	671	721	675	675	695
11	13-15	Textiles, wearing apparel, leather and related products.....	104	121	73	64	63	57
12	16	Wood and products of wood and cork, except furniture.....	81	389	400	662	507	514
13	17	Paper and paper products.....	455	736	710	590	541	557
14	18	Printing and recording services.....	54	64	50	49	48	46
15	19	Coke and refined petroleum products.....	792	581	500	468	439	430
16	19.1	Coke oven products.....	327	47	50	47	40	38
17	19.2	Refined petroleum products.....	466	534	450	421	400	392
18	20	Chemicals and chemical products.....	1,029	995	1,430	1,237	1,274	1,305
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	114	62	98	132	88	97
20	22	Rubber and plastic products.....	116	148	147	127	128	136
21	23	Other non-metallic mineral products.....	852	772	800	899	793	797
22	23.1	Glass and glass products.....	242	236	227	263	205	217
23	23.2-9	Refractory products, cut, shaped and finished stone.....	610	536	574	636	588	580
24	24	Basic metals.....	2,865	2,851	2,969	3,226	3,074	3,142
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	2,730	2,722	2,832	3,086	2,948	3,019
26	24.4	Basic precious and other non-ferrous metals.....	103	96	98	98	90	89
27	24.5	Casting services of metal.....	32	33	39	43	36	33
28	25	Fabricated metal products, except machinery and equipment.....	267	298	297	434	277	298
29	26	Computer, electronic and optical products.....	34	39	28	32	31	36
30	27	Electrical equipment.....	32	25	34	31	30	50
31	28	Machinery and equipment n.e.c.....	155	198	182	160	164	176
32	29	Motor vehicles, trailers and semi-trailers.....	151	216	190	179	173	191
33	30	Other transport equipment.....	34	41	40	35	33	38
34	31-32	Furniture, other manufacture goods.....	49	39	35	34	35	37
35	33	Repair and installation services of machinery and equipment.....	0	1	20	18	18	22
36	D (35)	Electricity, gas, steam and air conditioning.....	16,059	36,085	75,170	80,896	91,960	92,141
37	35.1/.3	Electricity, transmission and distribution services, steam.....	16,059	36,085	75,170	80,896	91,960	92,141
38	35.2	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	4,642	968	26	1,449	23	24
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.....	4,642	968	26	1,449	23	24
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	4,642	968	26	1,449	23	24
44	F	Constructions and construction works.....	516	343	259	80	208	206
45	41-42	Building and building construction works.....	247	163	122	33	97	95
46	43	Specialised construction works.....	269	180	137	48	112	110
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	1,185	475	579	545	287	317
48	45	Wholesale and retail trade and repair services of motor vehicles.....	98	19	49	107	16	32
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	319	121	180	125	125	127
50	47	Retail trade services, except of motor vehicles and motorcycles.....	768	335	349	314	146	157
51	H	Transportation and storage services.....	339	1,375	2,005	1,631	2,002	2,125
52	49.1-2	Passenger rail transport services, freight rail transport services.....	68	33	26	28	26	26
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	0	0	0	0	0
54	50	Water transport services.....	92	1,167	1,799	1,414	1,794	1,926
55	51	Air transport services.....	171	174	178	187	181	171
56	52	Warehousing and support services for transportation.....	1	1	2	1	1	2
57	53	Postal and courier services.....	6	0	0	0	0	0
58	I	Accommodation and food services.....	683	373	397	485	339	362
59	J	Information and communication services.....	73	31	31	31	31	31
60	K	Financial and insurance services.....	179	96	97	96	96	97
61	L	Real estate services.....	65	40	40	40	40	40
62	M	Professional, scientific and technical services.....	121	59	60	60	60	61
63	N	Administrative and support services.....	43	25	26	25	25	26
64	O	Public administration and defence services.....	337	430	569	493	374	453
65	P	Education services.....	127	34	53	108	38	35
66	Q	Human health and social work services.....	748	334	477	516	249	241
67	R-T	Other services.....	98	40	53	88	66	41
68		All homogeneous branches.....	35,028	51,199	94,418	102,113	126,074	127,966
69		Private households.....	26,594	24,170	39,161	34,933	29,182	30,032
70		All homogeneous branches and private households (resident concept) 2).....	61,622	75,369	133,580	137,046	155,256	157,998
71		Transitional balance 3).....	-53	-1,127	-1,756	-1,379	-1,767	-1,911
72		Total emissions (domestic concept) 2).....	61,570	74,242	131,824	135,667	153,489	156,086

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	1,370,395	1,281,976	1,273,023	1,264,410	1,268,338	1,286,870
2	01	Products of agriculture, hunting and related services.....	1,370,395	1,281,976	1,273,023	1,264,410	1,268,338	1,286,870
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	670,019	308,607	137,526	130,288	165,609	143,996
6	05	Coal and lignite.....	662,444	302,885	134,640	127,452	162,164	140,833
7	06	Crude petroleum and natural gas.....	7,576	5,721	2,886	2,835	3,445	3,162
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	35,495	34,166	31,346	30,987	30,021	30,356
10	10-12	Food products, beverages, tobacco products.....	244	70	55	61	58	58
11	13-15	Textiles, wearing apparel, leather and related products.....	28	4	6	7	6	6
12	16	Wood and products of wood and cork, except furniture.....	33	10	15	18	16	16
13	17	Paper and paper products.....	4	1	2	3	2	2
14	18	Printing and recording services.....	21	9	16	18	15	16
15	19	Coke and refined petroleum products.....	11,780	9,776	9,414	8,967	9,132	9,295
16	19.1	Coke oven products.....	447	411	399	392	394	405
17	19.2	Refined petroleum products.....	11,334	9,365	9,015	8,576	8,738	8,889
18	20	Chemicals and chemical products.....	22,922	23,947	21,400	21,505	20,374	20,528
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	42	37	59	1	46	58
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.....	268	223	218	225	220	218
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	201	193	190	196	188	187
26	24.4	Basic precious and other non-ferrous metals.....	2	2	3	0	3	3
27	24.5	Casting services of metal.....	64	27	25	29	29	28
28	25	Fabricated metal products, except machinery and equipment.....	66	35	67	77	62	67
29	26	Computer, electronic and optical products.....	38	19	11	14	11	11
30	27	Electrical equipment.....	11	6	9	10	8	8
31	28	Machinery and equipment n.e.c.....	33	16	25	28	22	23
32	29	Motor vehicles, trailers and semi-trailers.....	4	1	3	4	3	3
33	30	Other transport equipment.....	0	0	0	1	0	0
34	31-32	Furniture, other manufacture goods.....	0	11	44	47	43	45
35	33	Repair and installation services of machinery and equipment.....	0	0	0	1	0	0
36	D (35)	Electricity, gas, steam and air conditioning.....	160,524	102,553	59,102	54,475	55,654	56,367
37	35.1/.3	Electricity, transmission and distribution services, steam.....	0	2	1	2	1	2
38	35.2	Manufactured gas.....	160,524	102,551	59,100	54,473	55,653	56,365
39	E	Water supply; sewerage, waste management and remediation services.....	1,054,139	766,956	515,507	484,438	455,474	426,362
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.....	1,054,139	766,955	515,507	484,438	455,474	426,362
42	37	Sewerage services, sewerage sludge.....	3,799	3,379	2,900	2,833	2,725	2,610
43	38-39	Waste collection, treatment and disposal services.....	1,050,340	763,577	512,606	481,605	452,750	423,752
44	F	Constructions and construction works.....	414	339	323	385	340	357
45	41-42	Building and building construction works.....	202	153	105	119	106	104
46	43	Specialised construction works.....	211	186	219	266	234	253
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	2,603	2,064	1,840	2,061	1,800	1,917
48	45	Wholesale and retail trade and repair services of motor vehicles.....	339	244	260	317	281	302
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	752	524	260	288	258	310
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,512	1,297	1,320	1,456	1,261	1,305
51	H	Transportation and storage services.....	161,735	181,854	197,592	202,433	206,626	211,175
52	49.1-2	Passenger rail transport services, freight rail transport services.....	12	9	7	8	7	5
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	161,463	181,696	197,347	202,165	206,394	210,909
54	50	Water transport services.....	-	-	-	-	-	-
55	51	Air transport services.....	0	0	0	1	0	0
56	52	Warehousing and support services for transportation.....	209	107	191	208	178	210
57	53	Postal and courier services.....	51	41	46	51	46	50
58	I	Accommodation and food services.....	864	698	548	641	564	586
59	J	Information and communication services.....	278	308	338	409	364	374
60	K	Financial and insurance services.....	376	341	381	422	374	383
61	L	Real estate services.....	70	76	77	87	76	72
62	M	Professional, scientific and technical services.....	441	431	509	572	508	596
63	N	Administrative and support services.....	139	123	156	171	153	163
64	O	Public administration and defence services.....	-	-	-	-	-	-
65	P	Education services.....	1,398	1,317	1,023	1,111	974	1,015
66	Q	Human health and social work services.....	1,690	1,451	1,519	1,764	1,560	1,565
67	R-T	Other services.....	1,005	953	602	562	496	521
68		All homogeneous branches.....	3,461,584	2,684,213	2,221,412	2,175,214	2,188,932	2,162,675
69		Private households.....	22,306	23,787	20,299	20,011	21,067	20,615
70		All homogeneous branches and private households	3,483,890	2,708,000	2,241,711	2,195,225	2,209,999	2,183,291

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	25	17	9	8	8	8
2	01	Products of agriculture, hunting and related services.....	23	16	8	8	7	8
3	02	Products of forestry, logging and related services.....	2	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	4	2	2	2	2
6	05	Coal and lignite.....	1	1	1	0	0	0
7	06	Crude petroleum and natural gas.....	1	1	0	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	2	2	1	1	1	1
9	C	Manufactured products.....	127	87	50	66	61	64
10	10-12	Food products, beverages, tobacco products.....	13	9	5	6	6	6
11	13-15	Textiles, wearing apparel, leather and related products.....	2	1	1	1	1	1
12	16	Wood and products of wood and cork, except furniture.....	2	1	1	1	1	1
13	17	Paper and paper products.....	3	2	1	1	1	1
14	18	Printing and recording services.....	2	1	1	1	1	1
15	19	Coke and refined petroleum products.....	5	3	2	3	2	3
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	5	3	2	3	2	3
18	20	Chemicals and chemical products.....	9	6	4	5	4	4
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2	2	1	1	1	1
20	22	Rubber and plastic products.....	5	3	2	3	2	2
21	23	Other non-metallic mineral products.....	3	2	1	2	1	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.....	2	2	1	1	1	1
24	24	Basic metals.....	7	5	3	4	4	4
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	4	3	2	2	2	2
26	24.4	Basic precious and other non-ferrous metals.....	2	2	1	1	1	1
27	24.5	Casting services of metal.....	1	1	0	1	1	1
28	25	Fabricated metal products, except machinery and equipment.....	9	6	3	6	6	6
29	26	Computer, electronic and optical products.....	7	5	3	4	3	4
30	27	Electrical equipment.....	7	5	3	3	3	3
31	28	Machinery and equipment n.e.c.....	15	10	6	8	7	7
32	29	Motor vehicles, trailers and semi-trailers.....	26	18	10	13	12	13
33	30	Other transport equipment.....	5	3	2	2	2	2
34	31-32	Furniture, other manufacture goods.....	3	2	1	1	1	1
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.....	12	8	5	5	5	5
37	35.1/.3	Electricity, transmission and distribution services, steam.....	10	7	4	5	4	5
38	35.2	Manufactured gas.....	2	1	1	1	1	1
39	E	Water supply; sewerage, waste management and remediation services.....	116	86	43	39	36	38
40	36	Natural water; water treatment and supply services.....	2	2	1	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	114	84	42	38	35	37
42	37	Sewerage services, sewerage sludge.....	13	9	5	5	4	5
43	38-39	Waste collection, treatment and disposal services.....	101	75	38	34	31	33
44	F	Constructions and construction works.....	89	63	34	31	28	30
45	41-42	Building and building construction works.....	26	18	10	9	8	9
46	43	Specialised construction works.....	63	45	24	22	20	21
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	233	158	89	100	93	97
48	45	Wholesale and retail trade and repair services of motor vehicles.....	32	22	12	14	13	14
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	97	69	38	39	36	38
50	47	Retail trade services, except of motor vehicles and motorcycles.....	104	67	39	47	44	46
51	H	Transportation and storage services.....	255	195	121	104	94	103
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1	1	0	0	0	0
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	154	118	83	71	64	70
54	50	Water transport services.....	1	1	0	0	0	0
55	51	Air transport services.....	1	1	0	0	0	0
56	52	Warehousing and support services for transportation.....	67	51	26	22	20	22
57	53	Postal and courier services.....	31	24	12	10	9	10
58	I	Accommodation and food services.....	14	9	5	5	5	5
59	J	Information and communication services.....	48	34	18	18	16	17
60	K	Financial and insurance services.....	7	4	3	4	3	3
61	L	Real estate services.....	21	14	8	9	8	9
62	M	Professional, scientific and technical services.....	195	129	72	79	73	77
63	N	Administrative and support services.....	7	5	3	3	3	3
64	O	Public administration and defence services.....	47	32	20	20	18	19
65	P	Education services.....	3	2	1	1	1	1
66	Q	Human health and social work services.....	30	20	12	13	12	13
67	R-T	Other services.....	74	51	28	29	27	28
68		All homogeneous branches.....	1,308	918	524	536	493	523
69		Private households.....	17,957	11,336	7,008	6,763	6,295	6,008
70		All homogeneous branches and private households (residents concept).....	19,265	12,254	7,532	7,298	6,789	6,531
71		Transitional balance 2).....	-666	-1,078	-839	-824	-793	-669
72		Total emissions (domestic concept).....	18,600	11,176	6,693	6,474	5,996	5,861

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	101,445	96,542	94,699	99,730	98,138	99,030
2	01	Products of agriculture, hunting and related services.....	101,439	96,534	94,689	99,721	98,129	99,021
3	02	Products of forestry, logging and related services.....	5	7	8	8	8	8
4	03	Fish and other fishing products; aquaculture products.....	2	2	2	2	2	2
5	B	Mining and quarrying.....	221	284	283	313	275	274
6	05	Coal and lignite.....	186	210	226	256	221	209
7	06	Crude petroleum and natural gas.....	14	49	37	37	37	46
8	07-09	Metal ores, other mining and quarrying products, mining support services.....	21	24	19	20	17	19
9	C	Manufactured products.....	21,198	29,716	7,652	6,444	5,417	5,658
10	10-12	Food products, beverages, tobacco products.....	177	167	175	169	172	163
11	13-15	Textiles, wearing apparel, leather and related products.....	29	26	16	13	13	14
12	16	Wood and products of wood and cork, except furniture.....	39	88	101	163	113	115
13	17	Paper and paper products.....	172	237	218	189	161	139
14	18	Printing and recording services.....	10	11	10	10	11	11
15	19	Coke and refined petroleum products.....	255	248	209	207	193	190
16	19.1	Coke oven products.....	66	24	24	23	22	23
17	19.2	Refined petroleum products.....	189	224	185	183	170	167
18	20	Chemicals and chemical products.....	17,936	27,241	5,220	3,935	3,086	3,282
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	47	12	25	25	20	22
20	22	Rubber and plastic products.....	27	31	36	32	33	35
21	23	Other non-metallic mineral products.....	589	457	478	507	475	473
22	23.1	Glass and glass products.....	89	75	73	77	63	69
23	23.2-9	Refractory products, cut, shaped and finished stone.....	500	382	405	431	412	404
24	24	Basic metals.....	537	469	502	514	481	566
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	434	377	408	417	389	474
26	24.4	Basic precious and other non-ferrous metals.....	52	49	39	38	38	39
27	24.5	Casting services of metal.....	51	43	55	59	54	54
28	25	Fabricated metal products, except machinery and equipment.....	60	57	63	70	70	76
29	26	Computer, electronic and optical products.....	1,200	538	427	419	391	361
30	27	Electrical equipment.....	12	11	17	20	19	22
31	28	Machinery and equipment n.e.c.....	42	45	54	57	60	64
32	29	Motor vehicles, trailers and semi-trailers.....	45	55	69	80	82	86
33	30	Other transport equipment.....	9	9	13	13	14	16
34	31-32	Furniture, other manufacture goods.....	10	10	12	12	13	14
35	33	Repair and installation services of machinery and equipment.....	2	2	8	9	9	10
36	D (35)	Electricity, gas, steam and air conditioning.....	8,125	8,912	9,303	9,551	9,629	9,414
37	35.1/.3	Electricity, transmission and distribution services, steam.....	8,124	8,911	9,301	9,549	9,627	9,412
38	35.3	Manufactured gas; distribution services of gaseous fuels through mains.....	1	1	2	2	2	2
39	E	Water supply; sewerage, waste management and remediation services.....	2,992	3,320	3,454	3,614	3,669	3,672
40	36	Natural water; water treatment and supply services.....	1	2	4	4	4	4
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,991	3,318	3,450	3,611	3,665	3,668
42	37	Sewerage services, sewerage sludge.....	1,847	1,774	1,762	1,751	1,749	1,750
43	38-39	Waste collection, treatment and disposal services.....	1,144	1,544	1,688	1,860	1,916	1,918
44	F	Constructions and construction works.....	228	208	273	285	290	298
45	41-42	Building and building construction works.....	104	91	110	115	116	118
46	43	Specialised construction works.....	124	116	163	169	174	180
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	245	247	423	479	471	487
48	45	Wholesale and retail trade and repair services of motor vehicles.....	37	33	60	58	60	64
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	97	113	236	277	285	290
50	47	Retail trade services, except of motor vehicles and motorcycles.....	110	101	128	145	126	133
51	H	Transportation and storage services.....	1,385	1,983	2,770	2,834	3,090	3,126
52	49.1-2	Passenger rail transport services, freight rail transport services.....	19	14	15	16	16	15
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	180	266	602	714	777	792
54	50	Water transport services.....	323	670	887	773	859	865
55	51	Air transport services.....	728	839	833	813	875	877
56	52	Warehousing and support services for transportation.....	94	135	302	367	399	408
57	53	Postal and courier services.....	41	59	132	151	165	169
58	I	Accommodation and food services.....	45	38	40	41	32	37
59	J	Information and communication services.....	43	53	89	107	116	118
60	K	Financial and insurance services.....	20	17	18	20	21	23
61	L	Real estate services.....	13	12	17	20	22	22
62	M	Professional, scientific and technical services.....	102	104	150	180	193	201
63	N	Administrative and support services.....	7	7	11	11	11	12
64	O	Public administration and defence services; compulsory social security services.....	73	48	56	58	55	58
65	P	Education services.....	39	36	38	38	33	37
66	Q	Human health and social work services.....	1,649	761	635	620	555	518
67	R-T	Other services.....	76	86	125	158	159	162
68		All homogeneous branches.....	137,905	142,374	120,038	124,505	122,177	123,146
69		Private households.....	6,759	4,087	3,851	3,584	3,275	3,506
70		All homogeneous branches and private households 2).....	144,664	146,461	123,888	128,088	125,452	126,652
71		Transitional balance 3).....	-738	-1,335	-1,564	-1,463	-1,630	-1,662
72		Total emissions (gross domestic emissions) 4).....	143,926	145,126	122,324	126,626	123,822	124,990
73		Emissions/Absorptions from LULUCF 5).....	3,068	2,832	3,016	3,056	3,099	3,156
74		Total emissions (net domestic emissions) 4).....	146,994	147,958	125,340	129,682	126,921	128,146

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

2) Residents concept, gross emissions.

