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Energy, transport and environment indicators

2011 edition

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Introduction

The 2011 edition presents facts and figures from the Energy, Transport and Environment sectors, all in a single volume. With a view of the growing global political importance of issues such as climate change and energy security, the three sectors have become increasingly interconnected. This creates the need for a comprehensive approach, comprising reliable and comparable statistical data, necessary for the better understanding of the complexity of the issues, for sound policy-making and the setting of effective measures.

The indicators present national data for the 27 EU Member States, the EFTA and candidate countries. When available, the EU-27 aggregate is also provided. Data are generally available for the period between 1999 and 2009; transport mainly between 2004 and 2009. In the energy chapter, the main data sources are: reporting under Regulation (EC) No 1099/2008 of the European Parliament and of the Council on Energy Statistics and Directive 2008/92/EC concerning transparency of gas and electricity prices. In the transport chapter, the most important data sources are: reporting under the EU legal acts on transport statistics and the Eurostat/UNECE/ITF Common Questionnaire. Regarding environment, data on waste derive from reporting under Regulation 2150/2002 on waste statistics and data on water are collected in cooperation with the OECD by means of a Joint Questionnaire. Environmental accounts are collected by Eurostat and emissions data are taken from the European Environment Agency. The report 'State of Europe's Forests 2011' is the source of data on biomass, increments and fellings in forests, while the supply balances for carbon in wood products come from Eurostat.

General data offer a first macroscopic overview of the main characteristics of the EU.

Energy indicators include supply, final consumption, renewable sources, and the structure of the industry; energy dependency, energy efficiency, and energy prices. The new Directive on renewable energy sources ([1]), integral part of the Energy Package, defines the share of these sources in gross final energy consumption. This publication presents data on certain indicators, for example biofuels, relevant for the policy on the promotion of renewable energy.
Energy prices are presented in accordance with the new methodology.

Transport indicators cover equipment, volume of passengers and freight transport, modes of transport and road safety.

The *Environment* chapter includes indicators on climate change and greenhouse gas emissions, waste generation and treatment, water resources and use, forestry, and relevant financial indicators such as environmental protection expenditure and environmentally related taxes.

For detailed data please check:
— Free data available on the Eurostat website at http://ec.europa.eu/eurostat
— European Environment Agency (EEA) website at http://eea.europa.eu

([1]) *Directive of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (2009/28/EC).*

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Symbols and abbreviations

:	No data available
0	Figure less than half of the unit used
-	"Not applicable" or "real zero" or "zero by default"
%	Percentage
1234	*Estimates are printed in italic*
c	Confidential

Units of measurement

ECU	European currency unit, data up to 31.12.1998
EUR	Euro, data from 1.1.1999 on
GJ	Giga Joule
GWh	Gigawatt hour
kg	Kilogram
kgoe	Kilograms of oil equivalent
km	Kilometer
km^2	Square kilometer
ktoe	Thousand tonnes of oil equivalent
m^3	Cubic meter
mio	Million (10^6)
Mt	Million tonnes
Mtoe	Million tonnes of oil equivalent
PJ	Peta Joule
pkm	Passenger-kilometre
tkm	Tonne-kilometre
t	Tonne
toe	Tonne of oil equivalent
TWh	Terawatt hour
vkm	Vehicle-kilometer

Abbreviations

CH_4	Methane
CHP	Combined heat and power
CO_2	Carbon dioxide
EEA	European Environment Agency
ECE	United Nations Economic Commission for Europe
EPE	Environmental protection expenditure
FAO	Food and Agriculture Organisation of the United Nations
FAWS	Forests available for wood supply
FOWL	Forests and other wooded land
GDP	Gross domestic product
GHG	Greenhouse gases
GVA	Gross value added
GWP	Global warming potential
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
ITF	International Transport Forum
LTAA	Long term annual average (>20 years)
MCPFE	Ministerial Conference on the Protection of Forests in Europe
NACE	Statistical classification of economic activities in the European Community
NAI	Net annual increment
N_2O	Nitrous oxide
o.b.	Over bark (i.e. including the bark)
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal of the European Union
OPEC	Organisation of the Petroleum Exporting Countries
OWL	Other wooded land
PPP	Purchasing power parity
RME	Raw material equivalents
u.b.	Under bark (i.e. without the bark)
UIC	Union International des Chemins de fer
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change

Abbreviations of countries

EU-27	The 27 Member States of the European Union from 1 January 2007 (BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK)
EU-15	The 15 Member States of the European Union from 1 January 1995 to 30 April 2004 (BE, DK, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI, SE, UK)
EFTA	European Free Trade Association
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
IS[1]	Iceland
LI	Liechtenstein
NO	Norway
CH	Switzerland
ME	Montenegro
HR	Croatia
MK[2]	The former Yugoslav Republic of Macedonia
TR	Turkey

(1) Also a candidate country.
(2) Provisional code which does not prejudge in any way the definitive nomenclature for this country, which will be agreed following the conclusion of negotiations currently taking place on this subject at the United Nations.

1

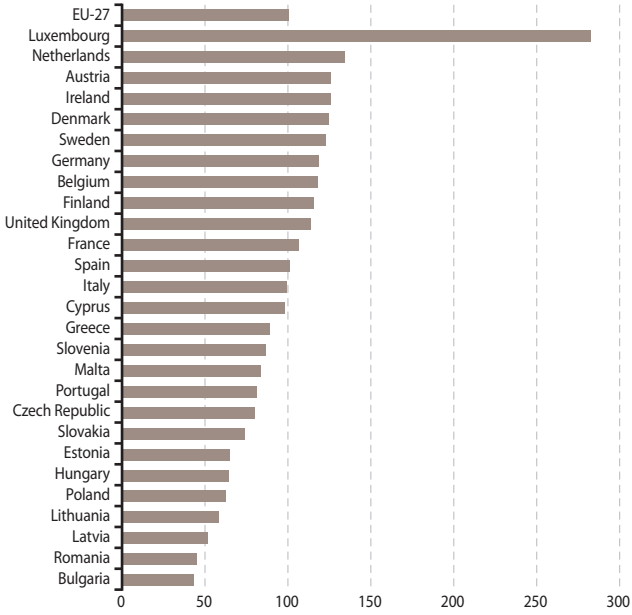
General Data

Table 1.1: Basic figures: Area, population, GDP, GDP per head in PPP

	Area (1 000 km²)	Population (million)	GDP (billion EUR)	GDP per head in PPP (EU-27 = 100)	
	2009	2010	2010	2009	2010
EU-27	4 314.7	501.106	12 268.4	100	100
Belgium	30.5	10.840	352.9	116	118
Bulgaria	111.0	7.564	36.0	44	43
Czech Republic	78.9	10.507	145.0	82	80
Denmark	43.1	5.535	234.0	121	124
Germany	357.1	81.802	2 498.8	117	118
Estonia	45.2	1.340	14.5	64	65
Ireland	69.8	4.468	153.9	127	125
Greece	132.0	11.305	230.2	94	89
Spain	506.0	45.989	1 062.6	103	101
France	544.0	64.716	1 932.8	107	107
Italy	301.3	60.340	1 548.8	104	99
Cyprus	9.3	0.803	17.5	98	98
Latvia	64.6	2.248	18.0	52	51
Lithuania	65.3	3.329	27.4	55	58
Luxembourg	2.6	0.502	41.6	272	282
Hungary	93.0	10.014	98.4	65	64
Malta	0.3	0.413	6.2	81	83
Netherlands	41.5	16.575	591.5	131	134
Austria	83.9	8.375	284.4	124	125
Poland	312.7	38.167	354.3	61	62
Portugal	92.1	10.638	172.7	80	81
Romania	238.4	21.462	121.9	46	45
Slovenia	20.3	2.047	36.0	88	87
Slovakia	49.0	5.425	65.9	73	74
Finland	338.4	5.351	180.3	113	116
Sweden	441.4	9.341	346.7	119	123
United Kingdom	243.1	62.008	1 696.6	113	113
Iceland	103.0	0.318	9.5	117	109
Liechtenstein	:	:	:	:	:
Norway	323.8	4.858	311.9	175	178
Switzerland	41.3	7.786	396.0	144	146
Montenegro	:	:	:	:	:
Croatia	87.7	4.426	45.9	64	61
FYR of Macedonia	25.7	2.053	6.9	36	35
Turkey	783.6	72.561	553.5	46	48

Source: Eurostat (online data sources: demo_r_d3area, demo_r_d2jan, nama_gdp_k and tsieb010)

Figure 1.1: GDP per head in Purchasing Power Parity (PPP), 2010 (EU-27 = 100)



Source: Eurostat (online data source: tsieb010)

GDP in the EU-27 amounted to 12 268 billion EUR in 2010. The five largest EU economies (Germany, France, the United Kingdom, Italy and Spain) accounted for 71 % of this total.

The use of GDP per capita in purchasing power parity (PPP) is more suitable for comparisons between countries, as it is adjusted for the size of an economy in terms of population and for differences in price levels across countries. The relative position of individual countries can be expressed through a comparison with the EU-27 value (100). The highest value among EU Member States was recorded in Luxembourg, where GDP per capita in PPP was 2.8 times above the EU-27 average in 2010. This value can be partly explained by the importance of cross-border workers from Belgium, France and Germany. On the other hand, GDP per capita in PPP was less than half the EU-27 average in Bulgaria and Romania.

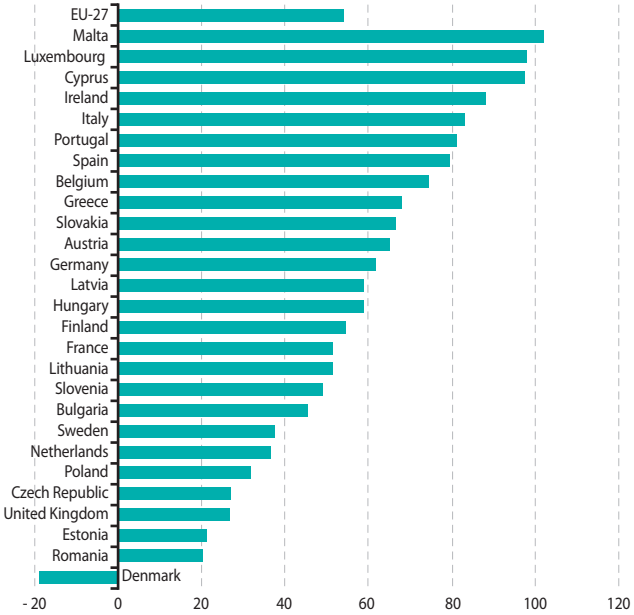
2 Energy indicators

Table 2.1.1: Energy dependency — all products (%)

	1999	2005	2006	2007	2008	2009
EU-27	45.1	52.5	53.7	53.0	54.7	53.9
Belgium	77.0	80.1	79.7	77.1	79.9	74.2
Bulgaria	48.7	47.5	46.2	51.3	52.1	45.3
Czech Republic	25.3	28.3	27.8	25.0	27.6	26.9
Denmark	- 16.6	- 50.9	- 35.9	- 24.7	- 21.7	- 18.8
Germany	59.3	61.4	61.3	58.7	60.9	61.6
Estonia	34.8	25.4	28.5	23.8	24.0	21.2
Ireland	84.5	89.6	90.7	88.2	89.9	88.0
Greece	66.1	68.6	71.8	71.2	73.3	67.8
Spain	76.6	81.5	81.2	79.7	81.2	79.4
France	51.6	51.7	51.3	50.3	51.0	51.3
Italy	83.0	84.4	86.8	85.2	85.2	82.9
Cyprus	101.9	100.7	102.5	95.9	97.6	97.3
Latvia	55.3	63.0	65.7	61.5	57.9	58.8
Lithuania	53.9	57.9	63.4	62.3	59.2	51.2
Luxembourg	97.1	97.7	98.7	97.2	97.9	97.6
Hungary	53.8	63.2	62.7	61.3	63.4	58.8
Malta	109.5	100.0	100.0	100.0	100.0	101.8
Netherlands	29.9	38.4	37.4	38.9	34.4	36.5
Austria	65.4	71.3	72.2	68.7	68.8	65.0
Poland	9.8	17.6	20.1	25.7	30.6	31.7
Portugal	87.5	88.5	83.0	82.0	82.8	80.9
Romania	21.1	27.6	29.2	31.5	27.7	20.3
Slovenia	55.7	52.3	52.1	52.5	55.1	49.0
Slovakia	66.2	65.4	63.9	68.4	64.6	66.4
Finland	51.1	54.7	54.2	53.4	55.0	54.4
Sweden	35.0	37.7	37.8	36.3	37.9	37.4
United Kingdom	- 20.4	13.5	21.2	20.0	26.0	26.6
Iceland	:	:	:	:	:	:
Norway	- 659.4	- 703.8	- 665.1	- 654.8	- 612.8	- 639.5
Switzerland	52.8	60.1	57.1	52.3	54.9	55.4
Montenegro	:	:	:	:	:	:
Croatia	54.4	58.5	54.1	56.8	60.2	51.1
FYR of Macedonia	36.2	43.3	45.0	48.0	46.2	44.4
Turkey	60.9	71.6	72.6	74.4	72.2	70.4

Source: Eurostat (online data code: nrg_100a)

Figure 2.1.1: Energy dependency — all products, 2009 (%)



Source: Eurostat (online data code: nrg_100a)

Table 2.1.1a: Energy dependency — all products, EU-27 (%)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	45.1	46.7	47.4	47.6	49.0	50.2	52.5	53.7	53.0	54.7	53.9

Source: Eurostat (online data code: nrg_100a)

The quantities of fuels delivered to sea-going ships of all flags, including warships, are included. Negative dependency rate indicates a net exporter country. Positive values over 100 % indicate stocks build-up during the reference year.

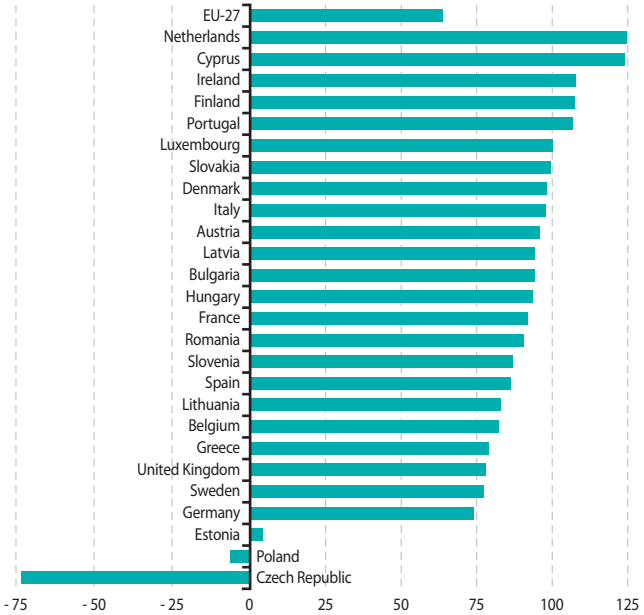
In the last ten years (1999-2009), EU-27 dependency on imported energy has grown, reaching 53.9 % in 2009. This represents an increase of 9 percentage points from 1999. Over this period, Poland presented the highest increase with its dependency rising from 9.8 % to 31.7 %. In contrast, Estonia experienced the highest decrease with 21.2 % dependency in 2009 compared to 34.8 % in 1999. Between 2008 and 2009, eighteen Member States presented decreased dependency rates. Lithuania experienced the highest decrease (51.2 % in 2009 from 59.2 % in 2008). Denmark was the only EU-27 Member State with a negative dependency rate in 2009 (- 18.8 %). The United Kingdom was a net exporter until 2003, but became an importer since.

Table 2.1.2: Energy dependency — hard coal and derivatives (%)

	1999	2005	2006	2007	2008	2009
EU-27	38.6	56.4	58.3	58.8	64.7	62.2
Belgium	98.2	101.4	95.8	96.0	106.8	81.6
Bulgaria	93.6	94.6	92.7	99.2	113.8	94.0
Czech Republic	- 70.5	- 51.1	- 43.7	- 40.8	- 40.7	- 73.2
Denmark	90.2	94.4	93.6	100.3	108.5	98.0
Germany	37.0	59.7	65.9	67.4	71.7	74.1
Estonia	100.3	88.4	170.7	152.3	100.3	4.0
Ireland	96.3	102.4	99.8	94.6	110.6	107.7
Greece	109.3	112.3	80.7	83.0	126.5	78.7
Spain	63.0	74.4	79.5	71.4	79.2	85.6
France	80.6	94.5	104.8	92.3	109.9	91.7
Italy	100.9	99.4	99.6	99.3	101.8	97.4
Cyprus	86.7	121.2	116.7	67.3	102.5	123.8
Latvia	98.6	97.7	122.0	92.1	99.9	94.1
Lithuania	84.0	101.2	99.6	93.8	114.2	82.3
Luxembourg	100.0	100.0	100.0	100.0	100.0	100.0
Hungary	92.7	105.6	95.6	101.4	103.4	93.3
Malta	-	-	-	-	-	-
Netherlands	95.9	101.4	102.2	104.1	105.9	124.5
Austria	97.4	105.9	96.0	104.7	103.3	95.6
Poland	- 32.3	- 31.1	- 27.8	- 19.7	- 8.7	- 6.9
Portugal	98.6	96.3	105.6	100.5	91.2	106.7
Romania	73.4	103.4	97.2	97.4	99.5	90.1
Slovenia	122.5	93.7	98.9	96.5	124.9	86.3
Slovakia	97.7	104.8	92.1	110.7	101.2	99.1
Finland	73.7	102.0	88.5	95.2	112.6	107.4
Sweden	100.1	105.9	93.1	98.3	104.5	77.0
United Kingdom	37.2	72.1	76.0	69.5	75.0	77.8
Iceland	:	:	:	:	:	:
Norway	72.8	- 53.1	- 126.2	- 192.9	- 175.2	- 202.1
Switzerland	63.9	60.7	105.6	120.6	94.6	113.0
Montenegro	:	:	:	:	:	:
Croatia	124.1	90.9	109.5	101.9	112.7	89.3
FYR of Macedonia	91.0	100.8	100.0	99.7	114.1	73.3
Turkey	83.4	88.9	89.1	91.4	88.7	91.3

Source: Eurostat (online data code: nrg_101a)

Figure 2.1.2: Energy dependency — hard coal and derivatives, 2009 (%)



Source: Eurostat (online data code: nrg_101a)

Table 2.1.2a: Energy dependency — hard coal and derivatives, EU-27 (%)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	38.6	43.2	48.2	48.0	50.1	54.6	56.4	58.3	58.8	64.7	62.2

Source: Eurostat (online data code: nrg_101a)

Negative dependency rate indicates a net exporter country. Positive values over 100 % indicate stocks build-up during the reference year.

EU-27 dependency on imported hard coal and derivatives grew continuously between 1999 and 2008 (from 38.6 % to 64.7 %). However, in 2009 it recorded a decrease of 3 percentage points compared to 2008.

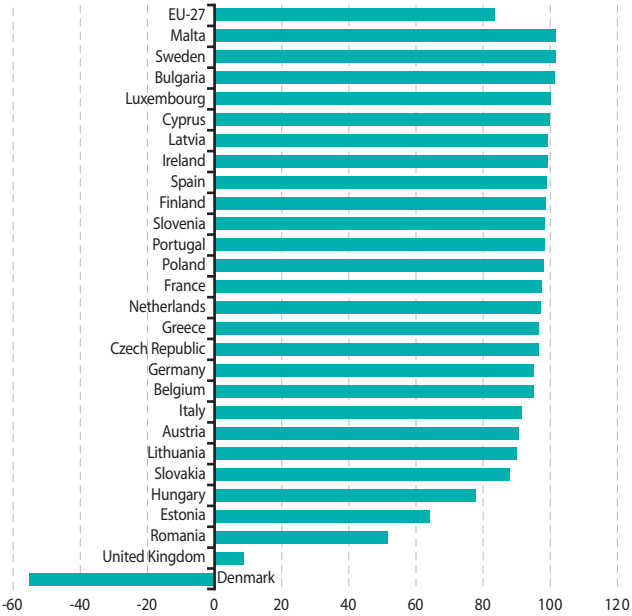
In the last decade, the United Kingdom recorded the highest increase. Its hard coal dependency grew from 37.2 % in 1999 to 77.8 % in 2009. Germany followed with an increase of 37 percentage points. However, the dependencies in both countries remained among the lowest in the EU. Estonia presented the highest decrease (from 100.3 % in 1999 to 4.0 % in 2009). The only Member States with negative dependency rates in 2009 were the Czech Republic (- 73.2 %) and Poland (- 6.9 %).

Table 2.1.3: Energy dependency — oil (%)

	1999	2005	2006	2007	2008	2009
EU-27	72.9	82.3	83.5	82.4	84.1	83.5
Belgium	96.6	100.8	100.8	97.4	98.8	95.0
Bulgaria	94.0	101.9	98.6	100.0	98.7	101.3
Czech Republic	95.0	97.5	96.8	96.2	97.4	96.5
Denmark	- 47.0	- 103.8	- 86.5	- 66.4	- 49.5	- 55.2
Germany	93.9	97.0	95.3	94.1	95.3	95.2
Estonia	80.5	69.4	75.2	73.0	64.1	64.3
Ireland	101.0	99.7	101.1	97.0	99.7	99.2
Greece	95.3	97.7	101.2	100.9	101.2	96.8
Spain	100.2	101.2	100.8	99.7	100.4	98.9
France	96.5	99.4	98.5	97.8	97.6	97.7
Italy	94.8	91.7	92.6	92.4	91.1	91.6
Cyprus	103.9	102.3	104.2	98.6	100.1	99.9
Latvia	83.5	102.4	102.4	98.1	99.0	99.4
Lithuania	86.3	92.0	97.0	94.4	92.5	90.1
Luxembourg	97.8	99.4	101.0	98.8	100.2	100.1
Hungary	75.3	81.3	78.9	82.3	80.7	78.0
Malta	109.5	100.0	100.0	100.0	100.0	101.8
Netherlands	90.1	97.1	95.7	92.4	97.6	97.1
Austria	91.0	91.6	94.6	91.4	92.9	90.6
Poland	95.4	97.4	99.5	104.4	95.9	98.0
Portugal	101.7	102.3	97.8	98.8	102.1	98.3
Romania	34.6	38.1	43.7	51.2	51.5	51.6
Slovenia	97.5	101.3	97.8	98.9	101.7	98.3
Slovakia	95.9	88.4	94.6	90.4	90.9	88.0
Finland	94.5	98.7	99.8	97.8	100.6	98.6
Sweden	94.8	103.8	99.4	99.1	102.6	101.7
United Kingdom	- 65.6	- 3.0	8.6	0.7	8.7	8.6
Iceland	:	:	:	:	:	:
Norway	- 1 433.5	- 1 121.5	-973.2	- 1 022.4	- 812.1	- 860.4
Switzerland	95.5	101.6	100.4	97.4	100.5	100.7
Montenegro	:	:	:	:	:	:
Croatia	66.4	79.4	76.6	81.6	84.3	77.8
FYR of Macedonia	90.8	102.4	100.2	96.6	97.3	106.7
Turkey	88.8	90.8	94.0	96.4	93.5	90.9

Source: Eurostat (online data code: nrg_102a)

Figure 2.1.3: Energy dependency — oil, 2009 (%)



Source: Eurostat (online data code: nrg_102a)

Table 2.1.3a: Energy dependency — oil, EU-27 (%)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	72.9	75.7	77.3	75.9	78.5	79.8	82.3	83.5	82.4	84.1	83.5

Source: Eurostat (online data code: nrg_102a)

Negative dependency rate indicates a net exporter country. Positive values over 100 % indicate stocks build-up during the reference year.

In 2009, EU-27 dependency on oil imports was 83.5 %, an increase of 11 percentage points from 1999. Twenty one Member States presented dependency rates over 90 % in 2009. From 2008 to 2009, eighteen Member States reported decreased dependency on oil.

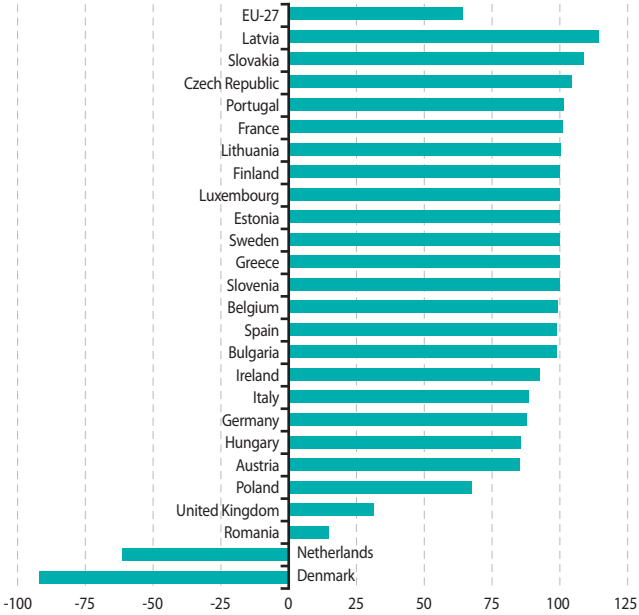
Denmark was the sole net exporter among the EU-27 Member States in 2009. The United Kingdom exported oil until 2005, a trend that changed since 2006. In 2009, its dependency on imported oil reached 8.6 %, which was the lowest dependency rate in the EU.

Table 2.1.4: Energy dependency — natural gas (%)

	1999	2005	2006	2007	2008	2009
EU-27	47.9	57.7	60.8	60.3	62.3	64.2
Belgium	101.1	100.6	100.2	99.8	100.4	99.0
Bulgaria	102.6	87.7	89.9	91.5	96.2	98.6
Czech Republic	96.3	97.8	104.5	93.4	98.7	104.4
Denmark	- 57.2	- 113.9	- 103.3	- 99.7	- 120.9	- 91.7
Germany	79.6	81.3	83.6	80.3	84.5	87.9
Estonia	100.0	100.0	100.0	100.0	100.0	100.0
Ireland	63.2	86.7	89.8	91.4	92.1	92.5
Greece	99.8	99.1	99.1	99.1	100.0	99.7
Spain	104.6	101.4	101.3	99.1	100.9	98.8
France	102.2	99.3	99.6	96.5	97.8	100.9
Italy	72.9	84.7	91.2	87.0	90.3	88.6
Cyprus	-	-	-	-	-	-
Latvia	103.6	105.6	108.8	96.8	82.2	114.1
Lithuania	100.7	100.6	101.0	102.9	96.3	100.4
Luxembourg	100.0	100.0	100.0	100.0	100.0	100.0
Hungary	73.9	81.1	82.2	79.9	88.1	85.6
Malta	-	-	-	-	-	-
Netherlands	- 56.5	- 59.3	- 61.6	- 63.5	- 72.7	- 61.2
Austria	76.0	88.1	87.7	81.0	87.2	85.1
Poland	67.2	69.7	71.9	66.7	72.7	67.7
Portugal	100.4	103.8	100.6	98.7	100.1	101.2
Romania	18.5	30.1	33.2	29.8	28.4	15.1
Slovenia	99.4	99.6	99.6	99.7	99.7	99.7
Slovakia	91.4	97.5	96.6	97.9	96.3	108.6
Finland	100.0	100.0	100.0	100.0	100.0	100.0
Sweden	100.0	100.0	100.0	100.0	100.0	100.0
United Kingdom	- 6.6	7.0	11.8	20.3	26.1	31.6
Iceland	-	-	-	-	-	-
Norway	- 827.9	- 1 743.1	- 1 801.8	- 1 504.3	- 1 693.2	- 1 551.3
Switzerland	100.0	100.0	100.0	100.0	100.0	100.0
Montenegro	:	:	:	:	:	:
Croatia	41.4	23.6	8.0	9.2	16.6	8.1
FYR of Macedonia	101.4	99.5	100.4	100.1	100.0	99.9
Turkey	95.0	97.1	96.9	97.8	100.2	100.1

Source: Eurostat (online data code: nrg_103a)

Figure 2.1.4: Energy dependency — natural gas, 2009 (%)



Source: Eurostat (online data code: nrg_103a)

Table 2.1.4a: Energy dependency — natural gas, EU-27 (%)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	47.9	48.9	47.2	51.1	52.4	53.9	57.7	60.8	60.3	62.3	64.2

Source: Eurostat (online data code: nrg_103a)

Negative dependency rate indicates a net exporter country. Positive values over 100 % indicate stocks build-up during the reference year.

EU-27 natural gas dependency rate grew by about 16 percentage points between 1999 and 2009, reaching 64.2 % in 2009. Contrary to dependency on hard coal and oil, from 2008 to 2009 EU-27 natural gas dependency grew by 2 percentage points. Over the last year, the only Member State which reported a significant decline in its dependency was Romania (from 28.4 % to 15.1 %).

In 2009, Denmark and the Netherlands were the only exporting countries among the EU-27. The United Kingdom exported natural gas up to 2003. In 2009, its dependency rate was 31.6 %. Ireland has also presented a significant increase over the last decade with a dependency rate of 92.5 % in 2009 compared to 63.2 % in 1999.

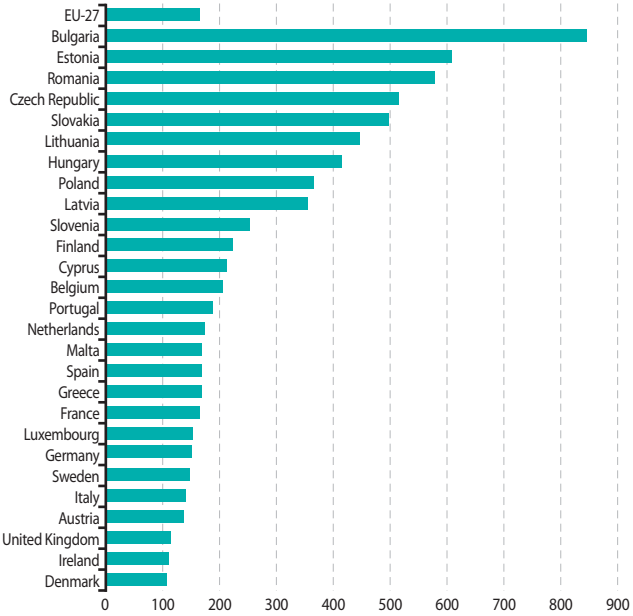
Table 2.2.1: Energy intensity

	(kgoe/1 000 EUR)			Index (2000 = 100)		
	1999	2004	2009	1999	2004	2009
EU-27	193	184	165	103.0	98.3	88.2
Belgium	242	221	206	103.2	94.0	87.6
Bulgaria	1 378	1 105	843	103.4	82.9	63.2
Czech Republic	661	659	514	98.5	98.2	76.6
Denmark	121	112	107	106.3	98.5	93.6
Germany	171	166	151	102.6	99.7	90.4
Estonia	891	686	607	110.5	85.1	75.3
Ireland	144	118	109	106.1	87.0	80.8
Greece	204	187	168	99.6	91.5	81.9
Spain	197	198	168	100.0	100.6	85.5
France	184	179	164	102.8	100.3	91.9
Italy	150	150	140	101.8	101.4	94.9
Cyprus	233	218	212	98.2	92.0	89.1
Latvia	499	386	354	113.2	87.7	80.5
Lithuania	659	552	446	114.3	95.7	77.4
Luxembourg	169	187	152	104.0	115.0	93.2
Hungary	529	434	413	107.5	88.2	84.0
Malta	:	215	168	:	113.4	88.9
Netherlands	186	189	174	101.5	103.2	94.9
Austria	146	151	136	103.6	107.5	96.8
Poland	525	441	364	108.5	91.1	75.2
Portugal	204	203	186	103.3	102.9	94.3
Romania	924	767	577	102.0	84.6	63.7
Slovenia	313	290	252	104.4	96.8	84.2
Slovakia	818	708	497	100.3	86.9	60.9
Finland	265	257	222	106.7	103.6	89.3
Sweden	195	178	148	110.0	100.0	83.2
United Kingdom	149	131	114	103.1	90.4	78.6
Iceland	341	323	:	99.3	94.0	:
Norway	151	136	136	106.0	94.9	95.1
Switzerland	102	96	91	104.5	98.7	93.2
Montenegro	:	:	:	:	:	:
Croatia	356	319	284	105.7	94.9	84.5
FYR of Macedonia	736	686	554	106.6	99.3	80.2
Turkey	262	245	257	99.1	92.7	97.3

N.B: Gross Domestic Product: chain-linked volumes, reference year 2000 (at 2000 exchange rates).

Source: Eurostat (online data code: tsien020)

Figure 2.2.1: Energy intensity, 2009 (kgoe/1 000 EUR '00)



Source: Eurostat (online data code: tsien020)

Table 2.2.1a: Energy intensity, EU-27 (kgoe/1 000 EUR)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	193	187	188	185	187	184	181	175	169	167	165

Table 2.2.1b: Index of energy intensity, EU-27 (2000 = 100)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	103.0	100.0	100.2	98.7	99.7	98.3	96.6	93.7	90.1	89.4	88.2

Source: Eurostat (online data code: tsien020)

Energy intensity in the EU-27 decreased by 14 % over the last decade and reached 165 kgoe/1 000 EUR in 2009.

All Member States decreased their energy intensities over the last decade. Six Member States recorded decreases over 30 %. Slovakia and Bulgaria presented the most noteworthy decreases, as in both countries the amount of energy required to produce a unit of economic output dropped by 39 %, followed by Romania (- 38 %). In spite of this decrease, in 2009 Bulgaria remained the most energy intensive economy (843), about five times above EU average. The lowest levels of energy intensity were observed in Denmark (107) and Ireland (109).