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

tonnes

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	171	165	222	231	275	287
2	01	Products of agriculture, hunting and related services.....	165	158	213	223	268	279
3	02	Products of forestry, logging and related services.....	4	6	7	6	6	6
4	03	Fish and other fishing products; aquaculture products.....	2	2	2	2	1	1
5	B	Mining and quarrying.....	218	280	275	305	267	265
6	05	Coal and lignite.....	185	209	224	254	219	207
7	06	Crude petroleum and natural gas.....	13	48	35	35	35	44
8	07-09	Metal ores, other mining and quarrying products.....	20	23	16	16	13	15
9	C	Manufactured products.....	2,221	1,992	2,188	2,193	2,013	2,067
10	10-12	Food products, beverages, tobacco products.....	170	158	157	147	148	138
11	13-15	Textiles, wearing apparel, leather and related products.....	28	25	14	10	10	10
12	16	Wood and products of wood and cork, except furniture.....	38	87	98	160	110	112
13	17	Paper and paper products.....	170	235	214	184	155	134
14	18	Printing and recording services.....	9	10	8	7	8	8
15	19	Coke and refined petroleum products.....	252	244	202	198	183	180
16	19.1	Coke oven products.....	66	24	24	23	22	23
17	19.2	Refined petroleum products.....	186	220	178	174	160	157
18	20	Chemicals and chemical products.....	275	190	385	355	334	317
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	45	10	21	21	16	18
20	22	Rubber and plastic products.....	25	27	29	24	23	25
21	23	Other non-metallic mineral products.....	587	455	473	502	469	467
22	23.1	Glass and glass products.....	89	74	72	75	62	68
23	23.2-9	Refractory products, cut, shaped and finished stone.....	499	381	402	427	408	399
24	24	Basic metals.....	471	399	440	449	423	508
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	369	310	350	359	337	422
26	24.4	Basic precious and other non-ferrous metals.....	51	47	36	34	33	34
27	24.5	Casting services of metal.....	51	43	54	57	52	52
28	25	Fabricated metal products, except machinery and equipment.....	55	52	51	49	47	53
29	26	Computer, electronic and optical products.....	8	7	5	5	5	6
30	27	Electrical equipment.....	8	7	7	8	6	9
31	28	Machinery and equipment n.e.c.....	34	35	34	30	31	34
32	29	Motor vehicles, trailers and semi-trailers.....	30	36	30	29	28	31
33	30	Other transport equipment.....	6	6	7	5	5	6
34	31-32	Furniture, other manufacture goods.....	9	8	8	7	8	9
35	33	Repair and installation services of machinery and equipment.....	0	0	3	3	3	4
36	D (35)	Electricity, gas, steam and air conditioning.....	8,119	8,905	9,289	9,536	9,613	9,397
37	35.1/.3	Electricity, transmission and distribution services, steam.....	8,119	8,905	9,289	9,536	9,612	9,397
38	35.3	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	26	104	103	110	105	105
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.....	26	104	103	110	105	105
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	26	104	103	110	105	105
44	F	Constructions and construction works.....	182	152	157	164	159	162
45	41-42	Building and building construction works.....	91	75	76	79	77	78
46	43	Specialised construction works.....	91	77	81	84	82	84
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	117	93	101	105	65	76
48	45	Wholesale and retail trade and repair services of motor vehicles.....	19	11	14	12	10	13
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	27	17	17	24	11	13
50	47	Retail trade services, except of motor vehicles and motorcycles.....	72	65	70	69	44	49
51	H	Transportation and storage services.....	1,073	1,525	1,731	1,594	1,741	1,750
52	49.1-2	Passenger rail transport services, freight rail transport services.....	17	12	10	10	10	9
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	0	0	0	0	0
54	50	Water transport services.....	322	669	884	769	854	861
55	51	Air transport services.....	727	837	829	809	871	872
56	52	Warehousing and support services for transportation.....	6	5	6	5	5	7
57	53	Postal and courier services.....	2	2	1	1	1	1
58	I	Accommodation and food services.....	41	35	35	36	27	32
59	J	Information and communication services.....	12	13	10	9	9	11
60	K	Financial and insurance services.....	16	13	11	9	10	11
61	L	Real estate services.....	3	3	2	2	2	2
62	M	Professional, scientific and technical services.....	17	18	17	14	14	18
63	N	Administrative and support services.....	4	4	5	5	5	5
64	O	Public administration and defence services.....	54	28	19	18	11	13
65	P	Education services.....	37	34	34	33	28	31
66	Q	Human health and social work services.....	56	51	71	70	43	47
67	R-T	Other services.....	31	29	23	31	21	20
68		All homogeneous branches.....	12,400	13,443	14,294	14,464	14,407	14,300
69		Private households.....	1,274	1,132	1,435	1,353	1,082	1,146
70		All homogeneous branches and private households (resident concept) 2).....	13,674	14,575	15,729	15,818	15,489	15,445
71		Transitional balance 3).....	-627	-1,049	-1,224	-1,100	-1,273	-1,320
72		Total emissions (domestic concept) 2).....	13,047	13,527	14,505	14,717	14,216	14,125

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	101,266	96,367	94,459	99,481	97,843	98,722
2	01	Products of agriculture, hunting and related services.....	101,266	96,367	94,459	99,481	97,843	98,722
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	0	0	0	0
6	05	Coal and lignite.....	-	-	-	-	-	-
7	06	Crude petroleum and natural gas.....	1	1	0	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	18,906	27,637	5,288	4,016	3,150	3,331
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.....	-	-	-	-	-	-
15	19	Coke and refined petroleum products.....	-	-	-	-	-	-
16	19.1	Coke oven products.....	-	-	-	-	-	-
17	19.2	Refined petroleum products.....	-	-	-	-	-	-
18	20	Chemicals and chemical products.....	17,656	27,045	4,823	3,564	2,734	2,947
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.....	62	65	53	51	43	43
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	62	65	53	51	43	43
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.....	-	-	-	-	-	-
29	26	Computer, electronic and optical products.....	1,187	526	412	401	372	341
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.....	2,879	3,095	3,094	3,192	3,224	3,225
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,879	3,095	3,094	3,192	3,224	3,225
42	37	Sewerage services, sewerage sludge.....	1,840	1,766	1,747	1,735	1,732	1,732
43	38-39	Waste collection, treatment and disposal services.....	1,038	1,329	1,347	1,458	1,492	1,492
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.....	1,583	702	549	535	496	454
67	R-T	Other services.....	-	-	-	-	-	-
68		All homogeneous branches.....	124,635	127,802	103,391	107,225	104,713	105,732
69		Private households.....	1,191	531	417	406	377	346
70		All homogeneous branches and private households	125,825	128,332	103,808	107,631	105,090	106,078

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	9	9	19	19	20	21
2	01	Products of agriculture, hunting and related services.....	8	9	17	17	18	19
3	02	Products of forestry, logging and related services.....	1	1	1	2	2	2
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	2	3	7	8	8	8
6	05	Coal and lignite.....	1	1	2	2	2	2
7	06	Crude petroleum and natural gas.....	1	1	2	2	2	2
8	07-09	Metal ores, other mining and quarrying products.....	1	2	3	4	4	5
9	C	Manufactured products.....	71	87	176	235	255	261
10	10-12	Food products, beverages, tobacco products.....	7	9	18	22	24	25
11	13-15	Textiles, wearing apparel, leather and related products.....	1	1	2	3	3	3
12	16	Wood and products of wood and cork, except furniture.....	1	1	2	3	3	3
13	17	Paper and paper products.....	2	2	4	5	5	6
14	18	Printing and recording services.....	1	1	2	3	3	3
15	19	Coke and refined petroleum products.....	3	3	6	9	10	10
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	3	3	6	9	10	10
18	20	Chemicals and chemical products.....	5	6	12	16	17	18
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	1	2	3	4	4	4
20	22	Rubber and plastic products.....	3	3	7	9	9	10
21	23	Other non-metallic mineral products.....	2	2	4	5	6	6
22	23.1	Glass and glass products.....	0	0	1	1	1	1
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1	2	3	4	5	5
24	24	Basic metals.....	4	5	10	14	15	16
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	2	3	5	8	8	8
26	24.4	Basic precious and other non-ferrous metals.....	1	2	3	5	5	5
27	24.5	Casting services of metal.....	1	1	1	2	2	2
28	25	Fabricated metal products, except machinery and equipment.....	5	6	12	21	23	23
29	26	Computer, electronic and optical products.....	4	5	10	13	14	14
30	27	Electrical equipment.....	4	5	9	12	13	13
31	28	Machinery and equipment n.e.c.....	8	10	20	27	29	30
32	29	Motor vehicles, trailers and semi-trailers.....	15	19	39	50	54	55
33	30	Other transport equipment.....	3	3	7	9	9	10
34	31-32	Furniture, other manufacture goods.....	2	2	4	5	5	5
35	33	Repair and installation services of machinery and equipment.....	2	2	4	6	6	7
36	D (35)	Electricity, gas, steam and air conditioning.....	6	7	14	15	16	17
37	35.1/.3	Electricity, transmission and distribution services, steam.....	5	6	12	13	14	15
38	35.3	Manufactured gas.....	1	1	2	2	2	2
39	E	Water supply; sewerage, waste management and remediation services.....	87	121	257	312	340	342
40	36	Natural water; water treatment and supply services.....	1	2	4	4	4	4
41	37-39	Sewerage services; waste collection and materials recovery services.....	85	119	253	309	336	338
42	37	Sewerage services, sewerage sludge.....	6	7	15	16	17	18
43	38-39	Waste collection, treatment and disposal services.....	79	112	239	293	318	320
44	F	Constructions and construction works.....	46	56	116	121	131	136
45	41-42	Building and building construction works.....	13	16	34	36	39	40
46	43	Specialised construction works.....	32	39	82	85	92	96
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	128	155	322	374	406	412
48	45	Wholesale and retail trade and repair services of motor vehicles.....	19	23	46	46	49	51
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	71	95	219	253	275	277
50	47	Retail trade services, except of motor vehicles and motorcycles.....	39	36	57	76	82	84
51	H	Transportation and storage services.....	311	458	1,040	1,239	1,349	1,376
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1	2	5	6	6	6
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	180	266	602	714	777	791
54	50	Water transport services.....	1	1	3	4	4	4
55	51	Air transport services.....	1	1	3	4	4	4
56	52	Warehousing and support services for transportation.....	88	130	296	362	394	401
57	53	Postal and courier services.....	39	57	130	150	163	168
58	I	Accommodation and food services.....	4	3	5	5	5	5
59	J	Information and communication services.....	31	40	79	98	106	107
60	K	Financial and insurance services.....	3	4	7	11	12	12
61	L	Real estate services.....	9	10	15	18	20	20
62	M	Professional, scientific and technical services.....	85	86	133	166	179	183
63	N	Administrative and support services.....	3	3	6	6	7	7
64	O	Public administration and defence services.....	19	20	38	41	44	45
65	P	Education services.....	2	2	4	5	5	5
66	Q	Human health and social work services.....	9	9	14	15	16	17
67	R-T	Other services.....	45	57	102	128	139	141
68		All homogeneous branches.....	871	1,128	2,353	2,816	3,057	3,115
69		Private households.....	4,294	2,425	1,999	1,824	1,816	2,014
70		All homogeneous branches and private households (residents concept).....	5,165	3,553	4,352	4,640	4,872	5,129
71		Transitional balance 2).....	-111	-286	-340	-363	-357	-342
72		Total emissions (domestic concept).....	5,054	3,267	4,011	4,278	4,516	4,787

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

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	C	Manufactured products.....	1,542	666	239	97	97	93
2	20	Chemicals and chemical products.....	1,521	645	204	46	40	47
3	24.4	Basic precious and other non-ferrous metals.....	0	2	24	39	43	33
4	26	Computer, electronic and optical products.....	21	20	12	13	13	14
5	E	Water supply; sewerage, waste management and remediation services.....	6,471	8,915	10,003	10,388	10,613	10,649
6	38-39	Waste collection, treatment and disposal services.....	6,471	8,915	10,003	10,388	10,613	10,649
7	Q	Human health and social work services.....	0	0	0	0	0	0
8		All homogeneous branches.....	8,013	9,581	10,242	10,485	10,710	10,742
9		Private households.....	–	–	–	–	–	–
10		All homogeneous branches and private households (residents concept).....	8,013	9,581	10,242	10,485	10,710	10,742

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	2000	2005	2010	2011	2012	2013
1	C	Manufactured products.....	842	703	305	253	230	247
2	24.4	Basic precious and other non-ferrous metals.....	413	392	157	95	87	108
3	26	Computer, electronic and optical products.....	429	311	149	158	142	140
4	E	Water supply; sewerage, waste management and remediation services.....	114	135	42	31	18	16
5	38-39	Waste collection, treatment and disposal services.....	114	135	42	31	18	16
6		All homogeneous branches.....	957	838	347	284	248	264
7		Private households.....	-	-	-	-	-	-
8		All homogeneous branches and private households (residents concept).....	957	838	347	284	248	264

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

Table 4.7: Direct domestic sulphur hexafluoride (SF₆) emissionsCO₂ equivalent 1,000 tonnes

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	C	Manufactured products.....	3,576	2,491	3,316	3,648	3,715	3,660
2	20	Chemicals and chemical products.....	205	228	33	97	108	101
3	23.2-9	Refractory products, cut, shaped and finished stone.....	1,157	1,259	2,046	2,119	2,226	2,316
4	24.4	Basic iron and steel and ferro-alloys, other products of steel.....	10	67	403	633	699	541
5	26	Computer, electronic and optical products.....	1,143	824	639	580	514	528
6	27	Electrical equipment.....	0	60	182	209	156	162
7	29	Motor vehicles, trailers and semi-trailers.....	1,061	54	13	10	12	12
8	E	Water supply; sewerage, waste management and remediation services.....	191	200	32	93	103	107
9	38-39	Waste collection, treatment and disposal services.....	191	200	32	93	103	107
10		All homogeneous branches.....	3,767	2,692	3,349	3,741	3,819	3,768
11		Private households.....	-	-	-	-	-	-
12		All homogeneous branches and private households (residents concept).....	3,767	2,692	3,349	3,741	3,819	3,768

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	642,125	621,425	603,248	635,532	616,879	633,354
2	01	Products of agriculture, hunting and related services.....	642,123	621,423	603,247	635,530	616,878	633,352
3	02	Products of forestry, logging and related services.....	2	2	1	1	1	1
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	36	37	33	35	30	30
6	05	Coal and lignite.....	18	18	20	23	19	18
7	06	Crude petroleum and natural gas.....	4	6	4	4	4	5
8	07-09	Metal ores, other mining and quarrying products.....	14	13	9	8	7	8
9	C	Manufactured products.....	14,256	13,614	12,774	13,146	12,930	12,877
10	10-12	Food products, beverages, tobacco products.....	152	116	97	88	83	88
11	13-15	Textiles, wearing apparel, leather and related products.....	20	19	6	7	7	9
12	16	Wood and products of wood and cork, except furniture.....	45	30	44	48	35	36
13	17	Paper and paper products.....	37	40	49	39	32	43
14	18	Printing and recording services.....	10	9	6	6	6	7
15	19	Coke and refined petroleum products.....	688	756	598	591	562	544
16	19.1	Coke oven products.....	37	24	18	18	18	18
17	19.2	Refined petroleum products.....	651	732	580	573	545	526
18	20	Chemicals and chemical products.....	9,635	9,326	9,304	9,474	9,365	9,352
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	52	8	15	15	13	13
20	22	Rubber and plastic products.....	27	28	36	25	24	28
21	23	Other non-metallic mineral products.....	3,112	2,909	2,261	2,470	2,440	2,368
22	23.1	Glass and glass products.....	1,261	1,186	599	689	687	701
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1,851	1,723	1,661	1,780	1,753	1,667
24	24	Basic metals.....	225	166	163	159	150	154
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	69	58	66	50	45	53
26	24.4	Basic precious and other non-ferrous metals.....	24	21	18	16	16	18
27	24.5	Casting services of metal.....	132	88	80	93	89	83
28	25	Fabricated metal products, except machinery and equipment.....	62	50	49	53	51	58
29	26	Computer, electronic and optical products.....	20	14	10	11	11	12
30	27	Electrical equipment.....	21	17	15	17	16	17
31	28	Machinery and equipment n.e.c.....	62	50	50	55	52	58
32	29	Motor vehicles, trailers and semi-trailers.....	66	55	45	63	60	63
33	30	Other transport equipment.....	7	6	8	5	5	6
34	31-32	Furniture, other manufacture goods.....	13	13	14	13	12	14
35	33	Repair and installation services of machinery and equipment.....	3	3	5	6	5	6
36	D (35)	Electricity, gas, steam and air conditioning.....	2,345	2,324	2,371	2,502	2,471	2,460
37	35.1/.3	Electricity, transmission and distribution services, steam.....	2,343	2,322	2,369	2,500	2,469	2,459
38	35.2	Manufactured gas.....	2	2	2	2	2	2
39	E	Water supply; sewerage, waste management and remediation services.....	2,368	2,959	3,136	3,443	3,659	3,660
40	36	Natural water; water treatment and supply services.....	2	2	1	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,366	2,957	3,134	3,441	3,657	3,658
42	37	Sewerage services, sewerage sludge.....	5	4	3	3	3	3
43	38-39	Waste collection, treatment and disposal services.....	2,362	2,953	3,131	3,438	3,654	3,655
44	F	Constructions and construction works.....	176	159	130	123	124	131
45	41-42	Building and building construction works.....	70	64	47	43	43	46
46	43	Specialised construction works.....	106	95	83	80	81	85
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	531	436	366	405	397	412
48	45	Wholesale and retail trade and repair services of motor vehicles.....	100	68	59	67	67	69
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	180	149	112	139	133	140
50	47	Retail trade services, except of motor vehicles and motorcycles.....	250	218	195	198	197	202
51	H	Transportation and storage services.....	1,411	2,222	2,568	2,318	2,645	2,734
52	49.1-2	Passenger rail transport services, freight rail transport services.....	27	22	21	21	21	21
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	43	47	50	52	52	54
54	50	Water transport services.....	31	642	1,002	783	1,002	1,081
55	51	Air transport services.....	1,254	1,449	1,437	1,402	1,509	1,513
56	52	Warehousing and support services for transportation.....	42	47	46	48	49	53
57	53	Postal and courier services.....	13	14	13	12	12	12
58	I	Accommodation and food services.....	114	116	102	92	93	97
59	J	Information and communication services.....	39	44	27	24	25	27
60	K	Financial and insurance services.....	56	52	33	31	32	34
61	L	Real estate services.....	9	9	6	5	5	5
62	M	Professional, scientific and technical services.....	48	59	44	34	37	40
63	N	Administrative and support services.....	71	63	55	58	54	56
64	O	Public administration and defence services.....	118	111	75	70	67	66
65	P	Education services.....	69	70	62	53	54	56
66	Q	Human health and social work services.....	134	130	121	105	105	112
67	R-T	Other services.....	734	620	461	522	491	506
68		All homogeneous branches.....	664,640	644,449	625,614	658,496	640,097	656,660
69		Private households.....	33,523	27,411	21,171	20,179	18,918	18,058
70		All homogeneous branches and private households (residents concept) 2)...	698,162	671,860	646,785	678,675	659,016	674,717
71		Transitional balance 3).....	-2,223	-3,984	-4,157	-3,869	-4,097	-3,887
72		Total emissions (domestic concept) 2).....	695,939	667,876	642,628	674,807	654,919	670,830