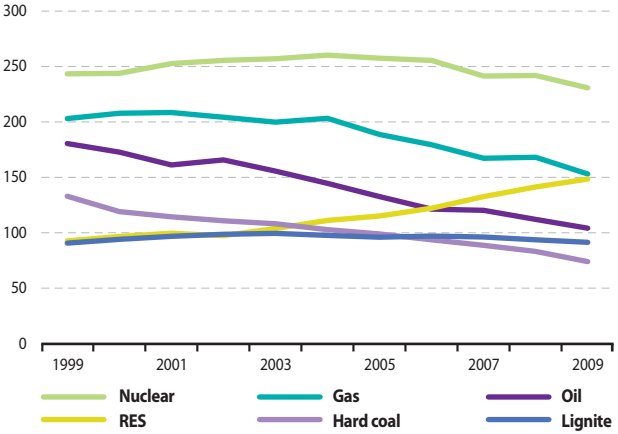
Table 2.3.1: Primary energy production, by fuel

	Total production (ktoe)			Share of each fuel to total production, 2009 (%)					
	1999	2004	2009	Hard coal	Lignite	Oil	Gas	Nuclear	RES
EU-27	949 376	927 534	812 221	9	11	13	19	28	18
BE	13 585	13 528	14 554	-	-	-	-	84	11
BG	9 098	10 228	9 701	0	47	0	0	41	12
CZ	28 742	33 151	31 140	23	44	1	0	23	8
DK	23 772	31 082	23 924	-	-	55	31	-	12
DE	137 161	138 160	127 454	7	29	4	9	27	22
EE	2 992	3 710	4 157	-	79	-	-	-	21
IE	2 460	1 860	1 529	-	38	-	21	-	40
EL	9 536	10 312	10 077	-	81	1	0	-	18
ES	30 494	32 419	29 579	12	-	0	0	46	40
FR	125 843	135 545	128 478	-	-	1	1	82	15
IT	29 380	28 505	27 292	0	-	19	24	-	54
CY	44	50	82	-	-	-	-	-	92
LV	1 642	1 847	2 097	-	0	-	-	-	100
LT	3 514	5 011	3 970	-	0	3	-	72	25
LU	53	67	106	-	-	-	-	-	76
HU	11 926	10 196	10 964	-	14	11	21	36	17
MT	-	-	-	-	-	-	-	-	-
NL	59 509	68 028	63 234	-	-	4	89	2	4
AT	9 726	9 902	11 395	-	0	9	13	-	73
PL	83 431	78 466	67 212	65	18	1	5	-	9
PT	3 370	3 896	4 886	-	-	-	-	-	97
RO	28 128	28 604	28 508	0	23	16	31	11	19
SI	2 856	3 445	3 526	-	33	-	0	42	24
SK	5 479	6 231	5 713	-	11	0	2	65	21
FI	15 384	15 729	16 371	-	13	1	-	37	48
SE	32 690	33 805	29 936	-	1	-	-	45	53
UK	278 561	223 755	156 334	6	-	44	34	11	3
IS	:	:	:	:	:	:	:	:	:
NO	209 694	229 609	215 940	1	-	52	42	-	6
CH	11 986	11 994	12 689	-	-	-	-	57	38
ME	:	:	:	:	:	:	:	:	:
HR	3 597	3 882	4 066	-	-	20	54	-	25
MK	1 633	1 598	1 607	-	80	-	-	-	20
TR	27 542	24 152	30 349	6	52	8	2	-	33

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_104a and nrg_1071a)

Figures do not sum to 100 % due to other fuels.

Figure 2.3.1: Primary energy production, by fuel, EU-27 (Mtoe)



Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_104a and nrg_1071a)

Table 2.3.1a: Primary energy production, by fuel, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	949	941	941	940	932	928	896	877	856	850	812	- 14
Oil	180	173	161	166	156	145	133	121	120	112	104	- 42
Gas	203	208	208	204	200	203	189	179	167	168	153	- 25
Nuclear	243	244	253	256	257	260	258	255	241	242	231	- 5
Hard coal	133	119	114	111	108	103	99	94	89	83	74	- 44
Lignite	91	94	97	99	99	98	96	97	96	94	91	1
RES	93	97	100	97	104	111	115	122	133	141	148	60

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_104a and nrg_1071a)

Production of primary energy in the EU-27 totaled 812 Mtoe in 2009. This continued the downward trend of EU-27 production, which recorded an overall 14 % reduction between 1999 and 2009. The highest annual reduction rate of this period was recorded from 2008 to 2009 (- 4 %).

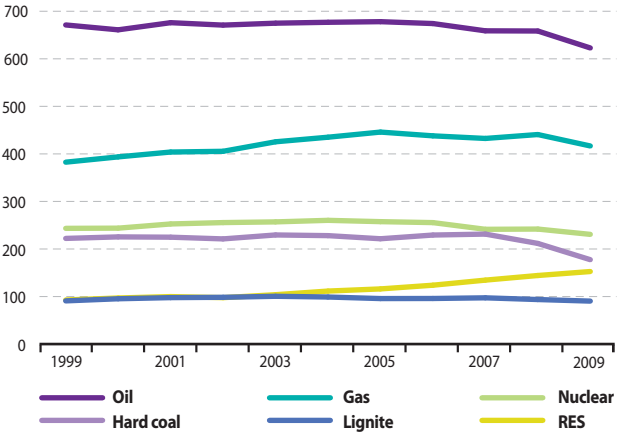
The most significant source of primary energy production in the EU-27 was nuclear energy (28 % of the total in 2009), followed by solid fuels (20 %), gas (19 %), renewable energy sources (RES) (18 %) and oil (13 %). In the last decade, the production of RES grew by 60 %. In contrast, reductions were observed in the production of oil (- 42 %), solid fuels (- 26 %) and gas (- 25 %). Between 2008 and 2009, gas production recorded the highest annual reduction rate (- 9 %) of the decade. The United Kingdom dominated the production of energy in the EU-27 with a 19 % share of the total in 2009.

Table 2.3.2: Gross inland consumption, by fuel

	Total consumption (ktoe)			Share of each fuel to total production, 2009 (%)					
	1999	2004	2009	Hard coal	Lignite	Oil	Gas	Nuclear	RES
EU-27	1 710 515	1 818 240	1 702 755	10	5	37	24	14	9
BE	58 961	59 163	58 231	5	0	43	26	21	4
BG	18 293	19 040	17 570	11	26	25	12	23	6
CZ	39 228	45 777	42 288	10	31	23	16	17	6
DK	20 332	20 262	19 407	21	0	40	20	-	17
DE	341 539	350 136	326 598	11	11	35	23	11	8
EE	4 990	5 654	5 292	1	57	19	10	-	14
IE	13 746	15 221	14 854	8	6	52	29	-	4
EL	26 950	30 810	30 629	1	27	55	10	-	6
ES	117 966	141 387	130 188	8	-	48	24	10	9
FR	254 958	275 661	262 687	4	0	34	15	40	8
IT	172 593	185 126	168 916	8	0	42	38	-	9
CY	2 239	2 484	2 788	1	0	96	-	-	4
LV	3 962	4 400	4 329	2	0	30	28	-	36
LT	7 895	9 218	8 349	2	0	30	26	34	10
LU	3 439	4 667	4 363	1	0	63	25	-	3
HU	25 921	26 211	25 308	4	6	28	36	16	7
MT	811	922	821	-	-	100	-	-	-
NL	74 776	82 664	81 599	9	0	41	43	1	4
AT	29 165	33 138	32 289	9	0	40	22	-	27
PL	93 464	91 943	95 309	41	13	26	13	-	7
PT	24 955	26 700	24 969	11	-	50	17	-	19
RO	36 694	39 514	35 427	3	18	26	30	9	15
SI	6 428	7 133	6 986	4	17	37	12	21	13
SK	17 792	18 601	16 807	18	5	20	26	22	7
FI	33 251	37 624	34 009	10	5	30	10	18	23
SE	50 179	52 769	45 929	3	1	28	3	29	34
UK	229 987	232 012	206 809	14	-	36	38	9	3
IS	:	:	:	:	:	:	:	:	:
NO	26 763	26 878	28 869	2	-	39	19	-	42
CH	26 674	27 129	28 223	0	0	46	10	25	17
ME	:	:	:	:	:	:	:	:	:
HR	7 990	8 880	8 726	6	0	50	28	-	11
MK	2 741	2 750	2 777	2	46	34	2	-	11
TR	71 197	81 951	100 025	15	16	31	29	-	10

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_104a and nrg_1071a)

Figure 2.3.2: Gross inland consumption, by fuel, EU-27 (Mtoe)



Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_104a and nrg_1071a)

Table 2.3.2a: Gross inland consumption, by fuel, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	1 711	1 725	1 763	1 758	1 799	1 818	1 823	1 825	1 806	1 802	1 703	0
Oil	671	661	676	671	675	677	678	674	659	658	623	- 7
Gas	383	394	404	405	425	435	446	438	433	441	417	9
Nuclear	243	244	253	256	257	260	258	255	241	242	231	- 5
Hard coal	222	225	225	221	230	228	222	229	231	212	178	- 20
Lignite	91	95	98	98	101	99	96	96	97	94	90	- 1
RES	93	97	100	98	104	112	116	124	135	144	153	65

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_104a and nrg_1071a)

Gross inland consumption (GIC) in the EU-27 presented a rising trend from 1999 to 2004, followed by signs of stabilisation until 2006. Since then it has gradually declined and in 2009 it stood at 1 703 Mtoe, the lowest levels of the decade. Over this period, the highest annual reduction rate was recorded between 2008 and 2009 (- 5 %).

In the last decade, reductions were recorded in the consumption of solid fuels (- 14 %), oil (- 7 %) and nuclear (- 5 %), while there was an increase in the consumption of gas (9 %) and RES (65 %). Between 2008 and 2009, only RES presented a growing trend (6 %), while reductions were recorded in the consumption of all other fuels. The consumption of solid fuels fell by 12 %, while the consumption of all other fuels fell by 5 %.

Tables 2.3.3: Imports of energy products, by country of origin

Table 2.3.3a: Imports of natural gas, by country of origin (PJ)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Russia	4 540	4 396	4 534	4 872	4 922	5 100	5 097	4 856	5 108	4 520
Norway	1 921	2 104	2 644	2 758	2 802	3 064	3 307	3 566	3 924	4 052
Algeria	2 203	1 957	2 132	2 159	2 042	2 257	2 132	1 946	2 000	1 867
Nigeria	172	216	218	336	410	436	564	588	540	313
Qatar	12	27	88	80	160	196	233	281	304	609
Libya	33	33	26	30	48	209	321	384	398	380
Other countries	398	488	433	571	842	1 288	1 316	1 018	1 308	1 461
Total	9 280	9 222	10 075	10 807	11 226	12 550	12 971	12 639	13 582	13 201

Table 2.3.3b: Imports of crude oil, by country of origin (Mt)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Russia	118	136	153	169	183	186	188	185	178	173
Norway	115	107	102	105	107	97	87	84	86	79
Saudi Arabia	65	57	53	62	64	61	51	40	39	30
Libya	46	44	39	46	50	50	52	54	56	47
Kazakhstan	10	9	13	15	19	26	26	26	27	28
Iran	35	31	26	35	36	35	35	35	30	25
Other countries	145	148	138	115	109	118	124	133	151	140
Total	533	532	524	545	568	573	564	557	568	522

Table 2.3.3c: Imports of hard coal, by country of origin (Mt)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
South Africa	42	49	54	57	54	52	53	46	37	29
Russia	15	21	23	25	38	48	55	56	57	55
Australia	29	29	29	31	31	27	27	30	26	14
Colombia	23	23	22	23	24	24	26	29	27	32
USA	21	20	14	13	15	16	17	21	31	25
Indonesia	9	10	12	13	14	15	21	18	16	13
Other countries	21	29	19	21	26	19	18	23	23	14
Total	158	181	172	181	202	201	219	223	219	182

Source: Eurostat (online data codes: nrg_122a, nrg_123a and nrg_124a)

Figure 2.3.3a: Imports of natural gas, by country of origin (PJ)

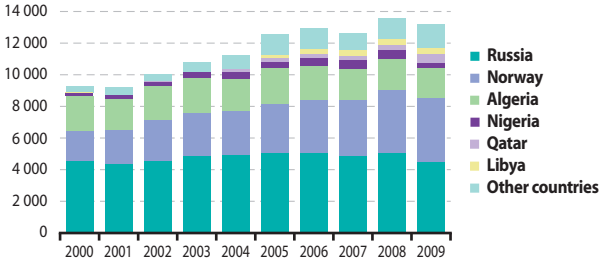


Figure 2.3.3b: Imports of crude oil, by country of origin (Mt)

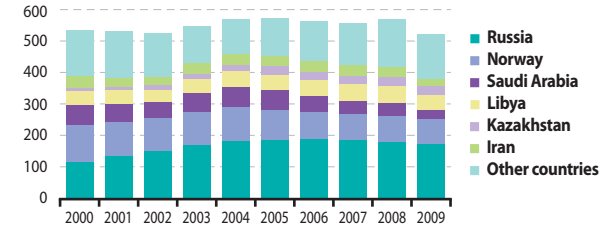
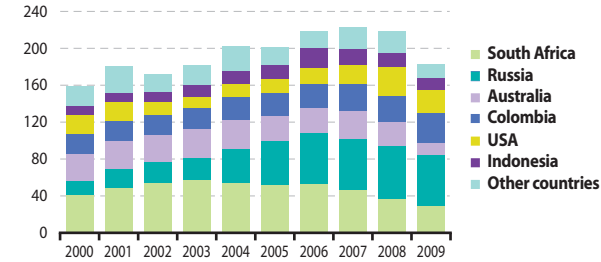


Figure 2.3.3c: Imports of hard coal, by country of origin (Mt)



Source: Eurostat (online data codes: nrg_122a, nrg_123a and nrg_124a)

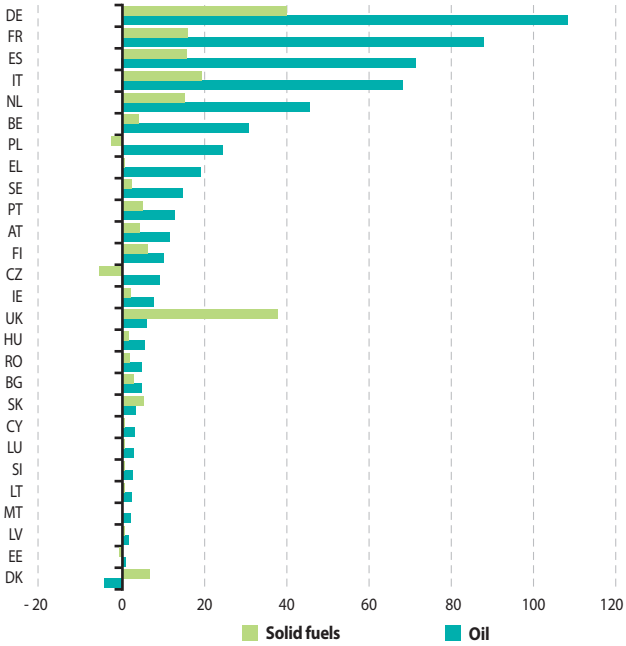
From 2000 to 2009, the imports of natural gas in the EU-27 grew by 42 %. Russia was the principal EU supplier with a 34 % share of total natural gas imports in 2009. Its share presented a decline compared to 2000 (49 %), mainly due to the increases in import volumes from other partner countries. Imports from Norway and Nigeria almost doubled, while imports from Qatar and Libya recorded a 49-fold and an elevenfold increase respectively. EU-27 crude oil imports presented a slight decline (- 2 %) between 2000 and 2009. Imports from Russia grew by 47 %, while imports from Kazakhstan presented an almost threefold increase over this time. Almost one third of hard coal imports came from Russia in 2009. Between 2000 and 2009, hard coal imports from Russia recorded a fourfold increase.

Table 2.3.4: Net imports of solid fuels and oil (thousand tonnes)

	Solid fuels			Oil		
	1999	2004	2009	1999	2004	2009
EU-27	135 279	197 596	178 353	513 087	573 853	553 827
Belgium	10 544	8 870	3 876	28 158	32 511	30 633
Bulgaria	2 984	4 782	2 839	4 202	4 395	4 610
Czech Republic	- 9 227	- 5 047	- 5 539	7 782	8 914	9 089
Denmark	6 968	7 475	6 672	- 4 439	- 10 366	- 4 434
Germany	28 084	43 024	40 248	126 050	119 269	108 311
Estonia	1 321	1 089	- 6	983	883	769
Ireland	2 399	2 961	2 057	8 285	8 789	7 605
Greece	1 108	725	296	17 839	21 825	18 963
Spain	19 835	23 658	15 664	68 976	76 923	71 019
France	18 549	19 912	15 925	89 724	93 671	87 560
Italy	17 446	25 517	19 223	87 753	82 661	67 886
Cyprus	26	40	27	2 467	2 434	2 928
Latvia	131	101	120	1 191	1 537	1 547
Lithuania	155	279	204	2 648	2 505	2 366
Luxembourg	166	136	113	2 051	2 947	2 677
Hungary	1 683	1 732	1 496	5 414	4 961	5 508
Malta	-	-	-	952	1 939	2 027
Netherlands	11 530	13 426	15 206	36 245	44 113	45 491
Austria	4 085	5 787	4 117	11 219	13 302	11 394
Poland	- 24 632	- 22 833	- 2 690	18 530	20 647	24 151
Portugal	6 001	5 257	4 995	16 720	15 597	12 758
Romania	2 552	4 758	1 760	3 684	4 894	4 662
Slovenia	646	642	559	2 503	2 523	2 544
Slovakia	5 766	6 089	5 202	3 103	3 267	3 169
Finland	4 043	8 787	6 263	10 168	10 928	10 055
Sweden	3 447	4 028	2 199	15 544	16 721	14 667
United Kingdom	19 669	36 401	37 527	- 54 665	- 13 937	5 872
Iceland	:	:	:	:	:	:
Norway	1 145	- 1 518	- 1 694	- 139 465	- 133 545	- 97 570
Switzerland	94	201	271	12 100	12 044	12 603
Montenegro	:	:	:	:	:	:
Croatia	439	1 320	786	3 002	3 459	3 433
FYR of Macedonia	201	249	83	845	920	995
Turkey	9 318	16 817	20 638	26 119	28 678	27 605

Source: Eurostat (online data codes: nrg_101a and nrg_102a)

Figure 2.3.4: Net imports of solid fuels and oil, 2009 (mio tonnes)



Source: Eurostat (online data codes: nrg_101a and nrg_102a)

Table 2.3.4a: Net imports of solid fuels and oil, EU-27 (mio tonnes)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Solid fuels	135	155	172	167	183	198	197	212	217	218	178
Oil	513	528	551	538	560	574	594	602	582	593	554

Source: Eurostat (online data codes: nrg_101a and nrg_102a)

Between 1999 and 2009, EU-27 net imports of solid fuels grew by 32 %. Unlike the rising trend of the past decade, between 2008 and 2009, the net imports of solid fuels declined by 18 %. In 2009, the only net exporting Member States were the Czech Republic, Poland and Estonia. Over the last decade, the Czech Republic and Poland showed a declining trend in their exporting activity with Poland experiencing a ninefold decrease.

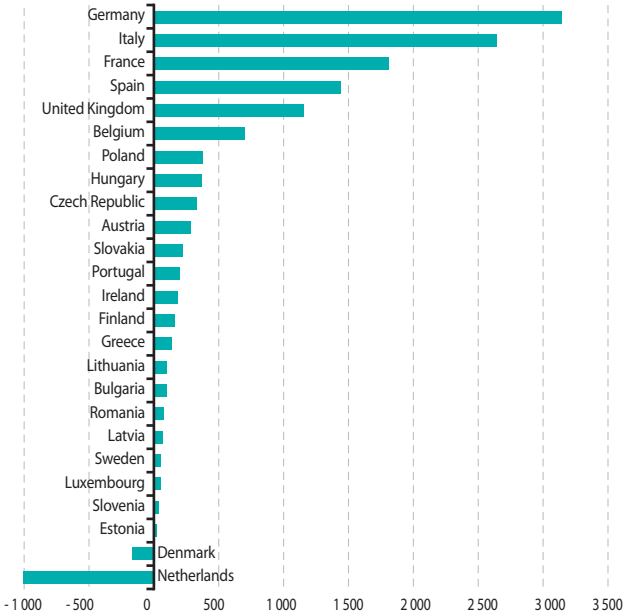
Compared to solid fuels, the net imports of oil in the EU-27 showed a lower increase (8 %) between 1999 and 2009 and a lower decline from 2008 to 2009 (- 7 %). In 2009, Denmark was the only net exporter of oil, while the United Kingdom, a net oil exporter until 2005, became an importer since.

Table 2.3.5: Net imports of natural gas (PJ)

	1999	2005	2006	2007	2008	2009
EU-27	8 521	11 972	12 395	12 130	12 769	12 454
Belgium	627	689	699	693	693	696
Bulgaria	128	114	121	128	130	99
Czech Republic	346	351	368	312	327	327
Denmark	- 119	- 233	- 218	- 188	- 229	- 167
Germany	2 666	3 058	3 091	2 873	3 009	3 130
Estonia	27	37	38	37	36	24
Ireland	88	140	168	182	192	184
Greece	57	108	127	155	163	138
Spain	647	1 407	1 472	1 466	1 639	1 437
France	1 619	1 894	1 836	1 727	1 814	1 805
Italy	1 883	2 784	2 935	2 815	2 921	2 634
Cyprus	-	-	-	-	-	-
Latvia	48	67	71	61	51	65
Lithuania	85	116	115	138	116	102
Luxembourg	31	55	57	53	51	52
Hungary	340	456	438	398	433	365
Malta	-	-	-	-	-	-
Netherlands	- 909	- 974	- 983	- 986	- 1 176	- 999
Austria	241	335	304	263	303	284
Poland	290	397	414	384	424	378
Portugal	91	181	170	175	193	198
Romania	118	195	223	180	164	74
Slovenia	39	43	42	42	41	39
Slovakia	244	267	242	232	231	223
Finland	155	167	180	173	179	162
Sweden	37	39	41	42	38	57
United Kingdom	- 258	278	444	774	1 024	1 147
Iceland	-	-	-	-	-	-
Norway	- 1 832	- 3 301	- 3 372	- 3 406	- 3 827	- 3 963
Switzerland	114	129	126	123	131	125
Montenegro	:	:	:	:	:	:
Croatia	42	26	9	12	20	9
FYR of Macedonia	2	3	3	4	5	3
Turkey	468	1 030	1 171	1 385	1 407	1 346

Source: Eurostat (online data code: nrg_103a)

Figure 2.3.5: Net imports of natural gas, 2009 (PJ)



Source: Eurostat (online data code: nrg_103a)

Table 2.3.5a: Net imports of natural gas, EU-27 (PJ)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	8 521	8 957	8 872	9 641	10 375	10 918	11 972	12 395	12 130	12 769	12 454

Source: Eurostat (online data code: nrg_103a)

In the last decade, the net imports of natural gas in the EU-27 grew by 46 %. Greece, Spain, Portugal and Ireland doubled their net imports over this period. On the contrary, significant decreases were observed in Romania (- 37 %) and Bulgaria (- 23 %). These declines can be partly attributed to the decreases these countries experienced in their net natural gas imports between 2008 and 2009 (- 55 % for Romania and - 24 % for Bulgaria). From 2008 to 2009, the EU-27 presented an overall declining trend (- 2 %).

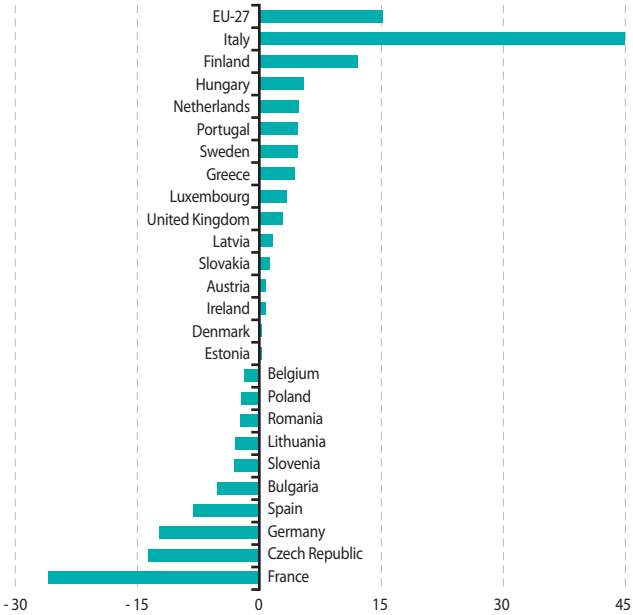
Among EU-27 countries, in 2009 the Netherlands and Denmark were the only net exporters with exports that amounted to 999 PJ and 167 PJ respectively. The United Kingdom exported natural gas up to 2003.

Table 2.3.6: Net imports of electricity (GWh)

	1999	2005	2006	2007	2008	2009
EU-27	11 660	11 310	3 478	10 489	17 043	15 134
Belgium	852	6 304	10 157	6 779	10 597	- 1 835
Bulgaria	- 1 957	- 7 581	- 7 743	- 4 475	- 5 344	- 5 073
Czech Republic	- 3 275	- 12 634	- 12 631	- 16 153	- 11 469	- 13 644
Denmark	- 2 313	1 369	- 6 935	- 950	1 455	334
Germany	1 040	- 4 566	- 16 977	- 16 555	- 20 100	- 12 273
Estonia	- 596	- 1 608	- 750	- 2 420	- 941	82
Ireland	241	2 044	1 778	1 330	450	764
Greece	164	3 780	4 202	4 355	5 613	4 367
Spain	5 719	- 1 343	- 3 280	- 5 751	- 11 039	- 8 104
France	- 63 143	- 60 328	- 63 341	- 56 813	- 48 006	- 25 934
Italy	42 010	49 155	44 985	46 283	40 035	44 959
Cyprus	-	-	-	-	-	-
Latvia	1 955	2 148	2 508	3 000	2 520	1 654
Lithuania	- 2 682	- 2 966	- 428	- 1 372	- 957	- 2 932
Luxembourg	5 557	3 261	3 557	3 960	4 346	3 418
Hungary	1 063	6 227	7 207	3 986	3 903	5 513
Malta	-	-	-	-	-	-
Netherlands	18 440	18 293	21 459	17 574	15 851	4 891
Austria	- 1 899	2 665	6 850	6 619	4 863	780
Poland	- 4 935	- 11 186	- 10 986	- 5 348	- 669	- 2 191
Portugal	- 860	6 824	5 441	7 488	9 431	4 776
Romania	- 827	- 2 903	- 4 273	- 2 090	- 4 248	- 2 295
Slovenia	- 1 338	- 324	51	229	- 1 602	- 3 066
Slovakia	558	- 3 265	- 2 331	1 725	521	1 312
Finland	11 124	17 015	11 401	12 557	12 772	12 085
Sweden	- 7 482	- 7 392	6 040	1 316	- 1 961	4 685
United Kingdom	14 244	8 321	7 517	5 215	11 022	2 861
Iceland	-	-	-	-	-	-
Norway	- 1 919	- 12 042	854	- 10 035	- 13 863	- 8 983
Switzerland	- 10 229	6 350	2 703	- 2 062	- 1 135	- 2 157
Montenegro	:	:	:	:	:	:
Croatia	2 361	5 112	5 622	6 361	6 577	5 682
FYR of Macedonia	- 103	1 599	1 795	2 491	2 733	1 438
Turkey	2 045	- 1 162	- 1 663	- 1 558	- 333	- 734

Source: Eurostat (online data code: nrg_105a)

Figure 2.3.6: Net imports of electricity, 2009 (TWh)



Source: Eurostat (online data code: nrg_105a)

Table 2.3.6a: Net imports of electricity, EU-27 & top-5 importers & exporters (TWh)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	11.7	19.2	4.5	12.5	- 3.2	- 7.3	11.3	3.5	10.5	17.0	15.1
Top-5 exporters	- 61.6	- 76.6	- 77.7	- 79.4	- 90.1	- 89.2	- 86.5	- 104.0	- 99.7	- 96.0	- 65.0
Top-5 importers	85.0	90.2	86.3	89.2	77.8	80.7	99.6	90.8	89.1	89.1	69.6

Source: Eurostat (online data code: nrg_105a)

Top 5 EU-27 exporters and importers are drawn according to average activity levels of the last three years. Top 5 exporting countries are France, Germany, the Czech Republic, Spain and Bulgaria. Top 5 importing countries are Italy, Netherlands, Finland, Portugal and the United Kingdom.

EU-27 net imports of electricity amounted to 15 134 GWh in 2009. Over the last decade, net electricity imports in the EU presented fluctuations.

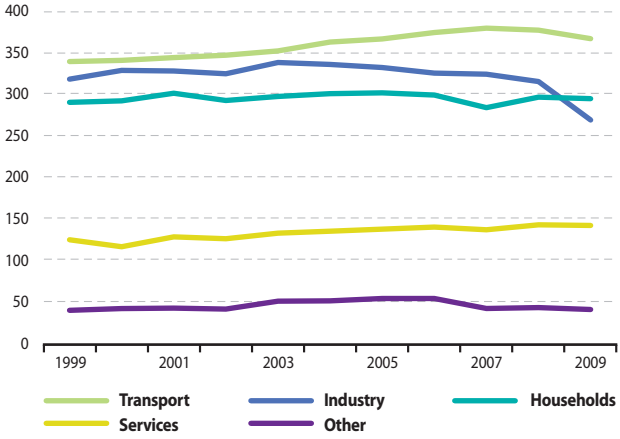
In 2009, the Member States with the highest electricity imports were Italy and Finland. Both countries have traditionally been among the top net importers. On the contrary, France was the largest net exporter of electricity among EU Member States.

Table 2.4.1: Final energy consumption, by sector (Mtoe)

	Total		Industry		Transport		Households		Services	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	1 113	1 114	319	269	340	368	291	295	123	141
BE	37.00	34.52	13.26	9.61	9.63	11.13	9.49	8.30	3.70	4.60
BG	8.87	8.60	3.68	2.43	2.03	2.93	2.19	2.12	0.65	0.94
CZ	23.75	24.37	9.29	8.12	4.32	6.62	6.09	5.98	2.91	2.94
DK	15.00	14.76	3.01	2.33	4.82	5.19	4.28	4.46	1.91	1.92
DE	220.83	213.28	57.00	51.79	66.97	61.74	65.95	65.79	25.17	29.32
EE	2.43	2.77	0.56	0.54	0.58	0.74	0.96	0.97	0.28	0.42
IE	9.93	11.81	2.22	2.16	3.69	4.69	2.43	3.07	1.28	1.60
EL	18.12	20.54	4.10	3.46	7.47	9.22	4.23	4.85	1.24	2.14
ES	74.41	88.97	22.34	23.79	32.02	37.84	11.78	14.89	5.88	9.11
FR	152.44	155.55	36.94	28.99	49.46	50.40	38.74	44.62	22.16	20.74
IT	124.50	120.93	38.50	29.55	42.30	42.29	29.40	28.68	10.90	16.89
CY	1.58	1.93	0.43	0.26	0.83	1.02	0.16	0.31	0.11	0.22
LV	3.38	3.91	0.64	0.65	0.68	1.03	1.41	1.52	0.52	0.57
LT	4.05	4.41	0.83	0.82	1.18	1.50	1.40	1.38	0.53	0.60
LU	3.33	4.08	0.83	0.62	1.75	2.49	0.29	0.57	0.09	0.37
HU	16.28	16.41	3.55	2.67	3.27	4.78	5.77	5.52	2.96	2.99
MT	0.31	0.44	0.04	0.07	0.14	0.25	0.07	0.07	0.04	0.05
NL	49.17	50.41	14.12	12.85	14.12	15.10	10.26	10.19	6.79	8.94
AT	23.35	26.29	6.73	8.26	6.77	8.63	6.34	6.16	2.96	2.70
PL	58.94	60.93	18.54	14.73	11.21	16.57	19.42	18.74	4.90	7.35
PT	16.78	18.20	6.03	5.18	6.07	7.34	2.78	3.20	1.25	2.05
RO	22.48	22.13	8.83	6.41	3.29	5.36	8.74	8.02	0.70	1.76
SI	4.39	4.67	1.21	1.23	1.32	1.76	1.05	1.09	0.82	0.48
SK	10.94	10.65	4.27	4.05	1.51	2.38	2.57	2.15	2.36	1.94
FI	24.21	24.02	11.57	10.12	4.47	4.81	5.16	5.37	1.50	1.85
SE	35.06	31.60	13.99	11.15	8.02	8.53	7.44	6.95	4.85	4.23
UK	151.05	137.50	36.23	27.59	52.10	53.30	42.33	40.27	17.00	14.03
IS	:	:	:	:	:	:	:	:	:	:
NO	18.64	18.09	6.79	5.63	4.77	5.02	3.93	3.99	2.35	2.57
CH	20.78	20.91	4.08	3.81	6.77	7.39	5.89	5.93	3.46	3.35
ME	:	:	:	:	:	:	:	:	:	:
HR	5.37	6.34	1.38	1.43	1.54	2.13	1.70	1.81	0.47	0.72
MK	1.63	1.64	0.48	0.42	0.40	0.43	0.45	0.54	0.23	0.24
TR	49.56	68.67	16.38	20.41	11.71	16.36	16.96	20.53	1.64	6.49

Source: Eurostat (online data code: nrg_100a)

Figure 2.4.1: Final energy consumption, by sector, EU-27 (Mtoe)



Source: Eurostat (online data code: nrg_100a)

Table 2.4.1a: Final energy consumption, by sector, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	1 113	1 120	1 144	1 132	1 172	1 186	1 193	1 193	1 167	1 175	1 114	0
Industry	319	329	329	325	339	337	333	326	325	316	269	- 15
Transport	340	341	345	348	353	364	367	375	380	378	368	8
Households	291	293	302	293	298	301	302	300	284	297	295	2
Services	123	115	127	125	131	134	136	139	136	142	141	14
Other	40	42	42	41	51	51	54	54	42	43	41	3

Source: Eurostat (online data code: nrg_100a)

Final energy consumption in the EU-27 recorded slight annual deviations between 1999 and 2009. At sector level, the largest growths were observed in services (14 %) and transport (8 %), whereas energy consumption by households showed a moderate increase (2 %) and energy consumption by the industrial sector declined by 15 %. The decline in the industrial sector's consumption took place primarily between 2008 and 2009. In the past year, all sectors presented decreases, leading to an overall 5 % decrease in total final energy consumption.

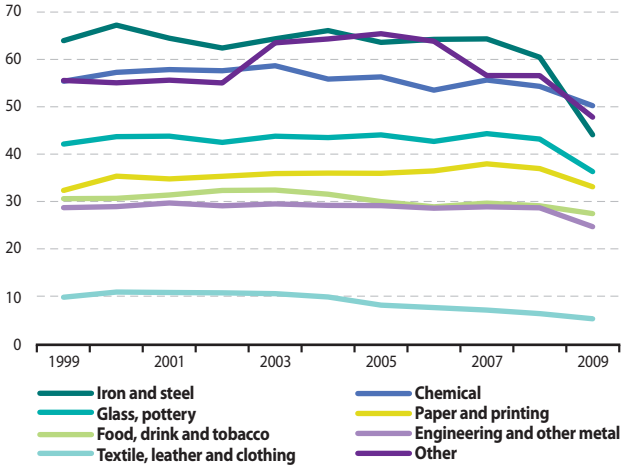
In 2009, the transport sector consumed almost a third (33 %) of EU-27 final energy, an increase of 2 percentage points since 1999. In contrast, the share of the industrial sector decreased from 29 % in 1999 to 24 % in 2009. In 2009, energy consumption by households and services accounted for 27 % and 13 % of the total respectively.

Table 2.4.2: Final energy consumption, by industrial sector (Mtoe)

	Total industry		Iron and steel		Chemical		Glass, pottery		Food, drink and tobacco		Paper and printing	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	319	269	64	44	56	50	42	37	31	27	32	33
BE	13.26	9.61	4.46	1.69	2.99	3.16	1.27	1.06	0.68	1.09	0.50	0.76
BG	3.68	2.43	0.94	0.22	1.06	0.61	0.50	0.52	0.32	0.26	0.10	0.07
CZ	9.29	8.12	2.80	2.28	1.31	1.51	1.14	0.98	0.77	0.55	0.61	0.59
DK	3.01	2.33	0.12	0.06	0.26	0.17	0.66	0.47	0.74	0.58	0.14	0.12
DE	57.00	51.79	13.65	10.93	10.52	10.73	7.25	6.00	4.45	4.54	4.39	5.62
EE	0.56	0.54	0.00	0.00	0.10	0.05	0.09	0.13	0.10	0.06	0.03	0.05
IE	2.22	2.16	0.04	0.00	0.33	0.29	0.27	0.39	0.53	0.45	0.06	0.02
EL	4.10	3.46	0.17	0.19	0.26	0.22	1.17	0.86	0.57	0.62	0.15	0.12
ES	22.34	23.79	3.69	3.25	3.10	3.78	5.39	5.57	2.28	2.09	2.11	2.12
FR	36.94	28.99	6.93	4.49	5.34	5.79	4.12	3.24	4.86	4.53	3.43	2.08
IT	38.50	29.55	6.40	4.54	6.33	4.15	7.96	6.21	3.51	2.99	2.56	2.43
CY	0.43	0.26	-	0.00	0.00	0.00	0.22	0.19	0.01	0.02	0.00	0.00
LV	0.64	0.65	0.14	0.11	0.03	0.02	0.08	0.08	0.15	0.09	0.01	0.01
LT	0.83	0.82	0.01	0.00	0.17	0.28	0.18	0.12	0.18	0.16	0.04	0.03
LU	0.83	0.62	0.33	0.35	0.00	0.03	0.07	0.11	-	0.02	-	0.01
HU	3.55	2.67	0.70	0.48	0.82	0.50	0.62	0.46	0.50	0.40	0.17	0.12
MT	0.04	0.07	-	-	-	-	-	-	-	-	-	-
NL	14.12	12.85	2.25	1.94	4.94	5.54	0.84	0.67	2.45	1.82	1.00	0.73
AT	6.73	8.26	1.94	1.98	0.76	0.79	0.74	0.99	0.39	0.54	1.36	1.52
PL	18.54	14.73	4.22	2.16	3.99	3.67	2.76	2.59	2.02	1.75	1.15	1.21
PT	6.03	5.18	0.27	0.14	0.44	0.55	2.04	1.51	0.49	0.53	1.24	1.16
RO	8.83	6.41	3.07	1.73	1.55	2.03	0.97	0.53	0.63	0.52	0.27	0.09
SI	1.21	1.23	0.15	0.12	0.11	0.16	0.20	0.19	0.09	0.08	0.18	0.19
SK	4.27	4.05	1.75	1.80	0.65	0.35	0.65	0.38	0.22	0.14	0.21	0.63
FI	11.57	10.12	1.62	1.13	1.13	1.06	0.37	0.28	0.44	0.46	5.14	5.34
SE	13.99	11.15	1.66	1.22	2.37	0.64	0.43	0.39	0.55	0.40	5.37	5.86
UK	36.23	27.59	6.75	3.47	6.97	4.27	2.34	2.61	3.64	2.74	2.05	2.14
IS	:	:	:	:	:	:	:	:	:	:	:	:
NO	6.79	5.63	1.30	0.59	0.87	1.20	0.35	0.30	0.42	0.35	1.31	0.75
CH	4.08	3.81	0.15	0.18	0.56	0.69	0.48	0.49	0.41	0.49	0.60	0.39
ME	:	:	:	:	:	:	:	:	:	:	:	:
HR	1.38	1.43	0.04	0.03	0.25	0.23	0.40	0.42	0.25	0.24	0.09	0.09
MK	0.48	0.42	0.19	0.23	0.02	0.01	0.07	0.07	0.05	0.04	0.01	0.00
TR	16.38	20.41	3.06	4.77	1.32	1.21	1.04	2.07	1.03	1.10	0.43	0.36

Source: Eurostat (online data code: nrg_100a)

Figure 2.4.2: Final energy consumption, by industrial sector, EU-27 (Mtoe)



Source: Eurostat (online data code: nrg_100a)

Table 2.4.2a: Final energy consumption, by industrial sector, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	319	329	329	325	339	337	333	326	325	316	269	- 15
Iron and steel	64	67	65	62	64	66	64	64	64	61	44	- 31
Chemical	56	57	58	58	59	56	56	54	56	54	50	- 9
Glass, pottery	42	44	44	43	44	44	44	43	45	43	37	- 14
Food, drink and tobacco	31	31	31	32	32	32	30	29	30	29	27	- 10
Paper and printing	32	35	35	35	36	36	36	36	38	37	33	2
Engineering and other metal	29	29	30	29	29	29	29	29	29	29	25	- 14
Textile, leather and clothing	10	11	11	11	10	10	8	8	7	6	5	- 47
Other	56	55	56	55	64	64	66	64	57	57	48	- 14

Source: Eurostat (online data code: nrg_100a)

Between 2008 and 2009, all industrial sectors in the EU-27 experienced the most striking decreases of the last decade in their final energy consumption. Energy consumption by the iron and steel industry fell by 28 %, followed by textile, leather and clothing (- 17 %), glass and pottery (- 16 %), engineering and other metal (- 14 %), paper and printing (- 10 %) chemical (- 7 %) and food, drink and tobacco (- 6 %).

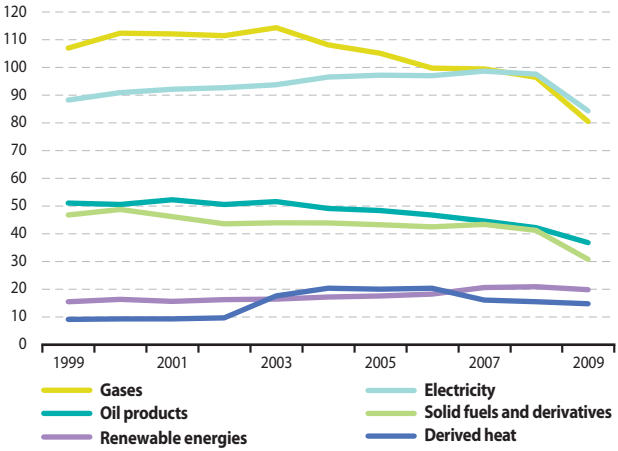
Three sectors accounted for half of the final energy consumed by the EU-27 industry in 2009: The chemical sector with a 19 % share of the total, the iron and steel sector (16 %) and glass, pottery (14 %). In 1999, the iron and steel sector accounted for 20 % of total EU industry consumption, while the shares of the chemical industry and glass and pottery were 17 % and 13 % respectively.

Table 2.4.3: Final energy consumption in industry, by fuel

	All products (Mtoe)		Share to total final energy consumption in industry (%)											
			Solid fuels		Oil products		Gases		Electricity		Renewable energies		Derived heat	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	319	269	15	11	16	14	34	30	28	31	5	7	3	6
BE	13.26	9.61	23	8	12	7	36	44	24	29	2	6	3	5
BG	3.68	2.43	15	8	27	15	30	25	20	30	1	3	7	19
CZ	9.29	8.12	27	30	9	5	35	29	17	23	3	5	10	7
DK	3.01	2.33	9	4	26	24	28	28	28	31	3	6	5	6
DE	57.00	51.79	16	14	11	6	38	33	32	34	1	5	2	7
EE	0.56	0.54	10	17	19	10	20	18	28	31	15	16	8	8
IE	2.22	2.16	3	5	47	30	18	25	28	33	4	6	-	-
EL	4.10	3.46	18	5	46	41	5	12	27	35	5	7	-	-
ES	22.34	23.79	7	4	23	20	34	36	29	34	6	7	-	-
FR	36.94	28.99	14	13	15	20	36	25	31	34	4	8	-	-
IT	38.50	29.55	9	6	18	14	42	33	30	35	1	1	-	10
CY	0.43	0.26	5	6	87	70	-	-	9	20	-	3	-	-
LV	0.64	0.65	3	6	32	11	30	33	19	20	11	30	4	1
LT	0.83	0.82	2	8	26	6	22	32	25	25	4	8	22	20
LU	0.83	0.62	11	11	3	1	48	42	38	44	-	3	-	-
HU	3.55	2.67	13	12	9	6	43	38	21	28	1	3	13	12
MT	0.04	0.07	-	-	5	41	-	-	95	59	-	-	-	-
NL	14.12	12.85	10	9	6	17	47	40	24	24	0	1	12	8
AT	6.73	8.26	16	13	11	10	34	31	25	27	11	13	1	3
PL	18.54	14.73	43	26	10	9	16	23	18	23	3	5	7	10
PT	6.03	5.18	7	0	42	22	8	18	22	27	21	26	1	6
RO	8.83	6.41	12	13	12	11	49	45	20	24	3	3	5	4
SI	1.21	1.23	5	4	15	12	39	37	36	35	2	5	2	5
SK	4.27	4.05	30	30	6	3	37	31	19	23	2	10	0	2
FI	11.57	10.12	10	7	11	12	13	8	31	31	30	27	6	15
SE	13.99	11.15	7	7	25	10	4	5	34	40	28	36	3	3
UK	36.23	27.59	12	12	17	19	40	34	26	31	1	1	3	3
IS	:	:	:	:	:	:	:	:	:	:	:	:	:	:
NO	6.79	5.63	14	9	11	16	0	4	63	64	11	6	0	0
CH	4.08	3.81	2	4	31	19	17	21	36	41	6	6	3	4
ME	:	:	:	:	:	:	:	:	:	:	:	:	:	:
HR	1.38	1.43	4	9	31	27	37	35	19	21	4	4	5	3
MK	0.48	0.42	26	15	23	35	1	7	28	32	0	0	22	11
TR	16.38	20.41	39	34	25	7	12	26	23	29	0	-	-	5

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_105a, nrg_106a and nrg_1071a)

Figure 2.4.3: Final energy consumption in industry, by fuel, EU-27 (Mtoe)



Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_105a, nrg_106a and nrg_1071a)

Table 2.4.3a: Final energy consumption in industry, by fuel, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	319	329	329	325	339	337	333	326	325	316	269	- 15
Solid fuels and derivatives	47	49	46	44	44	44	43	43	43	41	31	- 34
Oil products	51	51	52	51	52	49	48	47	45	42	37	- 28
Gases	107	112	112	111	114	108	105	100	99	96	81	- 25
Electricity	88	91	92	93	94	97	97	97	99	98	84	- 4
Renewable energies	15	16	15	16	16	17	17	18	20	21	20	28
Derived heat	9	9	9	10	18	21	20	20	16	16	15	61

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_105a, nrg_106a and nrg_1071a)

In 2009, electricity and gases covered 61 % (31 % and 30 % respectively) of the energy requirements of EU-27 industry, followed by oil products (14 %) and solid fuels (11 %). Renewable energies and derived heat made smaller contributions of 7 % and 6 % correspondingly.

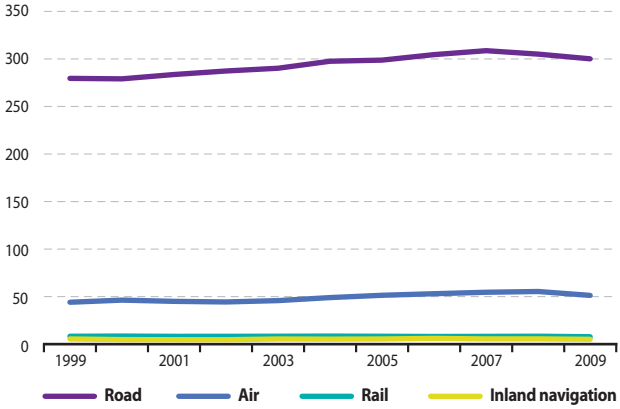
Compared to 1999, in 2009 the consumption of solid fuels by the EU-27 industry fell by 34 %, followed by oil products (- 28 %), gases (- 25 %) and electricity (- 4 %). On the contrary, over this period the consumption of derived heat marked a 61 % increase, followed by a 28 % increase in the consumption of renewables. Between 2008 and 2009, the consumption of all fuels recorded decreases. The most significant decrease was observed in solid fuel consumption (- 25 %), followed by gases (- 17 %), electricity (- 14 %), oil products (- 13 %) and RES and derived heat (- 5 % each).

Table 2.4.4: Final energy consumption, by mode of transport (ktoe)

	Total transport		Road		Air		Rail		Inland navigation	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	340 005	367 636	280 129	300 537	43 288	50 451	9 424	8 926	6 581	6 211
BE	9 633	11 131	7 631	8 843	1 554	1 932	185	177	263	170
BG	2 031	2 927	1 735	2 551	123	176	85	58	3	-
CZ	4 317	6 615	3 803	5 897	184	372	292	271	7	5
DK	4 816	5 194	3 722	4 021	817	820	104	108	115	193
DE	66 971	61 736	57 637	50 810	7 012	8 933	1 953	1 784	303	141
EE	581	744	499	661	23	34	55	41	5	8
IE	3 690	4 693	3 002	4 040	530	586	118	45	40	22
EL	7 469	9 218	5 269	7 143	1 284	1 143	58	50	859	881
ES	32 016	37 837	25 419	30 525	4 208	5 282	795	879	1 593	1 094
FR	49 462	50 400	41 314	41 994	6 475	6 779	1 343	1 263	319	306
IT	42 299	42 289	36 917	36 446	3 283	3 686	820	927	1 240	1 190
CY	832	1 019	559	746	271	272	2	-	-	-
LV	683	1 027	576	836	30	102	74	84	-	4
LT	1 176	1 501	1 072	1 370	27	36	73	62	3	5
LU	1 748	2 488	1 408	2 054	332	418	8	16	-	-
HU	3 270	4 785	2 866	4 387	210	231	194	166	-	1
MT	138	245	81	154	58	91	-	-	-	-
NL	14 124	15 104	10 258	11 242	3 433	3 546	170	164	264	152
AT	6 771	8 628	5 683	7 437	545	658	324	328	6	11
PL	11 210	16 569	10 359	15 402	261	487	563	368	7	3
PT	6 065	7 340	5 200	6 120	744	963	82	60	39	197
RO	3 291	5 363	2 576	4 773	138	234	331	244	215	55
SI	1 316	1 765	1 268	1 711	22	28	26	26	-	-
SK	1 509	2 379	1 411	1 874	21	46	78	43	-	-
FI	4 469	4 807	3 662	3 874	511	643	97	92	180	189
SE	8 018	8 534	6 667	7 339	944	858	267	213	139	125
UK	52 099	53 298	39 536	38 287	10 253	12 094	1 329	1 457	981	1 460
IS	:	:	:	:	:	:	:	:	:	:
NO	4 774	5 021	3 068	3 411	757	707	71	72	879	784
CH	6 766	7 389	4 967	5 708	1 558	1 397	229	276	11	9
ME	:	:	:	:	:	:	:	:	:	:
HR	1 538	2 132	1 344	1 931	90	103	48	49	29	47
MK	399	427	355	418	38	3	6	6	-	-
TR	11 706	16 364	10 043	13 271	1 182	2 154	244	168	203	589

Source: Eurostat (online data code: nrg_100a)

Figure 2.4.4: Final energy consumption, by mode of transport, EU-27 (Mtoe)



Source: Eurostat (online data code: nrg_100a)

Table 2.4.4a: Final energy consumption, by mode of transport, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	340	341	345	348	353	364	367	375	380	378	368	8
Road	280	280	284	288	291	298	299	305	309	305	301	7
Air	43	46	44	44	45	48	51	52	54	55	50	17
Rail	9	10	9	9	9	10	9	9	9	9	9	- 5
Inland navigation	7	6	6	6	7	6	7	7	7	7	6	- 6

Source: Eurostat (online data code: nrg_100a)

Within the transport sector of the EU-27, road transport was the most energy consuming mode with an 82 % share of the total in 2009. Air transport was second with a 14 % share, while rail and inland navigation consumed about 2 % of the total each. The situation was similar in Member States. Road transport accounted for the largest share of their energy consumption and even exceeded 90 % of the total among new Member States. Due to its geography, Malta displayed the largest share of energy consumption by air (37 %). Regarding energy consumption by rail transport, new Member States recorded the highest shares; while Greece displayed the highest share of energy consumption by inland navigation (10 %).

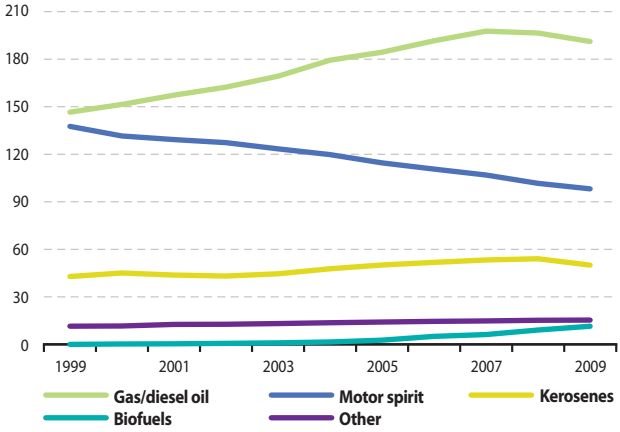
Air transport was the fastest growing sector between 1999 and 2009 with a 17 % overall increase for the EU-27. Road transport experienced a much lesser increase of 7 %, while energy consumption by rail and navigation fell by 5 % and 6 % respectively.

Table 2.4.5: Final energy consumption in transport, by fuel

	All products (ktoe)		Share to total final energy consumption in transport (%)							
			Motor spirit		Kerosenes		Gas/diesel oil		Biofuels	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	340 005	367 636	41	27	13	14	43	52	0	3
BE	9 633	11 131	26	13	16	17	54	65	-	3
BG	2 031	2 927	41	22	6	6	42	51	-	0
CZ	4 317	6 615	47	32	4	6	41	55	1	3
DK	4 816	5 194	43	33	18	16	38	49	-	0
DE	66 971	61 736	47	34	10	14	40	44	0	5
EE	581	744	50	41	4	5	45	53	-	-
IE	3 690	4 693	40	35	14	12	45	50	-	2
EL	7 469	9 218	45	46	17	12	30	34	-	1
ES	32 016	37 837	29	16	13	14	56	66	-	3
FR	49 462	50 400	31	17	13	13	53	62	1	5
IT	42 299	42 289	44	26	8	9	42	55	-	3
CY	832	1 019	26	40	33	27	42	32	-	1
LV	683	1 027	51	32	4	10	41	55	-	0
LT	1 176	1 501	43	25	2	2	48	55	-	3
LU	1 748	2 488	34	16	19	17	47	65	-	2
HU	3 270	4 785	45	34	6	5	46	55	-	3
MT	138	245	58	31	42	37	-	32	-	0
NL	14 124	15 104	31	28	24	23	39	43	-	2
AT	6 771	8 628	32	22	8	8	52	59	0	6
PL	11 210	16 569	54	26	2	3	36	53	-	4
PT	6 065	7 340	36	21	12	13	51	61	-	3
RO	3 291	5 363	39	28	4	4	48	60	-	3
SI	1 316	1 765	62	35	2	2	35	61	-	2
SK	1 509	2 379	44	26	1	2	50	45	-	7
FI	4 469	4 807	43	34	11	13	43	48	-	2
SE	8 018	8 534	53	42	12	10	32	39	-	4
UK	52 099	53 298	46	31	20	23	33	42	-	2
IS	:	:	:	:	:	:	:	:	:	:
NO	4 774	5 021	36	26	16	14	47	54	-	2
CH	6 766	7 389	60	47	23	19	14	30	-	0
ME	:	:	:	:	:	:	:	:	:	:
HR	1 538	2 132	52	33	6	5	40	57	-	0
MK	399	427	47	30	10	1	43	57	-	0
TR	11 706	16 364	38	16	10	13	43	54	-	0

Source: Eurostat (online data codes: nrg_100a, nrg_102a and nrg_1073a)

Figure 2.4.5: Final energy consumption in transport, by fuel, EU-27 (Mtoe)



Source: Eurostat (online data codes: nrg_100a, nrg_102a and nrg_1073a)

Table 2.4.5a: Final energy consumption in transport, by fuel, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	340	341	345	348	353	364	367	375	380	378	368	8
Motor spirit	138	132	129	128	124	120	115	111	107	102	98	- 29
Gas/diesel oil	147	152	157	162	169	179	184	192	198	197	191	30
Kerosenes	43	45	44	43	45	48	50	52	54	54	50	17
Biofuels	0	1	1	1	1	2	3	5	7	9	12	2 547
Other	12	12	13	13	14	14	15	15	15	16	16	32

Source: Eurostat (online data codes: nrg_100a, nrg_102a and nrg_1073a)

In the last decade, significant changes were observed in the fuel mix consumed by the EU-27 transport sector. In 2009, gas/diesel oil accounted for 52 % of the total, an increase of 9 percentage points compared to 1999. Over the same period, the share of motor spirits dropped from 41 % in 1999 to 27 % in 2009. Biofuels accounted for 3 % of total transport consumption in 2009.

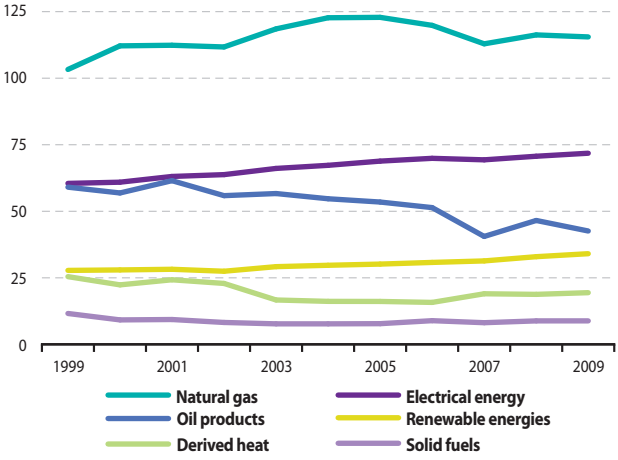
In absolute terms, motor spirit consumption decreased by 29 % between 1999 and 2009. On the other hand, the consumption of all other fuels increased. Gas/diesel oil consumption recorded a 30 % increase, kerosenes consumption grew by 17 % and the consumption of biofuels grew 26 times. From 2008 to 2009, in EU-27 the consumption of all fuels but biofuels dropped.

Table 2.4.6: Final energy consumption in households, by fuel

	All products (Mtoe)		Share to total final energy consumption in households (%)											
			Solid fuels		Oil products		Natural gas		Electrical energy		Renewable energies		Derived heat	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	291	295	4	3	20	15	36	39	21	24	10	12	9	7
BE	9.49	8.30	2	3	40	33	34	40	21	21	2	3	0	0
BG	2.19	2.12	17	7	1	1	-	2	40	42	16	31	27	17
CZ	6.09	5.98	12	8	1	0	34	34	20	21	11	17	22	19
DK	4.28	4.46	0	-	21	10	16	14	20	21	9	20	35	35
DE	65.95	65.79	2	1	30	21	34	44	17	18	6	9	11	6
EE	0.96	0.97	4	0	2	1	4	5	12	17	34	43	43	34
IE	2.43	3.07	24	16	38	40	16	20	21	22	1	1	-	-
EL	4.23	4.85	0	0	53	45	0	5	27	32	19	16	1	1
ES	11.78	14.89	1	2	34	22	15	21	33	40	17	15	-	-
FR	38.74	44.62	2	1	27	18	25	33	28	33	19	16	-	-
IT	29.40	28.68	0	0	25	13	53	59	18	21	4	7	-	-
CY	0.16	0.31	-	-	48	33	-	-	52	48	-	19	-	-
LV	1.41	1.52	1	1	2	2	5	7	7	11	49	53	35	26
LT	1.40	1.38	3	3	5	3	8	11	12	17	35	29	38	38
LU	0.29	0.57	0	0	2	44	73	36	19	13	5	3	-	4
HU	5.77	5.52	3	3	5	2	54	58	15	17	10	11	13	10
MT	0.07	0.07	-	-	38	28	-	-	62	72	-	-	-	-
NL	10.26	10.19	0	0	1	1	78	73	18	20	2	3	1	3
AT	6.34	6.16	4	1	27	22	19	19	19	23	25	27	6	8
PL	19.42	18.74	30	30	4	4	17	17	9	13	12	13	29	23
PT	2.78	3.20	-	-	26	17	1	8	29	38	42	37	0	0
RO	8.74	8.02	1	0	5	4	23	27	8	12	29	42	35	15
SI	1.05	1.09	1	-	48	27	6	10	20	25	15	30	10	9
SK	2.57	2.15	3	2	1	1	61	56	19	18	0	2	16	21
FI	5.16	5.37	0	0	23	12	0	1	31	35	20	23	26	29
SE	7.44	6.95	-	-	14	1	1	1	46	51	8	10	30	37
UK	42.33	40.27	5	1	7	7	65	64	22	26	0	1	0	0
IS	:	:	:	:	:	:	:	:	:	:	:	:	:	:
NO	3.93	3.99	0	-	8	4	-	0	77	78	14	16	1	2
CH	5.89	5.93	0	0	54	44	15	17	23	26	7	10	2	2
ME	:	:	:	:	:	:	:	:	:	:	:	:	:	:
HR	1.70	1.81	1	0	18	14	27	31	29	31	16	16	9	8
MK	0.45	0.54	1	0	7	8	-	-	50	52	34	32	8	7
TR	16.96	20.53	10	29	21	8	14	21	11	16	44	26	-	-

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_105a, nrg_106a and nrg_1071a)

Figure 2.4.6: Final energy consumption in households, by fuel, EU-27 (Mtoe)



Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_105a, nrg_106a and nrg_1071a)

Table 2.4.6a: Final energy consumption in households, by fuel, EU-27 (Mtoe)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	291	293	302	293	298	301	302	300	284	297	295	2
Solid fuels	12	10	10	9	8	8	9	10	9	10	10	- 22
Oil products	59	57	62	56	57	55	54	52	41	47	43	- 28
Natural gas	103	112	112	112	119	123	123	120	113	116	116	12
Electrical energy	61	61	63	64	66	68	69	70	70	71	72	18
Renewable energies	28	29	29	28	30	30	31	31	32	34	35	22
Derived heat	26	23	25	24	17	17	17	16	20	19	20	- 23

Source: Eurostat (online data codes: nrg_100a, nrg_101a, nrg_102a, nrg_103a, nrg_105a, nrg_106a and nrg_1071a)

Between 1999 and 2009, EU-27 final energy consumption in households presented slight annual changes. Compared to the industrial and transport sectors, households appeared to be the sector least affected by the financial crisis of 2008-09. Last year, total energy consumption by households dropped by only 1 %. The consumption of all fuels presented moderate changes. The only exception were oil products, the consumption of which dropped by 8 %.

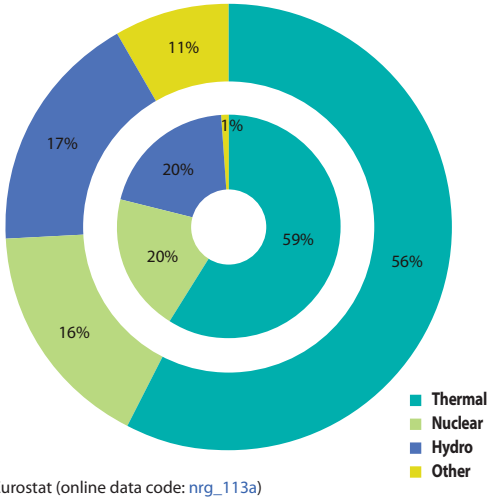
In 2009, natural gas consumption covered 39 % of the total energy needs of households, an increase of 4 percentage points since 1999. The share of electrical energy also grew from 21 % in 1999 to 24 % in 2009; while the share of oil products was 15 % in 2009, a decrease of 6 percentage points compared to 1999.

Table 2.5.1: Installed capacity of electricity generation plants, by type (MW)

	Total		Thermal		Nuclear		Hydro		Other	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	683 340	833 646	399 729	464 753	137 738	132 497	135 635	143 940	10 238	92 456
BE	15 522	17 496	8 389	9 183	5 713	5 902	1 410	1 417	10	994
BG	11 458	9 551	5 564	4 369	3 500	1 892	2 394	2 952	-	338
CZ	15 216	18 326	11 302	11 654	1 760	3 830	2 153	2 184	1	658
DK	11 875	13 398	10 104	9 902	-	-	11	9	1 760	3 487
DE	114 761	146 948	79 371	80 244	22 329	20 480	8 853	10 640	4 208	35 584
EE	2 862	2 665	2 861	2 554	-	-	1	7	-	104
IE	4 352	7 604	3 754	5 610	-	-	528	530	70	1 464
EL	10 760	14 223	7 692	10 209	-	-	2 959	3 018	109	996
ES	51 517	96 268	25 644	47 760	7 354	7 365	16 897	18 505	1 622	22 638
FR	114 755	119 360	26 193	25 624	63 183	63 130	25 115	25 573	264	5 033
IT	73 863	101 447	52 426	73 041	-	-	20 444	21 371	993	7 035
CY	728	1 420	728	1 413	-	-	-	-	-	7
LV	2 115	2 501	589	936	-	-	1 525	1 536	1	29
LT	5 698	4 714	2 461	2 532	2 367	1 183	860	876	10	123
LU	1 218	1 702	71	500	-	-	1 133	1 134	14	68
HU	7 866	8 806	5 978	6 610	1 840	1 940	48	53	-	203
MT	488	571	488	571	-	-	-	-	-	-
NL	20 675	25 992	19 724	23 083	449	510	37	37	465	2 362
AT	17 847	20 853	6 160	7 287	-	-	11 648	12 512	39	1 054
PL	30 732	33 032	28 550	29 985	-	-	2 179	2 338	3	709
PT	10 755	17 392	6 156	8 846	-	-	4 527	5 080	72	3 466
RO	22 237	19 552	15 448	11 675	707	1 411	6 082	6 450	-	16
SI	2 576	3 050	1 097	1 310	664	666	815	1 070	-	4
SK	7 752	7 153	3 133	2 824	2 200	1 820	2 419	2 487	-	22
FI	16 166	16 318	10 605	10 374	2 640	2 671	2 881	3 120	40	153
SE	34 101	35 285	7 375	8 337	10 076	8 839	16 451	16 652	199	1 457
UK	75 445	88 019	57 866	68 320	12 956	10 858	4 265	4 389	358	4 452
IS	:	:	:	:	:	:	:	:	:	:
NO	28 493	31 329	270	939	-	-	28 203	29 910	20	480
CH	18 777	19 544	779	881	3 127	3 238	14 855	15 336	16	89
ME	:	:	:	:	:	:	:	:	:	:
HR	3 754	4 059	1 675	1 897	-	-	2 079	2 092	-	70
MK	:	1 567	:	1 010	:	-	:	557	:	-
TR	26 120	44 761	15 556	29 339	-	-	10 537	14 553	27	869

Source: Eurostat (online data code: nrg_113a)

Figure 2.5.1: Breakdown of installed capacity of electricity generation plants, by type, EU-27, 1999 & 2009 (%)



Source: Eurostat (online data code: nrg_113a)

Table 2.5.1a: Installed capacity of electricity generation plants by type, EU-27 (GW)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total	683	695	704	712	728	739	751	772	788	810	834
Thermal	400	407	410	412	423	428	434	446	451	459	465
Nuclear	138	137	137	138	137	136	135	134	133	133	132
Hydro	136	136	137	138	137	138	139	140	142	142	144
Other	10	14	19	25	30	36	44	52	62	76	92

Source: Eurostat (online data code: nrg_113a)

From 1999 to 2009, EU-27 total installed capacity of electricity generation plants grew continuously with an annual rate of about 2 %. A breakdown by type shows that over this period only nuclear capacity experienced a decline (- 4 %). On the contrary, the installed capacity of RES recorded the most remarkable increase (ninefold). As a result, the share of RES capacity as part of the total grew from 1 % in 1999 to 11 % in 2009. Thermal plants accounted for 56 % of the total capacity in 2009, while nuclear and hydro plants made up 16 % and 17 % respectively.

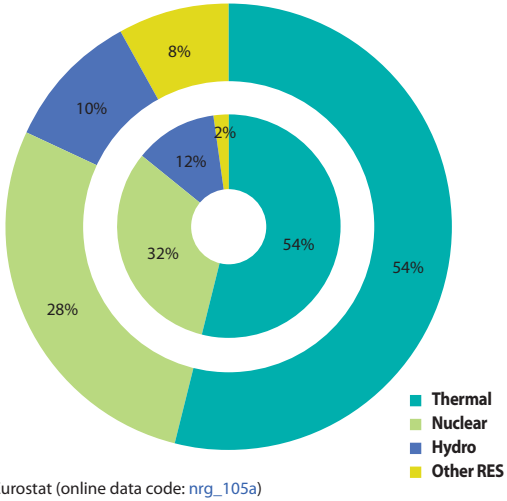
At Member State level, most of the electric capacity came from thermal plants in twenty two countries. The only exceptions were Luxembourg, Latvia, Austria and Sweden, where hydro plants accounted for most of their capacity (67 %, 61 %, 60 % and 47 % respectively), and France, where nuclear accounted for over half of the total (53 %).