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	77	74	74	67	78	82
2	01	Products of agriculture, hunting and related services.....	76	74	73	66	77	81
3	02	Products of forestry, logging and related services.....	0	0	0	0	0	0
4	03	Fish and other fishing products; aquaculture products.....	0	0	0	0	0	0
5	B	Mining and quarrying.....	32	35	31	33	27	28
6	05	Coal and lignite.....	17	17	19	23	18	17
7	06	Crude petroleum and natural gas.....	4	5	4	3	3	4
8	07-09	Metal ores, other mining and quarrying products.....	12	12	8	7	6	6
9	C	Manufactured products.....	1,352	1,271	1,215	1,218	1,105	1,158
10	10-12	Food products, beverages, tobacco products.....	132	100	84	67	64	69
11	13-15	Textiles, wearing apparel, leather and related products.....	17	17	4	5	5	6
12	16	Wood and products of wood and cork, except furniture.....	43	28	42	46	32	33
13	17	Paper and paper products.....	32	36	45	34	27	38
14	18	Printing and recording services.....	7	6	4	4	4	5
15	19	Coke and refined petroleum products.....	679	748	591	581	553	535
16	19.1	Coke oven products.....	35	22	16	16	16	16
17	19.2	Refined petroleum products.....	644	727	575	565	537	519
18	20	Chemicals and chemical products.....	105	86	156	256	218	226
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	49	5	13	12	10	10
20	22	Rubber and plastic products.....	19	22	31	17	17	20
21	23	Other non-metallic mineral products.....	69	63	71	66	51	63
22	23.1	Glass and glass products.....	14	10	7	9	6	6
23	23.2-9	Refractory products, cut, shaped and finished stone.....	55	53	64	57	45	57
24	24	Basic metals.....	59	46	53	30	27	37
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	36	27	37	17	14	21
26	24.4	Basic precious and other non-ferrous metals.....	21	18	15	12	12	14
27	24.5	Casting services of metal.....	2	1	1	1	1	2
28	25	Fabricated metal products, except machinery and equipment.....	49	39	41	34	33	39
29	26	Computer, electronic and optical products.....	13	8	5	4	4	5
30	27	Electrical equipment.....	11	8	9	6	6	6
31	28	Machinery and equipment n.e.c.....	40	32	35	31	30	35
32	29	Motor vehicles, trailers and semi-trailers.....	17	14	12	11	11	13
33	30	Other transport equipment.....	4	3	5	2	2	3
34	31-32	Furniture, other manufacture goods.....	11	11	12	10	10	12
35	33	Repair and installation services of machinery and equipment.....	0	0	3	3	2	3
36	D (35)	Electricity, gas, steam and air conditioning.....	2,327	2,309	2,359	2,487	2,457	2,446
37	35.1/.3	Electricity, transmission and distribution services, steam.....	2,327	2,309	2,358	2,487	2,456	2,446
38	35.2	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	4	7	8	7	5	6
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.....	4	7	8	7	5	6
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	4	7	8	7	5	6
44	F	Constructions and construction works.....	95	89	73	66	70	75
45	41-42	Building and building construction works.....	46	44	30	26	27	29
46	43	Specialised construction works.....	49	46	42	40	43	46
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	247	201	175	151	161	168
48	45	Wholesale and retail trade and repair services of motor vehicles.....	51	27	25	22	24	25
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	49	41	24	20	22	26
50	47	Retail trade services, except of motor vehicles and motorcycles.....	147	133	126	109	114	116
51	H	Transportation and storage services.....	1,308	2,111	2,451	2,194	2,521	2,606
52	49.1-2	Passenger rail transport services, freight rail transport services.....	18	12	10	10	9	9
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	1	0	0	0	1
54	50	Water transport services.....	25	635	995	776	995	1,073
55	51	Air transport services.....	1,247	1,441	1,429	1,394	1,501	1,505
56	52	Warehousing and support services for transportation.....	13	16	13	12	13	16
57	53	Postal and courier services.....	5	5	3	2	2	3
58	I	Accommodation and food services.....	92	99	89	78	80	84
59	J	Information and communication services.....	33	39	22	18	20	22
60	K	Financial and insurance services.....	42	41	24	18	20	22
61	L	Real estate services.....	9	8	5	4	4	5
62	M	Professional, scientific and technical services.....	46	57	40	32	35	39
63	N	Administrative and support services.....	9	13	13	11	11	12
64	O	Public administration and defence services.....	66	68	42	34	33	32
65	P	Education services.....	68	68	61	52	53	55
66	Q	Human health and social work services.....	80	86	86	67	71	76
67	R-T	Other services.....	71	71	49	40	41	44
68		All homogeneous branches.....	5,957	6,649	6,817	6,577	6,791	6,956
69		Private households.....	2,116	1,895	1,682	1,426	1,522	1,622
70		All homogeneous branches and private households (residents concept) 2)...	8,073	8,545	8,498	8,002	8,313	8,578
71		Transitional balance 3).....	-1,096	-1,901	-2,254	-2,010	-2,338	-2,431
72		Total emissions (domestic concept) 2).....	6,977	6,643	6,245	5,993	5,975	6,147

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	642,030	621,335	603,163	635,454	616,791	633,261
2	01	Products of agriculture, hunting and related services.....	642,030	621,335	603,163	635,454	616,791	633,261
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.....	12,713	12,184	11,430	11,720	11,631	11,520
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.....	-	-	-	-	-	-
15	19	Coke and refined petroleum products.....	2	2	2	2	2	2
16	19.1	Coke oven products.....	2	2	2	2	2	2
17	19.2	Refined petroleum products.....	-	-	-	-	-	-
18	20	Chemicals and chemical products.....	9,517	9,228	9,139	9,203	9,133	9,112
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	3,039	2,843	2,187	2,399	2,385	2,301
22	23.1	Glass and glass products.....	1,247	1,176	591	679	680	694
23	23.2-9	Refractory products, cut, shaped and finished stone.....	1,792	1,667	1,595	1,720	1,705	1,607
24	24	Basic metals.....	155	111	103	116	111	105
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	27	26	25	26	25	25
26	24.4	Basic precious and other non-ferrous metals.....	-	-	-	-	-	-
27	24.5	Casting services of metal.....	128	85	77	90	86	80
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.....	2,348	2,939	3,116	3,423	3,642	3,642
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,348	2,939	3,116	3,423	3,642	3,642
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	2,348	2,939	3,116	3,423	3,642	3,642
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.....	657,091	636,458	617,709	650,598	632,064	648,424
69		Private households.....	3,367	3,365	3,384	3,424	3,377	3,267
70		All homogeneous branches and private households.....	660,458	639,823	621,093	654,021	635,441	651,691

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	19	16	12	11	10	11
2	01	Products of agriculture, hunting and related services.....	17	14	11	10	9	10
3	02	Products of forestry, logging and related services.....	1	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.....	3	3	2	2	2	2
6	05	Coal and lignite.....	1	1	1	1	1	1
7	06	Crude petroleum and natural gas.....	1	1	0	1	1	1
8	07-09	Metal ores, other mining and quarrying products.....	2	1	1	1	1	1
9	C	Manufactured products.....	191	158	129	208	194	200
10	10-12	Food products, beverages, tobacco products.....	20	16	13	20	19	19
11	13-15	Textiles, wearing apparel, leather and related products.....	3	2	2	3	3	3
12	16	Wood and products of wood and cork, except furniture.....	3	2	2	3	2	3
13	17	Paper and paper products.....	5	4	3	5	4	4
14	18	Printing and recording services.....	3	2	2	3	2	3
15	19	Coke and refined petroleum products.....	7	6	5	8	8	8
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	7	6	5	8	8	8
18	20	Chemicals and chemical products.....	14	11	9	15	14	14
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	4	3	2	4	3	3
20	22	Rubber and plastic products.....	8	6	5	8	7	8
21	23	Other non-metallic mineral products.....	5	4	3	5	5	5
22	23.1	Glass and glass products.....	1	1	1	1	1	1
23	23.2-9	Refractory products, cut, shaped and finished stone.....	3	3	2	4	4	4
24	24	Basic metals.....	11	9	7	13	12	12
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	6	5	4	7	6	7
26	24.4	Basic precious and other non-ferrous metals.....	4	3	2	4	4	4
27	24.5	Casting services of metal.....	2	1	1	2	2	2
28	25	Fabricated metal products, except machinery and equipment.....	13	11	9	19	18	18
29	26	Computer, electronic and optical products.....	7	6	5	7	7	7
30	27	Electrical equipment.....	10	8	7	11	10	10
31	28	Machinery and equipment n.e.c.....	22	18	15	24	23	23
32	29	Motor vehicles, trailers and semi-trailers.....	50	41	34	53	49	50
33	30	Other transport equipment.....	4	3	3	4	3	4
34	31-32	Furniture, other manufacture goods.....	2	2	2	2	2	2
35	33	Repair and installation services of machinery and equipment.....	3	2	2	3	3	3
36	D (35)	Electricity, gas, steam and air conditioning.....	18	15	13	15	14	14
37	35.1/.3	Electricity, transmission and distribution services, steam.....	16	13	11	13	12	13
38	35.2	Manufactured gas.....	2	2	2	2	2	2
39	E	Water supply; sewerage, waste management and remediation services.....	16	14	11	12	11	12
40	36	Natural water; water treatment and supply services.....	2	2	1	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	14	12	10	11	10	10
42	37	Sewerage services, sewerage sludge.....	5	4	3	3	3	3
43	38-39	Waste collection, treatment and disposal services.....	9	8	6	7	7	7
44	F	Constructions and construction works.....	81	69	57	57	54	56
45	41-42	Building and building construction works.....	24	20	17	17	16	17
46	43	Specialised construction works.....	58	49	40	40	38	40
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	284	234	191	254	236	244
48	45	Wholesale and retail trade and repair services of motor vehicles.....	50	41	34	46	43	44
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	131	108	88	119	111	114
50	47	Retail trade services, except of motor vehicles and motorcycles.....	103	85	69	89	83	86
51	H	Transportation and storage services.....	103	111	117	124	125	128
52	49.1-2	Passenger rail transport services, freight rail transport services.....	10	10	11	11	11	12
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	43	47	49	52	52	53
54	50	Water transport services.....	7	7	7	8	8	8
55	51	Air transport services.....	7	7	8	8	8	8
56	52	Warehousing and support services for transportation.....	29	31	33	36	36	37
57	53	Postal and courier services.....	8	9	9	9	10	10
58	I	Accommodation and food services.....	22	18	13	14	13	13
59	J	Information and communication services.....	6	5	5	6	5	6
60	K	Financial and insurance services.....	14	11	9	13	12	12
61	L	Real estate services.....	0	0	1	1	1	1
62	M	Professional, scientific and technical services.....	2	1	3	2	2	2
63	N	Administrative and support services.....	62	50	42	46	43	44
64	O	Public administration and defence services.....	52	43	33	36	33	34
65	P	Education services.....	2	1	1	1	1	1
66	Q	Human health and social work services.....	54	43	35	38	35	36
67	R-T	Other services.....	664	548	413	482	450	463
68		All homogeneous branches.....	1,592	1,342	1,088	1,322	1,242	1,280
69		Private households.....	28,040	22,151	16,105	15,330	14,020	13,169
70		All homogeneous branches and private households (residents concept).....	29,632	23,493	17,193	16,652	15,262	14,449
71		Transitional balance 2).....	-1,128	-2,083	-1,903	-1,859	-1,759	-1,456
72		Total emissions (domestic concept).....	28,504	21,410	15,290	14,793	13,503	12,992

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	3,347	1,961	3,161	3,429	6,555	6,885
2	01	Products of agriculture, hunting and related services.....	3,184	1,853	3,119	3,392	6,520	6,849
3	02	Products of forestry, logging and related services.....	29	2	1	1	1	1
4	03	Fish and other fishing products; aquaculture products.....	135	106	40	35	35	35
5	B	Mining and quarrying.....	6,591	6,974	6,106	7,774	5,412	5,095
6	05	Coal and lignite.....	5,031	5,229	5,095	6,528	4,436	4,163
7	06	Crude petroleum and natural gas.....	354	191	125	156	120	115
8	07-09	Metal ores, other mining and quarrying products.....	1,206	1,554	886	1,090	856	816
9	C	Manufactured products.....	195,771	165,975	146,859	146,310	139,618	141,351
10	10-12	Food products, beverages, tobacco products.....	10,466	5,747	3,773	3,819	3,787	3,278
11	13-15	Textiles, wearing apparel, leather and related products.....	826	625	181	100	101	168
12	16	Wood and products of wood and cork, except furniture.....	1,220	636	686	778	560	544
13	17	Paper and paper products.....	8,222	6,807	6,207	5,616	5,270	4,367
14	18	Printing and recording services.....	196	126	66	56	52	74
15	19	Coke and refined petroleum products.....	52,144	50,334	36,755	34,196	32,279	31,376
16	19.1	Coke oven products.....	3,315	2,440	1,833	1,793	1,806	1,856
17	19.2	Refined petroleum products.....	48,828	47,895	34,922	32,404	30,473	29,520
18	20	Chemicals and chemical products.....	33,408	31,008	37,436	39,174	38,260	38,978
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	946	80	70	89	53	73
20	22	Rubber and plastic products.....	618	472	568	377	300	391
21	23	Other non-metallic mineral products.....	26,737	20,965	21,866	22,610	21,412	20,584
22	23.1	Glass and glass products.....	11,309	8,159	9,637	9,727	9,238	9,773
23	23.2-9	Refractory products, cut, shaped and finished stone.....	15,427	12,807	12,229	12,883	12,174	10,811
24	24	Basic metals.....	55,701	45,554	36,886	37,296	35,595	39,273
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	43,611	35,410	30,491	30,657	29,308	32,946
26	24.4	Basic precious and other non-ferrous metals.....	10,992	3,706	5,427	5,486	5,192	5,536
27	24.5	Casting services of metal.....	1,098	6,438	968	1,153	1,094	791
28	25	Fabricated metal products, except machinery and equipment.....	1,723	1,163	643	540	536	695
29	26	Computer, electronic and optical products.....	379	192	76	59	69	83
30	27	Electrical equipment.....	611	427	233	209	211	173
31	28	Machinery and equipment n.e.c.....	1,318	780	643	540	522	670
32	29	Motor vehicles, trailers and semi-trailers.....	799	752	444	412	364	325
33	30	Other transport equipment.....	93	48	84	21	21	36
34	31-32	Furniture, other manufacture goods.....	345	253	206	173	161	213
35	33	Repair and installation services of machinery and equipment.....	20	5	39	247	65	49
36	D (35)	Electricity, gas, steam and air conditioning.....	308,359	217,344	205,977	205,605	208,967	204,166
37	35.1/.3	Electricity, transmission and distribution services, steam.....	308,351	217,343	205,977	205,604	208,967	204,165
38	35.2	Manufactured gas.....	8	0	1	1	1	1
39	E	Water supply; sewerage, waste management and remediation services.....	1,842	204	76	74	77	83
40	36	Natural water; water treatment and supply services.....	16	1	1	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	1,826	203	75	73	76	83
42	37	Sewerage services, sewerage sludge.....	71	2	3	3	3	3
43	38-39	Waste collection, treatment and disposal services.....	1,755	201	73	71	74	80
44	F	Constructions and construction works.....	3,755	1,561	1,076	991	1,091	1,150
45	41-42	Building and building construction works.....	1,732	702	359	307	328	344
46	43	Specialised construction works.....	2,023	859	716	683	762	807
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	10,092	5,317	5,097	5,040	3,689	3,865
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,841	680	746	617	592	672
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,517	1,000	850	1,098	612	686
50	47	Retail trade services, except of motor vehicles and motorcycles.....	5,734	3,638	3,501	3,324	2,484	2,507
51	H	Transportation and storage services.....	105,186	342,814	391,733	313,372	394,265	413,659
52	49.1-2	Passenger rail transport services, freight rail transport services.....	626	199	221	225	226	223
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	2,134	78	78	80	82	96
54	50	Water transport services.....	97,881	339,718	389,364	311,086	391,817	411,133
55	51	Air transport services.....	2,650	2,287	1,672	1,629	1,755	1,763
56	52	Warehousing and support services for transportation.....	1,304	400	313	291	317	372
57	53	Postal and courier services.....	591	132	85	60	68	71
58	I	Accommodation and food services.....	2,920	2,182	2,083	2,010	1,701	1,837
59	J	Information and communication services.....	1,336	904	484	392	427	466
60	K	Financial and insurance services.....	1,267	919	496	381	430	446
61	L	Real estate services.....	345	188	108	83	91	98
62	M	Professional, scientific and technical services.....	2,048	1,238	816	648	714	768
63	N	Administrative and support services.....	282	295	291	244	239	253
64	O	Public administration and defence services.....	2,030	1,349	1,301	1,020	821	939
65	P	Education services.....	2,056	1,564	1,453	1,360	1,242	1,245
66	Q	Human health and social work services.....	3,336	2,447	2,940	2,671	1,697	1,742
67	R-T	Other services.....	2,620	1,706	1,248	1,540	1,160	1,094
68		All homogeneous branches.....	653,183	754,942	771,305	692,942	768,193	785,141
69		Private households.....	78,521	47,593	49,999	46,993	38,266	40,166
70		All homogeneous branches and private households (residents concept) 2)...	731,704	802,535	821,304	739,935	806,460	825,308
71		Transitional balance 3).....	-9,952	-229,481	-343,604	-265,821	-348,950	-372,917
72		Total emissions (domestic concept) 2).....	721,752	573,054	477,700	474,114	457,509	452,391