Table 2.5.2: Power station generation, by type (GWh)

	Total		Thermal		Nuclear		Hydro		Other RES	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	2 918 220	3 183 315	1 584 945	1 709 552	943 384	893 990	340 463	327 385	49 428	252 388
BE	83 366	89 793	33 499	37 718	49 017	47 221	341	328	509	4 526
BG	38 019	42 381	19 452	23 409	15 814	15 256	2 753	3 470	-	246
CZ	64 159	81 697	48 442	49 835	13 357	27 208	1 681	2 429	679	2 225
DK	38 921	36 364	35 143	26 312	-	-	31	19	3 747	10 033
DE	552 545	586 432	353 824	361 688	170 004	134 932	19 647	18 660	9 070	71 152
EE	8 281	8 779	8 265	8 238	-	-	4	32	12	509
IE	21 765	27 887	20 641	23 848	-	-	846	902	278	3 137
EL	49 395	60 978	44 640	52 909	-	-	4 592	5 258	163	2 811
ES	205 877	291 038	119 677	164 706	58 852	52 761	22 863	26 331	4 485	47 240
FR	520 766	537 070	51 587	57 871	394 244	409 737	72 558	57 138	2 377	12 324
IT	263 658	293 678	212 343	226 296	-	-	45 365	49 138	5 950	18 244
CY	3 139	5 227	3 139	5 223	-	-	-	-	-	4
LV	4 110	5 569	1 351	2 013	-	-	2 757	3 457	2	99
LT	13 089	14 643	2 812	3 107	9 862	10 852	415	424	-	260
LU	358	3 151	236	2 883	-	-	85	106	37	162
HU	37 832	35 908	23 490	17 587	14 096	15 426	181	228	65	2 667
MT	1 854	2 167	1 854	2 167	-	-	-	-	-	-
NL	86 721	113 502	80 382	98 586	3 832	4 228	90	98	2 417	10 590
AT	59 718	65 622	17 565	19 071	-	-	40 501	40 293	1 652	6 258
PL	140 001	151 121	137 649	142 442	-	-	2 155	2 375	197	6 304
PT	43 022	49 666	34 372	31 375	-	-	7 286	8 284	1 364	10 007
RO	50 710	57 743	27 222	30 436	5 198	11 752	18 290	15 534	-	21
SI	13 262	16 401	4 794	5 757	4 696	5 739	3 741	4 713	31	192
SK	28 105	25 919	10 514	6 927	13 117	14 081	4 474	4 368	-	543
FI	69 457	72 007	25 290	26 790	22 974	23 526	12 780	12 686	8 413	9 005
SE	154 838	136 592	6 903	4 700	73 188	52 173	71 691	65 852	3 056	13 867
UK	365 250	371 980	260 501	277 658	95 133	69 098	5 336	5 262	4 280	19 962
IS	:	:	:	:	:	:	:	:	:	:
NO	122 289	131 950	537	4 498	-	-	121 454	126 242	298	1 210
CH	68 674	66 669	2 068	1 942	25 830	27 686	40 004	35 723	772	1 318
ME	:	:	:	:	:	:	:	:	:	:
HR	12 144	12 692	5 554	5 882	-	-	6 590	6 730	-	80
MK	6 863	6 829	5 474	5 558	-	-	1 389	1 271	-	-
TR	116 521	195 249	81 609	157 108	-	-	34 677	35 958	235	2 183

Source: Eurostat (online data code: nrg_105a)

Figure 2.5.2: Breakdown of power station generation, by type, EU-27, 1999 & 2009 (%)



Source: Eurostat (online data code: nrg_105a)

Table 2.5.2a: Power station generation, by type, EU-27 (TWh)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total	2 918	3 001	3 082	3 103	3 192	3 259	3 279	3 324	3 339	3 346	3 183
Thermal	1 585	1 642	1 662	1 714	1 792	1 805	1 833	1 861	1 897	1 859	1 710
Nuclear	943	945	979	990	996	1 008	998	990	935	937	894
Hydro	340	353	372	315	305	323	305	309	310	327	327
Other RES	49	61	68	84	99	123	143	165	197	222	252

Source: Eurostat (online data code: nrg_105a)

Total electricity generation in the EU-27 grew by 9 % over the last decade. The most rapid growth was reported in electricity generation from other RES (fivefold), followed by thermal (8 %); while electricity generation by nuclear and hydro power stations decreased by 5 % and 4 % respectively. In 2009, thermal and nuclear power stations generated 8 % and 5 % less electricity compared to 2008.

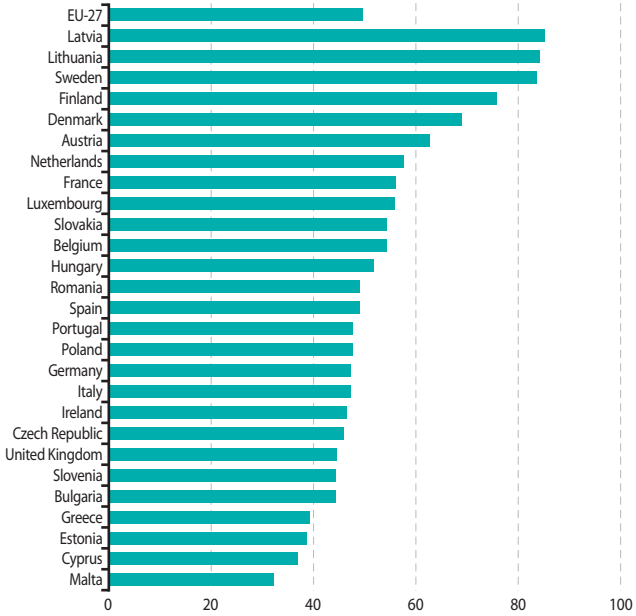
In 2009, thermal power stations accounted for over half of the total gross electricity generation in the EU-27; while nuclear and hydro power stations accounted for 28 % and 10 % respectively. Other RES provided 8 % of the total, a share that grew by 6 percentage points between 1999 and 2009.

Table 2.5.3: Thermal efficiency of power stations (%)

	1999	2005	2006	2007	2008	2009
EU-27	46.5	50.5	50.1	48.3	49.2	49.5
Belgium	46.7	47.6	50.9	50.9	51.2	54.2
Bulgaria	43.5	40.8	40.0	40.2	43.3	44.2
Czech Republic	47.0	46.1	45.5	45.3	45.6	45.9
Denmark	63.5	71.2	64.9	66.2	68.8	68.8
Germany	46.6	54.4	53.9	45.9	47.1	47.2
Estonia	39.0	42.3	43.4	42.1	40.0	38.6
Ireland	38.1	43.2	44.1	46.0	47.4	46.5
Greece	36.5	37.5	38.4	38.9	39.4	39.2
Spain	40.7	46.7	45.4	45.4	48.7	48.9
France	42.3	57.9	57.3	56.5	57.9	56.0
Italy	39.9	46.5	47.0	47.1	47.4	47.1
Cyprus	32.2	34.9	36.4	36.2	36.3	36.9
Latvia	78.3	83.8	86.0	86.2	82.1	84.9
Lithuania	72.0	76.6	80.0	82.2	83.4	84.0
Luxembourg	29.6	55.4	55.3	55.4	55.8	55.7
Hungary	49.8	50.4	51.0	49.9	50.2	51.6
Malta	21.7	29.6	31.9	29.8	32.3	32.2
Netherlands	58.1	59.7	57.3	58.8	57.5	57.6
Austria	55.1	58.7	58.6	58.9	60.5	62.6
Poland	46.6	48.0	47.7	47.2	47.1	47.5
Portugal	43.7	47.3	48.0	48.3	48.2	47.6
Romania	54.6	52.1	50.3	48.4	46.3	49.0
Slovenia	44.5	44.2	43.9	42.9	43.5	44.3
Slovakia	40.5	53.4	53.8	56.1	53.5	54.2
Finland	73.8	76.0	68.7	70.6	74.2	75.7
Sweden	88.6	83.7	84.0	85.7	86.8	83.4
United Kingdom	43.9	43.8	43.3	44.1	44.9	44.4
Iceland	:	:	:	:	:	:
Norway	62.6	82.9	82.2	76.1	67.3	58.5
Switzerland	48.3	48.6	47.1	45.9	46.5	46.6
Montenegro	:	:	:	:	:	:
Croatia	49.5	50.8	50.2	47.7	50.1	51.3
FYR of Macedonia	36.6	35.9	34.9	34.7	34.7	37.1
Turkey	36.6	48.1	47.7	46.7	46.2	43.8

Source: Eurostat (online data code: nrg_100a)

Figure 2.5.3: Thermal efficiency of power stations, 2009 (%)



Source: Eurostat (online data code: nrg_100a)

Table 2.5.3a: Thermal efficiency of power stations, EU-27 (%)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	46.5	47.0	47.0	47.2	48.9	49.8	50.5	50.1	48.3	49.2	49.5

Source: Eurostat (online data code: nrg_100a)

Thermal efficiency of power stations is calculated as the ratio between the output of electricity and heat from electricity and combined heat and power (CHP) power plants and the input of fuels to these plants.

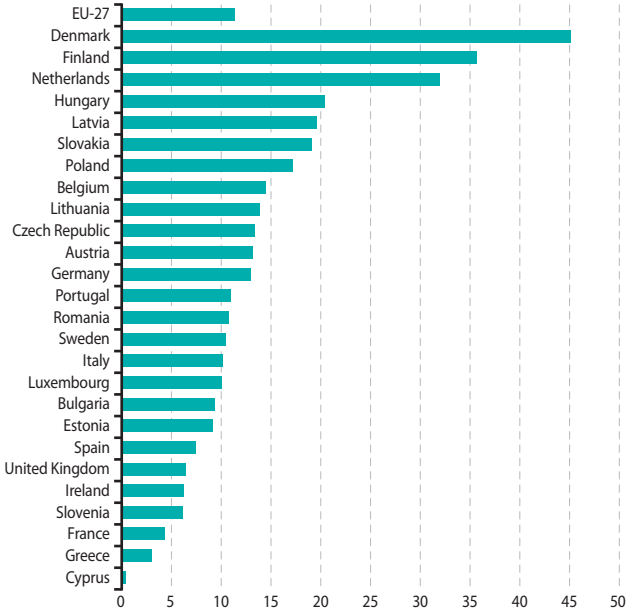
In 2009, thermal efficiency of power stations in the EU-27 was 49.5 %. Between 1999 and 2009, EU-27 thermal efficiency grew by about 3 percentage points. Luxembourg presented the highest growth in its thermal efficiency over this period (55.7 % in 2009 compared to 29.6 % in 1999); while Slovakia and France also experienced an increase of 14 percentage points in their efficiencies. This increase was mostly attributed to technological advances, the increase in CHP plants and the replacement of old thermal power plants with new, more efficient.

Table 2.5.4: Combined heat and power generation (% of gross electricity generation)

	2005	2006	2007	2008	2009
EU-27	11.1	10.9	10.9	11.0	11.4
Belgium	8.5	8.7	12.5	:	14.5
Bulgaria	6.1	6.0	9.4	10.0	9.4
Czech Republic	16.8	15.1	13.0	14.2	13.4
Denmark	52.1	40.7	42.8	46.1	45.3
Germany	12.6	12.5	12.2	12.5	13.0
Estonia	10.2	10.7	7.2	8.6	9.2
Ireland	2.4	5.6	6.3	6.2	6.3
Greece	1.7	1.7	1.6	1.9	3.0
Spain	7.8	7.2	7.1	7.0	7.5
France	4.0	3.2	3.2	3.1	4.3
Italy	9.0	9.8	10.3	9.5	10.2
Cyprus	0.3	0.3	0.3	0.3	0.4
Latvia	30.7	42.6	40.9	33.6	19.7
Lithuania	15.5	14.3	13.2	12.7	13.9
Luxembourg	10.1	10.9	9.9	11.9	10.1
Hungary	19.1	22.4	21.4	21.1	20.5
Malta	-	-	-	-	-
Netherlands	29.4	29.9	30.1	33.6	32.1
Austria	15.4	16.1	15.6	15.3	13.2
Poland	16.8	16.0	17.3	16.9	17.2
Portugal	11.6	11.6	12.3	11.9	11.0
Romania	26.2	18.0	10.7	9.6	10.8
Slovenia	7.3	7.4	7.2	6.7	6.2
Slovakia	15.3	27.6	25.6	24.0	19.2
Finland	38.9	34.9	34.4	35.6	35.8
Sweden	6.7	8.0	8.2	9.6	10.5
United Kingdom	6.8	6.3	6.4	6.4	6.5
Iceland	:	14.4	14.4	:	:
Norway	:	0.1	0.1	0.1	0.1
Switzerland	:	:	:	:	:
Montenegro	:	:	:	:	:
Croatia	:	:	:	:	12.7
FYR of Macedonia	:	:	:	:	:
Turkey	4.4	4.4	4.6	4.2	3.8

Source: Eurostat (online data code: tsdcc350)

Figure 2.5.4: Combined heat and power generation, 2009 (% of gross electricity generation)



Source: Eurostat (online data code: tsdcc350)

Combined heat and power (CHP) or cogeneration is a technology used to improve energy efficiency through the generation of heat and power in the same plant, generally using a gas turbine with heat recovery. Heat delivered from CHP plants may be used for process or space-heating purposes in any sector of economic activity including the residential sector. CHP thus reduces the need for additional fuel combustion for the generation of heat and avoids the associated environmental impacts, such as CO_2 emissions.

This indicator is a measure of the penetration of CHP in electricity markets. The data collection for CHP generation is based on Community Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand in the internal market. The Directive does not include targets, but it aims at promoting CHP generation.

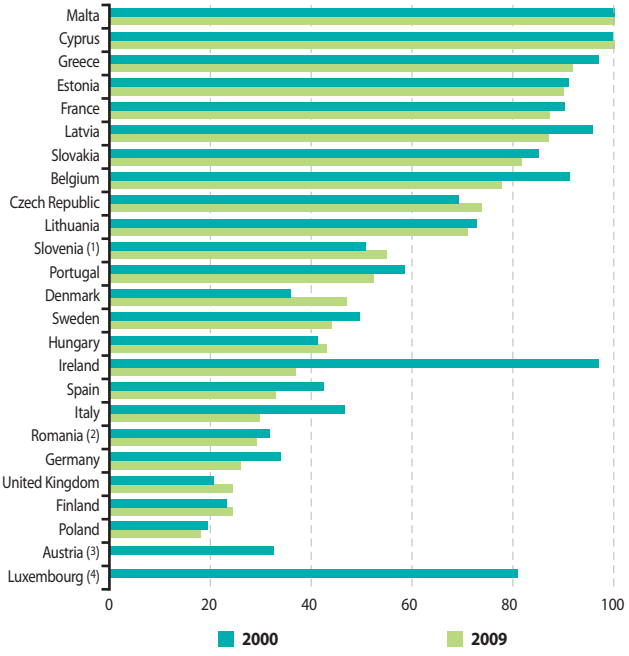
The share of electricity produced by cogeneration processes in the EU-27 was 11.4 % in 2009. Large differences can be observed amongst Member States with variations of the shares between 0.4 % in Cyprus and 45.3 % in Denmark. From 2005 to 2009, Romania recorded the highest decrease in its CHP share from 26.2 % in 1999 to 10.8 % in 2009. For the same period, Belgium reported an increase of 6 percentage points and in 2009 its CHP share reached 14.5 %.

Table 2.5.5: Market share of the largest generator in the electricity market (%)

	2000	2006	2007	2008	2009
EU-27	:	:	:	:	:
Belgium	91.1	82.3	83.9	80.0	77.7
Bulgaria	:	:	:	:	:
Czech Republic	69.2	73.5	74.2	72.9	73.7
Denmark	36.0	54.0	47.0	56.0	47.0
Germany	34.0	31.0	30.0	30.0	26.0
Estonia	91.0	91.0	94.0	96.5	90.0
Ireland	97.0	51.1	48.0	45.6	37.0
Greece	97.0	94.6	91.6	91.6	91.8
Spain	42.4	31.0	31.0	22.2	32.9
France	90.2	88.7	88.0	87.3	87.3
Italy	46.7	34.6	31.3	31.3	29.8
Cyprus	99.6	100.0	100.0	100.0	100.0
Latvia	95.8	95.0	86.0	87.0	87.0
Lithuania	72.8	69.7	70.5	71.5	70.9
Luxembourg	:	:	:	:	:
Hungary	41.3	41.7	40.9	42.0	43.1
Malta	100.0	100.0	100.0	100.0	100.0
Netherlands	:	:	:	:	:
Austria	32.6	:	:	:	:
Poland	19.5	17.3	16.5	18.9	18.1
Portugal	58.5	54.5	55.6	48.5	52.4
Romania	:	31.1	27.5	28.3	29.3
Slovenia	:	51.4	82.0	53.0	55.0
Slovakia	85.1	70.0	72.4	71.9	81.7
Finland	23.3	26.0	26.0	24.0	24.5
Sweden	49.5	45.0	45.0	45.2	44.0
United Kingdom	20.6	22.2	18.5	15.3	24.5
Iceland	:	:	:	:	:
Norway	30.6	30.9	32.5	27.4	29.5
Switzerland	:	:	:	:	:
Montenegro	:	:	:	:	:
Croatia	:	83.0	84.0	85.0	92.0
FYR of Macedonia	:	:	:	:	:
Turkey	75.0	:	:	:	:

Source: Eurostat (online data code: nrg_ind_331a)

Figure 2.5.5: Market share of the largest generator in the electricity market (%)



(1) 2002 data instead of 2000.
(2) 2004 data instead of 2000.
(3) 2009 data not available.
(4) 2009 data not available. 2003 data instead of 2000.

Source: Eurostat (online data code: nrg_ind_331a)

The indicator shows the market share of the largest electricity generator in each country. To calculate this indicator, the total net electricity production during each reference year is taken into account. It means that the electricity used by generators for their own consumption is not taken into account. Then, the net production of each generator during the same year is considered in order to calculate the corresponding market shares. Only the largest market share is reported under this indicator.

In 2009, electricity generation in Malta and Cyprus was a complete monopoly, as 100 % of their electricity came from one generator; while the Member State with the lowest share was Poland (18.1 %). In the last decade, the most considerable change took place in the electricity market of Ireland, where the share of the largest generator fell from 97 % in 1999 to 37 % in 2009. In contrast, the most notable increase was observed in Denmark, as in 2009 the largest electricity generator made up 47 % of the market, an increase of 11 percentage points since 1999.

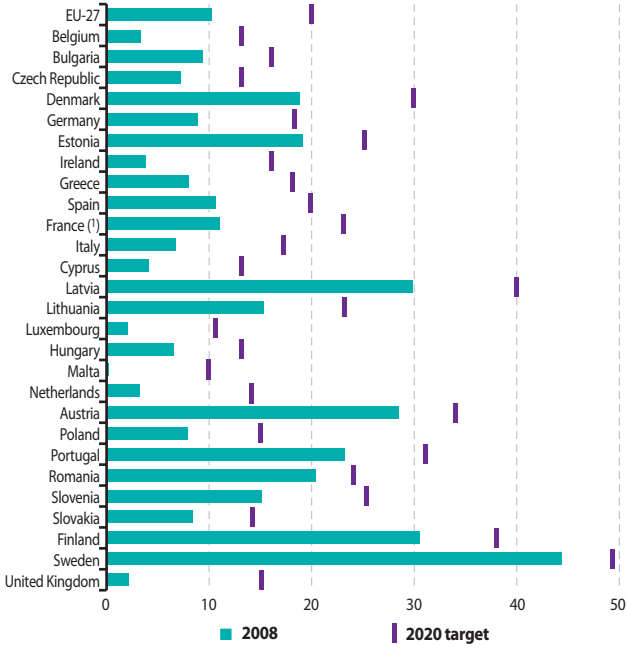
Table 2.6.1: Share of renewable energy in gross final energy consumption (%)

	2006	2007	2008	2020 target
EU-27	8.8	9.7	10.3	20.0
Belgium	2.7	3.0	3.3	13.0
Bulgaria	9.3	9.1	9.4	16.0
Czech Republic	6.4	7.3	7.2	13.0
Denmark	16.8	18.1	18.8	30.0
Germany	6.9	9.0	8.9	18.0
Estonia	16.1	17.1	19.1	25.0
Ireland	3.0	3.4	3.8	16.0
Greece	7.2	8.1	8.0	18.0
Spain	9.1	9.6	10.7	20.0
France (1)	9.6	10.2	11.0	23.0
Italy	5.3	5.2	6.8	17.0
Cyprus	2.5	3.1	4.1	13.0
Latvia	31.3	29.7	29.9	40.0
Lithuania	14.7	14.2	15.3	23.0
Luxembourg	0.9	2.0	2.1	11.0
Hungary	5.1	6.0	6.6	13.0
Malta	0.1	0.2	0.2	10.0
Netherlands	2.5	3.0	3.2	14.0
Austria	24.8	26.6	28.5	34.0
Poland	7.4	7.4	7.9	15.0
Portugal	20.5	22.2	23.2	31.0
Romania	17.5	18.7	20.4	24.0
Slovenia	15.5	15.6	15.1	25.0
Slovakia	6.2	7.4	8.4	14.0
Finland	29.2	28.9	30.5	38.0
Sweden	42.7	44.2	44.4	49.0
United Kingdom	1.5	1.7	2.2	15.0
Iceland	:	:	:	-
Norway	:	:	:	-
Switzerland	:	:	:	-
Montenegro	:	:	:	:
Croatia	:	:	:	-
FYR of Macedonia	:	:	:	-
Turkey	:	:	:	-

(1) "France métropolitaine", excluding the four overseas departments (French Guyana, Guadeloupe, Martinique and Réunion).

Source: Eurostat (Europe 2020 indicators — online data code: t2020_31)

Figure 2.6.1: Share of renewable energy in gross final energy consumption and target for 2020 (%)



(1) "France métropolitaine", excluding the four overseas departments (French Guyana, Guadeloupe, Martinique and Réunion).

Source: Eurostat (Europe 2020 indicators — online data code: t2020_31)

This indicator can be considered as an estimate of the relevant indicator described in Directive 2009/28/EC on the promotion of the use of energy from renewable sources. The Directive set individual targets for all Member States with a view to reaching an overall EU target of a 20 % share of total energy consumption from renewables by 2020. The targets take into account the different starting points of the Member States, the renewable energy potential and economic performance.

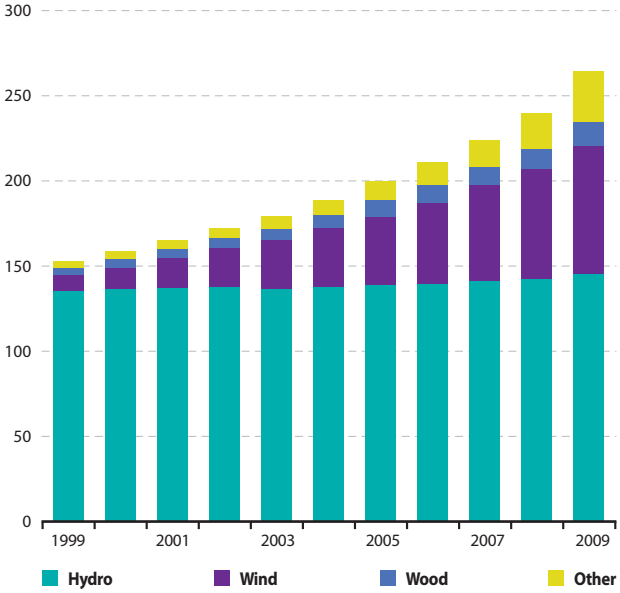
In 2008, energy from renewable sources contributed 10.3 % of EU-27 gross final energy consumption. The highest share of consumption from renewable sources was recorded in Sweden (44.4 %), Finland (30.5 %), Latvia (29.9 %), Austria (28.5 %) and Portugal (23.2 %) and the lowest in Malta (0.2 %), Luxembourg (2.1 %) and the United Kingdom (2.2 %). From 2006 to 2008, Austria recorded the highest increase in its share from 24.8 % to 28.5 %.

Table 2.6.2: Installed capacity for electricity generation from renewables (MW)

	Total		Hydro		Wind		Wood		Other	
	1999	2009	1999	2009	1999	2009	1999	2009	1999	2009
EU-27	152 941	261 868	135 635	143 940	9 061	74 779	4 480	14 241	3 765	28 908
BE	1 540	3 427	1 410	1 417	10	608	38	554	82	848
BG	2 394	3 290	2 394	2 952	-	333	-	-	-	5
CZ	2 154	3 500	2 153	2 184	1	193	-	559	-	564
DK	2 120	4 575	11	9	1 759	3 482	110	690	240	394
DE	14 030	52 224	8 853	10 640	4 138	25 777	127	2 042	912	13 765
EE	1	148	1	7	-	104	-	35	-	2
IE	613	1 829	528	530	70	1 264	-	5	15	30
EL	3 068	4 054	2 959	3 018	109	950	-	-	-	86
ES	18 751	42 131	16 897	18 505	1 613	18 988	138	502	103	4 136
FR	25 379	31 859	25 115	25 573	18	4 530	-	286	246	1 470
IT	21 786	29 958	20 444	21 371	232	4 879	198	438	912	3 270
CY	-	13	-	-	-	-	-	-	-	13
LV	1 526	1 575	1 525	1 536	1	29	-	2	-	8
LT	860	998	860	876	-	98	-	16	-	8
LU	1 155	1 219	1 133	1 134	14	43	-	-	8	42
HU	77	787	48	53	-	203	5	464	24	67
MT	-	-	-	-	-	-	-	-	-	-
NL	961	3 538	37	37	410	2 222	55	462	459	817
AT	12 486	16 518	11 648	12 512	35	1 004	787	2 024	16	978
PL	2 189	3 157	2 179	2 338	3	709	-	42	7	68
PT	4 897	8 985	4 527	5 080	57	3 326	233	342	80	237
RO	6 082	6 466	6 082	6 450	-	15	-	-	-	1
SI	832	1 124	815	1 070	-	-	15	38	2	16
SK	2 419	2 661	2 419	2 487	-	3	-	160	-	11
FI	4 121	5 080	2 881	3 120	38	147	1 200	1 807	2	6
SE	18 232	21 922	16 451	16 652	196	1 448	1 490	3 142	95	680
UK	5 268	10 830	4 265	4 389	357	4 424	84	631	562	1 386
IS	:	:	:	:	:	:	:	:	:	:
NO	28 279	30 347	28 203	29 910	14	437	30	-	32	-
CH	15 161	15 815	14 855	15 336	3	18	-	-	303	461
ME	:	:	:	:	:	:	:	:	:	:
HR	2 079	2 167	2 079	2 092	-	70	-	-	-	5
MK	-	557	-	557	-	-	-	-	-	-
TR	10 639	15 524	10 537	14 553	9	792	72	47	21	132

Source: Eurostat (online data code: nrg_113a)

Figure 2.6.2: Installed capacity for electricity generation from renewables, EU-27 (GW)



Source: Eurostat (online data code: nrg_113a)

Table 2.6.2a: Installed capacity for electricity generation from renewables, EU-27 (GW)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change (%)
Total	153	159	165	172	179	189	200	211	224	240	262	71
Hydro	136	136	137	138	137	138	139	140	142	142	144	6
Wind	9	13	17	23	28	34	40	48	56	64	75	725
Wood	4	5	6	6	7	8	10	10	11	12	14	218
Other	4	4	5	5	7	8	11	13	15	21	29	668

Source: Eurostat (online data code: nrg_113a)

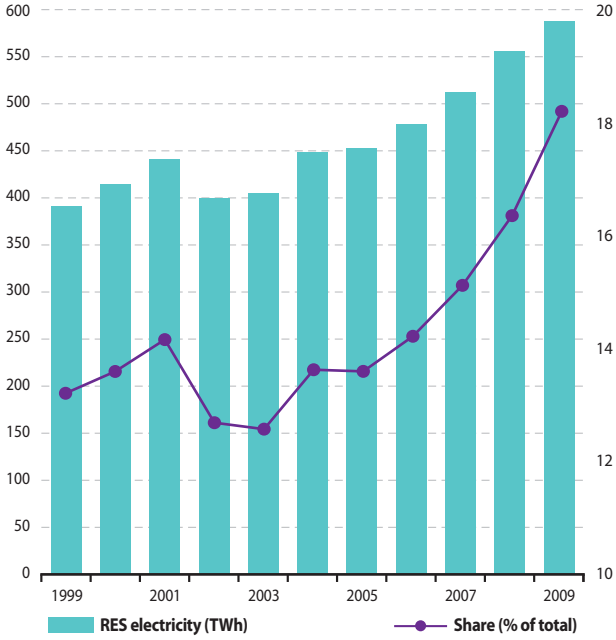
The installed capacity for electricity generation from renewables in the EU-27 grew continuously between 1999 and 2009 with an annual growth rate of 6 %. The increase in wind capacity was eightfold. As a result, its share of the total grew from 6 % in 1999 to 29 % in 2009. The capacity of other renewables, which include geothermal, photovoltaics, municipal solid waste and biogas, also presented an eightfold increase from 1999 to 2009. Its share of the total grew from 2 % in 1999 to 11 % in 2009. In 2009, hydro capacity still made up the largest contribution to the total with a 55 % share compared to 89 % in 1999.

Table 2.6.3: Electricity from renewables in total electricity consumption

	RES electricity (GWh)			Share (% of total)		
	1999	2004	2009	1999	2004	2009
EU-27	390 471	447 372	587 178	13.2	13.6	18.2
Belgium	850	1 497	5 438	1.0	1.6	6.1
Bulgaria	2 753	3 169	3 716	7.6	8.9	9.8
Czech Republic	2 360	2 741	4 654	3.8	4.0	6.8
Denmark	4 420	9 580	10 052	12.1	25.5	27.4
Germany	28 717	56 500	93 990	5.2	9.2	16.2
Estonia	16	60	541	0.2	0.7	6.1
Ireland	1 124	1 394	4 039	5.1	5.1	13.9
Greece	4 755	5 918	8 069	9.5	9.5	12.3
Spain	27 348	50 762	73 571	12.8	18.3	25.7
France	75 515	64 307	69 959	16.3	12.6	13.5
Italy	51 315	53 871	69 330	16.7	15.4	20.5
Cyprus	-	-	4	-	0.0	0.1
Latvia	2 759	3 196	3 556	45.5	47.1	49.2
Lithuania	415	428	684	3.8	3.5	5.5
Luxembourg	122	194	268	1.9	2.6	3.7
Hungary	246	936	2 895	0.6	2.3	7.0
Malta	-	-	-	-	-	-
Netherlands	2 507	5 301	10 836	2.4	4.5	9.2
Austria	42 153	39 347	46 601	71.4	58.5	66.8
Poland	2 352	3 075	8 679	1.7	2.1	5.8
Portugal	8 650	12 314	18 291	20.4	23.9	33.3
Romania	18 290	16 517	15 555	36.7	29.9	27.9
Slovenia	3 772	4 215	4 905	31.6	29.1	36.8
Slovakia	4 474	4 126	4 911	15.4	14.4	17.9
Finland	21 193	25 601	21 691	26.3	28.2	25.8
Sweden	74 747	68 176	79 719	50.7	45.6	56.4
United Kingdom	9 616	14 146	25 224	2.5	3.5	6.7
Iceland	:	:	:	:	:	:
Norway	121 752	109 474	127 452	100.8	89.6	103.0
Switzerland	40 776	34 756	37 041	68.6	53.6	55.9
Montenegro	:	:	:	:	:	:
Croatia	6 590	6 964	6 810	45.4	41.1	36.9
FYR of Macedonia	1 389	1 482	1 271	20.5	18.9	15.4
Turkey	34 912	46 311	38 141	29.5	30.9	19.7

Source: Eurostat (online data codes: nrg_105a, nrg_1071a and nrg_1072a)

Figure 2.6.3: Electricity from renewables in total electricity consumption, EU-27



Source: Eurostat (online data codes: nrg_105a, nrg_1071a and nrg_1072a)

Table 2.6.3a: Electricity from renewables in total electricity consumption, EU-27

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
RES electricity (TWh)	390	414	441	399	405	447	452	478	511	555	587
Share (% of total)	13.2	13.6	14.2	12.7	12.6	13.6	13.6	14.2	15.1	16.4	18.2

Source: Eurostat (online data codes: nrg_105a, nrg_1071a and nrg_1072a)

Electricity generation from renewables in the EU-27 grew by 50 % between 1999 and 2009 and in 2009 it amounted to 587 TWh. The share of RES electricity in total electricity consumption increased rather moderately from 13.2 % in 1999 to 18.2 % in 2009.

At Member State level, Germany, Sweden, and Spain presented the highest values in absolute terms (94, 80 and 74 TWh respectively). Austria was the country with the highest share of renewables to total electricity consumption in 2009 (66.8 %), followed by Sweden (56.4 %).

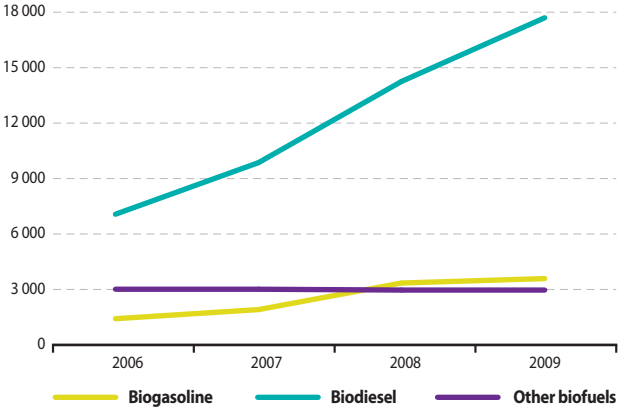
Table 2.6.4: Biofuels production capacity (thousand tonnes per year)

	Total			Biogasoline			Biodiesel		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
EU-27	14 874	20 651	24 327	1 946	3 381	3 620	9 883	14 270	17 707
Belgium	-	1 034	1 034	-	369	369	-	665	665
Bulgaria	45	228	192	-	30	-	-	198	192
Czech Republic	426	493	580	80	160	160	346	333	420
Denmark	-	-	-	-	-	-	-	-	-
Germany	7 966	8 955	8 780	576	875	880	4 390	5 080	4 900
Estonia	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Greece	575	575	575	-	-	-	575	575	575
Spain	1 475	2 225	4 776	464	464	464	1 011	1 761	4 312
France	1 813	3 037	3 347	785	942	1 092	1 028	2 095	2 255
Italy	1 917	2 589	2 544	-	332	332	1 917	2 257	2 212
Cyprus	7	14	14	-	-	-	7	14	14
Latvia	27	158	204	13	13	28	14	145	175
Lithuania	164	190	210	17	40	60	147	150	150
Luxembourg	-	-	-	-	-	-	-	-	-
Hungary	11	200	329	-	50	140	11	150	189
Malta	-	-	-	-	-	-	-	-	-
Netherlands	199	530	1 323	10	10	-	189	520	1 323
Austria	28	28	28	-	-	-	28	28	28
Poland	-	-	-	-	-	-	-	-	-
Portugal	120	120	120	-	-	-	120	120	120
Romania	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-
Slovakia	101	275	271	-	95	95	101	180	176
Finland	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Montenegro	:	:	:	:	:	:	:	:	:
Croatia	29	61	61	-	-	-	29	61	61
FYR of Macedonia	-	-	-	-	-	-	-	-	-
Turkey	1 071	1 066	918	-	-	-	1 071	1 066	918

Source: Eurostat (online data code: nrg_1073a)

Except for biogasoline and biodiesel, other biofuels are also included in the total.

Figure 2.6.4: Biofuels production capacity, EU-27 (thousand tonnes per year)



Source: Eurostat (online data code: nrg_1073a)

Table 2.6.4a: Biofuels production capacity, EU-27 (thousand tonnes per year)

	2006	2007	2008	2009
Total	11 594	14 874	20 651	24 327
Biogasoline	1 453	1 946	3 381	3 620
Biodiesel	7 096	9 883	14 270	17 707
Other biofuels	3 045	3 045	3 000	3 000

Source: Eurostat (online data code: nrg_1073a)

Total biofuels production capacity in the EU-27 amounted to 24 327 thousand tonnes in 2009. Between 2006 and 2009, biofuels production capacity presented a twofold increase. A breakdown by biofuel shows that the capacity of both biogasoline and biodiesel also doubled over this period. In 2009, biodiesel accounted for 73 % of total capacity, while biogasoline accounted for 15 %.