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	3,264	1,958	3,157	3,426	6,553	6,882
2	01	Products of agriculture, hunting and related services.....	3,107	1,851	3,117	3,389	6,517	6,847
3	02	Products of forestry, logging and related services.....	23	1	1	1	1	1
4	03	Fish and other fishing products; aquaculture products.....	134	106	40	35	35	35
5	B	Mining and quarrying.....	5,279	5,813	5,022	6,630	4,388	4,153
6	05	Coal and lignite.....	4,067	4,237	4,121	5,526	3,519	3,322
7	06	Crude petroleum and natural gas.....	21	22	16	14	14	16
8	07-09	Metal ores, other mining and quarrying products.....	1,191	1,554	885	1,090	856	816
9	C	Manufactured products.....	84,770	73,584	60,570	55,281	51,153	52,762
10	10-12	Food products, beverages, tobacco products.....	10,386	5,744	3,770	3,815	3,783	3,274
11	13-15	Textiles, wearing apparel, leather and related products.....	816	625	180	100	100	168
12	16	Wood and products of wood and cork, except furniture.....	1,210	636	686	778	560	543
13	17	Paper and paper products.....	5,199	5,369	4,998	4,391	4,010	3,121
14	18	Printing and recording services.....	185	126	65	55	52	74
15	19	Coke and refined petroleum products.....	45,037	45,776	33,518	30,669	28,910	28,181
16	19.1	Coke oven products.....	3,022	2,319	1,803	1,763	1,776	1,825
17	19.2	Refined petroleum products.....	42,015	43,457	31,715	28,905	27,133	26,356
18	20	Chemicals and chemical products.....	8,550	5,263	9,113	7,551	6,812	7,683
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	932	80	69	88	53	73
20	22	Rubber and plastic products.....	587	471	567	375	299	390
21	23	Other non-metallic mineral products.....	3,363	3,471	3,735	3,852	3,354	2,441
22	23.1	Glass and glass products.....	50	208	12	56	11	9
23	23.2-9	Refractory products, cut, shaped and finished stone.....	3,313	3,263	3,722	3,796	3,344	2,432
24	24	Basic metals.....	3,674	2,420	1,519	1,429	1,294	4,593
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	1,532	668	728	666	527	4,107
26	24.4	Basic precious and other non-ferrous metals.....	2,103	1,733	558	464	487	457
27	24.5	Casting services of metal.....	40	19	233	299	280	30
28	25	Fabricated metal products, except machinery and equipment.....	1,671	1,161	641	537	533	691
29	26	Computer, electronic and optical products.....	336	190	75	57	66	81
30	27	Electrical equipment.....	570	425	231	207	209	171
31	28	Machinery and equipment n.e.c.....	1,230	777	640	536	518	666
32	29	Motor vehicles, trailers and semi-trailers.....	633	746	438	404	356	317
33	30	Other transport equipment.....	63	47	83	20	20	34
34	31-32	Furniture, other manufacture goods.....	328	253	205	173	160	213
35	33	Repair and installation services of machinery and equipment.....	0	4	38	246	64	49
36	D (35)	Electricity, gas, steam and air conditioning.....	308,296	217,341	205,975	205,602	208,965	204,163
37	35.1/.3	Electricity, transmission and distribution services, steam.....	308,296	217,341	205,974	205,602	208,964	204,162
38	35.2	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	731	169	39	35	37	43
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.....	731	169	39	35	37	43
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	731	169	39	35	37	43
44	F	Constructions and construction works.....	3,205	1,544	1,056	972	1,072	1,130
45	41-42	Building and building construction works.....	1,573	697	354	302	323	338
46	43	Specialised construction works.....	1,633	847	702	670	749	793
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	8,817	5,274	5,050	4,987	3,636	3,811
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,658	673	740	610	586	665
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,710	974	821	1,067	580	654
50	47	Retail trade services, except of motor vehicles and motorcycles.....	5,449	3,627	3,490	3,310	2,469	2,492
51	H	Transportation and storage services.....	101,613	342,703	391,610	313,242	394,132	413,524
52	49.1-2	Passenger rail transport services, freight rail transport services.....	610	199	220	224	225	222
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	12	5	4	4	17
54	50	Water transport services.....	97,870	339,717	389,364	311,086	391,816	411,132
55	51	Air transport services.....	2,639	2,287	1,672	1,629	1,754	1,763
56	52	Warehousing and support services for transportation.....	336	370	279	255	280	335
57	53	Postal and courier services.....	157	119	70	44	52	55
58	I	Accommodation and food services.....	2,895	2,181	2,082	2,009	1,699	1,836
59	J	Information and communication services.....	974	893	472	378	414	453
60	K	Financial and insurance services.....	1,232	918	495	379	428	444
61	L	Real estate services.....	260	185	105	80	87	94
62	M	Professional, scientific and technical services.....	1,290	1,211	790	616	682	736
63	N	Administrative and support services.....	255	294	290	243	237	252
64	O	Public administration and defence services.....	1,817	1,342	1,293	1,012	813	931
65	P	Education services.....	2,037	1,564	1,453	1,359	1,242	1,245
66	Q	Human health and social work services.....	3,263	2,444	2,937	2,668	1,694	1,739
67	R-T	Other services.....	2,047	1,647	1,182	1,468	1,086	1,019
68		All homogeneous branches.....	532,046	661,065	683,577	600,387	678,317	695,216
69		Private households.....	68,781	46,919	49,347	46,374	37,648	39,555
70		All homogeneous branches and private households (residents concept) 2)...	600,827	707,983	732,923	646,761	715,965	734,771
71		Transitional balance 3).....	-10,436	-229,412	-343,529	-265,745	-348,876	-372,849
72		Total emissions (domestic concept) 2).....	590,391	478,571	389,394	381,016	367,089	361,922

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	2000	2005	2010	2011	2012	2013
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.....	1,279	1,160	1,082	1,143	1,022	940
6	05	Coal and lignite.....	954	991	973	1,001	917	841
7	06	Crude petroleum and natural gas.....	325	169	109	142	105	99
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	110,224	92,364	86,261	90,992	88,427	88,550
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.....	3,005	1,437	1,209	1,224	1,259	1,246
14	18	Printing and recording services.....	-	-	-	-	-	-
15	19	Coke and refined petroleum products.....	7,079	4,557	3,236	3,526	3,368	3,194
16	19.1	Coke oven products.....	293	121	30	30	30	31
17	19.2	Refined petroleum products.....	6,785	4,437	3,206	3,497	3,338	3,163
18	20	Chemicals and chemical products.....	24,802	25,743	28,320	31,620	31,445	31,292
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	23,356	17,493	18,130	18,757	18,057	18,142
22	23.1	Glass and glass products.....	11,255	7,950	9,624	9,671	9,227	9,764
23	23.2-9	Refractory products, cut, shaped and finished stone.....	12,101	9,543	8,506	9,086	8,830	8,378
24	24	Basic metals.....	51,982	43,133	35,365	35,864	34,299	34,677
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	42,055	34,742	29,762	29,990	28,780	28,838
26	24.4	Basic precious and other non-ferrous metals.....	8,875	1,973	4,869	5,021	4,705	5,078
27	24.5	Casting services of metal.....	1,052	6,419	734	853	814	761
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.....	-	-	-	-	-	-
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.....	37	41	48	52	52	54
68		All homogeneous branches.....	111,540	93,566	87,391	92,186	89,502	89,544
69		Private households.....	146	115	129	117	129	118
70		All homogeneous branches and private households	111,686	93,681	87,520	92,303	89,631	89,662

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	83	3	3	3	3	3
2	01	Products of agriculture, hunting and related services.....	77	3	3	3	3	3
3	02	Products of forestry, logging and related services.....	6	0	0	0	0	0
4	03	Fish and other fishing products; aquaculture products.....	1	0	0	0	0	0
5	B	Mining and quarrying.....	33	1	1	1	1	1
6	05	Coal and lignite.....	10	0	0	0	0	0
7	06	Crude petroleum and natural gas.....	7	0	0	0	0	0
8	07-09	Metal ores, other mining and quarrying products.....	16	1	1	1	1	1
9	C	Manufactured products.....	776	26	28	37	38	38
10	10-12	Food products, beverages, tobacco products.....	79	3	3	4	4	4
11	13-15	Textiles, wearing apparel, leather and related products.....	10	0	0	0	0	0
12	16	Wood and products of wood and cork, except furniture.....	11	0	0	0	0	0
13	17	Paper and paper products.....	18	1	1	1	1	1
14	18	Printing and recording services.....	11	0	0	0	0	0
15	19	Coke and refined petroleum products.....	28	1	1	1	1	1
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	27	1	1	1	1	1
18	20	Chemicals and chemical products.....	55	2	2	3	3	3
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	14	0	1	1	1	1
20	22	Rubber and plastic products.....	30	1	1	1	1	1
21	23	Other non-metallic mineral products.....	18	1	1	1	1	1
22	23.1	Glass and glass products.....	4	0	0	0	0	0
23	23.2-9	Refractory products, cut, shaped and finished stone.....	14	0	1	1	1	1
24	24	Basic metals.....	44	1	2	2	2	2
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	24	1	1	1	1	1
26	24.4	Basic precious and other non-ferrous metals.....	14	0	1	1	1	1
27	24.5	Casting services of metal.....	6	0	0	0	0	0
28	25	Fabricated metal products, except machinery and equipment.....	52	2	2	3	3	3
29	26	Computer, electronic and optical products.....	43	1	2	2	2	2
30	27	Electrical equipment.....	41	1	2	2	2	2
31	28	Machinery and equipment n.e.c.....	89	3	3	4	4	4
32	29	Motor vehicles, trailers and semi-trailers.....	166	6	6	8	8	8
33	30	Other transport equipment.....	30	1	1	1	1	1
34	31-32	Furniture, other manufacture goods.....	17	1	1	1	1	1
35	33	Repair and installation services of machinery and equipment.....	20	1	1	1	1	1
36	D (35)	Electricity, gas, steam and air conditioning.....	64	2	3	3	3	3
37	35.1/.3	Electricity, transmission and distribution services, steam.....	56	2	2	2	2	2
38	35.2	Manufactured gas.....	8	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	1,111	35	37	39	39	40
40	36	Natural water; water treatment and supply services.....	16	1	1	1	1	1
41	37-39	Sewerage services; waste collection and materials recovery services.....	1,095	34	37	38	39	39
42	37	Sewerage services, sewerage sludge.....	71	2	3	3	3	3
43	38-39	Waste collection, treatment and disposal services.....	1,024	32	34	36	36	36
44	F	Constructions and construction works.....	550	18	20	19	19	20
45	41-42	Building and building construction works.....	159	5	6	6	6	6
46	43	Specialised construction works.....	390	13	14	13	13	14
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	1,275	43	47	52	53	54
48	45	Wholesale and retail trade and repair services of motor vehicles.....	183	6	7	7	7	7
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	807	26	29	31	32	32
50	47	Retail trade services, except of motor vehicles and motorcycles.....	285	11	11	14	14	15
51	H	Transportation and storage services.....	3,573	111	123	130	132	135
52	49.1-2	Passenger rail transport services, freight rail transport services.....	16	0	1	1	1	1
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	2,134	66	73	77	78	79
54	50	Water transport services.....	11	0	0	0	0	0
55	51	Air transport services.....	11	0	0	0	0	0
56	52	Warehousing and support services for transportation.....	968	30	34	36	37	38
57	53	Postal and courier services.....	434	13	15	16	16	16
58	I	Accommodation and food services.....	25	1	1	1	1	1
59	J	Information and communication services.....	362	12	12	13	13	14
60	K	Financial and insurance services.....	35	1	1	2	2	2
61	L	Real estate services.....	84	3	3	4	4	4
62	M	Professional, scientific and technical services.....	758	27	27	32	32	33
63	N	Administrative and support services.....	27	1	1	1	1	1
64	O	Public administration and defence services.....	213	7	8	8	8	8
65	P	Education services.....	19	1	1	1	1	1
66	Q	Human health and social work services.....	73	3	3	3	3	3
67	R-T	Other services.....	536	17	18	21	21	21
68		All homogeneous branches.....	9,596	312	337	369	374	381
69		Private households.....	9,594	559	524	502	489	493
70		All homogeneous branches and private households (residents concept).....	19,191	871	861	871	863	875
71		Transitional balance 2).....	483	-69	-75	-77	-74	-68
72		Total emissions (domestic concept).....	19,674	802	786	795	789	807

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	174,513	157,367	149,519	156,633	155,958	156,990
2	01	Products of agriculture, hunting and related services.....	172,222	154,972	147,564	154,847	154,361	155,456
3	02	Products of forestry, logging and related services.....	1,662	1,822	1,409	1,280	1,103	1,045
4	03	Fish and other fishing products; aquaculture products.....	628	574	547	506	494	490
5	B	Mining and quarrying.....	6,528	10,280	8,558	9,276	6,923	6,984
6	05	Coal and lignite.....	3,138	3,616	3,574	4,769	2,940	2,779
7	06	Crude petroleum and natural gas.....	1,514	4,889	3,596	3,227	2,840	2,973
8	07-09	Metal ores, other mining and quarrying products.....	1,876	1,774	1,387	1,280	1,144	1,233
9	C	Manufactured products.....	243,587	217,242	195,014	198,102	186,296	187,114
10	10-12	Food products, beverages, tobacco products.....	12,693	12,117	11,048	10,398	10,103	9,809
11	13-15	Textiles, wearing apparel, leather and related products.....	2,126	1,836	1,085	1,019	949	906
12	16	Wood and products of wood and cork, except furniture.....	2,485	5,312	5,319	7,939	5,551	5,617
13	17	Paper and paper products.....	9,417	11,364	11,871	10,476	9,212	9,015
14	18	Printing and recording services.....	1,200	1,129	877	797	812	792
15	19	Coke and refined petroleum products.....	32,727	27,515	21,911	21,307	20,246	19,865
16	19.1	Coke oven products.....	10,345	5,034	4,625	4,551	4,528	4,582
17	19.2	Refined petroleum products.....	22,381	22,481	17,286	16,756	15,718	15,283
18	20	Chemicals and chemical products.....	41,084	43,701	48,263	48,052	46,243	46,882
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	3,006	1,219	1,548	1,627	1,344	1,399
20	22	Rubber and plastic products.....	3,137	2,977	2,729	2,463	2,373	2,453
21	23	Other non-metallic mineral products.....	60,776	48,164	40,050	41,016	38,862	37,510
22	23.1	Glass and glass products.....	13,992	13,734	12,213	12,374	11,698	12,259
23	23.2-9	Refractory products, cut, shaped and finished stone.....	46,784	34,429	27,837	28,641	27,165	25,252
24	24	Basic metals.....	42,667	33,120	26,737	28,041	26,498	27,896
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	38,411	29,333	23,741	24,889	23,436	24,946
26	24.4	Basic precious and other non-ferrous metals.....	2,887	2,553	1,822	1,821	1,784	1,804
27	24.5	Casting services of metal.....	1,369	1,233	1,174	1,331	1,277	1,146
28	25	Fabricated metal products, except machinery and equipment.....	6,299	5,468	4,939	5,577	5,285	5,476
29	26	Computer, electronic and optical products.....	2,698	2,266	1,677	1,798	1,786	1,860
30	27	Electrical equipment.....	2,405	2,054	1,696	1,858	1,726	1,891
31	28	Machinery and equipment n.e.c.....	6,445	5,990	4,900	5,011	4,904	5,049
32	29	Motor vehicles, trailers and semi-trailers.....	10,219	9,301	7,122	7,493	7,208	7,328
33	30	Other transport equipment.....	1,912	1,667	1,356	1,324	1,292	1,366
34	31-32	Furniture, other manufacture goods.....	1,342	1,219	1,070	1,035	1,048	1,096
35	33	Repair and installation services of machinery and equipment.....	949	823	817	872	855	902
36	D (35)	Electricity, gas, steam and air conditioning.....	268,944	286,583	318,475	322,698	315,939	311,842
37	35.1/.3	Electricity, transmission and distribution services, steam.....	268,532	286,220	318,162	322,408	315,655	311,550
38	35.2	Manufactured gas.....	412	363	313	290	283	291
39	E	Water supply; sewerage, waste management and remediation services.....	69,592	59,554	41,889	39,100	37,987	38,055
40	36	Natural water; water treatment and supply services.....	1,034	898	664	555	542	571
41	37-39	Sewerage services; waste collection and materials recovery services.....	68,558	58,655	41,225	38,545	37,445	37,484
42	37	Sewerage services, sewerage sludge.....	4,012	3,458	2,507	2,332	2,277	2,355
43	38-39	Waste collection, treatment and disposal services.....	64,545	55,197	38,718	36,213	35,168	35,128
44	F	Constructions and construction works.....	91,542	70,866	57,514	54,634	52,059	51,580
45	41-42	Building and building construction works.....	38,845	29,416	24,119	23,311	22,099	21,704
46	43	Specialised construction works.....	52,697	41,450	33,395	31,323	29,960	29,876
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	75,032	63,532	47,675	46,749	45,415	46,384
48	45	Wholesale and retail trade and repair services of motor vehicles.....	10,455	8,544	6,427	5,721	5,611	5,806
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	47,140	40,586	29,560	28,241	27,520	27,744
50	47	Retail trade services, except of motor vehicles and motorcycles.....	17,436	14,402	11,688	12,787	12,284	12,834
51	H	Transportation and storage services.....	450,540	715,003	834,511	727,388	823,375	848,471
52	49.1-2	Passenger rail transport services, freight rail transport services.....	32,109	21,393	15,939	16,427	15,016	14,439
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	122,078	106,438	75,236	70,526	68,979	69,657
54	50	Water transport services.....	122,602	414,425	586,364	486,735	576,379	600,103
55	51	Air transport services.....	97,720	106,507	109,546	108,282	118,581	119,128
56	52	Warehousing and support services for transportation.....	52,701	45,917	32,900	31,956	31,254	31,726
57	53	Postal and courier services.....	23,330	20,324	14,526	13,461	13,167	13,416
58	I	Accommodation and food services.....	4,421	3,913	3,505	3,310	3,188	3,426
59	J	Information and communication services.....	21,475	18,807	13,135	12,817	12,545	12,652
60	K	Financial and insurance services.....	2,520	2,210	1,835	2,040	2,029	2,139
61	L	Real estate services.....	4,042	3,454	2,529	2,810	2,744	2,804
62	M	Professional, scientific and technical services.....	35,925	30,751	21,754	24,445	23,857	24,526
63	N	Administrative and support services.....	1,580	1,425	1,331	1,253	1,198	1,271
64	O	Public administration and defence services.....	23,567	22,524	14,999	13,900	13,196	13,074
65	P	Education services.....	3,817	3,378	3,003	2,767	2,638	2,925
66	Q	Human health and social work services.....	7,005	5,952	5,930	5,526	5,239	5,676
67	R-T	Other services.....	29,030	25,199	17,664	18,662	18,163	18,521
68		All homogeneous branches.....	1,513,661	1,698,037	1,738,840	1,642,110	1,708,748	1,734,432
69		Private households.....	567,101	411,898	291,517	261,990	251,293	245,915
70		All homogeneous branches and private households (residents concept) 2)...	2,080,763	2,109,935	2,030,357	1,904,100	1,960,041	1,980,347
71		Transitional balance 3).....	-59,115	-421,980	-567,188	-467,166	-573,277	-607,587
72		Total emissions (domestic concept) 2).....	2,021,647	1,687,954	1,463,169	1,436,934	1,386,764	1,372,760

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	45,552	40,088	41,825	40,700	45,275	45,309
2	01	Products of agriculture, hunting and related services.....	43,690	38,058	40,139	39,185	43,943	44,044
3	02	Products of forestry, logging and related services.....	1,280	1,496	1,168	1,031	860	798
4	03	Fish and other fishing products; aquaculture products.....	583	535	518	484	472	467
5	B	Mining and quarrying.....	3,950	8,026	6,864	7,705	5,410	5,499
6	05	Coal and lignite.....	2,193	2,768	2,876	4,178	2,376	2,251
7	06	Crude petroleum and natural gas.....	911	4,377	3,237	2,868	2,497	2,645
8	07-09	Metal ores, other mining and quarrying products.....	846	881	752	659	537	604
9	C	Manufactured products.....	85,567	78,911	80,090	78,373	70,171	70,942
10	10-12	Food products, beverages, tobacco products.....	8,855	8,817	8,592	7,770	7,538	7,204
11	13-15	Textiles, wearing apparel, leather and related products.....	1,632	1,411	769	668	607	558
12	16	Wood and products of wood and cork, except furniture.....	1,974	4,873	4,992	7,596	5,217	5,278
13	17	Paper and paper products.....	6,858	7,955	8,511	6,996	5,690	5,465
14	18	Printing and recording services.....	668	672	536	452	475	450
15	19	Coke and refined petroleum products.....	28,192	25,078	20,086	19,178	18,262	17,891
16	19.1	Coke oven products.....	10,338	5,028	4,620	4,544	4,522	4,575
17	19.2	Refined petroleum products.....	17,854	20,051	15,466	14,635	13,741	13,316
18	20	Chemicals and chemical products.....	15,724	11,568	17,893	17,830	16,151	15,802
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	2,324	632	1,111	1,170	898	946
20	22	Rubber and plastic products.....	1,676	1,721	1,794	1,433	1,368	1,432
21	23	Other non-metallic mineral products.....	3,269	2,988	3,106	3,058	2,792	2,704
22	23.1	Glass and glass products.....	1,241	1,164	893	1,020	732	719
23	23.2-9	Refractory products, cut, shaped and finished stone.....	2,028	1,824	2,213	2,038	2,060	1,985
24	24	Basic metals.....	4,400	3,571	3,351	3,786	3,205	4,639
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	2,057	1,489	1,763	2,321	1,768	3,269
26	24.4	Basic precious and other non-ferrous metals.....	2,206	1,968	1,386	1,269	1,246	1,257
27	24.5	Casting services of metal.....	137	115	202	197	191	112
28	25	Fabricated metal products, except machinery and equipment.....	3,785	3,306	3,330	3,085	2,852	3,006
29	26	Computer, electronic and optical products.....	595	458	332	310	335	369
30	27	Electrical equipment.....	427	353	430	450	352	496
31	28	Machinery and equipment n.e.c.....	2,159	2,303	2,157	1,851	1,820	1,916
32	29	Motor vehicles, trailers and semi-trailers.....	2,069	2,282	1,933	1,791	1,642	1,721
33	30	Other transport equipment.....	451	410	420	306	299	339
34	31-32	Furniture, other manufacture goods.....	509	502	537	462	489	519
35	33	Repair and installation services of machinery and equipment.....	2	8	210	181	180	207
36	D (35)	Electricity, gas, steam and air conditioning.....	265,690	283,780	316,205	320,508	313,801	309,647
37	35.1/.3	Electricity, transmission and distribution services, steam.....	265,690	283,772	316,187	320,491	313,784	309,630
38	35.2	Manufactured gas.....	0	8	18	16	16	17
39	E	Water supply; sewerage, waste management and remediation services.....	1,942	644	665	582	312	364
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.....	1,942	644	665	582	312	364
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	1,942	643	665	581	312	364
44	F	Constructions and construction works.....	58,715	42,473	36,361	35,877	33,732	32,702
45	41-42	Building and building construction works.....	29,321	21,178	17,982	17,721	16,637	16,086
46	43	Specialised construction works.....	29,394	21,295	18,379	18,155	17,095	16,617
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	8,217	6,101	5,986	5,478	5,140	5,780
48	45	Wholesale and retail trade and repair services of motor vehicles.....	1,353	725	804	725	738	855
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,980	1,430	980	963	864	1,046
50	47	Retail trade services, except of motor vehicles and motorcycles.....	4,884	3,946	4,202	3,790	3,538	3,880
51	H	Transportation and storage services.....	251,016	541,096	711,176	610,798	709,345	733,179
52	49.1-2	Passenger rail transport services, freight rail transport services.....	31,258	20,650	15,410	15,935	14,536	13,954
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	23	6	6	6	15
54	50	Water transport services.....	122,022	413,919	586,004	486,400	576,051	599,772
55	51	Air transport services.....	97,120	105,984	109,173	107,934	118,240	118,785
56	52	Warehousing and support services for transportation.....	462	388	468	429	419	541
57	53	Postal and courier services.....	154	132	115	92	93	111
58	I	Accommodation and food services.....	3,203	2,923	2,775	2,611	2,511	2,734
59	J	Information and communication services.....	961	1,040	861	785	788	909
60	K	Financial and insurance services.....	1,336	1,207	1,049	906	923	1,028
61	L	Real estate services.....	303	286	250	223	223	239
62	M	Professional, scientific and technical services.....	1,415	1,501	1,418	1,236	1,238	1,515
63	N	Administrative and support services.....	360	391	470	434	399	456
64	O	Public administration and defence services.....	10,102	10,931	6,529	5,911	5,395	5,086
65	P	Education services.....	2,847	2,543	2,385	2,139	2,024	2,309
66	Q	Human health and social work services.....	3,911	3,394	3,967	3,537	3,308	3,713
67	R-T	Other services.....	2,452	2,249	1,664	1,443	1,343	1,499
68		All homogeneous branches.....	747,539	1,027,584	1,220,540	1,119,244	1,201,338	1,222,910
69		Private households.....	74,092	64,802	69,862	59,812	60,462	64,913
70		All homogeneous branches and private households (residents concept) 2)...	821,631	1,092,387	1,290,401	1,179,056	1,261,799	1,287,824
71		Transitional balance 3).....	-79,675	-362,683	-526,160	-427,429	-537,154	-574,848
72		Total emissions (domestic concept) 2).....	741,957	729,703	764,241	751,627	724,645	712,976

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	123,608	112,711	104,324	113,087	107,908	108,765
2	01	Products of agriculture, hunting and related services.....	123,608	112,711	104,324	113,087	107,908	108,765
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	455	414	385	399	368	318
6	05	Coal and lignite.....	321	307	314	327	306	261
7	06	Crude petroleum and natural gas.....	134	107	71	72	62	57
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	120,333	105,912	90,831	92,188	89,249	88,867
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.....	1,683	2,655	2,799	2,885	2,941	2,960
14	18	Printing and recording services.....	-	-	-	-	-	-
15	19	Coke and refined petroleum products.....	3,200	1,289	971	1,066	947	921
16	19.1	Coke oven products.....	-	-	-	-	-	-
17	19.2	Refined petroleum products.....	3,200	1,289	971	1,066	947	921
18	20	Chemicals and chemical products.....	22,677	29,826	28,653	28,338	28,254	29,214
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	56,627	44,418	36,380	37,318	35,447	34,172
22	23.1	Glass and glass products.....	12,536	12,386	11,183	11,208	10,823	11,394
23	23.2-9	Refractory products, cut, shaped and finished stone.....	44,091	32,033	25,198	26,110	24,624	22,778
24	24	Basic metals.....	36,146	27,725	22,028	22,581	21,661	21,599
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	35,206	26,858	21,244	21,669	20,791	20,787
26	24.4	Basic precious and other non-ferrous metals.....	-	-	-	-	-	-
27	24.5	Casting services of metal.....	940	867	784	912	869	813
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.....	271	301	352	376	382	397
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	271	301	352	376	382	397
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	271	301	352	376	382	397
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.....	244,667	219,338	195,893	206,051	197,907	198,347
69		Private households.....	721	718	727	744	724	676
70		All homogeneous branches and private households	245,389	220,056	196,620	206,795	198,632	199,023

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	5,352	4,568	3,370	2,846	2,775	2,916
2	01	Products of agriculture, hunting and related services.....	4,925	4,203	3,101	2,575	2,511	2,647
3	02	Products of forestry, logging and related services.....	382	326	240	248	242	247
4	03	Fish and other fishing products; aquaculture products.....	46	39	29	23	22	22
5	B	Mining and quarrying.....	2,123	1,840	1,309	1,172	1,145	1,167
6	05	Coal and lignite.....	624	541	385	264	258	267
7	06	Crude petroleum and natural gas.....	469	406	289	287	280	272
8	07-09	Metal ores, other mining and quarrying products.....	1,031	893	635	621	607	629
9	C	Manufactured products.....	37,687	32,418	24,093	27,540	26,877	27,304
10	10-12	Food products, beverages, tobacco products.....	3,838	3,300	2,456	2,628	2,565	2,605
11	13-15	Textiles, wearing apparel, leather and related products.....	494	425	316	351	342	348
12	16	Wood and products of wood and cork, except furniture.....	510	439	327	342	334	339
13	17	Paper and paper products.....	877	754	561	595	581	590
14	18	Printing and recording services.....	532	458	341	345	337	342
15	19	Coke and refined petroleum products.....	1,335	1,148	854	1,062	1,037	1,053
16	19.1	Coke oven products.....	7	6	5	7	7	7
17	19.2	Refined petroleum products.....	1,327	1,141	850	1,055	1,030	1,046
18	20	Chemicals and chemical products.....	2,683	2,307	1,717	1,883	1,838	1,867
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	682	587	437	457	446	453
20	22	Rubber and plastic products.....	1,461	1,256	935	1,030	1,005	1,021
21	23	Other non-metallic mineral products.....	880	757	563	640	624	634
22	23.1	Glass and glass products.....	215	185	137	147	143	145
23	23.2-9	Refractory products, cut, shaped and finished stone.....	666	573	426	493	481	489
24	24	Basic metals.....	2,121	1,824	1,357	1,673	1,633	1,658
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	1,147	986	734	899	877	891
26	24.4	Basic precious and other non-ferrous metals.....	681	586	436	552	539	547
27	24.5	Casting services of metal.....	293	252	188	222	217	220
28	25	Fabricated metal products, except machinery and equipment.....	2,514	2,162	1,609	2,492	2,432	2,470
29	26	Computer, electronic and optical products.....	2,103	1,808	1,346	1,488	1,452	1,491
30	27	Electrical equipment.....	1,978	1,701	1,266	1,408	1,374	1,395
31	28	Machinery and equipment n.e.c.....	4,287	3,686	2,743	3,161	3,085	3,133
32	29	Motor vehicles, trailers and semi-trailers.....	8,150	7,018	5,190	5,702	5,565	5,607
33	30	Other transport equipment.....	1,462	1,257	936	1,017	993	1,027
34	31-32	Furniture, other manufacture goods.....	833	717	533	573	559	577
35	33	Repair and installation services of machinery and equipment.....	948	815	607	692	675	694
36	D (35)	Electricity, gas, steam and air conditioning.....	3,254	2,803	2,270	2,190	2,138	2,195
37	35.1/.3	Electricity, transmission and distribution services, steam.....	2,842	2,448	1,975	1,916	1,871	1,920
38	35.2	Manufactured gas.....	412	355	295	273	267	275
39	E	Water supply; sewerage, waste management and remediation services.....	67,379	58,608	40,871	38,141	37,293	37,293
40	36	Natural water; water treatment and supply services.....	1,034	898	664	554	542	571
41	37-39	Sewerage services; waste collection and materials recovery services.....	66,345	57,710	40,207	37,587	36,751	36,722
42	37	Sewerage services, sewerage sludge.....	4,012	3,458	2,506	2,332	2,277	2,355
43	38-39	Waste collection, treatment and disposal services.....	62,333	54,252	37,701	35,255	34,474	34,367
44	F	Constructions and construction works.....	32,828	28,392	21,153	18,758	18,327	18,877
45	41-42	Building and building construction works.....	9,524	8,237	6,137	5,590	5,462	5,618
46	43	Specialised construction works.....	23,304	20,155	15,016	13,167	12,865	13,260
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	66,815	57,431	41,689	41,271	40,275	40,604
48	45	Wholesale and retail trade and repair services of motor vehicles.....	9,101	7,819	5,623	4,996	4,873	4,951
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	45,160	39,156	28,581	27,279	26,656	26,698
50	47	Retail trade services, except of motor vehicles and motorcycles.....	12,553	10,456	7,486	8,997	8,746	8,954
51	H	Transportation and storage services.....	199,524	173,907	123,335	116,590	114,030	115,291
52	49.1-2	Passenger rail transport services, freight rail transport services.....	852	742	529	491	480	485
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	122,078	106,415	75,230	70,520	68,973	69,642
54	50	Water transport services.....	580	506	360	335	328	331
55	51	Air transport services.....	600	523	372	348	340	344
56	52	Warehousing and support services for transportation.....	52,239	45,529	32,432	31,527	30,834	31,185
57	53	Postal and courier services.....	23,175	20,192	14,411	13,368	13,074	13,305
58	I	Accommodation and food services.....	1,218	990	730	699	677	692
59	J	Information and communication services.....	20,514	17,768	12,275	12,032	11,757	11,743
60	K	Financial and insurance services.....	1,184	1,003	786	1,134	1,106	1,111
61	L	Real estate services.....	3,739	3,168	2,279	2,587	2,521	2,566
62	M	Professional, scientific and technical services.....	34,511	29,249	20,336	23,209	22,619	23,011
63	N	Administrative and support services.....	1,220	1,034	861	820	799	815
64	O	Public administration and defence services.....	13,465	11,593	8,471	7,989	7,801	7,988
65	P	Education services.....	971	835	619	629	614	616
66	Q	Human health and social work services.....	3,094	2,557	1,963	1,989	1,931	1,962
67	R-T	Other services.....	26,577	22,950	16,000	17,219	16,820	17,022
68		All homogeneous branches.....	521,455	451,115	322,407	316,815	309,504	313,175
69		Private households.....	492,288	346,378	220,928	201,435	190,107	180,326
70		All homogeneous branches and private households (residents concept).....	1,013,742	797,492	543,336	518,250	499,610	493,501
71		Transitional balance 2).....	20,560	-59,297	-41,028	-39,737	-36,123	-32,740
72		Total emissions (domestic concept).....	1,034,302	738,195	502,308	478,513	463,487	460,761

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	242,789	226,276	217,407	214,658	213,441	217,624
2	01	Products of agriculture, hunting and related services.....	230,076	212,411	209,581	208,706	212,021	216,416
3	02	Products of forestry, logging and related services.....	12,679	13,835	7,798	5,926	1,394	1,182
4	03	Fish and other fishing products; aquaculture products.....	35	31	29	26	26	26
5	B	Mining and quarrying.....	1,840	897	471	555	443	465
6	05	Coal and lignite.....	598	241	149	191	114	111
7	06	Crude petroleum and natural gas.....	1,118	554	249	298	277	293
8	07-09	Metal ores, other mining and quarrying products.....	124	101	74	66	53	60
9	C	Manufactured products.....	508,331	529,762	615,470	588,739	583,573	578,111
10	10-12	Food products, beverages, tobacco products.....	14,481	14,760	14,308	15,336	15,751	14,834
11	13-15	Textiles, wearing apparel, leather and related products.....	120	102	48	50	49	52
12	16	Wood and products of wood and cork, except furniture.....	5,814	6,862	5,177	5,893	5,249	5,323
13	17	Paper and paper products.....	1,327	3,161	3,992	4,023	3,933	3,997
14	18	Printing and recording services.....	86	62	105,388	102,831	93,539	90,055
15	19	Coke and refined petroleum products.....	63,140	50,289	48,663	45,778	47,044	46,643
16	19.1	Coke oven products.....	889	807	783	768	774	795
17	19.2	Refined petroleum products.....	62,251	49,481	47,880	45,010	46,271	45,848
18	20	Chemicals and chemical products.....	54,164	55,165	64,355	62,208	56,568	59,597
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	158	84	143	183	103	128
20	22	Rubber and plastic products.....	207	211	153	142	149	151
21	23	Other non-metallic mineral products.....	3,417	2,597	2,406	2,650	2,564	2,523
22	23.1	Glass and glass products.....	884	845	813	973	930	950
23	23.2-9	Refractory products, cut, shaped and finished stone.....	2,533	1,753	1,594	1,677	1,634	1,572
24	24	Basic metals.....	5,772	5,650	4,787	4,907	4,683	4,740
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	4,430	4,335	4,065	4,083	3,894	3,993
26	24.4	Basic precious and other non-ferrous metals.....	214	174	120	123	120	126
27	24.5	Casting services of metal.....	1,127	1,141	602	700	668	622
28	25	Fabricated metal products, except machinery and equipment.....	43,586	43,413	119,008	106,712	102,984	105,922
29	26	Computer, electronic and optical products.....	220	156	92	109	104	114
30	27	Electrical equipment.....	221	151	100	114	105	117
31	28	Machinery and equipment n.e.c.....	528	388	281	318	304	334
32	29	Motor vehicles, trailers and semi-trailers.....	314,731	346,461	246,389	237,289	250,263	243,377
33	30	Other transport equipment.....	148	108	75	77	73	82
34	31-32	Furniture, other manufacture goods.....	128	82	59	62	59	68
35	33	Repair and installation services of machinery and equipment.....	84	60	45	55	51	56
36	D (35)	Electricity, gas, steam and air conditioning.....	8,546	11,249	13,373	13,689	12,194	12,226
37	35.1/.3	Electricity, transmission and distribution services, steam.....	8,508	11,222	13,356	13,673	12,179	12,210
38	35.2	Manufactured gas.....	38	27	17	17	15	17
39	E	Water supply; sewerage, waste management and remediation services.....	4,275	3,084	1,587	1,377	1,254	1,322
40	36	Natural water; water treatment and supply services.....	66	49	27	22	20	22
41	37-39	Sewerage services; waste collection and materials recovery services.....	4,209	3,035	1,560	1,356	1,234	1,300
42	37	Sewerage services, sewerage sludge.....	328	235	130	125	114	124
43	38-39	Waste collection, treatment and disposal services.....	3,881	2,801	1,430	1,231	1,119	1,176
44	F	Constructions and construction works.....	15,465	11,476	8,121	7,718	5,577	5,508
45	41-42	Building and building construction works.....	7,170	5,325	3,818	3,653	2,597	2,548
46	43	Specialised construction works.....	8,296	6,151	4,303	4,065	2,979	2,960
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	42,470	26,304	19,124	19,133	16,014	16,400
48	45	Wholesale and retail trade and repair services of motor vehicles.....	992	602	376	384	350	385
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	38,082	23,897	17,488	17,299	14,403	14,662
50	47	Retail trade services, except of motor vehicles and motorcycles.....	3,396	1,805	1,260	1,450	1,262	1,353
51	H	Transportation and storage services.....	34,324	41,778	43,742	40,118	41,883	41,922
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,348	1,240	891	956	892	871
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	11,313	10,432	8,045	7,638	7,449	7,948
54	50	Water transport services.....	13,338	23,532	29,457	26,479	28,349	27,820
55	51	Air transport services.....	3,497	3,644	3,818	3,748	4,010	4,023
56	52	Warehousing and support services for transportation.....	2,630	2,020	1,054	902	822	875
57	53	Postal and courier services.....	1,197	909	478	395	360	385
58	I	Accommodation and food services.....	1,626	832	770	777	727	751
59	J	Information and communication services.....	1,595	1,139	633	600	557	588
60	K	Financial and insurance services.....	545	309	257	274	269	277
61	L	Real estate services.....	598	388	258	276	261	276
62	M	Professional, scientific and technical services.....	4,442	3,001	1,766	1,949	1,810	1,950
63	N	Administrative and support services.....	245	158	122	123	117	123
64	O	Public administration and defence services.....	5,195	4,606	3,016	2,906	2,479	2,490
65	P	Education services.....	338	154	130	132	111	116
66	Q	Human health and social work services.....	1,944	898	820	830	683	711
67	R-T	Other services.....	2,276	1,603	2,088	2,183	2,063	2,108
68		All homogeneous branches.....	876,840	863,915	929,155	896,037	883,456	882,969
69		Private households.....	743,091	516,034	353,033	313,045	294,304	296,330
70		All homogeneous branches and private households (residents concept) 2)...	1,619,931	1,379,948	1,282,187	1,209,083	1,177,760	1,179,299
71		Transitional balance 3).....	-10,483	-27,111	-28,967	-25,840	-28,470	-29,311
72		Total emissions (domestic concept) 2).....	1,609,448	1,352,837	1,253,221	1,183,242	1,149,290	1,149,988