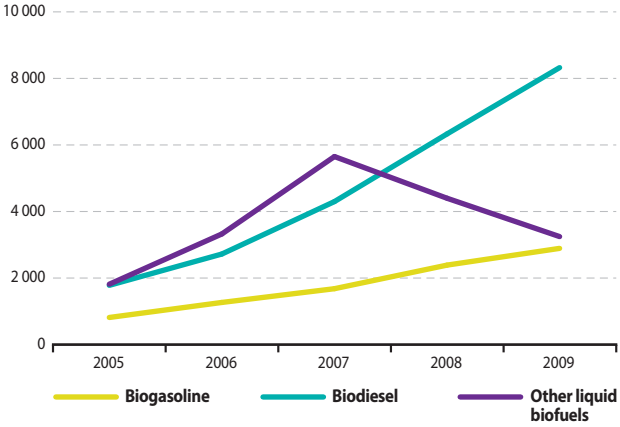
At Member State level, Germany, Spain, France and Italy accounted for 80 % of the EU-27 total in 2009. The corresponding share in 2007 was 89 %. In 2009, total capacity in Germany was 8 780 thousand tonnes and Spain, which ranked second, almost had half the capacity of Germany (4 776).

Table 2.6.5: Primary production of biofuels

	Total (thousand tonnes)			Share of biogasoline and biodiesel to total biofuels, 2009 (%)	
	2007	2008	2009	Biogasoline	Biodiesel
EU-27	11 706	13 190	14 529	20.1	57.4
Belgium	183	323	408	14.6	60.5
Bulgaria	4	12	19	-	97.6
Czech Republic	108	135	245	36.6	63.4
Denmark	70	99	87	-	98.7
Germany	7 187	6 292	5 438	16.4	41.9
Estonia	-	-	-	-	-
Ireland	18	25	64	-	97.7
Greece	92	69	78	-	100.0
Spain	522	493	1 094	33.6	66.4
France	1 367	2 352	2 632	20.6	79.4
Italy	202	826	1 311	14.0	60.9
Cyprus	0	7	7	-	100.0
Latvia	21	40	59	23.1	76.5
Lithuania	40	82	129	18.9	81.1
Luxembourg	-	-	-	-	-
Hungary	24	199	191	34.2	65.8
Malta	-	-	-	-	-
Netherlands	139	140	330	-	83.0
Austria	325	349	389	22.4	34.5
Poland	140	356	492	25.9	56.1
Portugal	183	174	260	-	98.3
Romania	22	93	87	5.1	25.7
Slovenia	5	8	7	-	100.0
Slovakia	70	179	197	47.5	52.5
Finland	0	11	66	-	100.0
Sweden	543	589	686	45.1	26.4
United Kingdom	441	337	256	23.4	76.6
Iceland	:	:	:	:	:
Norway	-	-	-	-	-
Switzerland	13	14	7	-	100.0
Montenegro	:	:	:	:	:
Croatia	4	4	6	-	-
FYR of Macedonia	3	1	1	-	100.0
Turkey	14	20	0	90.0	10.0

Source: Eurostat (online data code: nrg_1073a)

Figure 2.6.5: Primary production of biofuels, EU-27 (thousand tonnes)



Source: Eurostat (online data code: nrg_1073a)

Table 2.6.5a: Primary production of biofuels, EU-27 (thousand tonnes)

	2005	2006	2007	2008	2009	Change (%)
Total	4 512	7 406	11 706	13 190	14 529	222
Biogasoline	851	1 301	1 713	2 419	2 921	243
Biodiesel	1 814	2 752	4 322	6 348	8 334	359
Other liquid biofuels	1 847	3 352	5 671	4 422	3 274	77

Source: Eurostat (online data code: nrg_1073a)

From 2005 to 2009, EU-27 total primary production of biofuels recorded a threefold increase, reaching 14 529 thousand tonnes in 2009. Out of this amount 57 % was attributable to biodiesel production and 20 % to biogasoline production. Over the past five years, significant increases were reported in the production of biodiesel (about fivefold) and biogasoline (about threefold). The average annual growth rate in the production of biodiesel was 47 %, while for biogasoline it was 37 %.

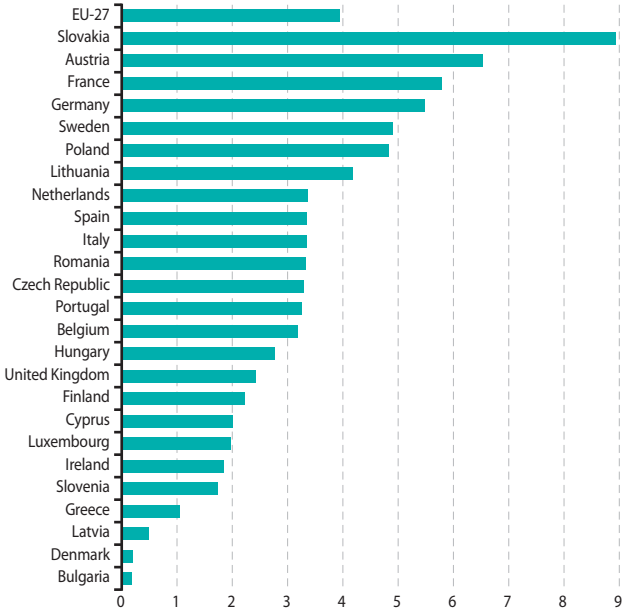
In 2009, 37 % of total EU-27 biofuel production came from Germany, followed by France (18 %).

Table 2.6.6: Share of biofuels in fuel consumption of transport (%)

	1999	2005	2006	2007	2008	2009
EU-27	0.16	1.03	1.78	2.13	3.08	3.94
Belgium	-	-	-	1.05	1.13	3.18
Bulgaria	-	-	0.26	0.12	0.19	0.18
Czech Republic	1.17	0.05	0.32	0.51	1.89	3.30
Denmark	-	-	0.09	0.13	0.11	0.20
Germany	0.20	3.72	6.48	5.34	4.96	5.49
Estonia	-	-	-	-	-	-
Ireland	-	0.03	0.06	0.47	1.20	1.85
Greece	-	-	0.66	1.21	1.01	1.05
Spain	-	0.76	0.49	1.08	1.82	3.35
France	0.66	0.94	1.70	3.34	5.36	5.79
Italy	-	0.46	0.42	0.37	2.05	3.34
Cyprus	-	-	-	0.12	1.89	2.00
Latvia	-	0.27	0.23	0.15	0.15	0.49
Lithuania	-	0.31	1.57	3.54	4.02	4.17
Luxembourg	-	0.02	0.02	1.56	1.66	1.98
Hungary	-	0.07	0.26	0.67	3.71	2.77
Malta	-	-	-	-	-	-
Netherlands	-	-	0.36	2.41	2.47	3.37
Austria	0.25	0.56	3.20	3.95	5.18	6.53
Poland	-	0.55	0.89	0.87	3.33	4.83
Portugal	-	-	1.13	2.14	2.07	3.26
Romania	-	-	-	0.94	2.19	3.33
Slovenia	-	-	0.12	0.81	1.23	1.75
Slovakia	-	0.62	2.56	4.71	6.07	8.95
Finland	-	-	0.02	0.03	2.03	2.23
Sweden	-	1.82	2.51	3.73	4.58	4.91
United Kingdom	-	0.17	0.43	0.82	1.92	2.43
Iceland	:	:	:	:	:	:
Norway	-	-	0.04	0.64	1.85	2.24
Switzerland	-	0.12	0.14	0.20	0.20	0.15
Montenegro	:	:	:	:	:	:
Croatia	-	-	-	-	-	0.40
FYR of Macedonia	-	-	-	-	0.25	0.47
Turkey	-	-	0.19	0.11	0.13	0.06

Source: Eurostat (online data codes: nrg_100a and nrg_1073a)

Figure 2.6.6: Share of biofuels in fuel consumption of transport, 2009 (%)



Source: Eurostat (online data codes: nrg_100a and nrg_1073a)

This indicator is defined as the percentage of biofuels, calculated on the basis of energy content, in the petrol and diesel consumption of transport.

The share of biofuels in fuel consumption of transport in the EU-27 was 3.94 % in 2009. Ten years ago, the share was 0.16 % and biofuels were used only in the Czech Republic, France, Austria and Germany.

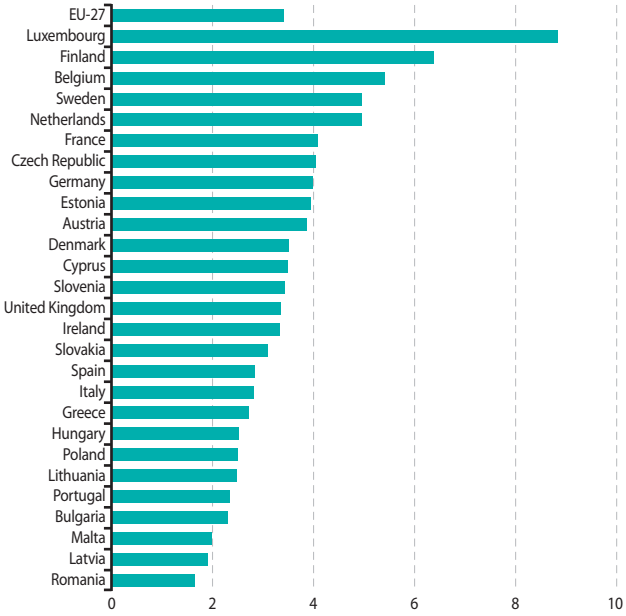
In the last decade, the use of biofuels in transport became gradually more widespread and its share has been growing at a faster pace; from 2007 to 2009, the share has been growing by 0.9 percentage points each year. Among Member States, in 2009, the highest shares of biofuel consumption in transport were observed in Slovakia (8.95 %), Austria (6.53 %), France (5.79 %) and Germany (5.49 %).

Table 2.7.1: Gross inland consumption per capita

	(toe per capita)			Index (2000 = 100)		
	1999	2004	2009	1999	2004	2009
EU-27	3.55	3.72	3.41	99.4	104.1	95.4
Belgium	5.77	5.69	5.42	99.8	98.4	93.6
Bulgaria	2.22	2.44	2.31	97.3	106.9	101.1
Czech Republic	3.81	4.48	4.04	95.0	111.7	100.6
Denmark	3.83	3.75	3.52	103.0	101.1	94.8
Germany	4.16	4.24	3.98	99.5	101.4	95.2
Estonia	3.62	4.18	3.95	100.0	115.7	109.1
Ireland	3.68	3.78	3.34	97.8	100.4	88.7
Greece	2.48	2.79	2.72	95.7	107.7	104.9
Spain	2.96	3.34	2.84	95.8	107.9	91.8
France	4.24	4.43	4.08	99.5	103.9	95.8
Italy	3.03	3.20	2.81	98.2	103.6	91.1
Cyprus	3.28	3.40	3.50	94.6	98.1	101.0
Latvia	1.65	1.90	1.91	105.1	120.8	121.8
Lithuania	2.23	2.68	2.49	109.9	131.7	122.7
Luxembourg	8.05	10.26	8.84	97.3	124.0	106.9
Hungary	2.53	2.59	2.52	102.1	104.7	101.9
Malta	2.14	2.31	1.98	101.9	109.7	94.5
Netherlands	4.74	5.08	4.95	98.3	105.3	102.5
Austria	3.65	4.07	3.86	100.2	111.6	105.9
Poland	2.42	2.41	2.50	104.0	103.6	107.6
Portugal	2.46	2.55	2.35	99.8	103.5	95.4
Romania	1.63	1.82	1.65	99.5	111.0	100.5
Slovenia	3.25	3.57	3.44	100.5	110.5	106.3
Slovakia	3.30	3.46	3.11	99.1	103.8	93.3
Finland	6.44	7.21	6.39	101.5	113.5	100.6
Sweden	5.67	5.88	4.96	105.4	109.3	92.3
United Kingdom	3.93	3.89	3.36	99.6	98.6	85.2
Iceland	:	:	:	:	:	:
Norway	6.02	5.87	6.02	103.4	100.9	103.4
Switzerland	3.74	3.68	3.66	101.5	99.8	99.3
Montenegro	:	:	:	:	:	:
Croatia	1.76	2.00	1.97	101.2	114.7	112.9
FYR of Macedonia	1.36	1.35	1.36	102.4	101.9	101.9
Turkey	1.08	1.16	1.40	94.4	101.1	121.9

Source: Eurostat (online data codes: nrg_100a and demo_pjan)

Figure 2.7.1: Gross inland consumption per capita, 2009 (toe per capita)



Source: Eurostat (online data codes: nrg_100a and demo_pjan)

Table 2.7.1a: Gross inland consumption per capita, EU-27 (toe per capita)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	3.55	3.57	3.64	3.63	3.70	3.72	3.71	3.70	3.65	3.62	3.41

Source: Eurostat (online data codes: nrg_100a and demo_pjan)

Gross inland consumption (GIC) per capita in the EU-27 has presented slight changes over the last ten years. However, from 2004 it has recorded a minor declining trend and between 2008 and 2009 this decline reached 6 %. In 2009, GIC per capita in the EU-27 was 3.41 toe, 4 % lower than 1999 levels.

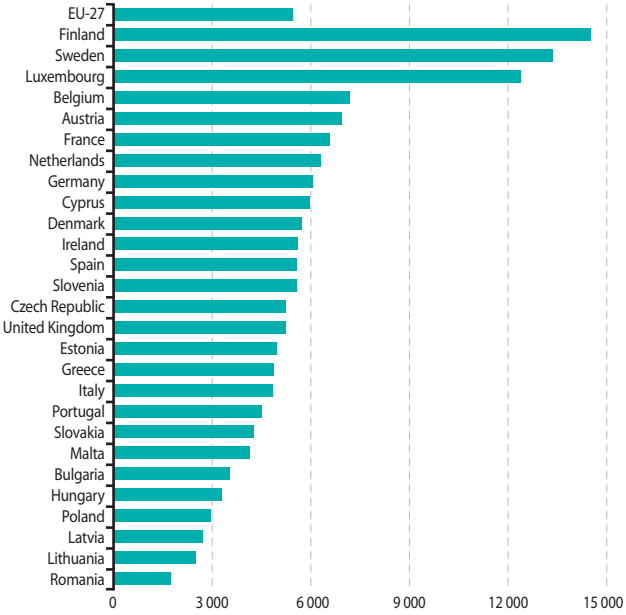
At Member State level, in 2009 GIC per capita has varied from 1.65 toe for Romania to 8.84 toe for Luxembourg. Compared to 1999, high increases were observed in Latvia (16 %), Lithuania (12 %), Luxembourg (10 %) and Greece (10 %); while the United Kingdom and Sweden experienced decreases of 14 % and 12 % respectively.

Table 2.7.2: Final electricity consumption per capita

	(kWh per capita)			Index (2000 = 100)		
	1999	2004	2009	1999	2004	2009
EU-27	5 082	5 589	5 441	97.4	107.2	104.3
Belgium	7 295	7 754	7 184	96.3	102.4	94.9
Bulgaria	2 891	3 193	3 529	97.6	107.8	119.2
Czech Republic	4 677	5 272	5 246	97.3	109.7	109.2
Denmark	6 056	6 108	5 730	99.5	100.3	94.1
Germany	5 772	6 297	6 043	98.1	107.0	102.7
Estonia	3 487	4 377	4 961	95.9	120.3	136.4
Ireland	5 052	5 723	5 611	94.1	106.6	104.5
Greece	3 740	4 505	4 859	94.5	113.8	122.8
Spain	4 453	5 447	5 572	94.6	115.8	118.4
France	6 233	6 745	6 578	98.0	106.1	103.5
Italy	4 594	5 105	4 830	95.8	106.5	100.7
Cyprus	4 054	5 133	5 962	93.4	118.3	137.4
Latvia	1 859	2 330	2 699	98.9	124.0	143.6
Lithuania	1 850	2 220	2 499	104.9	125.8	141.6
Luxembourg	12 858	14 028	12 379	104.1	113.6	100.3
Hungary	2 822	3 145	3 305	98.0	109.2	114.7
Malta	4 005	4 476	4 127	97.2	108.6	100.1
Netherlands	6 002	6 441	6 305	97.4	104.5	102.3
Austria	6 295	6 905	6 927	98.9	108.5	108.9
Poland	2 485	2 741	2 955	97.4	107.4	115.8
Portugal	3 559	4 264	4 503	94.6	113.3	119.6
Romania	1 508	1 786	1 749	99.8	118.2	115.7
Slovenia	5 237	6 284	5 556	98.9	118.7	105.0
Slovakia	4 218	4 466	4 270	103.4	109.5	104.7
Finland	14 393	15 926	14 496	98.5	109.0	99.2
Sweden	14 296	14 524	13 329	98.4	100.0	91.8
United Kingdom	5 509	5 678	5 234	98.3	101.3	93.4
Iceland	:	:	:	:	:	:
Norway	24 580	23 575	21 946	100.5	96.4	89.7
Switzerland	7 307	7 627	7 464	100.0	104.3	102.1
Montenegro	:	:	:	:	:	:
Croatia	2 564	3 084	3 497	98.2	118.2	134.0
FYR of Macedonia	2 544	2 840	3 120	98.8	110.2	121.1
Turkey	1 356	1 692	2 165	94.6	118.1	151.0

Source: Eurostat (online data codes: nrg_100a and demo_pjan)

Figure 2.7.2: Final electricity consumption per capita, 2009 (kWh per capita)



Source: Eurostat (online data codes: nrg_100a and demo_pjan)

Table 2.7.2a: Final electricity consumption per capita, EU-27 (kWh per capita)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	5 082	5 215	5 338	5 385	5 490	5 589	5 639	5 734	5 749	5 748	5 441

Source: Eurostat (online data codes: nrg_100a and demo_pjan)

From 1999 to 2006, the average annual growth rate of EU-27 final electricity consumption per capita was 1.7 %. Between 2006 and 2008, electricity consumption per capita remained relatively stable and from 2008 to 2009 it marked a 5 % drop, reaching 5 441 kWh.

Among Member States, between 1999 and 2009 the most considerable increases were observed in Cyprus (47 %), Latvia (45 %) and Estonia (42 %), while Sweden experienced the highest decrease (- 7 %). The highest final electricity consumptions per capita were recorded in Finland, Sweden and Luxembourg. In the last decade, these three countries have maintained remarkably high levels of consumption. In 2009, the consumption in Finland was 2.7 times higher than the EU average, followed by Sweden (2.4 times) and Luxembourg (2.3 times).

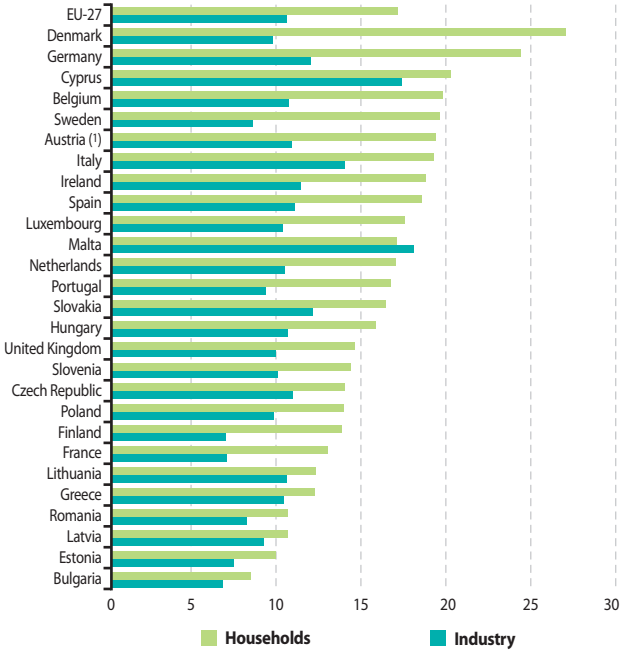
Table 2.8.1: Electricity prices in households and industry, 2nd semester 2010

	Electricity prices in households (EUR/100 KWh)			Electricity prices in industry (EUR/100 KWh)	
	Real price	Taxes		Price excluding all recoverable taxes	Non recoverable taxes
	All taxes included	VAT	Other taxes		
EU-27	17.1	2.4	2.3	10.4	1.4
BE	19.7	3.4	1.7	10.5	1.1
BG	8.3	1.4	-	6.6	0.1
CZ	13.9	2.3	0.1	10.8	0.1
DK	27.1	5.4	9.7	9.6	0.9
DE	24.4	3.9	6.8	11.9	2.8
EE	10.0	1.7	1.3	7.3	1.2
IE	18.8	2.2	0.2	11.3	0.1
EL	12.1	1.2	1.3	10.3	1.5
ES	18.5	2.8	0.8	10.9	0.5
FR	12.9	1.9	1.3	6.9	0.6
IT	19.2	1.7	3.6	13.9	3.2
CY	20.2	2.6	0.7	17.3	0.7
LV	10.5	1.0	-	9.1	-
LT	12.2	2.1	-	10.5	0.5
LU	17.5	1.0	2.0	10.2	0.7
HU	15.7	3.2	0.1	10.5	0.2
MT	17.0	0.8	-	18.0	-
NL	17.0	2.7	1.7	10.3	1.8
AT (1)	19.3	3.2	2.1	10.7	1.7
PL	13.8	2.5	0.5	9.9	0.5
PT	16.7	1.0	5.1	9.2	0.5
RO	10.5	2.1	-	8.1	-
SI	14.3	2.4	1.3	10.1	1.0
SK	16.4	2.6	-	12.0	0.1
FI	13.7	2.6	0.9	6.8	0.3
SE	19.6	4.0	2.8	8.4	0.1
UK	14.5	0.7	-	10.0	0.4
IS	:	:	:	:	:
NO	19.1	3.8	1.4	9.4	1.4
CH	:	:	:	:	:
ME	:	:	:	:	:
HR	11.5	2.2	0.1	9.0	0.1
MK	:	:	:	:	:
TR	13.7	2.1	0.7	9.2	0.3

(1) Industry data: 2nd semester 2008 instead of 2nd semester 2010.

Source: Eurostat (online data codes: nrg_pc_204 and nrg_pc_205)

Figure 2.8.1: Electricity prices in households and industry, 2nd semester 2010 (EUR/100 KWh)



(1) Industry data: 2nd semester 2008 instead of 2nd semester 2010.

Source: Eurostat (online data codes: nrg_pc_204 and nrg_pc_205)

Table and graph prices refer to the following consumer bands:
Households: band Dc (annual consumption between 2 500 and 5 000 kWh)
Industriy: band Ic (annual consumption between 500 and 2 000 MWh).

The legal basis for the collection of industrial gas and electricity prices is defined by Council Directive 90/377/EEC. The collection of prices for household consumers is done on a voluntary agreement with the Member States.

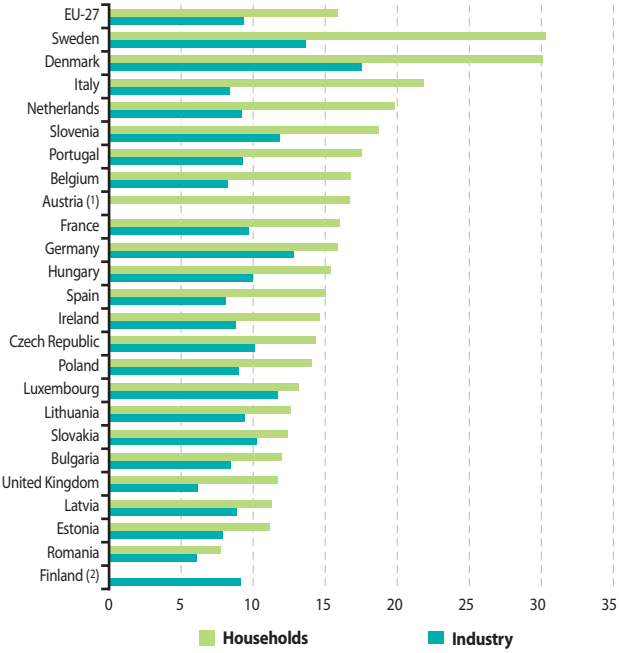
Due to the liberalisation of the electricity market, the methodology that defines the collection of the electricity prices became outdated. In June 2007, the Commission adopted a modernized methodology for these price data collections. The data presented here follow this new methodology.

Table 2.8.2: Natural gas prices in households and industry, 2nd semester 2010

	Natural gas prices in households (EUR/GJ)			Natural gas prices in industry industry (EUR/GJ)	
	Real price	Taxes		Price excluding all recoverable taxes	Non recoverable taxes
	All taxes included	VAT	Other taxes		
EU-27	15.9	2.2	1.6	9.4	0.8
BE	16.8	2.9	0.6	8.2	0.6
BG	12.0	2.0	-	8.4	-
CZ	14.4	2.4	-	10.1	0.3
DK	30.1	6.0	9.2	17.5	9.1
DE	15.9	2.5	1.7	12.8	1.6
EE	11.1	1.9	0.6	7.9	0.6
IE	14.6	1.7	0.8	8.8	0.7
EL	:	:	:	:	:
ES	15.0	2.3	-	8.1	-
FR	16.0	2.3	0.3	9.7	0.3
IT	21.9	3.4	4.7	8.3	0.4
CY	:	:	:	:	:
LV	11.3	1.0	0.0	8.8	0.0
LT	12.6	2.2	-	9.4	-
LU	13.1	0.9	0.6	11.7	0.1
HU	15.4	3.1	-	9.9	0.3
MT	:	:	:	:	:
NL	19.8	3.2	5.2	9.2	1.7
AT	16.7	2.8	1.9	:	:
PL	14.0	2.5	-	9.0	-
PT	17.5	1.0	0.1	9.3	0.0
RO	7.7	1.5	2.2	6.1	2.0
SI	18.7	3.1	1.2	11.8	1.2
SK	12.4	2.0	-	10.2	0.4
FI	:	:	:	9.1	0.5
SE	30.3	6.1	6.8	13.7	2.0
UK	11.7	0.6	-	6.1	0.3
IS	:	:	:	:	:
NO	:	:	:	:	:
CH	:	:	:	:	:
ME	:	:	:	:	:
HR	10.5	2.0	-	10.9	-
MK	:	:	:	:	:
TR	9.3	1.4	0.3	6.8	0.3

Source: Eurostat (online data codes: nrg_pc_202 and nrg_pc_203)

Figure 2.8.2: Natural gas prices in households and industry, 2nd semester 2010 (EUR/GJ)



(1) Natural gas prices in industry not available.
(2) Natural gas prices in households not available.

Source: Eurostat (online data codes: nrg_pc_202 and nrg_pc_203)

Table and graph prices refer to the following consumer bands:
Households: band D2 (annual consumption between 20 and 200 GJ)
Industry: band I3 (annual consumption between 10 000 and 100 000 GJ).

The legal basis for the collection of industrial gas and electricity prices is defined by Council Directive 90/377/EEC. The collection of prices for household consumers is done on a voluntary agreement with the Member States.

Due to the liberalisation of the electricity market, the methodology that defines the collection of the electricity prices became outdated. In June 2007, the Commission adopted a modernized methodology for these price data collections. The data presented here follow this new methodology.

3

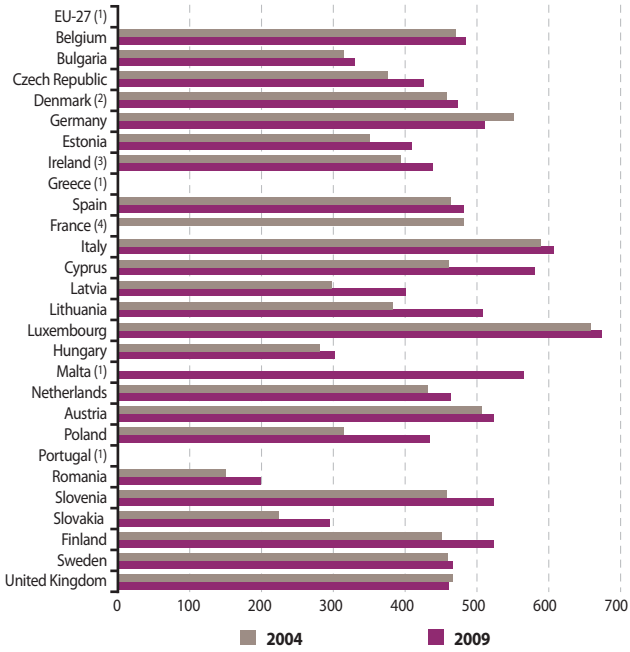
Transport indicators

Table 3.1.1: Motorisation rate of passenger cars (number of passenger cars/1 000 inhabitants)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	469	471	473	477	481	483
Bulgaria	313	327	229	271	310	329
Czech Republic	374	387	401	416	426	424
Denmark	:	:	457	469	471	:
Germany	550	559	565	500	503	509
Estonia	349	366	412	390	412	407
Ireland	393	404	:	437	:	:
Greece	:	:	:	:	:	:
Spain	461	471	481	489	489	480
France	480	480	483	482	:	:
Italy	587	593	601	603	:	606
Cyprus	459	474	487	528	563	579
Latvia	296	322	358	397	411	400
Lithuania	382	425	468	469	496	506
Luxembourg	657	666	672	676	678	672
Hungary	280	286	319	324	304	300
Malta	:	:	:	:	:	568
Netherlands	430	435	443	452	460	462
Austria	505	507	509	513	515	522
Poland	314	323	351	383	422	433
Portugal	:	:	:	:	:	:
Romania	149	:	149	164	187	197
Slovenia	456	481	489	504	520	521
Slovakia	222	242	247	266	286	294
Finland	4 50	464	477	487	509	521
Sweden	458	461	464	467	466	465
United Kingdom	465	471	461	464	464	459
Iceland	*602*	*637*	:	:	:	:
Liechtenstein	698	:	696	693	720	728
Norway	432	440	449	460	464	468
Switzerland	518	521	*523*	*527*	*525*	*521*
Montenegro	:	:	:	:	:	:
Croatia	299	309	321	340	350	347
FYR of Macedonia	:	124	119	122	129	138
Turkey	76	81	85	93	96	99

Source: Eurostat (online data codes: road_eqs_carmot and demo_pjan)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.1.1: Motorisation rate of passenger cars (number of passenger cars/1 000 inhabitants)



(1) Data are not available.
(2) 2008 data instead of 2009 and 2006 data instead of 2004.
(3) 2007 data instead of 2009.
(4) 2005 data instead of 2009.

Source: Eurostat (online data codes: road_eqs_carmot and demo_pjan)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

From 2004 to 2009, all Member States but Germany and the United Kingdom increased their motorisation rates. The highest increases were observed in Eastern Europe. In Poland the number of passenger cars per 1 000 inhabitants grew from 314 to 433, a 38 % increase. Latvia followed with a 35 % increase and a motorisation rate of 400 in 2009, compared to 296 in 2004. Romania and Lithuania presented a 33 % increase over this period.

Among the EU-27 Member States, the highest motorisation rates were observed in Luxembourg (672 passenger cars/1 000 inhabitants in 2009) and Italy (606). In 2009, seven more Member States (Cyprus, Malta, Austria, Finland Slovenia, Germany and Lithuania) had rates over 500 — at least one car per two inhabitants. The lowest rate was observed in Romania (197), which can be translated in about one car per five inhabitants.

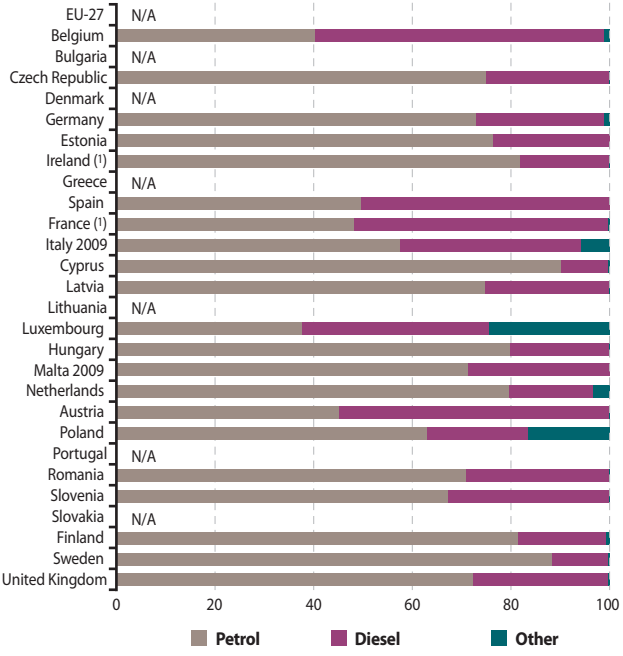
Table 3.1.2: Passenger cars, by fuel type (thousand passenger cars)

	Total		Petrol		Diesel		Other	
	2004	2009	2004	2009	2004	2009	2004	2009
EU-27	:	:	:	:	:	:	:	:
Belgium	4 874	5 193	2 490	2 092	2 301	3 039	83	62
Bulgaria	2 438	2 502	:	:	:	:	:	:
Czech Republic	3 816	4 435	3 164	3 328	646	1 102	6	5
Denmark (1)	2 479	2 580	:	:	:	:	:	:
Germany	45 376	41 738	36 265	30 450	9 071	10 818	40	470
Estonia	471	546	404	417	67	128	-	-
Ireland (2)	1 582	1 883	1 361	1 542	222	338	-	3
Greece	:	:	:	:	:	:	:	:
Spain	19 542	21 983	12 035	10 901	7 507	11 079	-	3
France (2)	29 900	30 700	16 310	14 778	13 590	15 922	148	157
Italy	33 973	36 372	24 100	20 911	8 572	13 365	1 301	2 096
Cyprus	335	461	302	416	34	44	-	1
Latvia	686	904	577	677	109	227	0	0
Lithuania	1 316	1 695	:	:	:	:	:	:
Luxembourg	299	332	166	125	133	125	-	81
Hungary	2 828	3 014	2 422	2 404	393	604	13	5
Malta (3)	:	235	164	169	66	66	:	0
Netherlands	6 992	7 622	5 683	6 070	1 069	1 290	240	262
Austria	4 109	4 360	2 087	1 972	2 022	2 382	-	6
Poland	11 975	16 495	9 390	10 396	1 744	3 371	841	2 728
Portugal	:	:	:	:	:	:	:	:
Romania (3)	4 027	4 245	2 901	3 009	1 125	1 235	1	1
Slovenia (4)	960	1 059	753	713	205	344	2	2
Slovakia	1 197	1 589	:	:	:	:	:	:
Finland	2 347	2 777	2 057	2 263	274	494	16	20
Sweden	4 113	4 301	3 906	3 814	205	484	2	3
United Kingdom	27 765	28 247	21 977	20 491	5 011	7 641	778	115
Iceland (5)	*175*	*187*	*155*	*163*	*20*	*24*	-	-
Liechtenstein	24	26	21	20	3	6	0	0
Norway	1 978	2 244	1 721	1 551	255	691	2	2
Switzerland	3 811	*4 010*	3 490	*3 321*	319	*666*	2	*23*
Montenegro	:	:	:	:	:	:	:	:
Croatia	1 329	1 541	950	964	379	531	-	46
FYR of Macedonia (4)	253	282	198	216	46	54	9	11
Turkey	*5 400*	7 094	4 062	3 374	253	1 112	1 085	2 608

(1) 2006 data instead of 2004 and 2008 data instead of 2009.
(2) 2007 data instead of 2009.
(3) 2008 data instead of 2004.
(4) 2005 data instead of 2004.
(5) 2005 data instead of 2009.

Source: Eurostat (online data code: road_eqs_carmot)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.1.2: Share of passenger cars, by fuel type, 2009 (%)



(1) 2007 data instead of 2009.

Source: Eurostat (online data code: road_eqs_carmot)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

In sixteen out of the twenty Member States for which data were available, over half of the total passenger cars were petrol-driven. In 2009, the share of petrol-driven cars reached 90 % in Cyprus and 89 % in Sweden. On the other hand, diesel-driven cars accounted for over half of the total in Belgium (59 %), Austria (55 %) and France (52 % in 2007). The shares of petrol and diesel-driven cars were at similar levels in Spain (50 % each) and Luxembourg (38 % each). The only Member States in which alternative fuels made a significant contribution to the total were Luxembourg (25 %) and Poland (17 %). Alternative fuels include electricity, LPG, natural gas, alcohols, mixtures of alcohols with other fuels, hydrogen, biofuels etc.

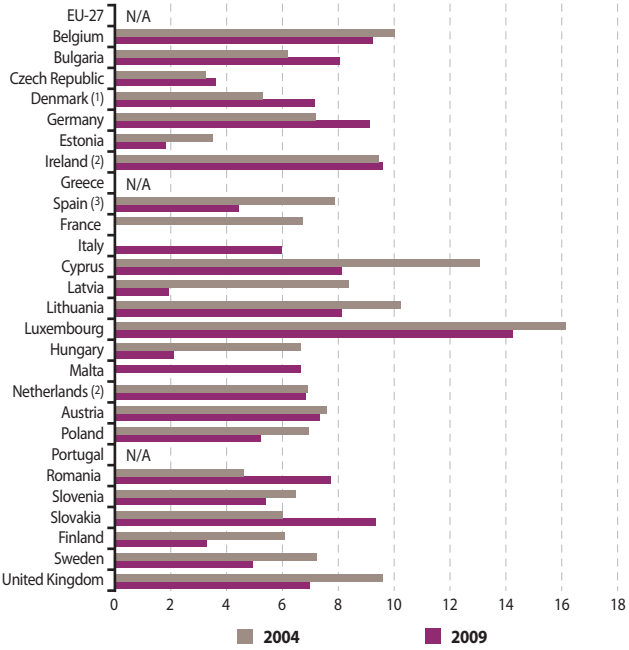
Between 2004 and 2009, all Member States but Luxembourg recorded increased numbers of diesel-driven passenger cars. In Sweden and Latvia the increase was twofold.

Table 3.1.3: Renewal rate of passenger cars (passenger cars first registration/total passenger cars — %)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	10.0	9.9	10.7	10.5	10.5	9.2
Bulgaria	6.2	6.6	10.3	16.8	14.9	8.0
Czech Republic	3.2	3.2	2.9	3.2	3.2	3.6
Denmark	:	:	5.3	9.9	7.1	:
Germany	7.2	7.3	7.4	7.6	7.5	9.1
Estonia	3.5	:	4.6	5.9	4.5	1.8
Ireland	9.5	:	:	9.6	:	:
Greece	:	:	:	:	:	:
Spain	:	:	7.9	7.5	5.4	4.4
France	6.7	:	6.6	6.7	:	:
Italy	:	:	:	:	:	6.0
Cyprus	13.1	10.9	10.0	12.4	11.6	8.1
Latvia	8.4	9.4	11.8	11.8	5.9	1.9
Lithuania	10.2	11.9	11.6	13.9	11.5	8.1
Luxembourg	16.1	15.8	16.1	15.9	16.0	14.3
Hungary	6.7	:	4.7	4.2	5.8	2.1
Malta	:	:	:	:	:	6.7
Netherlands	6.9	6.6	6.7	6.8	:	:
Austria	7.6	:	7.3	7.0	6.9	7.3
Poland	7.0	7.9	6.9	7.7	8.0	5.2
Portugal	:	:	:	:	:	:
Romania	4.6	:	9.7	12.3	14.6	7.7
Slovenia	6.5	6.3	6.1	6.7	6.8	5.4
Slovakia	6.0	:	:	10.2	9.8	9.3
Finland	6.1	:	5.8	4.9	5.2	3.3
Sweden	7.2	7.2	7.2	7.6	6.0	4.9
United Kingdom	9.6	:	8.4	8.5	7.4	7.0
Iceland	*8.0*	*11.8*	:	:	:	:
Liechtenstein	:	:	:	:	7.9	6.3
Norway	7.4	:	6.8	7.6	6.3	5.6
Switzerland	7.0	6.7	*6.9*	*7.2*	*7.2*	*6.6*
Montenegro	:	:	:	:	:	:
Croatia	7.5	7.4	8.0	7.2	6.2	3.5
FYR of Macedonia	:	6.3	5.1	6.8	6.8	4.6
Turkey	8.0	7.0	6.5	5.5	5.2	5.0

Source: Eurostat (online data codes: road_eqr_carm and road_eqs_carmot)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.1.3: Renewal rate of passenger cars (passenger cars first registration/total passenger cars — %)



(1) 2006 data instead of 2004 and 2008 data instead of 2009.
(2) 2007 data instead of 2009.
(3) 2006 data instead of 2004.

Source: Eurostat (online data codes: road_eqr_carm and road_eqs_carmot)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

In 2009, the renewal rate of passenger cars — that is the ratio of first registered to total passenger cars — varied between 1.8 % in Estonia and 14.3 % in Luxembourg. Unlike previous years, in 2009 Luxembourg was the only Member State in which there was at least one new car in every ten. This can be attributed to the fact that between 2008 and 2009 all but three Member States (Germany, Austria and the Czech Republic) presented decreased renewal rates. In Romania and Bulgaria the rates dropped by 7 percentage points.

Compared to 2004, in 2009 the share of first registered passenger cars grew in Slovakia (from 6.0 % to 9.3 %) and Romania (from 4.6 % to 7.7 %). However, there was a declining trend for most Member States. In Latvia the renewal rate dropped from 8.4 % in 2004 to 1.9 % in 2009 and in Cyprus from 13.1 % to 8.1 %.

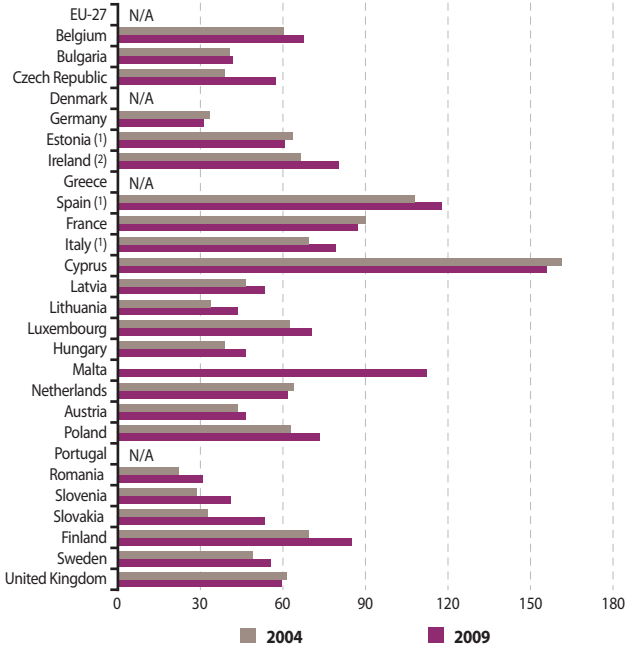
Table 3.1.4: Motorisation rate of lorries and road tractors (number of lorries and road tractors/1 000 inhabitants

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	60	62	64	65	67	67
Bulgaria	41	43	29	34	39	42
Czech Republic	39	43	48	54	59	57
Denmark	:	:	:	9	9	:
Germany	33	34	34	30	31	31
Estonia (1)	63	64	69	60	62	61
Ireland	67	:	:	80	:	:
Greece	:	:	:	:	:	:
Spain (2)	104	108	117	120	119	117
France	90	90	90	92	87	87
Italy (1)	69	71	74	75	:	79
Cyprus	161	158	151	151	154	156
Latvia	46	49	53	57	57	53
Lithuania	34	36	40	44	45	44
Luxembourg	62	64	66	68	71	70
Hungary	39	41	46	47	45	47
Malta	:	:	:	:	:	110
Netherlands	64	62	61	62	63	62
Austria	43	44	:	:	46	46
Poland	63	60	63	66	71	73
Portugal	:	:	:	:	:	:
Romania	22	:	21	23	30	31
Slovenia	28	33	35	39	42	41
Slovakia	32	:	39	44	50	53
Finland	69	73	73	76	c	85
Sweden	49	51	53	55	56	56
United Kingdom	61	62	59	61	61	59
Iceland	79	87	:	:	:	:
Liechtenstein	76	:	72	73	76	76
Norway	98	101	105	110	110	109
Switzerland	40	41	42	43	43	43
Montenegro	:	:	:	:	:	:
Croatia	35	36	37	37	38	37
FYR of Macedonia	:	9	8	8	8	9
Turkey	27	30	33	38	40	41

(1) Data from 2004 to 2007 only include lorries.
(2) Data for 2004 and 2005 only include lorries.

Source: Eurostat (online data codes: road_eqs_lormot, road_eqs_roaene and demo_pjan)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.1.4: Motorisation rate of lorries and road tractors (number of lorries and road tractors/1 000 inhabitants)



(1) 2004 data only include lorries.
(2) 2007 data instead of 2009.

Source: Eurostat (online data codes: road_eqs_lormot, road_eqs_roaene and demo_pjan)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Over the past six years, the motorisation rate of lorries and road tractors recorded an increase in most Member States. The highest increases were observed among Eastern European countries, especially Slovakia (64 %), the Czech Republic (48 %), Slovenia (44 %) and Romania (39 %).

Cyprus had the highest rate in 2009 (156 lorries and road tractors per 1 000 inhabitants), 33 % higher than the rate of the second Spain (117). In contrast, the motorisation rates in Romania and Germany were the lowest (31 each).

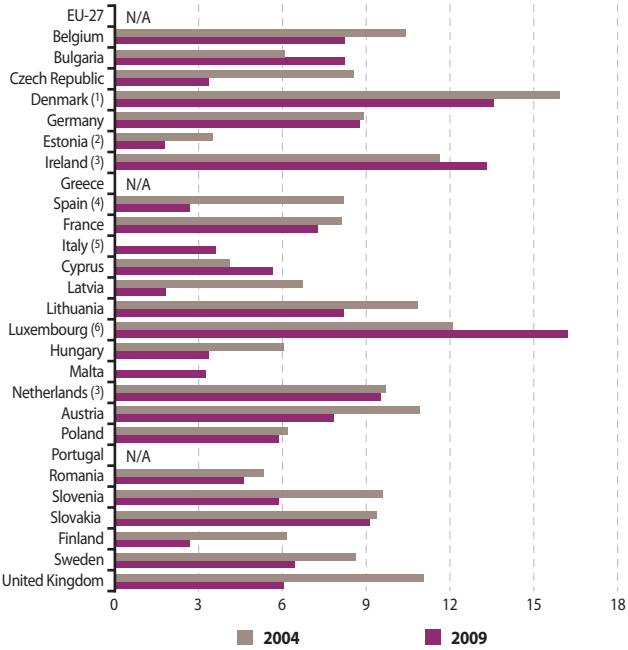
Table 3.1.5: Renewal rate of lorries and road tractors (lorries and road tractors first registration/total lorries and road tractors — %)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	10.4	11.0	10.2	11.2	10.8	8.2
Bulgaria	6.1	6.7	10.9	14.2	14.5	8.2
Czech Republic	8.5	10.2	11.1	12.6	9.7	3.4
Denmark	:	:	:	15.9	13.6	:
Germany	8.9	9.2	9.7	12.6	12.4	8.8
Estonia (1)	3.5	4.4	5.6	7.9	5.1	1.8
Ireland	11.6	:	:	13.3	:	:
Greece	:	:	:	:	:	:
Spain	:	:	8.2	7.8	4.4	2.7
France	8.1	8.4	8.7	8.8	9.3	7.3
Italy (2)	:	:	:	:	:	3.6
Cyprus	4.1	4.0	4.9	6.1	7.1	5.6
Latvia	6.7	7.9	9.7	10.6	5.5	1.8
Lithuania	10.9	13.0	13.3	15.6	10.7	7.9
Luxembourg	12.1	14.3	13.8	15.2	16.2	:
Hungary	6.1	4.8	4.6	5.0	8.0	3.4
Malta	:	:	:	:	:	3.3
Netherlands	9.7	7.9	8.4	9.5	:	:
Austria	10.9	10.3	:	:	10.8	7.8
Poland	6.2	6.1	5.3	6.8	6.6	5.9
Portugal	:	:	:	:	:	:
Romania (3)	5.3	:	11.8	13.6	10.7	4.6
Slovenia	9.6	8.7	10.9	11.8	11.3	5.9
Slovakia	9.4	:	:	14.3	12.9	9.1
Finland	6.2	5.2	5.5	5.5	5.0	2.7
Sweden	8.6	9.2	9.7	10.4	9.2	6.4
United Kingdom	11.1	10.8	10.7	10.4	9.2	6.0
Iceland	10.6	14.0	:	:	:	:
Liechtenstein	8.1	:	8.5	6.5	9.9	6.7
Norway	8.7	9.7	10.8	10.7	8.4	5.3
Switzerland	7.5	7.7	8.3	8.6	9.1	7.9
Montenegro	:	:	:	:	:	:
Croatia	8.5	8.1	8.5	8.4	7.8	4.1
FYR of Macedonia	:	3.3	2.9	4.4	5.8	5.3
Turkey	13.1	12.4	11.4	9.1	7.7	6.1

(1) Data from 2004 to 2007 only include lorries.
(2) First registration data only include lorries.
(3) 2008 first registration data only include lorries.

Source: Eurostat (online data codes: road_eqr_lorrin, road_eqr_tracm, road_eqs_lormot and road_eqs_roaene)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.1.5: Renewal rate of lorries and road tractors (lorries and road tractors first registration/total lorries and road tractors — %)



(1) 2007 data instead of 2004 and 2008 data instead of 2009.
(2) 2004 data only include lorries.
(3) 2007 data instead of 2009.
(4) 2006 data instead of 2004.
(5) New registration data only include lorries.
(6) 2008 data instead of 2009.

Source: Eurostat (online data codes: road_eqr_lorrin, road_eqr_tracm, road_eqs_lormot and road_eqs_roaene)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

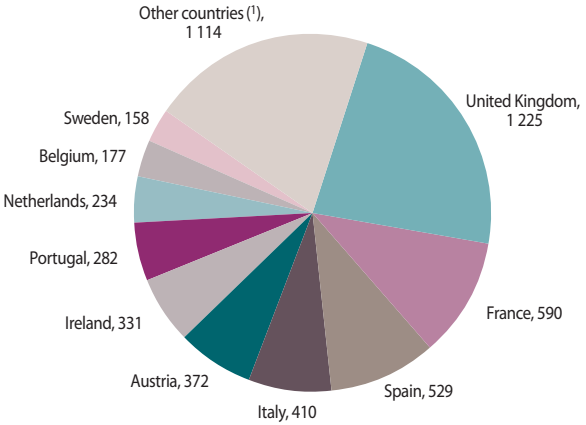
Between 2008 and 2009, all Member States recorded decreased renewal rates of lorries and road tractors. The highest decreases were recorded in the Czech Republic, Bulgaria and Romania, where the renewal rates dropped by 6 percentage points. In 2008, ten Member States presented renewal rates of lorries and road tractors over 10 % (Luxembourg, Bulgaria, Denmark, Slovakia, Germany, Slovenia, Austria, Belgium, Lithuania and Romania). However, in 2009 (depending on data availability) none of the countries reported a renewal rate of lorries and road tractors over 10 %. The highest rates were reported by Slovakia (9.1 %) and Germany (8.8 %).

Table 3.1.6: Airfleet by operator country (number of commercial aircrafts)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	126	126	:	183	187	177
Bulgaria	7	97	128	102	62	59
Czech Republic	75	67	78	87	95	90
Denmark	120	120	:	152	133	155
Germany	864	864	:	1 061	1 114	:
Estonia	25	28	26	20	23	22
Ireland	146	186	223	267	286	331
Greece	75	75	:	95	118	121
Spain	486	486	:	618	571	529
France	550	550	:	583	607	590
Italy	441	441	:	492	507	410
Cyprus	11	18	20	16	17	14
Latvia	46	31	46	51	54	49
Lithuania	26	28	26	41	40	35
Luxembourg	62	62	:	91	99	105
Hungary	40	57	69	67	82	81
Malta	5	5	:	21	28	33
Netherlands	154	154	:	230	245	234
Austria	211	211	:	306	367	372
Poland	101	101	:	98	94	103
Portugal	90	177	:	240	280	282
Romania	3	3	:	58	67	67
Slovenia	11	12	19	28	33	30
Slovakia	36	33	22	25	37	22
Finland	49	88	:	106	116	128
Sweden	151	151	:	160	167	158
United Kingdom	892	892	:	1 176	1 202	1 225
Iceland	11	11	:	137	140	41
Liechtenstein	:	:	:	:	:	:
Norway	22	22	:	115	120	96
Switzerland	29	29	:	288	316	336
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	24	25
FYR of Macedonia	:	:	:	:	:	:
Turkey	45	45	:	229	273	323

Source: Airclaims, also available at Eurostat (online data code: avia_eq_arc_typ)

Figure 3.1.6: Airfleet by operator country, EU-27 2009 top ten countries (number of commercial aircrafts)



(1) Other countries exclude Germany for which 2009 are not available.

Source: Airclaims, also available at Eurostat (online data code: avia_eq_arc_typ)

All military aircrafts excluded.

The five largest Member States reported the largest numbers of commercial aircraft in 2009. In the United Kingdom the airfleet was 1 225; Germany reported 1 114 aircraft (2008 data), followed by France (590), Spain (529) and Italy (410). On the other hand, the smallest airfleet was reported by Cyprus (14), Estonia (22) and Slovakia (22).

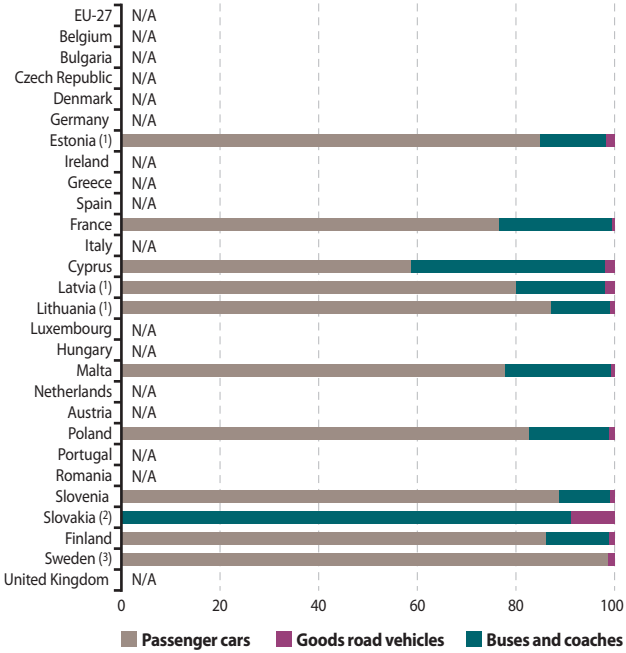
Table 3.2.1: Road traffic volumes on national territory, by type of vehicle (million vehicle-kilometres)

	Passenger cars		Goods road vehicles		Buses and coaches	
	2006	2009	2006	2009	2006	2009
EU-27	:	:	:	:	:	:
Belgium	:	:	:	:	:	:
Bulgaria	:	:	:	:	:	454
Czech Republic	:	:	:	:	:	:
Denmark	:	:	:	:	:	:
Germany (1)	:	:	:	:	:	3 335
Estonia (2)	6 894	7 302	:	1 154	212	143
Ireland (3)	30 227	:	7 409	:	255	:
Greece	:	:	:	:	:	:
Spain	:	:	:	:	:	:
France	:	414 358	:	123 305	:	3 289
Italy	:	:	:	:	:	:
Cyprus	:	4 785	:	3 212	:	149
Latvia (4)	9 505	8 865	2 281	1 990	248	222
Lithuania (1)	:	8 281	:	1 123		87
Luxembourg	:	:	:	:	:	:
Hungary	:	:	:	:	:	:
Malta	:	*1 334*	:	*366*	:	*13*
Netherlands	97 903	:	24 257	:	:	:
Austria	59 873	:	10 933	:	490	:
Poland	:	153 509	:	29 823	:	2 254
Portugal	:	:	:	:	:	:
Romania (1)	:	38 077	:	:	:	:
Slovenia (5)	14 036	15 717	1 668	1 862	140	146
Slovakia (1)	:	:	:	3 438	:	329
Finland	:	45 950	:	6 820	:	580
Sweden	62 980	63 731	:	:	872	852
United Kingdom (6)	402 615	:	94 302	:	5 390	:
Iceland	:	:	:	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway (7)	29 880	*32 631*	6 700	*9 334*	746	*645*
Switzerland	50 811	52 851	5 533	5 723	378	:
Montenegro	:	:	:	:	:	:
Croatia	18 058	18 965	1 971	1 894	343	299
FYR of Macedonia	:	:	:	:	:	:
Turkey	:	:	:	:	:	:

(1) Data represent road traffic of national vehicles on all territories.
(2) Data source for 2006 data: survey of road transport enterprises. 2009 data represent road traffic of national vehicles on all territories.
(3) Data represent road traffic of national and foreign vehicles on national territory.
(4) 2009 data represent road traffic of national vehicles on all territories.
(5) 2006 data represent road traffic of national and foreign vehicles on national territory.
(6) Data include Great Britain only.
(7) 2006 data represent road traffic of national vehicles on all territories.

Source: Eurostat (online data code: road_tf_veh)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire and Pilot Questionnaire

Figure 3.2.1: Share of road traffic volumes on national territory, by type of vehicle, 2009 (%)



(1) Data represent road traffic of national vehicles on all territories.
(2) Data represent road traffic of national vehicles on all territories. Data for passenger cars are not available.
(3) Data for goods road vehicles are not available.

Source: Eurostat (online data code: road_tf_veh)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport and Pilot Questionnaire

Road traffic volumes were dominated by passenger cars. In all countries, for which data were available, over 59 % of the total road traffic was conducted by passenger cars in 2009. The highest share of passenger cars was presented in Slovenia (89 % of the total). The volumes of traffic by goods road vehicles fluctuated between an 11 % share of the total in Slovenia and a 39 % share in Cyprus. The shares of buses and coaches were significantly lower; the highest was recorded in Latvia (2 %).

Even though data are scarce, in absolute values, the highest volumes of road traffic were recorded in the largest countries. Transport by passenger cars was 414 billion v-km in France in 2009 and 402 in the United Kingdom in 2006. Similarly, transport by goods vehicles equaled 123 billion v-km in France in 2009 and 94 in the United Kingdom in 2006; while transport by buses and coaches amounted to 5 billion v-km in the United Kingdom in 2006 and 3 in Germany and France in 2009.

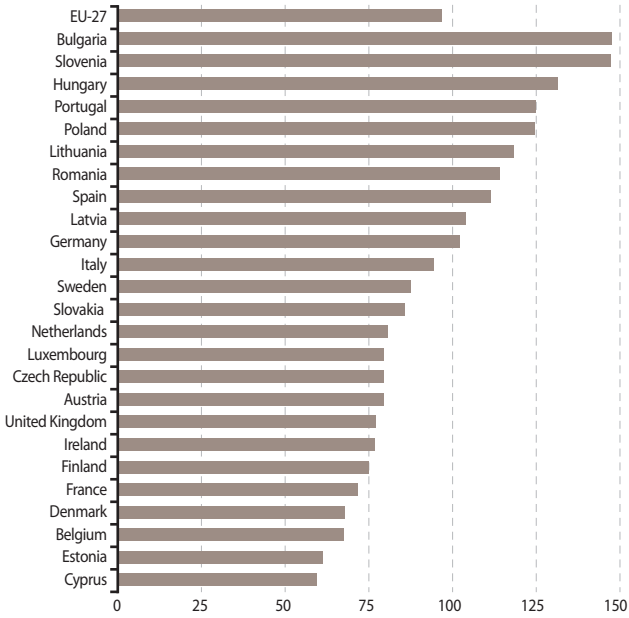
Table 3.3.1: Index of inland freight transport volume relative to GDP (Inland freight transport volume measured in tonne-km/GDP in chain-linked volumes at 2000 exchange rates, 2000 = 100)

	2000	2006	2007	2008	2009
EU-27 (1)	100.0	*105.7*	*106.4*	*103.8*	*96.4*
Belgium	100.0	*82.5*	*80.0*	*73.5*	67.2
Bulgaria (2)	100.0	118.3	116.6	120.7	147.4
Czech Republic	100.0	94.0	86.2	86.6	79.2
Denmark	100.0	80.7	77.9	73.8	67.6
Germany	100.0	109.7	111.7	110.0	101.9
Estonia	100.0	76.7	66.5	61.8	61.1
Ireland	100.0	100.6	102.9	97.0	76.4
Greece	100.0	:	:	:	:
Spain	100.0	129.4	133.1	123.9	111.3
France	100.0	87.6	88.7	83.3	71.4
Italy	100.0	*95.5*	91.2	92.2	94.0
Cyprus	100.0	77.6	76.1	80.0	59.3
Latvia	100.0	91.6	95.2	101.0	103.6
Lithuania	100.0	118.5	120.5	119.0	117.9
Luxembourg	100.0	88.2	87.7	96.1	79.2
Hungary (2)	100.0	118.4	132.4	131.1	131.1
Malta	100.0	:	:	:	:
Netherlands	100.0	95.2	91.4	89.1	80.3
Austria	100.0	102.2	97.7	91.4	79.1
Poland	100.0	115.2	121.6	122.5	124.4
Portugal	100.0	153.8	155.9	133.0	124.6
Romania	100.0	171.4	165.6	148.5	113.7
Slovenia	100.0	132.0	138.4	152.5	147.0
Slovakia (2)	100.0	86.9	92.0	90.9	85.5
Finland	100.0	81.4	76.7	76.4	74.8
Sweden	100.0	94.4	94.4	97.1	*87.4*
United Kingdom	100.0	90.3	90.0	84.0	*76.7*
Iceland	100.0	*119.2*	:	:	:
Liechtenstein	:	:	:	:	:
Norway	100.0	109.9	107.6	111.9	103.7
Switzerland	:	:	:	:	:
Montenegro	:	:	:	:	:
Croatia	100.0	:	:	:	:
FYR of Macedonia	100.0	198.5	141.2	:	:
Turkey (3)	100.0	81.7	79.8	:	:

(1) EU aggregates include estimates done for missing data on road freight transport of Greece and Malta.
(2) Break in series in 2000.
(3) In the case of road transport only national transport data have been used.

Source: Eurostat (online data code: tran_hv_frtra), DG for Mobility and Transport, International Transport Forum, national statistics, estimates

Figure 3.3.1: Index of inland freight transport volume relative to GDP, 2009 (2000 = 100)



Source: Eurostat (online data code: tran_hv_frtra), DG for Mobility and Transport, International Transport Forum, national statistics, estimates

This indicator includes transport by road, rail and inland waterways. Rail and inland waterways transport are based on movements on national territory, regardless of the nationality of the vehicle or vessel. Road transport is based on all movements of vehicles registered in the reporting country and covers only the haulage of heavy goods vehicles (usually>3.5 tonnes load capacity).

The EU-27 index of inland freight transport relative to GDP was 96.4 in 2009. The highest indices were observed in Bulgaria (147.4) and Slovenia (147.0), followed by Hungary (131.1) and Portugal (124.6). On the contrary, the indices were low in Cyprus (59.3), Estonia (61.1), Belgium (67.2), Denmark (67.6) and France (71.4).

Between 2006 and 2009, twenty Member States reported decreased indices. The most considerable decreases were recorded in Romania (- 58 %), Portugal (- 29 %), Ireland (- 24 %) and Austria (- 23 %).

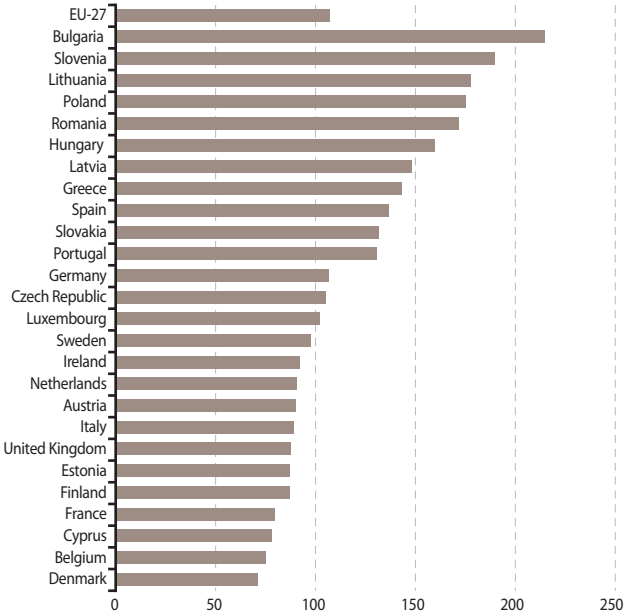
Table 3.3.2: Index of inland freight transport growth (total transport of rail, road and inland waterways in tonne-km, 2000 = 100)

	2000	2005	2006	2007	2008	2009
EU-27 (1)	100.0	115.0	119.3	123.6	121.4	107.3
Belgium	100.0	91.8	91.8	91.5	85.0	75.3
Bulgaria	100.0	165.6	162.8	170.4	186.9	214.8
Czech Republic	100.0	106.3	120.6	117.5	120.9	105.3
Denmark	100.0	96.9	88.8	87.2	81.9	71.2
Germany	100.0	109.3	116.6	121.6	121.3	106.8
Estonia	100.0	127.4	123.5	114.9	102.9	87.3
Ireland	100.0	142.7	138.3	150.0	137.1	92.2
Greece	100.0	119.3	169.7	140.1	145.1	143.1
Spain	100.0	152.7	158.0	168.4	158.1	136.9
France	100.0	94.7	97.3	100.8	95.1	79.7
Italy	100.0	113.0	101.8	98.6	98.4	89.3
Cyprus	100.0	113.3	94.7	97.7	106.3	78.3
Latvia	100.0	155.7	152.4	174.1	176.4	148.3
Lithuania	100.0	170.0	185.9	207.7	210.8	177.7
Luxembourg	100.0	110.0	111.1	117.6	128.9	102.4
Hungary	100.0	129.4	151.5	171.0	170.4	159.7
Malta	:	:	:	:	:	:
Netherlands	100.0	105.4	105.1	104.5	104.0	90.8
Austria	100.0	106.6	114.5	113.3	108.2	90.2
Poland	100.0	126.7	142.4	160.5	169.8	175.4
Portugal	100.0	155.2	162.9	168.1	143.5	130.9
Romania	100.0	230.0	244.1	250.9	241.3	171.7
Slovenia	100.0	154.3	167.3	187.3	213.8	190.0
Slovakia	100.0	119.1	119.8	140.2	147.1	131.9
Finland	100.0	98.7	96.8	95.6	96.5	87.1
Sweden	100.0	108.1	111.6	114.5	117.2	97.7
United Kingdom	100.0	99.9	105.1	107.4	100.7	87.5
Iceland	100.0	139.6	153.4	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	100.0	118.2	125.4	126.2	133.6	122.0
Switzerland (2)	100.0	103.7	108.0	106.6	108.0	:
Montenegro	:	:	:	:	:	
Croatia	100.0	153.5	170.0	177.3	190.0	159.9
FYR of Macedonia	100.0	151.8	221.3	166.8	117.2	:
Turkey (3)	100.0	102.7	109.1	111.5	112.4	108.9

(1) EU aggregates include estimates done for missing data on road freight transport of Greece and Malta.
(2) Road transport data only cover the haulage by Swiss vehicles on Swiss territory; Data obtained from DG for Mobility and Transport.
(3) For road transport only national transport was taken into account.

Source: Eurostat, DG for Mobility and Transport, International Transport Forum, national statistics, estimates

Figure 3.3.2: Index of inland freight transport growth, 2009 (2000 = 100)



Source: Eurostat, DG for Mobility and Transport, International Transport Forum, national statistics, estimates

This indicator includes transport by road, rail and inland waterways. Rail and inland waterways transport are based on movements on national territory, regardless of the nationality of the vehicle or vessel. Road transport is based on all movements of vehicles registered in the reporting country and covers only the haulage of heavy goods vehicles (usually>3.5 tonnes load capacity).

The index of inland freight transport in the EU-27 grew continuously between 2000 and 2007. In 2008, it marked a slight drop (- 2 %) compared to 2007 and equaled 121.4; in 2009 there was a further drop of 12 % and the index reached 107.3.

Member States from Eastern Europe recorded not only the highest indices of inland freight transport in 2009, but also the most notable increases from 2005 to 2009. The most striking increases took place in Poland (38 %) and Bulgaria (30 %). In contrast, Denmark, Belgium and Cyprus presented the lowest indices in 2009. Between 2005 and 2009, the decreases in Denmark and Cyprus ranked among the highest (- 27 % and - 31 % respectively); the highest decrease was observed in Ireland (- 35 %).