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	24,088	22,752	15,945	13,752	9,103	8,704
2	01	Products of agriculture, hunting and related services.....	11,422	8,920	8,137	7,819	7,701	7,516
3	02	Products of forestry, logging and related services.....	12,637	13,805	7,781	5,908	1,378	1,165
4	03	Fish and other fishing products; aquaculture products.....	30	28	27	25	24	24
5	B	Mining and quarrying.....	207	210	182	219	132	141
6	05	Coal and lignite.....	103	136	125	172	97	93
7	06	Crude petroleum and natural gas.....	55	29	13	9	9	15
8	07-09	Metal ores, other mining and quarrying products.....	49	46	44	37	27	32
9	C	Manufactured products.....	3,761	4,557	5,124	5,313	4,319	4,503
10	10-12	Food products, beverages, tobacco products.....	527	448	512	421	449	441
11	13-15	Textiles, wearing apparel, leather and related products.....	76	71	30	28	28	30
12	16	Wood and products of wood and cork, except furniture.....	91	913	1,053	1,832	1,242	1,262
13	17	Paper and paper products.....	318	487	541	412	278	272
14	18	Printing and recording services.....	40	28	20	18	20	21
15	19	Coke and refined petroleum products.....	891	1,044	807	772	722	706
16	19.1	Coke oven products.....	13	1	0	1	1	0
17	19.2	Refined petroleum products.....	878	1,043	806	771	722	706
18	20	Chemicals and chemical products.....	601	445	1,070	789	660	692
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	98	42	118	154	77	99
20	22	Rubber and plastic products.....	79	120	99	76	89	86
21	23	Other non-metallic mineral products.....	167	245	180	197	143	143
22	23.1	Glass and glass products.....	43	54	29	70	28	29
23	23.2-9	Refractory products, cut, shaped and finished stone.....	124	191	151	127	115	114
24	24	Basic metals.....	270	233	213	172	156	236
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	108	97	107	71	56	138
26	24.4	Basic precious and other non-ferrous metals.....	154	131	95	88	88	91
27	24.5	Casting services of metal.....	7	5	11	12	12	7
28	25	Fabricated metal products, except machinery and equipment.....	204	156	166	153	159	181
29	26	Computer, electronic and optical products.....	35	24	16	14	17	19
30	27	Electrical equipment.....	47	28	28	25	22	28
31	28	Machinery and equipment n.e.c.....	151	120	125	117	118	135
32	29	Motor vehicles, trailers and semi-trailers.....	92	106	84	84	90	92
33	30	Other transport equipment.....	19	16	22	12	13	17
34	31-32	Furniture, other manufacture goods.....	55	30	29	26	26	31
35	33	Repair and installation services of machinery and equipment.....	0	0	11	11	10	12
36	D (35)	Electricity, gas, steam and air conditioning.....	8,248	11,039	13,244	13,556	12,071	12,093
37	35.1/.3	Electricity, transmission and distribution services, steam.....	8,248	11,039	13,244	13,556	12,071	12,093
38	35.2	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	262	58	7	6	4	5
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.....	262	58	7	6	4	5
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	262	58	7	6	4	5
44	F	Constructions and construction works.....	12,897	9,585	7,061	6,803	4,740	4,603
45	41-42	Building and building construction works.....	6,424	4,777	3,510	3,381	2,348	2,279
46	43	Specialised construction works.....	6,472	4,808	3,551	3,422	2,392	2,324
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	2,143	719	730	761	575	598
48	45	Wholesale and retail trade and repair services of motor vehicles.....	191	38	51	42	34	43
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	606	231	240	276	212	218
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,347	450	439	443	329	338
51	H	Transportation and storage services.....	19,112	28,361	34,144	31,167	33,240	32,706
52	49.1-2	Passenger rail transport services, freight rail transport services.....	2,305	1,207	874	942	880	858
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	1	0	0	0	1
54	50	Water transport services.....	13,309	23,510	29,445	26,470	28,341	27,811
55	51	Air transport services.....	3,467	3,621	3,806	3,738	4,002	4,014
56	52	Warehousing and support services for transportation.....	16	17	15	14	15	18
57	53	Postal and courier services.....	14	5	4	3	3	3
58	I	Accommodation and food services.....	1,378	669	670	677	635	650
59	J	Information and communication services.....	167	91	75	71	73	76
60	K	Financial and insurance services.....	393	206	191	185	187	189
61	L	Real estate services.....	142	77	74	73	73	74
62	M	Professional, scientific and technical services.....	276	155	141	133	135	141
63	N	Administrative and support services.....	95	56	57	55	55	56
64	O	Public administration and defence services.....	3,973	3,727	2,527	2,441	2,053	2,031
65	P	Education services.....	253	94	94	96	78	80
66	Q	Human health and social work services.....	1,320	488	550	551	424	427
67	R-T	Other services.....	231	117	99	146	97	88
68		All homogeneous branches.....	78,948	82,963	80,914	76,007	67,995	67,165
69		Private households.....	61,014	43,539	65,788	60,582	54,586	55,516
70		All homogeneous branches and private households (residents concept) 2)...	139,962	126,502	146,702	136,589	122,581	122,681
71		Transitional balance 3).....	-2,330	-10,651	-15,661	-12,758	-15,913	-17,007
72		Total emissions (domestic concept) 2).....	137,632	115,851	131,042	123,831	106,667	105,674

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	218,116	203,109	201,229	200,704	204,153	208,713
2	01	Products of agriculture, hunting and related services.....	218,116	203,109	201,229	200,704	204,153	208,713
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	1,479	572	228	283	262	272
6	05	Coal and lignite.....	449	72	6	7	6	6
7	06	Crude petroleum and natural gas.....	1,030	500	222	276	256	266
8	07-09	Metal ores, other mining and quarrying products.....	-	-	-	-	-	-
9	C	Manufactured products.....	501,288	522,872	608,988	581,693	577,659	571,889
10	10-12	Food products, beverages, tobacco products.....	13,616	14,072	13,656	14,748	15,148	14,227
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	5,679	5,918	4,105	4,039	3,986	4,039
13	17	Paper and paper products.....	931	2,620	3,419	3,573	3,620	3,688
14	18	Printing and recording services.....	-	-	105,349	102,791	93,499	90,012
15	19	Coke and refined petroleum products.....	62,131	49,161	47,807	44,939	46,260	45,870
16	19.1	Coke oven products.....	875	806	782	767	773	794
17	19.2	Refined petroleum products.....	61,256	48,355	47,025	44,172	45,487	45,076
18	20	Chemicals and chemical products.....	53,327	54,552	63,187	61,299	55,797	58,786
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	3,172	2,297	2,194	2,412	2,384	2,339
22	23.1	Glass and glass products.....	822	777	775	894	894	912
23	23.2-9	Refractory products, cut, shaped and finished stone.....	2,350	1,520	1,419	1,519	1,490	1,427
24	24	Basic metals.....	5,316	5,284	4,497	4,629	4,428	4,398
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	4,222	4,167	3,917	3,955	3,786	3,797
26	24.4	Basic precious and other non-ferrous metals.....	-	-	-	-	-	-
27	24.5	Casting services of metal.....	1,094	1,117	580	674	642	601
28	25	Fabricated metal products, except machinery and equipment.....	43,160	43,100	118,751	106,400	102,680	105,584
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.....	313,955	345,868	246,022	236,863	249,858	242,947
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.....	34,513	21,487	16,046	15,862	13,127	13,313
48	45	Wholesale and retail trade and repair services of motor vehicles.....	-	-	-	-	-	-
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	34,513	21,487	16,046	15,862	13,127	13,313
50	47	Retail trade services, except of motor vehicles and motorcycles.....	-	-	-	-	-	-
51	H	Transportation and storage services.....	5,286	5,805	5,673	5,685	5,674	6,067
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.....	5,286	5,805	5,673	5,685	5,674	6,067
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.....	4	5	1,179	1,188	1,188	1,188
68		All homogeneous branches.....	760,687	753,850	833,342	805,414	802,063	801,443
69		Private households.....	420,186	308,584	179,910	149,027	143,247	147,954
70		All homogeneous branches and private households	1,180,873	1,062,433	1,013,251	954,441	945,310	949,397

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	585	415	234	202	186	206
2	01	Products of agriculture, hunting and related services.....	538	382	215	183	168	187
3	02	Products of forestry, logging and related services.....	42	30	17	18	16	17
4	03	Fish and other fishing products; aquaculture products.....	5	4	2	2	1	2
5	B	Mining and quarrying.....	153	114	61	53	49	52
6	05	Coal and lignite.....	45	34	18	12	11	12
7	06	Crude petroleum and natural gas.....	34	25	14	13	12	12
8	07-09	Metal ores, other mining and quarrying products.....	75	55	30	28	26	28
9	C	Manufactured products.....	3,282	2,333	1,359	1,733	1,594	1,719
10	10-12	Food products, beverages, tobacco products.....	338	240	140	167	154	166
11	13-15	Textiles, wearing apparel, leather and related products.....	43	31	18	22	21	22
12	16	Wood and products of wood and cork, except furniture.....	45	32	19	22	20	22
13	17	Paper and paper products.....	77	55	32	38	35	38
14	18	Printing and recording services.....	47	33	19	22	20	22
15	19	Coke and refined petroleum products.....	117	83	49	68	62	67
16	19.1	Coke oven products.....	1	0	0	0	0	0
17	19.2	Refined petroleum products.....	117	83	48	67	62	67
18	20	Chemicals and chemical products.....	236	168	98	120	110	119
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	60	43	25	29	27	29
20	22	Rubber and plastic products.....	128	91	53	66	60	65
21	23	Other non-metallic mineral products.....	77	55	32	41	37	40
22	23.1	Glass and glass products.....	19	13	8	9	9	9
23	23.2-9	Refractory products, cut, shaped and finished stone.....	59	42	24	31	29	31
24	24	Basic metals.....	187	132	77	107	98	106
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	101	72	42	57	53	57
26	24.4	Basic precious and other non-ferrous metals.....	60	43	25	35	32	35
27	24.5	Casting services of metal.....	26	18	11	14	13	14
28	25	Fabricated metal products, except machinery and equipment.....	221	157	92	159	146	157
29	26	Computer, electronic and optical products.....	185	131	77	95	87	95
30	27	Electrical equipment.....	174	124	72	90	82	89
31	28	Machinery and equipment n.e.c.....	377	268	156	201	185	200
32	29	Motor vehicles, trailers and semi-trailers.....	684	488	282	342	315	338
33	30	Other transport equipment.....	129	91	53	65	60	65
34	31-32	Furniture, other manufacture goods.....	73	52	30	36	34	36
35	33	Repair and installation services of machinery and equipment.....	83	59	35	44	41	44
36	D (35)	Electricity, gas, steam and air conditioning.....	298	210	128	133	123	133
37	35.1/.3	Electricity, transmission and distribution services, steam.....	260	183	112	117	108	117
38	35.2	Manufactured gas.....	38	27	17	16	15	16
39	E	Water supply; sewerage, waste management and remediation services.....	4,013	3,027	1,579	1,371	1,250	1,317
40	36	Natural water; water treatment and supply services.....	66	49	27	22	20	22
41	37-39	Sewerage services; waste collection and materials recovery services.....	3,947	2,977	1,552	1,349	1,230	1,295
42	37	Sewerage services, sewerage sludge.....	328	235	130	125	114	124
43	38-39	Waste collection, treatment and disposal services.....	3,619	2,743	1,422	1,224	1,115	1,171
44	F	Constructions and construction works.....	2,568	1,891	1,060	915	836	905
45	41-42	Building and building construction works.....	745	549	308	273	249	269
46	43	Specialised construction works.....	1,823	1,343	753	642	587	636
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	5,813	4,098	2,348	2,511	2,313	2,489
48	45	Wholesale and retail trade and repair services of motor vehicles.....	802	564	325	343	316	342
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,963	2,179	1,203	1,161	1,064	1,132
50	47	Retail trade services, except of motor vehicles and motorcycles.....	2,049	1,355	820	1,007	933	1,015
51	H	Transportation and storage services.....	9,926	7,612	3,926	3,266	2,969	3,149
52	49.1-2	Passenger rail transport services, freight rail transport services.....	43	33	17	14	13	13
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	6,027	4,626	2,372	1,952	1,775	1,880
54	50	Water transport services.....	29	22	11	9	8	9
55	51	Air transport services.....	30	23	12	10	9	9
56	52	Warehousing and support services for transportation.....	2,614	2,004	1,039	888	807	857
57	53	Postal and courier services.....	1,183	904	475	393	357	381
58	I	Accommodation and food services.....	248	163	100	100	93	101
59	J	Information and communication services.....	1,428	1,048	557	529	484	513
60	K	Financial and insurance services.....	151	103	66	88	82	87
61	L	Real estate services.....	455	311	184	203	187	202
62	M	Professional, scientific and technical services.....	4,166	2,846	1,625	1,816	1,675	1,809
63	N	Administrative and support services.....	149	102	65	67	62	67
64	O	Public administration and defence services.....	1,221	879	489	465	426	459
65	P	Education services.....	85	61	36	36	33	35
66	Q	Human health and social work services.....	623	410	270	279	259	284
67	R-T	Other services.....	2,041	1,481	810	849	778	832
68		All homogeneous branches.....	37,206	27,102	14,898	14,617	13,398	14,361
69		Private households.....	261,890	163,912	107,335	103,436	96,471	92,860
70		All homogeneous branches and private households (residents concept).....	299,096	191,014	122,234	118,053	109,869	107,221
71		Transitional balance 2).....	-8,153	-16,461	-13,306	-13,083	-12,557	-12,304
72		Total emissions (domestic concept).....	290,944	174,553	108,928	104,970	97,312	94,917

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	49,945	49,681	51,450	52,837	54,383	55,950
2	01	Products of agriculture, hunting and related services.....	49,542	49,301	51,230	52,638	54,255	55,823
3	02	Products of forestry, logging and related services.....	281	285	184	166	96	95
4	03	Fish and other fishing products; aquaculture products.....	122	95	37	32	32	32
5	B	Mining and quarrying.....	19,782	16,823	15,260	16,512	16,129	15,990
6	05	Coal and lignite.....	4,984	5,157	4,819	5,063	5,215	5,130
7	06	Crude petroleum and natural gas.....	24	31	23	24	23	26
8	07-09	Metal ores, other mining and quarrying products.....	14,773	11,635	10,418	11,425	10,890	10,835
9	C	Manufactured products.....	37,452	28,680	18,636	19,045	17,911	17,932
10	10-12	Food products, beverages, tobacco products.....	833	925	741	780	783	689
11	13-15	Textiles, wearing apparel, leather and related products.....	57	46	26	25	24	27
12	16	Wood and products of wood and cork, except furniture.....	1,567	2,209	1,590	1,921	1,626	1,649
13	17	Paper and paper products.....	325	486	380	303	229	216
14	18	Printing and recording services.....	3,301	3,302	2,413	2,370	2,375	2,377
15	19	Coke and refined petroleum products.....	1,827	1,824	1,156	1,127	981	970
16	19.1	Coke oven products.....	220	129	135	132	133	136
17	19.2	Refined petroleum products.....	1,608	1,695	1,021	995	848	833
18	20	Chemicals and chemical products.....	1,140	824	1,125	965	891	936
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	79	52	75	89	50	63
20	22	Rubber and plastic products.....	103	126	78	76	78	80
21	23	Other non-metallic mineral products.....	6,919	4,401	3,175	3,442	3,242	3,122
22	23.1	Glass and glass products.....	126	143	158	180	152	162
23	23.2-9	Refractory products, cut, shaped and finished stone.....	6,793	4,258	3,017	3,262	3,090	2,960
24	24	Basic metals.....	17,109	10,410	4,862	4,885	4,608	4,693
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	14,195	9,192	4,223	4,198	3,968	4,026
26	24.4	Basic precious and other non-ferrous metals.....	1,636	129	426	455	433	488
27	24.5	Casting services of metal.....	1,277	1,090	214	233	207	179
28	25	Fabricated metal products, except machinery and equipment.....	3,020	2,998	2,207	2,211	2,212	2,230
29	26	Computer, electronic and optical products.....	125	112	84	87	83	92
30	27	Electrical equipment.....	126	110	82	85	81	88
31	28	Machinery and equipment n.e.c.....	276	250	190	204	195	214
32	29	Motor vehicles, trailers and semi-trailers.....	452	430	317	333	320	341
33	30	Other transport equipment.....	83	77	60	59	56	63
34	31-32	Furniture, other manufacture goods.....	58	50	38	38	36	41
35	33	Repair and installation services of machinery and equipment.....	52	48	38	43	39	43
36	D (35)	Electricity, gas, steam and air conditioning.....	11,549	11,539	11,138	11,224	10,666	10,746
37	35.1/.3	Electricity, transmission and distribution services, steam.....	11,520	11,512	11,114	11,202	10,644	10,722
38	35.2	Manufactured gas.....	29	27	25	23	22	24
39	E	Water supply; sewerage, waste management and remediation services.....	2,865	2,600	1,916	1,832	1,732	1,869
40	36	Natural water; water treatment and supply services.....	47	43	34	30	28	32
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,818	2,557	1,882	1,803	1,704	1,837
42	37	Sewerage services, sewerage sludge.....	224	207	156	155	147	163
43	38-39	Waste collection, treatment and disposal services.....	2,594	2,350	1,726	1,647	1,557	1,673
44	F	Constructions and construction works.....	11,526	7,724	6,550	6,504	6,355	6,475
45	41-42	Building and building construction works.....	7,493	4,965	4,437	4,483	4,462	4,525
46	43	Specialised construction works.....	4,033	2,759	2,113	2,021	1,893	1,949
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	3,866	3,361	2,655	2,695	2,506	2,689
48	45	Wholesale and retail trade and repair services of motor vehicles.....	527	449	348	328	310	339
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	2,105	1,900	1,481	1,462	1,370	1,466
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,235	1,012	825	905	827	884
51	H	Transportation and storage services.....	100,692	111,288	86,955	87,341	87,317	87,265
52	49.1-2	Passenger rail transport services, freight rail transport services.....	4,413	3,331	3,226	3,248	3,101	3,075
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	37,224	29,590	36,464	40,175	38,283	39,208
54	50	Water transport services.....	54,703	74,007	43,619	40,386	42,375	41,245
55	51	Air transport services.....	1,443	1,669	1,649	1,606	1,732	1,741
56	52	Warehousing and support services for transportation.....	1,989	1,841	1,368	1,334	1,265	1,380
57	53	Postal and courier services.....	920	849	629	592	562	616
58	I	Accommodation and food services.....	625	528	512	513	493	504
59	J	Information and communication services.....	1,036	950	699	707	674	722
60	K	Financial and insurance services.....	225	194	169	177	176	179
61	L	Real estate services.....	356	326	258	281	269	289
62	M	Professional, scientific and technical services.....	2,687	2,471	1,830	2,063	1,964	2,131
63	N	Administrative and support services.....	122	112	104	98	95	101
64	O	Public administration and defence services.....	1,230	1,243	834	769	720	767
65	P	Education services.....	127	87	75	77	68	71
66	Q	Human health and social work services.....	632	492	477	478	420	432
67	R-T	Other services.....	1,813	1,655	1,215	1,350	1,265	1,367
68		All homogeneous branches.....	246,529	239,755	200,733	204,503	203,142	205,479
69		Private households.....	71,890	67,391	74,970	68,646	65,188	62,075
70		All homogeneous branches and private households (residents concept) 2)...	318,419	307,146	275,703	273,149	268,331	267,554
71		Transitional balance 3).....	18	-14,188	-19,034	-15,708	-18,929	-19,814
72		Total emissions (domestic concept) 2).....	318,436	292,958	256,669	257,441	249,402	247,740

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	9,396	7,605	6,451	6,144	5,925	5,741
2	01	Products of agriculture, hunting and related services.....	9,019	7,249	6,249	5,965	5,816	5,635
3	02	Products of forestry, logging and related services.....	257	263	167	147	79	76
4	03	Fish and other fishing products; aquaculture products.....	119	93	35	31	30	30
5	B	Mining and quarrying.....	238	236	157	199	136	136
6	05	Coal and lignite.....	192	180	124	165	110	108
7	06	Crude petroleum and natural gas.....	1	10	7	7	7	9
8	07-09	Metal ores, other mining and quarrying products.....	45	46	26	26	19	20
9	C	Manufactured products.....	2,595	3,493	2,684	2,660	2,092	2,155
10	10-12	Food products, beverages, tobacco products.....	142	281	209	163	171	143
11	13-15	Textiles, wearing apparel, leather and related products.....	30	21	7	5	5	7
12	16	Wood and products of wood and cork, except furniture.....	81	664	517	865	584	593
13	17	Paper and paper products.....	267	425	328	251	179	163
14	18	Printing and recording services.....	8	5	3	2	2	3
15	19	Coke and refined petroleum products.....	1,269	1,377	813	747	655	638
16	19.1	Coke oven products.....	105	74	99	97	98	100
17	19.2	Refined petroleum products.....	1,164	1,303	714	650	558	537
18	20	Chemicals and chemical products.....	356	222	542	336	271	303
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	41	17	49	63	25	36
20	22	Rubber and plastic products.....	22	52	21	17	23	19
21	23	Other non-metallic mineral products.....	113	184	85	103	73	51
22	23.1	Glass and glass products.....	5	24	3	23	2	2
23	23.2-9	Refractory products, cut, shaped and finished stone.....	108	161	83	80	71	48
24	24	Basic metals.....	112	123	17	21	15	102
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	107	111	5	7	5	96
26	24.4	Basic precious and other non-ferrous metals.....	3	12	8	9	6	5
27	24.5	Casting services of metal.....	1	1	4	5	5	1
28	25	Fabricated metal products, except machinery and equipment.....	52	35	34	29	32	38
29	26	Computer, electronic and optical products.....	10	5	3	2	2	3
30	27	Electrical equipment.....	17	9	6	5	5	5
31	28	Machinery and equipment n.e.c.....	40	32	24	24	24	28
32	29	Motor vehicles, trailers and semi-trailers.....	20	31	15	16	18	16
33	30	Other transport equipment.....	3	2	3	1	1	2
34	31-32	Furniture, other manufacture goods.....	12	8	6	5	5	6
35	33	Repair and installation services of machinery and equipment.....	0	0	1	4	2	2
36	D (35)	Electricity, gas, steam and air conditioning.....	11,333	11,339	10,960	11,056	10,507	10,571
37	35.1/.3	Electricity, transmission and distribution services, steam.....	11,333	11,339	10,960	11,056	10,507	10,571
38	35.2	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	71	15	11	9	3	4
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.....	71	15	11	9	3	4
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	71	15	11	9	3	4
44	F	Constructions and construction works.....	5,082	2,757	2,020	1,989	1,836	1,739
45	41-42	Building and building construction works.....	2,531	1,368	998	982	905	856
46	43	Specialised construction works.....	2,551	1,389	1,023	1,007	931	883
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	675	414	417	428	355	362
48	45	Wholesale and retail trade and repair services of motor vehicles.....	58	16	21	17	14	18
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	212	151	154	168	143	145
50	47	Retail trade services, except of motor vehicles and motorcycles.....	404	246	242	243	198	200
51	H	Transportation and storage services.....	53,099	72,738	42,253	38,814	40,935	39,707
52	49.1-2	Passenger rail transport services, freight rail transport services.....	930	435	290	313	295	279
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	0	0	0	0	0
54	50	Water transport services.....	50,736	70,645	40,322	36,902	38,915	37,693
55	51	Air transport services.....	1,420	1,648	1,633	1,592	1,719	1,726
56	52	Warehousing and support services for transportation.....	8	8	6	6	6	7
57	53	Postal and courier services.....	5	2	2	1	1	1
58	I	Accommodation and food services.....	539	449	449	451	434	440
59	J	Information and communication services.....	67	55	46	44	45	46
60	K	Financial and insurance services.....	164	138	129	127	128	128
61	L	Real estate services.....	61	54	52	51	52	52
62	M	Professional, scientific and technical services.....	114	97	88	84	86	87
63	N	Administrative and support services.....	40	37	37	36	36	36
64	O	Public administration and defence services.....	475	546	304	255	232	231
65	P	Education services.....	73	37	37	37	31	30
66	Q	Human health and social work services.....	417	294	318	317	267	267
67	R-T	Other services.....	84	58	50	68	49	45
68		All homogeneous branches.....	84,524	100,360	66,463	62,770	63,148	61,778
69		Private households.....	22,474	21,558	34,909	29,780	27,061	27,683
70		All homogeneous branches and private households (residents concept) 2)...	106,998	121,918	101,372	92,550	90,209	89,460
71		Transitional balance 3).....	-1,108	-10,443	-15,798	-12,484	-15,932	-17,172
72		Total emissions (domestic concept) 2).....	105,890	111,475	85,573	80,067	74,277	72,288

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 processemissions of particulate matter (PM₁₀)

tonnes

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	40,221	41,773	44,763	46,481	48,257	49,982
2	01	Products of agriculture, hunting and related services.....	40,221	41,773	44,763	46,481	48,257	49,982
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	19,437	16,488	15,030	16,243	15,927	15,782
6	05	Coal and lignite.....	4,761	4,948	4,674	4,882	5,091	5,005
7	06	Crude petroleum and natural gas.....	-	-	-	-	-	-
8	07-09	Metal ores, other mining and quarrying products.....	14,676	11,541	10,356	11,361	10,836	10,776
9	C	Manufactured products.....	32,798	23,285	14,509	14,821	14,334	14,162
10	10-12	Food products, beverages, tobacco products.....	479	448	383	467	470	391
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	1,458	1,519	1,054	1,037	1,023	1,037
13	17	Paper and paper products.....	10	16	18	18	18	19
14	18	Printing and recording services.....	3,263	3,270	2,390	2,348	2,354	2,354
15	19	Coke and refined petroleum products.....	485	379	292	319	268	269
16	19.1	Coke oven products.....	115	54	35	34	35	36
17	19.2	Refined petroleum products.....	371	325	257	285	234	234
18	20	Chemicals and chemical products.....	636	466	479	521	518	522
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	6,758	4,172	3,056	3,302	3,135	3,033
22	23.1	Glass and glass products.....	109	109	147	148	142	151
23	23.2-9	Refractory products, cut, shaped and finished stone.....	6,649	4,064	2,908	3,154	2,993	2,882
24	24	Basic metals.....	16,880	10,179	4,763	4,769	4,502	4,493
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	14,024	9,023	4,173	4,139	3,915	3,877
26	24.4	Basic precious and other non-ferrous metals.....	1,596	82	391	415	397	451
27	24.5	Casting services of metal.....	1,260	1,074	199	215	191	165
28	25	Fabricated metal products, except machinery and equipment.....	2,829	2,835	2,076	2,040	2,045	2,045
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.....	7	7	9	9	9	10
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	7	7	9	9	9	10
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	7	7	9	9	9	10
44	F	Constructions and construction works.....	4,357	3,038	2,994	3,071	3,149	3,218
45	41-42	Building and building construction works.....	4,357	3,038	2,994	3,071	3,149	3,218
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.....	40,239	31,744	39,678	43,765	41,867	42,635
52	49.1-2	Passenger rail transport services, freight rail transport services.....	3,451	2,867	2,914	2,914	2,786	2,774
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	32,842	25,535	33,482	37,382	35,634	36,324
54	50	Water transport services.....	3,946	3,342	3,282	3,469	3,447	3,537
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.....	137,058	116,335	116,981	124,391	123,544	125,789
69		Private households.....	20,974	20,038	19,366	19,176	19,323	18,192
70		All homogeneous branches and private households	158,032	136,372	136,348	143,567	142,867	143,980

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	329	304	237	212	201	227
2	01	Products of agriculture, hunting and related services.....	302	279	218	192	182	206
3	02	Products of forestry, logging and related services.....	23	22	17	18	18	19
4	03	Fish and other fishing products; aquaculture products.....	3	3	2	2	2	2
5	B	Mining and quarrying.....	106	98	73	69	66	72
6	05	Coal and lignite.....	31	29	22	16	15	17
7	06	Crude petroleum and natural gas.....	23	22	16	17	16	17
8	07-09	Metal ores, other mining and quarrying products.....	52	48	36	37	35	39
9	C	Manufactured products.....	2,059	1,902	1,443	1,564	1,484	1,615
10	10-12	Food products, beverages, tobacco products.....	211	195	148	150	142	155
11	13-15	Textiles, wearing apparel, leather and related products.....	27	25	19	20	19	21
12	16	Wood and products of wood and cork, except furniture.....	28	26	20	20	19	20
13	17	Paper and paper products.....	48	45	34	34	32	35
14	18	Printing and recording services.....	29	27	21	20	19	20
15	19	Coke and refined petroleum products.....	74	68	52	61	58	63
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	73	68	51	60	57	62
18	20	Chemicals and chemical products.....	148	137	104	108	102	111
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	38	35	26	26	25	27
20	22	Rubber and plastic products.....	80	74	56	59	56	61
21	23	Other non-metallic mineral products.....	49	45	34	37	35	38
22	23.1	Glass and glass products.....	12	11	8	8	8	9
23	23.2-9	Refractory products, cut, shaped and finished stone.....	37	34	26	28	27	29
24	24	Basic metals.....	117	108	82	96	91	99
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	63	58	44	51	49	53
26	24.4	Basic precious and other non-ferrous metals.....	38	35	26	32	30	33
27	24.5	Casting services of metal.....	16	15	11	13	12	13
28	25	Fabricated metal products, except machinery and equipment.....	139	128	97	142	135	147
29	26	Computer, electronic and optical products.....	116	107	81	85	81	89
30	27	Electrical equipment.....	109	101	76	80	76	83
31	28	Machinery and equipment n.e.c.....	236	218	166	180	171	186
32	29	Motor vehicles, trailers and semi-trailers.....	432	399	302	317	301	325
33	30	Other transport equipment.....	81	74	56	58	55	61
34	31-32	Furniture, other manufacture goods.....	46	42	32	33	31	34
35	33	Repair and installation services of machinery and equipment.....	52	48	37	39	37	41
36	D (35)	Electricity, gas, steam and air conditioning.....	216	200	178	168	159	176
37	35.1-/3	Electricity, transmission and distribution services, steam.....	187	173	154	145	138	152
38	35.2	Manufactured gas.....	29	27	25	23	22	24
39	E	Water supply; sewerage, waste management and remediation services.....	2,787	2,578	1,896	1,814	1,720	1,855
40	36	Natural water; water treatment and supply services.....	47	43	34	30	28	32
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,740	2,535	1,862	1,784	1,692	1,823
42	37	Sewerage services, sewerage sludge.....	224	207	156	155	147	163
43	38-39	Waste collection, treatment and disposal services.....	2,516	2,328	1,706	1,629	1,545	1,660
44	F	Constructions and construction works.....	2,087	1,930	1,536	1,444	1,369	1,517
45	41-42	Building and building construction works.....	605	560	446	430	408	452
46	43	Specialised construction works.....	1,482	1,370	1,090	1,013	961	1,066
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	3,192	2,948	2,238	2,267	2,151	2,327
48	45	Wholesale and retail trade and repair services of motor vehicles.....	468	433	327	311	296	321
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,892	1,750	1,328	1,293	1,227	1,321
50	47	Retail trade services, except of motor vehicles and motorcycles.....	831	766	583	662	629	684
51	H	Transportation and storage services.....	7,355	6,806	5,023	4,762	4,515	4,923
52	49.1-2	Passenger rail transport services, freight rail transport services.....	32	30	22	21	19	21
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	4,382	4,055	2,982	2,793	2,648	2,884
54	50	Water transport services.....	22	20	15	14	13	14
55	51	Air transport services.....	23	21	16	15	14	15
56	52	Warehousing and support services for transportation.....	1,981	1,833	1,362	1,328	1,259	1,373
57	53	Postal and courier services.....	915	847	627	591	561	615
58	I	Accommodation and food services.....	85	79	64	62	59	64
59	J	Information and communication services.....	969	896	653	663	629	676
60	K	Financial and insurance services.....	61	56	40	51	48	51
61	L	Real estate services.....	295	272	206	229	218	237
62	M	Professional, scientific and technical services.....	2,573	2,374	1,742	1,979	1,878	2,044
63	N	Administrative and support services.....	82	76	67	63	59	65
64	O	Public administration and defence services.....	755	697	531	514	488	536
65	P	Education services.....	54	50	39	40	37	40
66	Q	Human health and social work services.....	215	198	159	161	153	165
67	R-T	Other services.....	1,728	1,598	1,165	1,281	1,215	1,322
68		All homogeneous branches.....	24,947	23,061	17,289	17,342	16,451	17,913
69		Private households.....	28,441	25,795	20,695	19,690	18,805	16,201
70		All homogeneous branches and private households (residents concept).....	53,388	48,856	37,984	37,032	35,255	34,114
71		Transitional balance 2).....	1,125	-3,744	-3,236	-3,224	-2,997	-2,642
72		Total emissions (domestic concept).....	54,514	45,111	34,748	33,808	32,258	31,472