Table 3.3.3: Modal split of inland freight transport — shares of road, rail and inland waterways in total freight transport (% of total inland freight tonne-km)

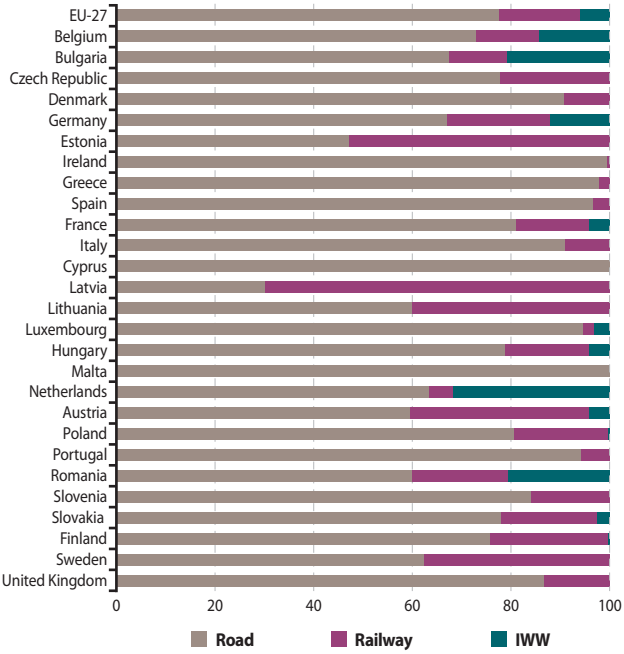
	2000			2008			2009		
	Road	Railway	IWW	Road	Railway	IWW	Road	Railway	IWW
EU-27	*74*	*20*	*7*	*76*	*18*	*6*	*78*	*17*	*6*
Belgium	77	12	11	69	16	16	73	13	14
Bulgaria	52	45	3	67	21	13	67	12	21
Czech Republic	68	32	0	77	23	0	78	22	0
Denmark	92	8	-	91	9	-	91	9	-
Germany	65	19	16	66	22	12	67	21	12
Estonia	37	63	0	55	45	0	47	53	0
Ireland	96	4	-	99	1	-	99	1	-
Greece	:	:	-	97	3	-	98	2	-
Spain	93	7	-	96	4	-	97	3	-
France	76	21	3	81	16	4	81	15	4
Italy	89	11	0	*88*	*12*	*0*	*91*	*9*	*0*
Cyprus	100	-	-	100	-	-	100	-	-
Latvia	27	74	0	39	61	0	30	70	0
Lithuania	47	53	0	58	42	0	60	40	0
Luxembourg	88	8	4	94	3	3	95	2	3
Hungary (1)	68	29	3	75	21	5	79	17	4
Malta	100	-	-	100	-	-	100	-	-
Netherlands	63	4	33	60	5	35	63	5	32
Austria	65	31	5	59	37	4	60	36	4
Poland	57	42	1	76	24	0	81	19	0
Portugal	93	8	-	94	6	-	94	6	-
Romania	43	49	8	70	19	11	60	19	21
Slovenia	*72*	*28*	-	82	18	-	84	16	-
Slovakia (1)	53	42	5	74	23	3	78	20	3
Finland	76	24	0	73	27	0	76	24	0
Sweden	64	36	-	65	35	-	63	38	-
United Kingdom	90	10	0	*87*	*13*	*0*	*87*	*13*	*0*
Iceland	100	-	-	100	-	-	100	-	-
Liechtenstein	:	:	:	:	:	:	:	:	:
Norway	84	17	-	85	15	-	83	17	-
Switzerland	:	:	:	:	:	:	:	:	:
Montenegro	:	:	:	:	:	:	:	:	:
Croatia (2)	:	:	:	73	22	6	74	21	6
FYR of Macedonia	87	13	-	84	16	-	:	:	-
Turkey (3)	94	6	-	:	:	:	:	:	:

(1) Break in series in 2000.
(2) Break in series in 2008.
(3) In the case of road transport only national transport data have been used.

Source: Eurostat (online data code: tran_hv_frmod), DG for Mobility and Transport, International Transport Forum, national statistics, estimates

Due to rounding the sums (of the modal split percentages) do not always equal 100.

Figure 3.3.3: Modal split of inland freight transport, 2009 (% of total inland freight tonne-km)



Source: Eurostat (online data code: tran_hv_frmod), DG for Mobility and Transport, International Transport Forum, national statistics, estimates

This indicator includes transport by road, rail and inland waterways. Rail and inland waterways transport are based on movements on national territory, regardless of the nationality of the vehicle or vessel. Road transport is based on all movements of vehicles registered in the reporting country and covers only the haulage of heavy goods vehicles (usually>3.5 tonnes load capacity).

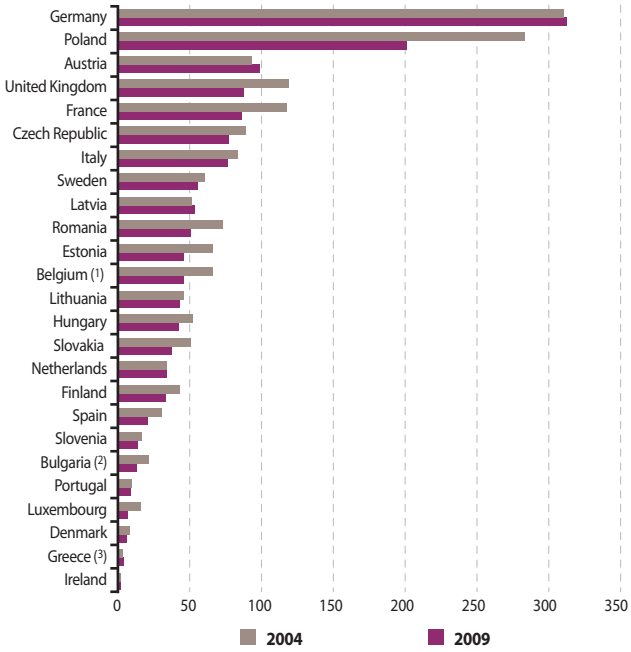
In 2009, road transport made up over half of freight transport in twenty five Member States. Railway transport accounted for the largest share in Latvia and Estonia. The only country with a considerable share of inland waterways was the Netherlands (32 %). A comparison between 2000 and 2009 shows a shift towards road transport, especially in newer Member States. On the contrary, five Member States (Austria, Belgium, the United Kingdom, Sweden and Denmark) presented modal shift towards more environmentally friendly transport modes.

Table 3.3.4: Goods freight transport by rail (million tonnes)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	c	1 813	1 783	:
Belgium	c	c	c	66	65	46
Bulgaria	:	:	22	22	20	13
Czech Republic	89	86	97	100	95	77
Denmark	8	8	7	7	7	6
Germany	310	317	346	361	371	312
Estonia	66	68	61	69	53	46
Ireland	2	2	1	1	1	1
Greece	3	3	4	5	4	:
Spain	31	30	30	30	27	20
France	117	108	109	111	110	86
Italy	84	90	102	105	96	76
Cyprus	-	-	-	-	-	-
Latvia	51	55	49	52	56	54
Lithuania	46	49	50	54	55	43
Luxembourg	16	11	12	17	9	6
Hungary	52	51	55	52	52	42
Malta	-	-	-	-	-	-
Netherlands	34	35	37	41	41	34
Austria	93	102	111	116	122	99
Poland	283	270	291	245	249	201
Portugal	10	10	10	11	10	9
Romania	73	69	68	69	67	51
Slovenia	16	16	17	18	17	14
Slovakia	50	49	52	52	48	38
Finland	43	41	44	40	42	33
Sweden	60	63	65	68	66	55
United Kingdom	119	103	109	104	103	88
Iceland	-	-	-	-	-	-
Liechtenstein	2	2	2	2	2	1
Norway	23	25	25	25	25	23
Switzerland	:	:	:	:	70	62
Montenegro	:	:	:	:	:	:
Croatia	12	14	15	16	15	12
FYR of Macedonia	:	:	:	:	:	:
Turkey	18	19	20	21	23	21

Source: Eurostat (online data code: rail_go_typeall)

Figure 3.3.4: Goods freight transport by rail (million tonnes)



(1) 2004 data are confidential; 2007 data instead.
(2) 2006 data instead of 2004.
(3) 2008 data instead of 2009.

Source: Eurostat (online data code: rail_go_typeall)

In 2008, the volume of freight transport by rail in the EU-27 amounted to 1 783 million tonnes, approximately 2 % lower than 2007. In 2009, 312 million tonnes were carried through railways in Germany, followed by Poland (201). Significant amounts of goods were also dealt with in the railways of Austria (99), the United Kingdom (88) and France (86).

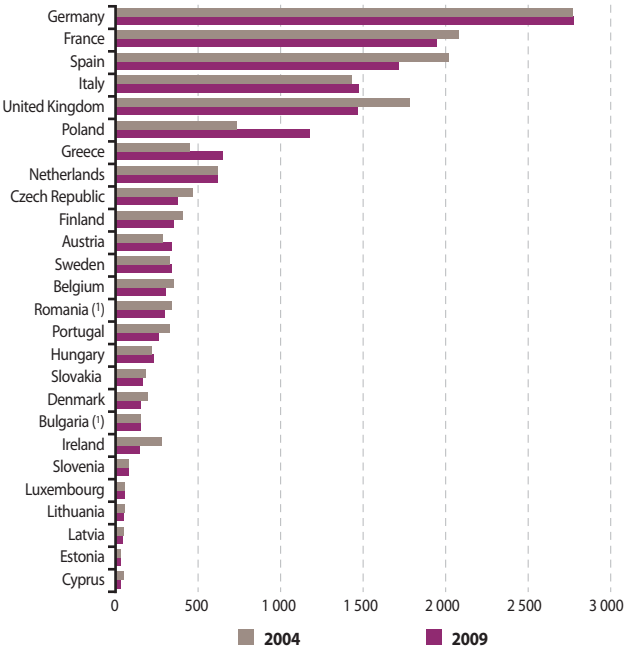
From 2008 to 2009, the amount of goods transported by rail dropped in all Member States. In eleven Member States the decrease was over 20 %. The highest decreases were observed in Bulgaria (- 33 %) and Belgium (- 29 %). In the last six years (2004-2009), the only countries which did not report decreases in their freight transport by rail were Greece, Austria, Latvia and Germany. Over this period, the highest decreases were observed in Ireland (- 71 %) and Luxembourg (- 59 %).

Table 3.3.5: Goods freight transport by road (million tonnes)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	347	338	349	352	318	298
Bulgaria	:	:	151	135	175	147
Czech Republic	466	461	445	454	432	370
Denmark	192	206	193	198	194	149
Germany	2 768	2 765	2 920	3 028	3 078	2 769
Estonia	26	30	34	40	42	30
Ireland	278	297	306	310	253	142
Greece	444	433	511	485	629	645
Spain	2 013	2 210	2 387	2 409	2 120	1 711
France	2 077	2 060	2 182	2 258	2 203	1 939
Italy	1 424	1 509	1 484	1 497	1 520	1 469
Cyprus	43	54	44	40	42	29
Latvia	46	52	55	62	54	38
Lithuania	51	55	56	62	59	45
Luxembourg	53	50	53	58	59	53
Hungary	213	229	251	243	258	230
Malta	:	:	:	:	:	:
Netherlands	614	613	615	636	621	617
Austria	283	288	359	354	369	337
Poland	732	863	897	984	1 093	1 170
Portugal	326	333	321	324	294	259
Romania	:	:	336	357	365	293
Slovenia	74	83	87	89	91	75
Slovakia	178	195	182	179	199	163
Finland	400	400	397	422	424	351
Sweden	325	355	342	360	367	334
United Kingdom	1 780	1 781	1 854	1 919	1 776	1 461
Iceland	:	:	:	:	:	:
Liechtenstein	:	1	1	1	1	1
Norway	244	245	251	269	289	258
Switzerland	:	:	:	:	290	284
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	111	93
FYR of Macedonia	:	:	:	:	:	:
Turkey	:	:	:	:	:	:

Source: Eurostat (online data code: road_go_ta_tott)

Figure 3.3.5: Goods freight transport by road (million tonnes)



(1) 2006 data instead of 2004.

Source: Eurostat (online data code: road_go_ta_tott)

During the period 2004-09, the volume of goods transported by road fell in most Member States. This could be partially attributed to the fact that between 2008 and 2009, all countries but Poland and Greece experienced declines in their transport of goods by road. In the last six years, the highest decreases were observed in Ireland (- 49 %) and Cyprus (- 34 %). On the other hand, in ten countries the transport of goods by road was higher in 2009 compared to 2004. In Poland and Greece the increase reached 60 % and 45 % respectively.

2 769 million tonnes of goods were transported in the roads of Germany in 2009. France and Spain followed with 1 939 and 1 711 million tonnes respectively.

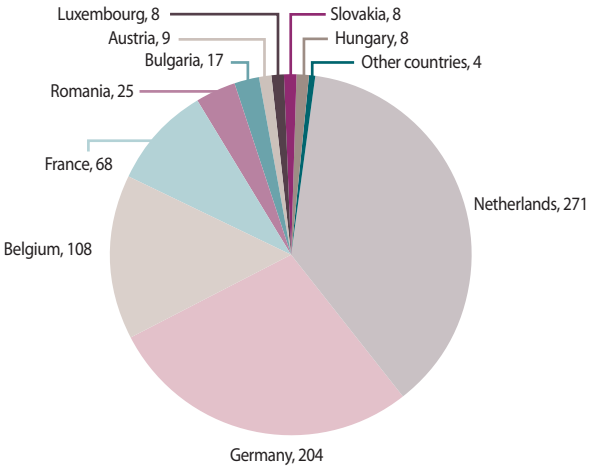
Table 3.3.6: Goods freight transport by inland waterways (million tonnes)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	521	509	421
Belgium	147	160	166	135	130	108
Bulgaria	4	5	6	7	11	17
Czech Republic	1	2	1	1	1	1
Denmark	-	-	-	-	-	-
Germany	236	237	243	249	246	204
Estonia	-	-	-	-	-	-
Ireland	-	-	-	-	-	-
Greece	-	-	-	-	-	-
Spain	-	-	-	-	-	-
France	67	68	71	76	73	68
Italy	:	:	:	:	:	:
Cyprus	-	-	-	-	-	-
Latvia	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-
Luxembourg	11	10	11	10	11	8
Hungary	7	8	7	8	9	8
Malta	-	-	-	-	-	-
Netherlands	319	318	318	353	345	271
Austria	:	9	9	12	11	9
Poland	:	7	7	6	6	3
Portugal	-	-	-	-	-	-
Romania	:	33	29	29	30	25
Slovenia	-	-	-	-	-	-
Slovakia	:	2	2	8	8	8
Finland	:	:	:	:	:	:
Sweden	-	-	-	-	-	-
United Kingdom	:	:	:	:	:	:
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	-	-	-	-	-	-
Switzerland	:	:	:	:	:	:
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	6	5
FYR of Macedonia	-	-	-	-	-	-
Turkey	-	-	-	-	-	-

Source: Eurostat (online data code: iww_go_atyve)

Only the countries with international or transit transport exceeding 1 million tonnes report their data to Eurostat.

Figure 3.3.6: Goods freight transport by inland waterways, EU-27 2009 top ten countries (million tonnes)



Source: Eurostat (online data code: iww_go_atyve)

The EU-27 total transport is calculated by adding the national transport and the total international transport. Transit transport is excluded from the calculation. The EU-27 total international transport is calculated by adding the international loadings plus the international unloading for which the loading country is not in the EU-27. The EU-27 national transport is calculated by adding EU-27 Member States.

In 2009, 421 million tonnes of goods were carried through the inland waterways of the EU-27. In the Netherlands the amount of goods carried through inland waterways was 271 million tonnes in 2009, a decline of 15 % from the volume carried in 2004 and a decline of 21 % compared to the volume carried in 2008. In 2009, Germany also presented significant freight transport by inland waterways (204 million tonnes). Over the last six years, German freight transport by inland waterways presented a 14 % decrease, while between 2008 and 2009 the decrease was 17 %. Both the Netherlands and Germany had considerable inland waterways lengths.

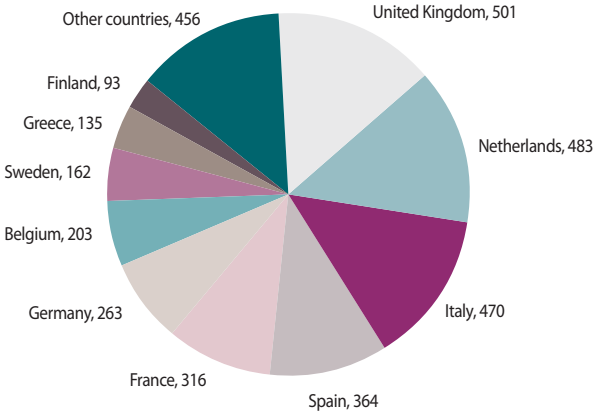
A comparison between 2004 and 2009, shows that the only Member States with higher volumes of freight transport by inland waterways in 2009 were Slovakia, Bulgaria, Hungary and France.

Table 3.3.7: Goods freight transport by sea (gross weight of seaborne goods handled in all ports in million tonnes)

	2004	2005	2006	2007	2008	2009
EU-27	3 570	3 719	3 836	3 937	3 919	3 445
Belgium	188	207	219	236	244	203
Bulgaria	23	25	28	25	27	22
Czech Republic	-	-	-	-	-	-
Denmark	100	100	108	110	106	91
Germany	272	285	303	315	321	263
Estonia	45	47	50	45	36	39
Ireland	48	52	53	54	51	42
Greece	158	151	159	164	152	135
Spain	373	400	414	427	416	364
France	334	341	350	347	352	316
Italy	485	509	520	537	526	470
Cyprus	7	7	8	7	8	7
Latvia	55	60	57	61	61	60
Lithuania	26	26	27	29	36	34
Luxembourg	-	-	-	-	-	-
Hungary	-	-	-	-	-	-
Malta	5	5	5	5	6	6
Netherlands	441	461	477	507	530	483
Austria	-	-	-	-	-	-
Poland	52	55	53	52	49	45
Portugal	59	65	67	68	65	62
Romania	41	48	47	49	50	36
Slovenia	12	13	15	16	17	13
Slovakia	-	-	-	-	-	-
Finland	107	100	111	115	115	93
Sweden	167	178	180	185	188	162
United Kingdom	573	585	584	582	562	501
Iceland	5	6	6	:	:	:
Liechtenstein	-	-	-	-	-	-
Norway	198	202	197	199	193	183
Switzerland	-	-	-	-	-	-
Montenegro	:	:	:	:	:	:
Croatia	25	26	26	30	29	23
FYR of Macedonia	-	-	-	-	-	-
Turkey	:	:	:	:	305	294

Source: Eurostat (online data code: mar_go_aa)

Figure 3.3.7: Goods freight transport by sea, EU-27 2009 top ten countries (million tonnes of goods handled in all ports)



Source: Eurostat (online data code: mar_go_aa)

The volume of freight transported by sea in the EU-27 fell by 12 % during the last six years. Between 2004 and 2007, goods freight transport by sea grew continuously, but in 2008 there was a slight drop compared to 2007 (- 0.5 %). From 2008 to 2009, there was another drop (- 12 %), while all Member States except for Estonia and Malta reported decreases. The highest decrease was recorded in Romania (- 28 %).

Ports in the United Kingdom handled 501 million tonnes of goods in 2009, a 15 % share of the EU total. Remarkable volumes were also handled in the ports of the Netherlands (483 and a 14 % share) and Italy (470 and a 14 % share).

Table 3.3.8: Goods freight transport by air (thousand tonnes)

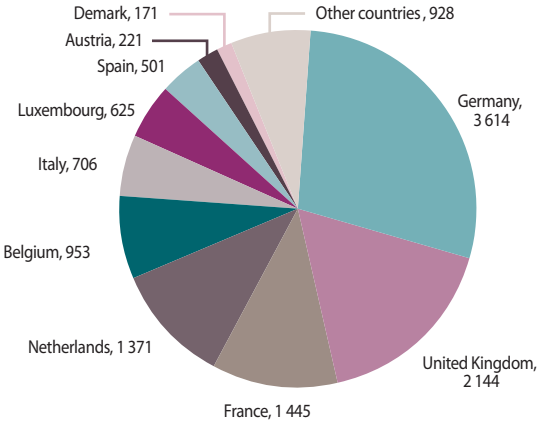
	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	12 582	13 191	11 584
Belgium	660	694	1 125	1 368	1 250	953
Bulgaria	:	:	:	19	20	18
Czech Republic	57	56	59	60	56	54
Denmark (1)	8	8	8	8	247	171
Germany	2 889	3 113	3 387	3 582	3 814	3 614
Estonia	5	10	10	23	42	21
Ireland	59	86	128	130	122	107
Greece	112	105	107	103	112	98
Spain	519	498	485	513	540	501
France	1 485	1 476	1 592	1 702	1 668	1 445
Italy	811	794	837	928	826	706
Cyprus	36	38	44	41	42	38
Latvia	8	15	12	7	7	9
Lithuania	:	10	13	13	9	6
Luxembourg	617	625	634	703	777	625
Hungary	60	56	65	68	63	54
Malta	16	17	18	18	18	17
Netherlands	1 512	1 551	1 621	1 550	1 658	1 371
Austria	180	208	229	228	227	221
Poland	30	30	39	45	58	53
Portugal	127	128	132	128	134	123
Romania	19	18	21	19	24	23
Slovenia	5	5	9	25	10	6
Slovakia	8	4	5	2	7	12
Finland	116	113	124	144	148	127
Sweden	153	:	:	:	206	162
United Kingdom	2 468	2 447	2 384	2 433	2 405	2 144
Iceland	56	60	62	54	55	39
Liechtenstein	:	:	:	:	:	:
Norway	84	87	86	76	71	51
Switzerland	319	334	335	369	363	326
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	8	9
FYR of Macedonia	:	:	:	:	:	:
Turkey	:	:	:	:	:	:

(1) From 2008 Copenhagen airport started to provide freight data.

Source: Eurostat (online data code: avia_gooc)

EU-27 aggregates present differences in comparison to Member State level because double counting is excluded in order to avoid over estimation.

Figure 3.3.8: Goods freight transport by air, EU-27 2009 top ten countries (thousand tonnes)



Source: Eurostat (online data code: avia_gooc)

11 584 thousand tonnes of air freight were carried through EU-27 airports in 2009. German airports dealt with 31 % of this amount (3 614 thousand tonnes of goods), while airports in the United Kingdom dealt with 19 % (2 144) and in France with 12 % (1 445). Smaller Member States also showed remarkable air freight, most notably the Netherlands with a 12 % share of the EU total (1 371) and Belgium with an 8 % share (953).

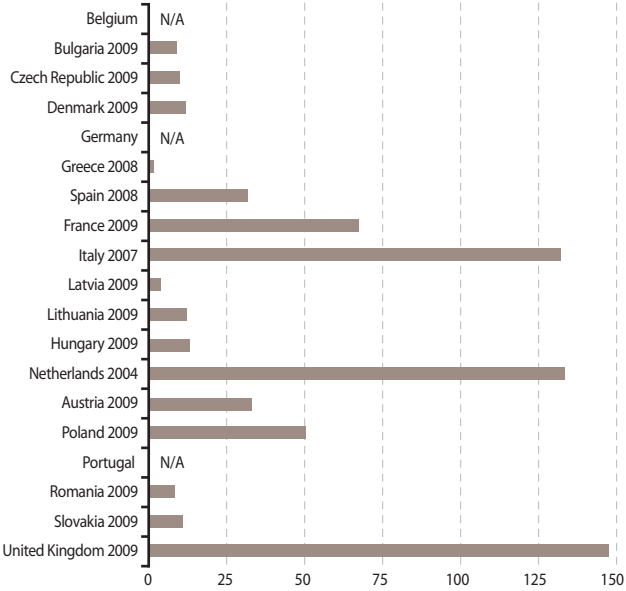
Between 2008 and 2009, goods freight transport by air recorded decreases in all Member States except for Slovakia and Latvia. For the period 2004-09, the trends were diversified among Member States. The most significant declines were reported by Lithuania (- 32 %), the United Kingdom (- 13 %) and Italy (- 13 %); while Estonia reported a fourfold increase.

Table 3.3.9: Goods freight transport by oil pipelines (million tonnes)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	:	:	:	:	:	:
Bulgaria	6	8	9	10	10	9
Czech Republic	9	11	11	10	12	10
Denmark	:	:	15	14	13	12
Germany	:	:	:	:	:	:
Estonia	-	-	-	-	-	-
Ireland	-	-	-	-	-	-
Greece	1	1	2	2	2	:
Spain	33	37	36	32	32	:
France	78	77	81	140	82	68
Italy	112	133	134	132	:	:
Cyprus	-	-	-	-	-	-
Latvia	19	20	15	6	5	4
Lithuania	27	26	20	16	14	12
Luxembourg	-	-	-	-	-	-
Hungary	13	14	14	14	14	13
Malta	-	-	-	-	-	-
Netherlands	133	:	:	:	:	:
Austria	35	35	35	32	34	33
Poland	53	54	56	53	49	50
Portugal	:	:	:	:	:	:
Romania	13	13	13	12	12	9
Slovenia	-	-	-	-	-	-
Slovakia	:	:	:	:	c	11
Finland	-	-	-	-	-	-
Sweden	-	-	-	-	-	-
United Kingdom	158	168	159	146	147	148
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	:	:	34	:	:	45
Switzerland	6	5	6	5	6	6
Montenegro	:	:	:	:	:	:
Croatia	7	7	6	7	6	7
FYR of Macedonia	:	1	1	1	1	1
Turkey	0	0	0	0	0	0

Source: Eurostat (online data codes: pipe_go_ton)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.3.9: Goods freight transport by oil pipelines, last year available (million tonnes)



Source: Eurostat (online data code: pipe_go_ton)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Among the EU-27 Member States, the highest volume of freight transport by oil pipelines was reported by the United Kingdom (148 million tonnes in 2009). Significant amounts of freight were also carried through oil pipelines in the Netherlands (133 in 2004) and Italy (132 in 2007).

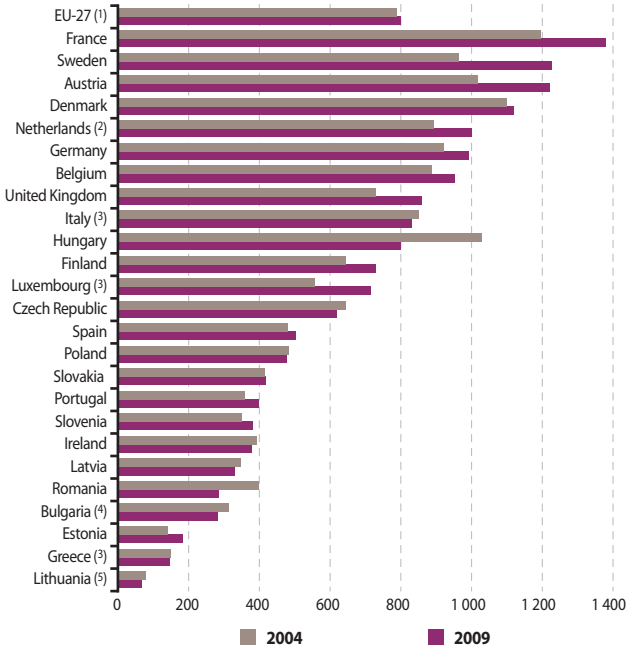
Based on data availability, from 2004 to 2009, the volumes of freight transported by oil pipelines recorded declining trends in nine Member States. In Latvia the decline was - 81 % and in Lithuania - 54 %. On the contrary, an increase was observed in five countries, most notably Bulgaria (44 %). Compared to 2008, in 2009 all countries but Poland and the United Kingdom presented declining volumes of oil pipeline transport.

Table 3.4.1: Passenger transport by rail (1 000 million passenger-km)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	388	395	c	:
Belgium	9	9	9	9	10	10
Bulgaria	:	:	2	2	2	2
Czech Republic	7	7	7	7	7	6
Denmark	6	6	6	6	6	6
Germany	76	75	79	79	82	81
Estonia	0	0	0	0	0	0
Ireland	2	2	2	2	2	2
Greece	2	2	2	2	2	:
Spain	20	21	22	21	23	23
France	74	77	80	82	87	89
Italy	49	50	50	50	50	:
Cyprus	-	-	-	-	-	-
Latvia	1	1	1	1	1	1
Lithuania	:	0	0	0	0	0
Luxembourg	0	0	0	0	0	:
Hungary	10	10	10	9	8	8
Malta	-	-	-	-	-	-
Netherlands	15	:	16	16	c	c
Austria	8	9	9	9	10	10
Poland	18	18	18	20	20	18
Portugal	4	4	4	4	4	4
Romania	9	8	8	7	7	6
Slovenia	1	1	1	1	1	1
Slovakia	2	2	2	2	2	2
Finland	3	3	4	4	4	4
Sweden	9	9	10	10	11	11
United Kingdom	43	45	47	50	53	53
Iceland	-	-	-	-	-	-
Liechtenstein	0	0	0	0	0	0
Norway	:	3	3	3	3	3
Switzerland	:	:	:	:	18	19
Montenegro	:	:	:	:	:	:
Croatia	1	1	1	2	2	2
FYR of Macedonia	:	:	:	:	:	:
Turkey	5	5	5	6	5	5

Source: Eurostat (online data code: rail_pa_total)

Figure 3.4.1: Passenger transport by rail (passenger-km per inhabitant)



(1) 2007 data instead of 2009 and 2006 data instead of 2004.
(2) 2007 data instead of 2009.
(3) 2008 data instead of 2009.
(4) 2006 data instead of 2004.
(5) 2005 data instead of 2004.

Source: Eurostat (online data codes: rail_pa_total and demo_pjan)

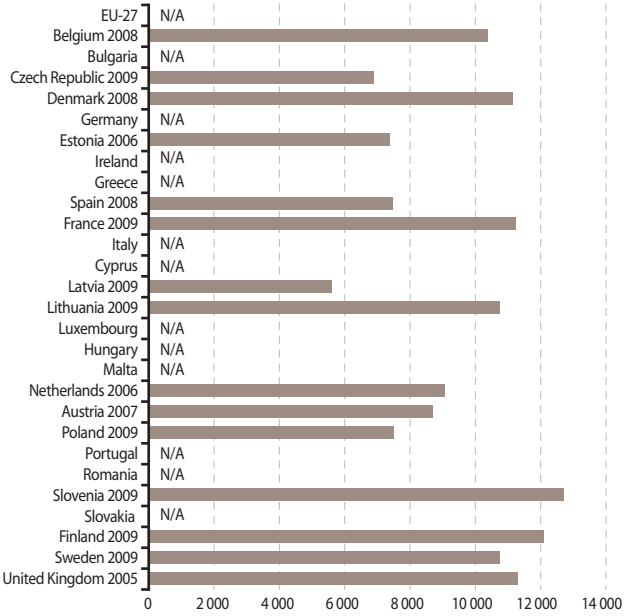
Passenger transport is measured by the number of passenger-kilometers traveled, which represents the transport of one passenger over one kilometer. In 2007, the total passenger-km traveled by rail in the EU-27 amounted to 395 billion. In 2009, EU-27 data were not available, but at Member State level the highest values for passenger-km were reported by France (89 billion) and Germany (81 billion). Approximately 798 passenger-km were traveled per inhabitant in the EU-27 in 2007. Between 2004 and 2009, fifteen Member States showed increased use of rail transport per inhabitant. The highest increases were reported by Estonia (30 %), Luxembourg (28 %) and Sweden (27 %). On the other hand, in Romania and Hungary the rail transport use per inhabitant fell by 28 % and 22 % respectively. The average distance traveled by rail per inhabitant was high in France (1 377), Sweden (1 225), Austria (1 219) and Denmark (1 118) and low in Lithuania (69) and Greece (148 in 2008).

Table 3.4.2: Passenger transport by passenger cars (1 000 million passenger-km)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	:	109	110	112	111	:
Bulgaria	:	:	:	:	:	:
Czech Republic	*68*	*69*	*70*	*72*	*72*	72
Denmark	:	:	62	61	61	:
Germany	:	:	:	:	:	:
Estonia	:	11	10	:	:	:
Ireland	:	:	:	:	:	:
Greece	:	:	:	:	:	:
Spain	330	338	341	343	339	:
France	737	727	724	728	:	724
Italy	:	:	:	:	:	:
Cyprus	:	:	:	:	:	:
Latvia	12	12	14	16	14	13
Lithuania	*26*	*35*	39	39	38	36
Luxembourg	:	:	:	:	:	:
Hungary	:	:	:	:	:	:
Malta	:	:	:	:	:	:
Netherlands	152	149	148	:	:	:
Austria	70	71	71	72	:	:
Poland	:	:	:	:	*274*	*285*
Portugal	:	:	:	:	:	:
Romania	:	:	:	:	:	:
Slovenia	:	23	23	24	25	26
Slovakia	:	:	:	:	:	:
Finland	61	62	62	64	63	64
Sweden	97	97	97	99	98	99
United Kingdom	673	678	:	:	:	:
Iceland	*5*	*5*	:	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	53	54	55	57	58	58
Switzerland	81	81	82	82	84	85
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	:	:
FYR of Macedonia	:	:	:	:	:	:
Turkey	:	:	:	:	:	124

Source: Eurostat (online data code: road_pa_mov)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.4.2: Passenger transport by passenger cars, last year available (passenger-km per inhabitant)



Source: Eurostat (online data codes: road_pa_mov and demo_pjan)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Car transport accounted for a sizable proportion of passenger transport among all Member States for which data were available. The dependence on cars was considerably higher compared to passenger transport by rail and by buses and coaches. The highest volume of passenger-km was reported by France (724 billion in 2009), followed by the United Kingdom (678 billion in 2005).

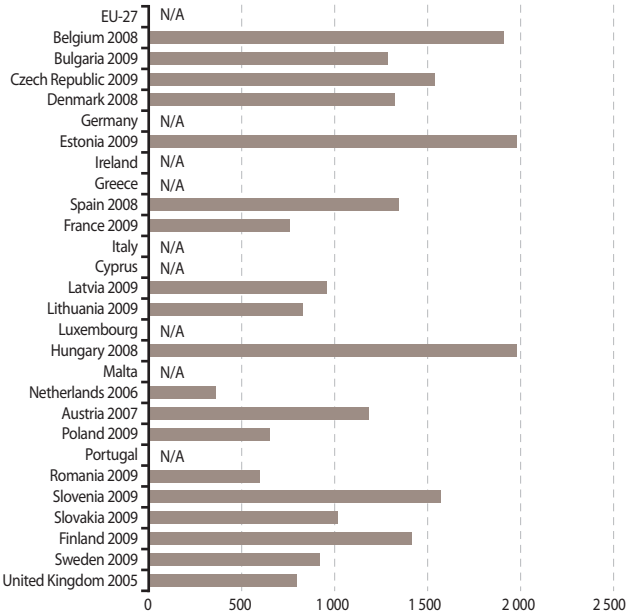
As far as passenger-km per inhabitant are concerned, the situation was differentiated, as some of the smaller Member States presented notable car transport. In Slovenia 12 682 passenger-km were traveled by inhabitant in 2009. Strong car reliance per inhabitant was also recorded in Finland (12 078 in 2009), the United Kingdom (11 293 in 2005), France (11 246 in 2009), Denmark (11 147 in 2008), Lithuania (10 763 in 2009), Sweden (10 739 in 2009) and Belgium (10 397 in 2008).