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	16,623	14,803	13,985	13,889	13,939	14,061
2	01	Products of agriculture, hunting and related services.....	16,225	14,428	13,769	13,696	13,817	13,940
3	02	Products of forestry, logging and related services.....	277	281	179	161	91	90
4	03	Fish and other fishing products; aquaculture products.....	122	95	36	32	31	31
5	B	Mining and quarrying.....	2,787	2,470	2,194	2,377	2,285	2,269
6	05	Coal and lignite.....	1,170	1,157	1,038	1,118	1,093	1,074
7	06	Crude petroleum and natural gas.....	20	26	18	19	18	20
8	07-09	Metal ores, other mining and quarrying products.....	1,597	1,286	1,138	1,241	1,175	1,176
9	C	Manufactured products.....	22,125	17,288	11,434	11,720	10,808	10,813
10	10-12	Food products, beverages, tobacco products.....	573	658	510	515	516	455
11	13-15	Textiles, wearing apparel, leather and related products.....	49	39	20	19	18	20
12	16	Wood and products of wood and cork, except furniture.....	1,057	1,618	1,174	1,470	1,210	1,228
13	17	Paper and paper products.....	284	424	330	260	193	181
14	18	Printing and recording services.....	1,120	1,116	814	799	800	802
15	19	Coke and refined petroleum products.....	1,388	1,445	930	891	780	769
16	19.1	Coke oven products.....	97	61	121	119	120	123
17	19.2	Refined petroleum products.....	1,291	1,383	809	772	660	646
18	20	Chemicals and chemical products.....	836	605	864	704	639	675
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	68	43	63	75	40	51
20	22	Rubber and plastic products.....	87	106	61	58	60	60
21	23	Other non-metallic mineral products.....	5,201	3,314	2,429	2,641	2,482	2,373
22	23.1	Glass and glass products.....	83	96	98	117	95	100
23	23.2-9	Refractory products, cut, shaped and finished stone.....	5,118	3,218	2,331	2,524	2,387	2,272
24	24	Basic metals.....	9,359	5,962	2,828	2,843	2,665	2,741
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	7,231	5,088	2,348	2,329	2,185	2,234
26	24.4	Basic precious and other non-ferrous metals.....	1,344	102	347	370	351	397
27	24.5	Casting services of metal.....	784	772	133	145	129	111
28	25	Fabricated metal products, except machinery and equipment.....	1,113	1,085	800	815	812	825
29	26	Computer, electronic and optical products.....	106	91	62	63	60	65
30	27	Electrical equipment.....	107	89	62	63	59	63
31	28	Machinery and equipment n.e.c.....	234	204	148	156	147	159
32	29	Motor vehicles, trailers and semi-trailers.....	379	348	236	244	231	243
33	30	Other transport equipment.....	70	62	44	43	40	45
34	31-32	Furniture, other manufacture goods.....	50	41	30	29	28	31
35	33	Repair and installation services of machinery and equipment.....	44	39	28	32	28	31
36	D (35)	Electricity, gas, steam and air conditioning.....	10,228	10,219	10,028	10,124	9,554	9,627
37	35.1/.3	Electricity, transmission and distribution services, steam.....	10,203	10,197	10,010	10,108	9,539	9,610
38	35.2	Manufactured gas.....	24	21	18	16	15	17
39	E	Water supply; sewerage, waste management and remediation services.....	2,408	2,092	1,414	1,329	1,234	1,315
40	36	Natural water; water treatment and supply services.....	39	35	25	22	20	22
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,369	2,057	1,389	1,308	1,214	1,292
42	37	Sewerage services, sewerage sludge.....	187	166	115	112	105	115
43	38-39	Waste collection, treatment and disposal services.....	2,182	1,891	1,274	1,195	1,109	1,178
44	F	Constructions and construction works.....	7,253	4,600	3,439	3,330	3,115	3,116
45	41-42	Building and building construction works.....	3,470	2,118	1,622	1,597	1,507	1,492
46	43	Specialised construction works.....	3,783	2,482	1,818	1,733	1,608	1,624
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	3,296	2,740	2,021	2,023	1,849	1,959
48	45	Wholesale and retail trade and repair services of motor vehicles.....	449	364	261	242	224	243
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,777	1,539	1,112	1,084	998	1,055
50	47	Retail trade services, except of motor vehicles and motorcycles.....	1,070	837	648	697	626	661
51	H	Transportation and storage services.....	68,197	84,672	53,887	51,013	52,522	51,693
52	49.1-2	Passenger rail transport services, freight rail transport services.....	1,669	1,062	890	911	866	849
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	11,087	8,435	8,892	9,498	9,012	9,291
54	50	Water transport services.....	51,566	71,346	40,990	37,606	39,613	38,410
55	51	Air transport services.....	1,439	1,665	1,645	1,602	1,728	1,737
56	52	Warehousing and support services for transportation.....	1,666	1,481	1,009	967	902	972
57	53	Postal and courier services.....	770	683	463	429	400	433
58	I	Accommodation and food services.....	556	457	440	440	422	430
59	J	Information and communication services.....	873	770	522	519	488	516
60	K	Financial and insurance services.....	199	167	142	147	146	148
61	L	Real estate services.....	301	266	197	211	200	212
62	M	Professional, scientific and technical services.....	2,258	1,995	1,361	1,507	1,413	1,514
63	N	Administrative and support services.....	105	93	82	77	74	77
64	O	Public administration and defence services.....	1,100	1,100	686	620	573	600
65	P	Education services.....	116	76	64	64	57	58
66	Q	Human health and social work services.....	560	420	399	397	344	352
67	R-T	Other services.....	1,527	1,338	904	990	910	971
68		All homogeneous branches.....	140,513	145,565	103,198	100,777	99,933	99,731
69		Private households.....	60,051	55,893	62,985	57,206	53,777	51,417
70		All homogeneous branches and private households (residents concept) 2)...	200,564	201,458	166,183	157,983	153,711	151,148
71		Transitional balance 3).....	33	-13,400	-18,106	-14,748	-17,996	-18,976
72		Total emissions (domestic concept) 2).....	200,597	188,057	148,078	143,234	135,715	132,172

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	9,317	7,557	6,404	6,096	5,880	5,696
2	01	Products of agriculture, hunting and related services.....	8,940	7,202	6,202	5,917	5,771	5,590
3	02	Products of forestry, logging and related services.....	257	263	167	147	79	76
4	03	Fish and other fishing products; aquaculture products.....	119	93	35	31	30	30
5	B	Mining and quarrying.....	213	210	142	179	123	124
6	05	Coal and lignite.....	171	161	112	149	99	97
7	06	Crude petroleum and natural gas.....	1	9	6	6	7	8
8	07-09	Metal ores, other mining and quarrying products.....	40	41	24	24	17	19
9	C	Manufactured products.....	2,186	2,998	2,403	2,373	1,867	1,923
10	10-12	Food products, beverages, tobacco products.....	128	251	187	146	152	128
11	13-15	Textiles, wearing apparel, leather and related products.....	27	19	6	4	4	6
12	16	Wood and products of wood and cork, except furniture.....	68	591	462	769	519	527
13	17	Paper and paper products.....	237	377	293	224	159	144
14	18	Printing and recording services.....	8	4	2	2	2	3
15	19	Coke and refined petroleum products.....	1,069	1,179	725	666	585	569
16	19.1	Coke oven products.....	34	20	89	87	88	90
17	19.2	Refined petroleum products.....	1,035	1,158	636	579	497	479
18	20	Chemicals and chemical products.....	316	197	483	298	240	268
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	37	15	44	56	22	32
20	22	Rubber and plastic products.....	20	46	19	15	20	17
21	23	Other non-metallic mineral products.....	100	164	76	92	65	45
22	23.1	Glass and glass products.....	4	21	2	20	2	2
23	23.2-9	Refractory products, cut, shaped and finished stone.....	96	143	74	72	63	43
24	24	Basic metals.....	35	45	16	18	14	91
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	30	34	5	7	4	86
26	24.4	Basic precious and other non-ferrous metals.....	3	11	7	8	6	4
27	24.5	Casting services of metal.....	1	1	3	4	4	1
28	25	Fabricated metal products, except machinery and equipment.....	48	31	31	26	29	34
29	26	Computer, electronic and optical products.....	9	5	2	2	2	3
30	27	Electrical equipment.....	16	8	5	4	4	4
31	28	Machinery and equipment n.e.c.....	36	29	26	26	25	28
32	29	Motor vehicles, trailers and semi-trailers.....	18	27	14	14	16	14
33	30	Other transport equipment.....	2	2	3	1	1	2
34	31-32	Furniture, other manufacture goods.....	11	7	6	5	5	6
35	33	Repair and installation services of machinery and equipment.....	0	0	1	3	1	2
36	D (35)	Electricity, gas, steam and air conditioning.....	10,047	10,058	9,896	10,002	9,441	9,504
37	35.1/.3	Electricity, transmission and distribution services, steam.....	10,047	10,058	9,896	10,002	9,441	9,504
38	35.2	Manufactured gas.....	0	0	0	0	0	0
39	E	Water supply; sewerage, waste management and remediation services.....	70	14	11	9	3	4
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.....	70	14	11	9	3	4
42	37	Sewerage services, sewerage sludge.....	0	0	0	0	0	0
43	38-39	Waste collection, treatment and disposal services.....	70	14	11	9	3	4
44	F	Constructions and construction works.....	5,068	2,743	2,007	1,976	1,823	1,726
45	41-42	Building and building construction works.....	2,525	1,362	992	976	899	851
46	43	Specialised construction works.....	2,543	1,381	1,015	999	924	876
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	624	371	373	382	317	324
48	45	Wholesale and retail trade and repair services of motor vehicles.....	57	16	20	16	14	17
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	193	133	135	148	125	127
50	47	Retail trade services, except of motor vehicles and motorcycles.....	375	222	218	218	178	180
51	H	Transportation and storage services.....	53,099	72,738	42,253	38,814	40,935	39,707
52	49.1-2	Passenger rail transport services, freight rail transport services.....	930	435	290	313	295	279
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	0	0	0	0	0	0
54	50	Water transport services.....	50,736	70,645	40,322	36,902	38,915	37,693
55	51	Air transport services.....	1,420	1,648	1,633	1,592	1,719	1,726
56	52	Warehousing and support services for transportation.....	8	8	6	6	6	7
57	53	Postal and courier services.....	5	2	2	1	1	1
58	I	Accommodation and food services.....	485	394	393	395	380	385
59	J	Information and communication services.....	62	50	41	39	40	41
60	K	Financial and insurance services.....	148	122	113	111	112	112
61	L	Real estate services.....	55	47	45	45	45	45
62	M	Professional, scientific and technical services.....	104	87	78	75	76	78
63	N	Administrative and support services.....	36	33	33	32	32	32
64	O	Public administration and defence services.....	468	540	295	248	226	223
65	P	Education services.....	70	36	36	36	30	30
66	Q	Human health and social work services.....	380	261	282	280	236	236
67	R-T	Other services.....	80	55	46	63	46	42
69		All homogeneous branches.....	82,512	98,315	64,852	61,153	61,610	60,231
70		Private households.....	20,997	20,407	32,932	28,091	25,589	26,177
71		All homogeneous branches and private households (residents concept) 2)...	103,509	118,722	97,785	89,243	87,200	86,408
72		Transitional balance 3).....	-1,108	-10,443	-15,798	-12,484	-15,932	-17,172
73		Total emissions (domestic concept) 2).....	102,401	108,278	81,986	76,760	71,268	69,236

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 processemissions of particulate matter (PM_{2.5})

tonnes

No.	CPA ¹⁾	Homogeneous branches	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	7,031	7,002	7,406	7,640	7,917	8,206
2	01	Products of agriculture, hunting and related services.....	7,031	7,002	7,406	7,640	7,917	8,206
3	02	Products of forestry, logging and related services.....	-	-	-	-	-	-
4	03	Fish and other fishing products; aquaculture products.....	-	-	-	-	-	-
5	B	Mining and quarrying.....	2,486	2,180	1,998	2,147	2,116	2,094
6	05	Coal and lignite.....	972	974	910	958	983	965
7	06	Crude petroleum and natural gas.....	-	-	-	-	-	-
8	07-09	Metal ores, other mining and quarrying products.....	1,514	1,207	1,088	1,190	1,132	1,130
9	C	Manufactured products.....	18,216	12,762	7,969	8,215	7,884	7,754
10	10-12	Food products, beverages, tobacco products.....	268	250	214	261	263	218
11	13-15	Textiles, wearing apparel, leather and related products.....	-	-	-	-	-	-
12	16	Wood and products of wood and cork, except furniture.....	965	1,006	698	687	678	687
13	17	Paper and paper products.....	6	10	11	12	12	12
14	18	Printing and recording services.....	1,088	1,090	797	783	785	785
15	19	Coke and refined petroleum products.....	258	212	167	181	154	155
16	19.1	Coke oven products.....	63	41	32	31	31	32
17	19.2	Refined petroleum products.....	195	171	135	150	123	123
18	20	Chemicals and chemical products.....	396	298	305	328	326	328
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	-	-	-	-	-	-
20	22	Rubber and plastic products.....	-	-	-	-	-	-
21	23	Other non-metallic mineral products.....	5,060	3,114	2,328	2,523	2,392	2,301
22	23.1	Glass and glass products.....	69	66	90	91	87	92
23	23.2-9	Refractory products, cut, shaped and finished stone.....	4,991	3,048	2,238	2,432	2,305	2,209
24	24	Basic metals.....	9,226	5,831	2,752	2,756	2,587	2,581
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	7,148	5,007	2,310	2,285	2,146	2,111
26	24.4	Basic precious and other non-ferrous metals.....	1,310	64	320	339	325	370
27	24.5	Casting services of metal.....	769	760	121	131	116	100
28	25	Fabricated metal products, except machinery and equipment.....	949	951	698	686	687	687
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.....	5	6	7	7	7	8
40	36	Natural water; water treatment and supply services.....	-	-	-	-	-	-
41	37-39	Sewerage services; waste collection and materials recovery services.....	5	6	7	7	7	8
42	37	Sewerage services, sewerage sludge.....	-	-	-	-	-	-
43	38-39	Waste collection, treatment and disposal services.....	5	6	7	7	7	8
44	F	Constructions and construction works.....	439	306	301	309	317	324
45	41-42	Building and building construction works.....	439	306	301	309	317	324
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.....	8,944	6,465	7,936	8,753	8,373	8,527
52	49.1-2	Passenger rail transport services, freight rail transport services.....	712	604	583	583	557	555
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	7,420	5,176	6,696	7,476	7,127	7,265
54	50	Water transport services.....	812	685	656	694	689	707
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.....	37,121	28,720	25,616	27,071	26,614	26,914
69		Private households.....	15,203	14,749	14,793	14,839	14,777	13,835
70		All homogeneous branches and private households	52,324	43,469	40,409	41,911	41,392	40,749

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	2000	2005	2010	2011	2012	2013
1	A	Products of agriculture, forestry and fishing.....	275	244	174	153	143	159
2	01	Products of agriculture, hunting and related services.....	253	224	160	139	129	145
3	02	Products of forestry, logging and related services.....	20	17	12	13	12	13
4	03	Fish and other fishing products; aquaculture products.....	2	2	1	1	1	1
5	B	Mining and quarrying.....	89	79	54	50	47	51
6	05	Coal and lignite.....	26	23	16	11	11	12
7	06	Crude petroleum and natural gas.....	20	17	12	12	11	12
8	07-09	Metal ores, other mining and quarrying products.....	43	38	26	27	25	27
9	C	Manufactured products.....	1,723	1,528	1,063	1,132	1,057	1,135
10	10-12	Food products, beverages, tobacco products.....	177	157	109	109	101	109
11	13-15	Textiles, wearing apparel, leather and related products.....	23	20	14	15	14	15
12	16	Wood and products of wood and cork, except furniture.....	24	21	15	14	13	14
13	17	Paper and paper products.....	40	36	25	25	23	25
14	18	Printing and recording services.....	25	22	15	14	13	14
15	19	Coke and refined petroleum products.....	62	55	38	44	41	44
16	19.1	Coke oven products.....	0	0	0	0	0	0
17	19.2	Refined petroleum products.....	61	54	38	44	41	44
18	20	Chemicals and chemical products.....	124	110	76	78	73	78
19	21	Basic pharmaceutical products and pharmaceutical preparations.....	31	28	19	19	18	19
20	22	Rubber and plastic products.....	67	60	42	43	40	43
21	23	Other non-metallic mineral products.....	41	36	25	26	25	26
22	23.1	Glass and glass products.....	10	9	6	6	6	6
23	23.2-9	Refractory products, cut, shaped and finished stone.....	31	27	19	20	19	20
24	24	Basic metals.....	98	87	60	69	65	69
25	24.1-3	Basic iron and steel and ferro-alloys, other products of steel.....	53	47	33	37	35	37
26	24.4	Basic precious and other non-ferrous metals.....	31	28	19	23	21	23
27	24.5	Casting services of metal.....	14	12	8	9	9	9
28	25	Fabricated metal products, except machinery and equipment.....	116	103	72	103	96	103
29	26	Computer, electronic and optical products.....	97	86	60	61	57	62
30	27	Electrical equipment.....	91	81	56	58	54	58
31	28	Machinery and equipment n.e.c.....	198	175	122	131	122	131
32	29	Motor vehicles, trailers and semi-trailers.....	361	320	223	230	214	228
33	30	Other transport equipment.....	67	60	42	42	39	43
34	31-32	Furniture, other manufacture goods.....	38	34	24	24	22	24
35	33	Repair and installation services of machinery and equipment.....	44	39	27	29	27	29
36	D (35)	Electricity, gas, steam and air conditioning.....	181	161	131	122	114	123
37	35.1/.3	Electricity, transmission and distribution services, steam.....	157	139	113	105	98	107
38	35.2	Manufactured gas.....	24	21	18	16	15	17
39	E	Water supply; sewerage, waste management and remediation services.....	2,333	2,072	1,396	1,313	1,224	1,304
40	36	Natural water; water treatment and supply services.....	39	35	25	22	20	22
41	37-39	Sewerage services; waste collection and materials recovery services.....	2,293	2,037	1,371	1,292	1,204	1,281
42	37	Sewerage services, sewerage sludge.....	187	166	115	112	105	115
43	38-39	Waste collection, treatment and disposal services.....	2,106	1,871	1,256	1,179	1,099	1,166
44	F	Constructions and construction works.....	1,747	1,551	1,131	1,045	975	1,066
45	41-42	Building and building construction works.....	507	450	328	311	290	317
46	43	Specialised construction works.....	1,240	1,101	803	734	684	749
47	G	Wholesale and retail trade services; repair services of motor vehicles.....	2,672	2,369	1,648	1,641	1,531	1,635
48	45	Wholesale and retail trade and repair services of motor vehicles.....	392	348	241	225	210	226
49	46	Wholesale trade services, except of motor vehicles and motorcycles.....	1,584	1,406	977	936	873	928
50	47	Retail trade services, except of motor vehicles and motorcycles.....	696	615	430	479	448	481
51	H	Transportation and storage services.....	6,155	5,469	3,698	3,446	3,213	3,458
52	49.1-2	Passenger rail transport services, freight rail transport services.....	27	24	16	15	14	15
53	49.3-5	Other passenger land transport services, transport service via pipeline.....	3,667	3,258	2,195	2,022	1,885	2,026
54	50	Water transport services.....	18	16	11	10	9	10
55	51	Air transport services.....	19	17	11	10	10	11
56	52	Warehousing and support services for transportation.....	1,658	1,473	1,003	961	896	965
57	53	Postal and courier services.....	766	680	462	428	399	432
58	I	Accommodation and food services.....	72	63	47	45	42	45
59	J	Information and communication services.....	811	720	480	480	448	475
60	K	Financial and insurance services.....	51	45	29	37	34	36
61	L	Real estate services.....	247	219	152	166	155	167
62	M	Professional, scientific and technical services.....	2,154	1,908	1,282	1,433	1,337	1,436
63	N	Administrative and support services.....	69	61	49	45	42	45
64	O	Public administration and defence services.....	632	560	391	372	347	377
65	P	Education services.....	45	40	28	29	27	28
66	Q	Human health and social work services.....	180	159	117	116	109	116
67	R-T	Other services.....	1,447	1,284	858	927	865	929
68		All homogeneous branches.....	20,880	18,530	12,729	12,553	11,709	12,586
69		Private households.....	23,851	20,737	15,261	14,276	13,411	11,405
70		All homogeneous branches and private households (residents concept).....	44,731	39,267	27,990	26,829	25,120	23,991
71		Transitional balance 2).....	1,141	-2,957	-2,307	-2,265	-2,064	-1,804
72		Total emissions (domestic concept).....	45,872	36,309	25,683	24,564	23,056	22,187

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.