Table 3.4.3: Passenger transport by buses and coaches (1 000 million passenger-km)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:
Belgium	:	18	18	20	20	:
Bulgaria	12	12	12	12	12	10
Czech Republic	14	16	16	16	16	16
Denmark	:	:	7	7	7	:
Germany	:	:	:	:	:	:
Estonia	3	3	3	2	3	3
Ireland	:	:	:	:	:	:
Greece	:	:	:	:	:	:
Spain	53	53	49	59	61	:
France	44	44	45	47	:	49
Italy	:	:	:	:	:	:
Cyprus	:	:	:	:	:	:
Latvia	3	3	3	3	3	2
Lithuania	4	4	3	4	3	3
Luxembourg	:	:	:	:	:	:
Hungary	17	18	18	17	20	:
Malta	:	:	:	:	:	:
Netherlands	7	7	6	:	:	:
Austria	10	9	9	10	:	:
Poland	30	29	28	27	27	24
Portugal	:	:	:	:	:	:
Romania	9	12	12	12	:	13
Slovenia	3	3	3	3	3	3
Slovakia	10	9	:	8	7	6
Finland	8	8	8	8	8	8
Sweden	9	9	9	9	9	9
United Kingdom	48	48	:	:	:	:
Iceland	*1*	*1*	:	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	4	4	4	4	4	4
Switzerland	7	7	7	8	:	:
Montenegro	:	:	:	:	:	:
Croatia	3	3	4	4	3	3
FYR of Macedonia	:	1	1	1	1	1
Turkey	:	:	:	:	:	88

Source: Eurostat (online data code: road_pa_mov)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Figure 3.4.3: Passenger transport by buses and coaches, last year available (passenger-km per inhabitant)



Source: Eurostat (online data codes: road_pa_mov and demo_pjan)/ International Transport Forum/ United Nations Economic Commission for Europe Common Questionnaire on inland transport

Data are not harmonised and therefore not fully comparable.

Data availability does not facilitate comparisons among countries for the same year. Taking this into account, the highest values for passenger transport by buses and coaches were observed in Spain (61 billion passenger-km in 2008), France (49 billion in 2009) and the United Kingdom (48 billion in 2005). In the majority of Member States, passenger transport by buses and coaches was more widespread than passenger transport by rail. The only exceptions were France, the Netherlands and Sweden.

The largest volumes of passenger-km per inhabitant were recorded in Estonia (1 987 in 2009), Hungary (1 984 in 2008), Belgium (1 910 in 2008) and Slovenia (1 573 in 2009). On the contrary, the lowest volumes were observed in the Netherlands (361 in 2006) and Romania (596 in 2009).

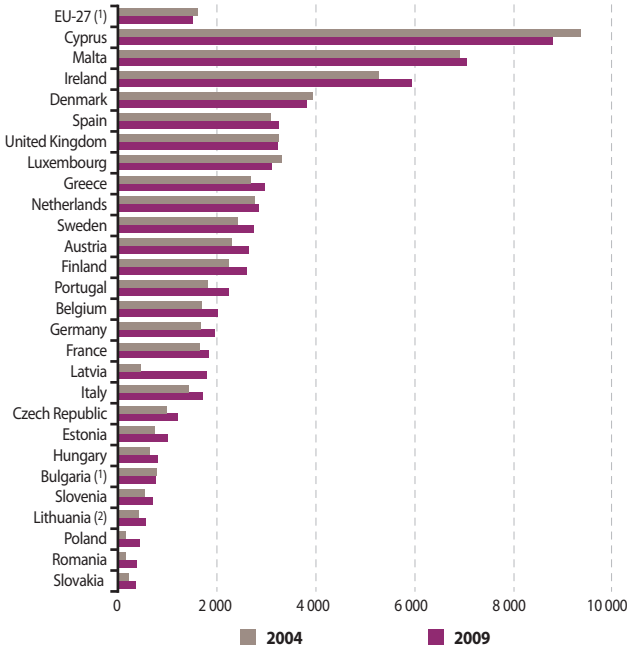
Table 3.4.4: Passenger transport by air (1 000 passengers)

	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	800 499	803 963	757 541
Belgium	17 570	17 917	19 293	21 018	22 340	21 716
Bulgaria	:	:	:	6 077	6 448	5 869
Czech Republic	10 154	11 367	12 329	13 267	13 644	12 571
Denmark	21 195	22 333	23 184	24 191	24 484	20 975
Germany	138 107	148 060	156 382	165 919	167 764	160 615
Estonia	991	1 394	1 534	1 723	1 805	1 344
Ireland	21 214	24 702	28 053	30 084	30 166	26 382
Greece	29 506	30 792	32 754	34 780	35 056	33 436
Spain	130 490	140 867	147 962	162 985	162 237	148 989
France	103 039	107 955	113 183	120 257	122 724	117 562
Italy	82 552	89 651	97 969	108 739	106 540	103 254
Cyprus	6 825	7 082	7 035	7 323	7 575	7 001
Latvia	1 059	1 890	2 502	3 170	3 701	4 076
Lithuania	:	1 450	1 805	2 198	2 563	1 872
Luxembourg	1 509	1 538	1 597	1 634	1 693	1 535
Hungary	6 407	7 950	8 284	8 580	8 429	8 081
Malta	2 765	2 758	2 700	2 971	3 110	2 919
Netherlands	44 881	46 695	48 902	50 763	50 670	46 726
Austria	18 701	20 016	21 081	23 098	24 089	22 010
Poland	6 092	7 080	13 546	17 155	18 730	17 092
Portugal	19 044	20 184	21 495	24 108	24 774	23 844
Romania	3 434	3 633	4 936	6 988	8 061	8 027
Slovenia	1 087	1 254	1 367	1 527	1 677	1 430
Slovakia	1 124	1 567	2 153	2 265	2 600	1 952
Finland	11 700	12 225	13 330	14 428	14 849	13 828
Sweden	21 718	22 899	26 215	27 265	28 064	25 444
United Kingdom	193 641	205 404	212 578	218 612	214 857	199 165
Iceland	1 889	2 111	2 278	2 462	2 241	1 932
Liechtenstein	:	:	:	:	:	:
Norway	21 103	23 158	25 872	27 898	28 962	28 144
Switzerland	26 929	29 303	32 301	34 773	36 809	36 118
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	4 587	4 411
FYR of Macedonia	:	:	:	:	:	:
Turkey	:	:	:	:	:	:

Source: Eurostat (online data code: avia_paoc)

EU-27 aggregates present differences in comparison to Member State level because double counting is excluded in order to avoid over estimation.

Figure 3.4.4: Passenger transport by air (passengers per thousand inhabitants)



(1) 22007 data instead of 2004.
(2) 2005 data instead of 2004.

Source: Eurostat (online data codes: avia_paoc and demo_pjan)

Approximately 757 million passengers were transported by air in the EU-27 in 2009. The highest numbers of travelers passed through the airports of the United Kingdom (26 % share of the total), Germany (21 %), Spain (20 %), France (16 %) and Italy (14 %). In the past six years, there has been an increase in the use of air transport in all Member States, except for Bulgaria (- 3 % between 2007 and 2009) and Denmark (- 1 %). The increase in Latvia was fourfold and in Poland threefold. Compared to 2008, in 2009 all Member States but Latvia presented decreased use of air transport. The most significant decreases were reported by Lithuania (- 27 %), Estonia (- 26 %) and Slovakia (- 25 %).

The ratio of air passengers per thousand inhabitants in the EU-27 was 1 516 in 2009. In Cyprus air passenger transport per inhabitant was 6 times above the EU-27 average, in Malta it was 5 times higher and in Ireland it was 4 times higher.

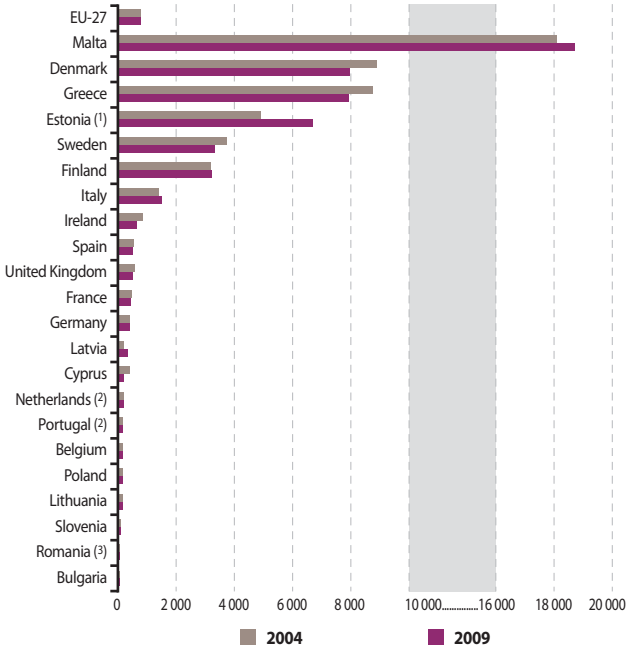
Table 3.4.5: Passenger transport by sea (number of seaborne passengers embarked and disembarked in all ports — 1 000 passengers)

	2004	2005	2006	2007	2008	2009
EU-27	413 458	395 293	406 561	414 232	412 877	403 752
Belgium (1)	787	922	891	909	799	751
Bulgaria	6	13	15	10	8	0
Czech Republic	-	-	-	-	-	-
Denmark	48 555	47 924	48 145	48 409	46 657	43 561
Germany	29 815	29 490	29 256	30 200	28 945	29 573
Estonia (2)	6 452	8 639	8 546	8 665	9 190	9 140
Ireland	3 550	3 275	3 207	3 225	3 108	2 878
Greece	96 744	86 068	90 402	92 423	91 101	88 351
Spain	21 694	22 410	22 167	23 134	22 478	21 458
France	27 068	25 804	26 402	27 048	26 813	25 067
Italy	83 316	78 753	85 984	86 970	90 156	92 707
Cyprus	247	194	228	174	150	96
Latvia	130	144	217	362	437	591
Lithuania	146	166	190	212	212	205
Luxembourg	-	-	-	-	-	-
Hungary	-	-	-	-	-	-
Malta	7 250	7 103	7 328	7 802	8 132	7 799
Netherlands (3)	2 012	2 116	2 127	1 871	1 959	1 632
Austria	-	-	-	-	-	-
Poland	2 031	1 640	1 737	2 456	2 647	2 481
Portugal (3)	650	662	686	735	762	833
Romania	:	:	:	0	1	0
Slovenia	42	35	30	51	50	56
Slovakia	-	-	-	-	-	-
Finland	16 806	17 112	16 739	16 450	16 975	17 226
Sweden	33 318	32 617	32 334	32 662	32 745	31 066
United Kingdom	32 837	30 207	29 930	30 465	29 555	28 281
Iceland	404	422	433	:	:	:
Liechtenstein	-	-	-	-	-	-
Norway	5 787	6 663	6 280	6 447	6 208	5 728
Switzerland	-	-	-	-	-	-
Montenegro	:	:	:	:	:	:
Croatia	21 519	22 182	23 061	24 611	26 044	26 037
FYR of Macedonia	-	-	-	-	-	-
Turkey	:	:	:	:	1 498	1 386

(1) The ease registered between 2004 and 2005 is partly due to an improvement of the data reporting system.
(2) In 2004 data national transport is excluded.
(3) Data exclude cruise passengers.

Source: Eurostat (online data code: mar_pa_aa)

Figure 3.4.5: Passenger transport by sea (passengers per thousand inhabitants)



(1) In 2004 data national transport is excluded.
(2) Data exclude cruise passengers.
(3) 2007 data instead of 2004.

Source: Eurostat (online data codes: mar_pa_aa and demo_pjan)

404 million passengers passed through EU-27 ports in 2009, a 2 % decrease since 2004. The ports of Italy handled 23 % of the EU total; another 22 % was handled by the ports of Greece and 11 % by the ports of Denmark. Between 2004 and 2009, the most striking increase — approximately fivefold — was recorded in Latvia. From 2008 to 2009, all but six Member States (Latvia, Slovenia, Portugal, Italy, Germany and Finland) reported decreased numbers of sea passengers.

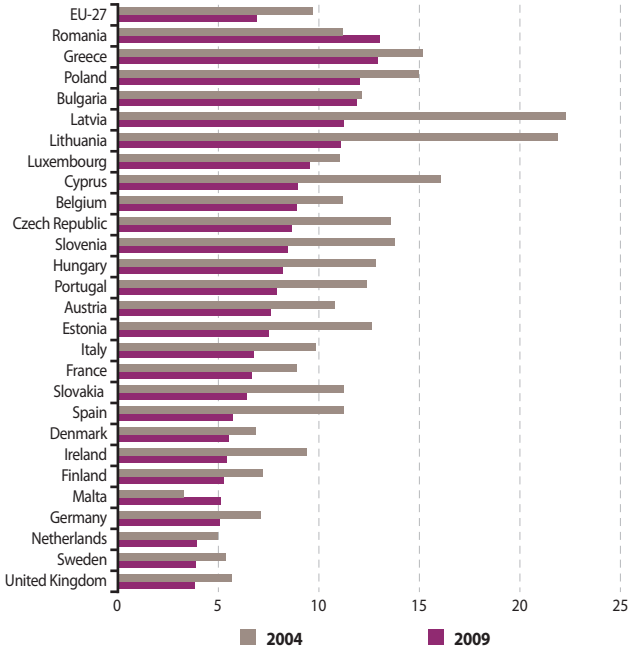
In terms of passengers per thousand inhabitants, Malta presented a particularly high value (18 856) in 2009. Denmark and Greece ranked second and third with 7 904 and 7 846 passengers per thousand inhabitants respectively.

Table 3.5.1: Persons killed in road accidents (persons killed in road accidents/100 000 inhabitants)

	2004	2005	2006	2007	2008	2009
EU-27	10	9	9	9	8	7
Belgium	11	10	10	10	9	9
Bulgaria	12	12	14	13	14	12
Czech Republic	14	13	10	12	10	9
Denmark	7	6	6	7	7	5
Germany	7	6	6	6	5	5
Estonia	13	13	15	15	10	7
Ireland	9	10	9	8	6	5
Greece	15	15	15	14	14	13
Spain	11	10	9	9	7	6
France	9	8	7	7	7	7
Italy	10	10	10	9	8	7
Cyprus	16	14	11	11	10	9
Latvia	22	19	18	18	14	11
Lithuania	22	23	22	22	15	11
Luxembourg	11	10	8	10	7	10
Hungary	13	13	13	12	10	8
Malta	3	4	3	3	4	5
Netherlands	5	5	4	4	4	4
Austria	11	9	9	8	8	8
Poland	15	14	14	15	14	12
Portugal	12	12	9	9	8	8
Romania	11	11	11	13	14	13
Slovenia	14	13	13	15	11	8
Slovakia	11	10	11	12	10	6
Finland	7	7	6	7	6	5
Sweden	5	5	5	5	4	*4*
United Kingdom	6	6	5	5	4	4
Iceland	8	6	10	5	4	5
Liechtenstein	3	6	-	-	3	3
Norway	6	5	5	5	5	4
Switzerland	7	6	5	5	5	5
Montenegro	:	:	:	:	:	:
Croatia	14	13	14	14	15	12
FYR of Macedonia	8	7	7	8	8	8
Turkey	6	6	6	7	6	6

Source: Community database on Accidents on the Roads in Europe, DG for Mobility and Transport, also available at Eurostat (online data codes: tsdtr420 and demo_pjan)

Figure 3.5.1: Persons killed in road accidents (persons killed in road accidents/100 000 inhabitants)



Source: Community database on Accidents on the Roads in Europe, DG for Mobility and Transport, also available at Eurostat (online data codes: tsdtr420 and demo_pjan)

Fatalities caused by road accidents include drivers and passengers of motorised vehicles and pedal cycles as well as pedestrians, killed within 30 days from the day of the accident. For Member States not using this definition, corrective factors were applied.

The trend in the number of persons killed in road accidents presented a slight decrease for the EU-27 between 2004 and 2009. The Commission has a target to halve the number of road fatalities between 2001 and 2010. In 2009, the number of persons killed in road accidents for the EU-27 was 34 500, a 27 % decrease since 2004. Except for Malta and Romania, the rest of the EU-27 presented decreases in the number of persons killed in road accidents. In 2009, the highest numbers of road fatalities were recorded in Romania and Greece (approximately 13 persons were killed per 100 000 inhabitants). Poland and Bulgaria followed with 12 persons per 100 000 inhabitants; while in Latvia and Lithuania the number of road fatalities was 11 persons per 100 000 inhabitants. Both Latvia and Lithuania halved the numbers of persons killed in the last six years.

4 Environment indicators

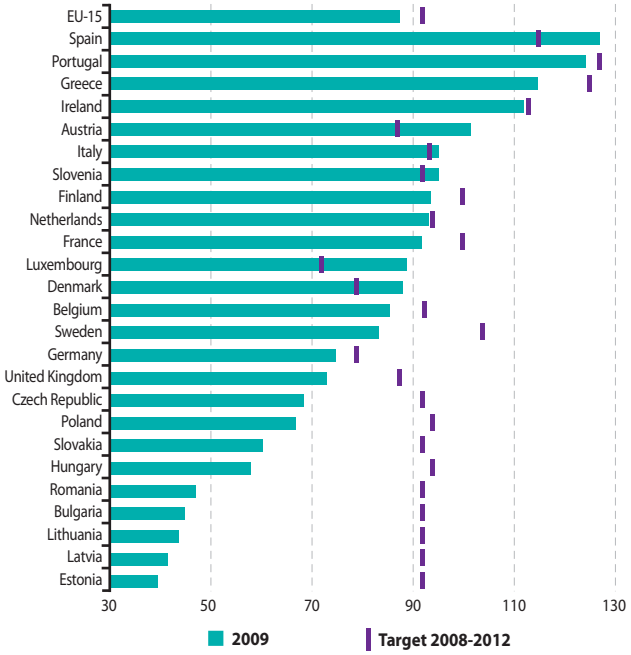
Table 4.1.1: Greenhouse gas emissions and agreed reduction targets (Kyoto base year emissions: Index = 100)

	1990	1995	2000	2006	2007	2008	2009	Target 2008-12
EU-27 (1)	100.0	93.6	91.0	91.8	90.7	88.9	82.6	:
EU-15	100.0	97.4	97.1	97.0	95.6	93.7	87.3	92.0
Belgium	98.4	103.0	99.8	94.5	91.2	92.7	85.4	92.5
Bulgaria	84.0	60.9	47.8	51.5	54.1	52.1	44.9	92.0
Czech Republic	100.7	79.1	75.9	75.2	75.7	72.7	68.4	92.0
Denmark	98.1	109.1	97.9	103.2	96.5	91.8	88.0	79.0
Germany	101.3	90.9	84.6	81.3	79.5	79.6	74.6	79.0
Estonia	96.3	47.5	41.8	43.9	50.7	47.1	39.5	92.0
Ireland	98.6	105.2	122.0	123.5	122.3	122.0	112.2	113.0
Greece	97.5	101.9	117.8	122.2	124.7	120.2	114.5	125.0
Spain	97.7	108.7	131.0	147.0	150.9	139.7	126.8	115.0
France	99.8	99.2	100.5	98.1	96.6	95.6	91.7	100.0
Italy	100.4	102.5	106.7	109.1	107.3	104.8	95.0	93.5
Cyprus (1)	100.0	126.4	172.8	184.1	186.9	193.1	178.3	:
Latvia	102.6	49.0	39.8	45.7	47.7	46.0	41.4	92.0
Lithuania	100.3	44.2	38.8	47.4	50.9	48.6	43.7	92.0
Luxembourg	97.4	76.7	74.2	98.9	94.2	93.1	88.7	72.0
Hungary	83.9	67.7	66.5	67.4	65.4	63.3	57.8	94.0
Malta (1)	100.0	119.3	126.6	143.5	147.6	145.7	138.8	:
Netherlands	99.4	104.8	100.1	97.2	96.4	96.0	93.4	94.0
Austria	98.9	101.0	101.8	114.0	110.5	110.0	101.3	87.0
Poland	80.4	78.1	69.1	71.4	71.1	70.2	66.8	94.0
Portugal	98.8	115.5	135.0	135.1	131.5	129.6	124.0	127.0
Romania	89.9	67.5	51.1	57.7	56.1	55.1	47.0	92.0
Slovenia	90.8	90.7	92.5	100.5	101.0	104.6	95.0	92.0
Slovakia	102.9	74.0	68.3	69.2	66.4	66.8	60.2	92.0
Finland	99.1	99.7	97.4	112.3	110.1	99.2	93.4	100.0
Sweden	100.5	103.0	95.5	93.3	91.2	88.1	83.1	104.0
United Kingdom	100.0	91.5	86.3	83.0	81.7	79.9	72.9	87.5
Iceland	101.4	95.1	111.8	126.6	133.9	144.9	137.1	110.0
Liechtenstein	100.0	102.7	111.1	119.1	106.1	114.8	107.8	92.0
Norway	100.3	100.1	107.6	107.8	111.3	108.3	103.4	101.0
Switzerland	100.6	97.4	98.4	101.8	98.0	101.2	98.4	92.0
Montenegro	:	:	:	:	:	:	:	:
Croatia	:	:	:	:	:	:	:	95.0
FYR of Macedonia	:	:	:	:	:	:	:	:
Turkey (1)	100.0	127.0	158.8	186.9	203.2	196.0	197.6	:

(1) There is no legal EU target, artificial base year 1990.

Source: European Environment Agency, also available at Eurostat (online data code: env_air_ind)

Figure 4.1.1: Index of greenhouse gas emissions in 2009 compared with Kyoto base year and agreed reduction targets for 2008-2012

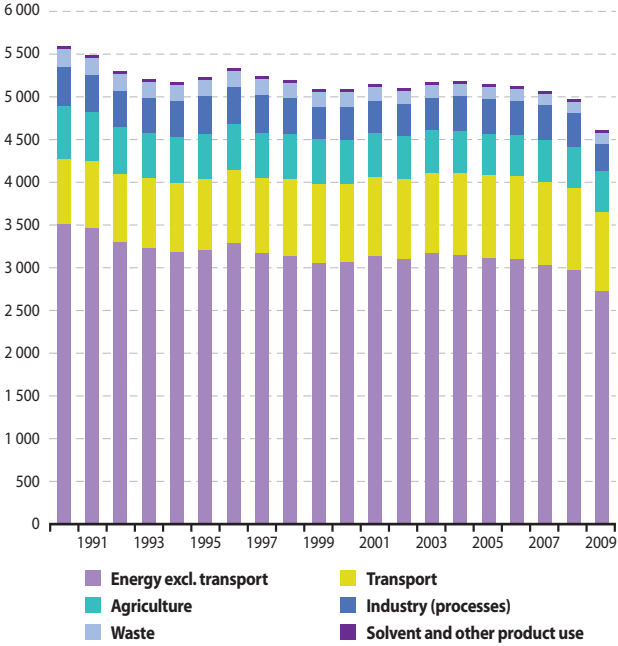


Source: European Environment Agency, also available at Eurostat (online data code: env_air_ind)

The Kyoto Protocol is an international agreement that includes legally-binding greenhouse gas (GHG) emissions targets for industrialised countries. The EU-15 agreed to an 8 % reduction of their collective GHG emissions by 2008-12 compared to Kyoto base year (mostly 1990), redistributed among the 15 Member States under the burden sharing agreement (Council Decision 2002/358/EC). Newer Member States have similar targets of - 6 to - 8 % from their base years (mostly 1990), with the exception of Cyprus and Malta.

Between the Kyoto base year and 2009, GHG emissions in the EU-15 fell by about 13 %. Over this period, Spain recorded the highest increase in its GHG emissions (37 %), followed by Portugal (24 %), Greece (15 %) and Ireland (12 %). In contrast, significant decreases were observed in Estonia (- 60 %), Latvia (- 59 %), Lithuania (- 56 %), Bulgaria (- 55 %) and Romania (- 53 %). It must be noted that 2009 showed a sharp decline of emissions, largely due to the effects of the economic crisis, with EU-27 emissions falling 7 times faster from 2008-2009 than the annual average rate of decrease over the whole period.

Figure 4.1.2: Greenhouse gas emissions, breakdown by inventory sector, EU-27 (million tonnes of CO_2 equivalent)



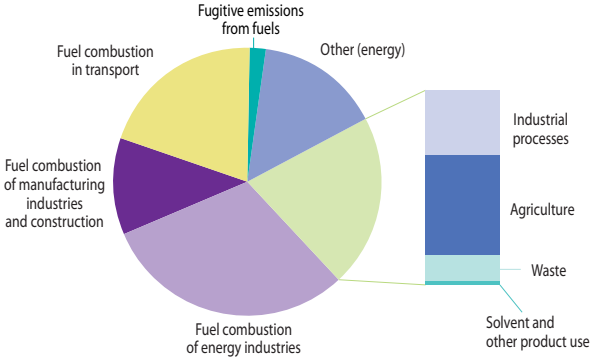
Source: European Environment Agency, also available at Eurostat (online data code: env_air_gge)

Table 4.1.2: Greenhouse gas emissions, breakdown by inventory sector, EU-27 (Global warming potential in million tonnes of CO_2 equivalent)

	1990	1995	2000	2006	2007	2008	2009
Total	5 589	5 232	5 086	5 129	5 071	4 969	4 615
Energy excl. transport	3 512	3 212	3 072	3 105	3 035	2 976	2 728
Transport	771	832	912	968	975	959	932
Agriculture	610	528	515	487	485	487	476
Industry (processes)	463	441	391	400	411	387	321
Waste	214	205	182	157	152	149	147
Solvent and other product use	17	14	14	13	13	12	11

Source: European Environment Agency, also available at Eurostat (online data code: env_air_gge)

Figure 4.1.2a: Greenhouse gas emissions, breakdown by inventory sector, EU-27, 2009 (%)



Source: European Environment Agency, also available at Eurostat (online data code: env_air_gge)

Table 4.1.2a: Greenhouse gas emissions, breakdown by inventory sector, EU-27, 2009

Sector	% of total
Energy related	
Fuel combustion of energy industries	30.6
Fuel combustion of manufacturing industries and construction	11.5
Fuel combustion in transport	20.2
Fugitive emissions from fuels	1.8
Other (energy)	15.2
Non-energy related	
Industrial processes	7.0
Agriculture	10.3
Waste	3.2
Solvent and other product use	0.2

Source: European Environment Agency, also available at Eurostat (online data code: env_air_gge)

Total EU-27 GHG emissions recorded a 17 % decrease between 1990 and 2009. Over this period, transport was the only sector that presented an increase (21 %) in its emissions. All other sectors reported decreases. Emissions from waste fell by 32 %, from industrial processes by 31 % and by 22 % in both agriculture and the energy and manufacturing industries.

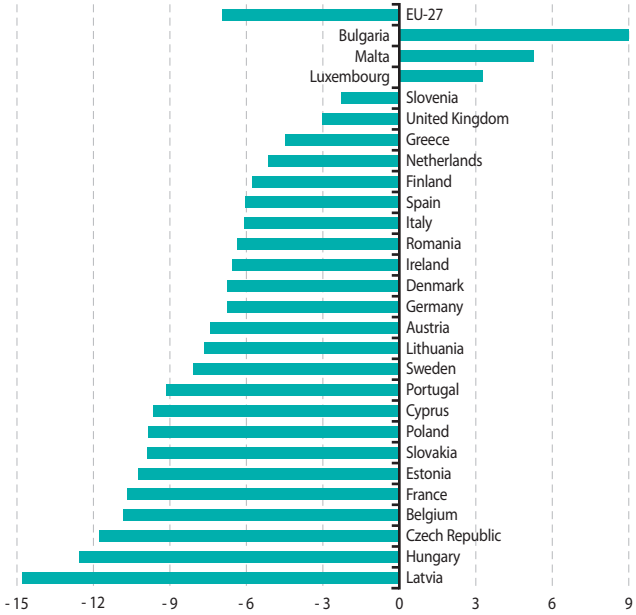
In 2009, 79 % of the total GHG emissions were energy-related. Fuel combustion in the energy sector and manufacturing industries accounted for 59 % of this share, while the transport sector made up the remaining 20 %. In 2009, emissions by non-energy related sectors comprised agriculture (10 %), followed by industrial processes (7 %) and waste (3 %).

Table 4.1.3: Carbon (CO_2) intensity of energy use (Index 2000 = 100)

	2001	2003	2005	2007	2008	2009
EU-27	100.0	99.0	97.0	96.1	94.5	93.0
Belgium	101.5	101.6	99.8	96.1	94.4	89.2
Bulgaria	104.3	107.7	102.8	112.0	109.2	109.0
Czech Republic	99.6	90.5	89.9	87.9	86.4	88.2
Denmark	100.7	106.7	95.3	96.7	93.7	93.3
Germany	99.6	98.3	95.7	95.2	94.6	93.2
Estonia	98.3	101.3	97.2	100.8	95.0	89.8
Ireland	98.8	97.8	100.8	95.5	96.6	93.5
Greece	99.5	99.1	99.0	99.6	95.4	95.5
Spain	98.6	99.4	102.6	101.2	96.2	94.0
France	98.0	95.7	95.3	91.8	89.3	89.4
Italy	100.8	100.0	98.4	97.4	97.3	93.9
Cyprus	97.5	87.2	97.4	94.1	92.5	90.3
Latvia	96.5	94.4	92.0	94.4	93.1	85.2
Lithuania	92.4	84.0	97.4	94.4	92.2	92.4
Luxembourg	100.7	104.8	106.8	103.2	102.3	103.3
Hungary	100.6	101.1	94.5	91.9	90.6	87.5
Malta	95.5	100.5	94.7	97.0	96.3	105.3
Netherlands	100.7	99.9	96.3	90.7	95.2	94.9
Austria	101.9	106.2	102.9	95.7	93.7	92.6
Poland	99.1	97.2	94.7	92.4	89.5	90.2
Portugal	101.2	98.2	97.5	90.4	92.7	90.9
Romania	103.8	106.0	100.3	98.1	96.4	93.6
Slovenia	100.4	97.2	95.3	96.2	96.8	97.7
Slovakia	98.7	96.6	91.7	90.2	89.8	90.1
Finland	107.4	112.4	93.6	101.4	91.9	94.3
Sweden	95.5	98.8	90.6	90.6	87.4	91.9
United Kingdom	102.0	100.9	99.0	101.8	100.5	97.0
Iceland	:	:	:	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	101.0	102.7	101.9	104.8	94.2	98.4
Switzerland	96.4	100.0	102.3	96.7	96.2	93.2
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	:	:
FYR of Macedonia	:	:	:	:	:	:
Turkey	99.7	99.3	101.8	102.7	100.0	100.4

Source: Eurostat (online data codes: nrg_100a and env_air_gge) and European Environment Agency)

Figure 4.1.3: Change in carbon (CO_2) intensity of energy use, 2000-2009 (%)



Source: Eurostat (online data codes: nrg_100a and env_air_gge) and European Environment Agency

Carbon intensity of energy use, the ratio between CO_2 emissions from energy and gross inland consumption, shows how polluting energy use (mainly fuel combustion) is in different countries. Specifically, the higher the carbon intensity, the more the emissions from energy use. Since 2000, the EU-27 carbon intensity of energy use has been gradually declining and in 2009 it was 93.0.

Among Member States, in 2009 the highest indices were recorded in Bulgaria (109.0), Malta (105.3) and Luxembourg (103.3). On the contrary, the indices were low in Latvia (85.2), Hungary (87.5) and the Czech Republic (88.2).

From 2000 to 2009, all but three Member States (Bulgaria, Malta and Luxembourg) reported a decrease in their indices. The most considerable decreases were reported in the three countries with the lowest indices: Latvia (- 14.8 %), Hungary (- 12.5 %) and the Czech Republic (- 11.8 %).

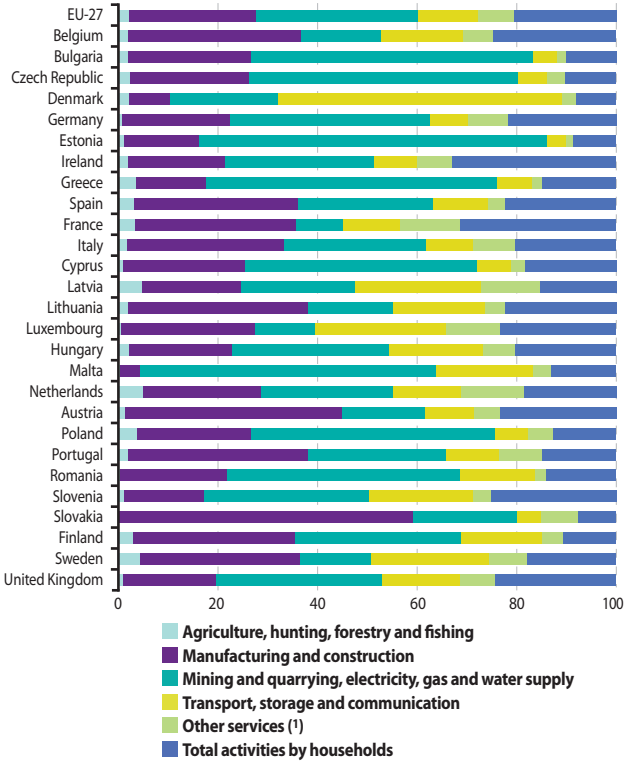
Table 4.1.4: CO_2 emissions by economic activity, by country, 2008 (thousand tonnes)

	Total	Agriculture, hunting, forestry and fishing	Manufacturing and construction	Mining and quarrying, electricity, gas and water supply	Transport, storage and communication	Other services(1)	Households
EU-27	*4 322 966*	*92 372*	*1 102 459*	*1 411 664*	*521 427*	*306 655*	*888 390*
BE	*127 917*	*2 648*	*44 234*	*20 717*	*20 953*	*7 768*	*31 598*
BG	*54 315*	*1 023*	*13 520*	*30 692*	*2 691*	*884*	*5 506*
CZ	112 792	2 631	26 999	60 966	6 464	4 204	11 530
DK	108 180	2 394	8 945	23 305	61 845	3 020	8 671
DE	882 725	7 093	191 976	353 362	68 214	69 609	192 472
EE	*17 383*	*210*	*2 616*	*12 126*	*693*	*249*	*1 489*
IE	*47 392*	*939*	*9 288*	*14 096*	*4 123*	*3 373*	*15 572*
EL	*109 761*	*3 871*	*15 456*	*64 292*	*7 550*	*2 282*	*16 311*
ES	335 469	10 943	109 892	91 347	36 777	11 952	74 558
FR	396 718	13 463	128 189	37 778	45 170	48 024	124 093
IT	474 274	8 063	149 975	135 174	45 136	39 813	96 113
CY	*8 577*	*78*	*2 112*	*3 992*	*581*	*239*	*1 575*
LV	9 567	458	1 912	2 181	2 433	1 118	1 466
LT	17 354	345	6 276	2 969	3 195	699	3 869
LU	7 842	52	2 101	941	2 062	864	1 822
HU	57 478	1 249	11 870	18 114	10 822	3 785	11 638
MT	*2 650*	*8*	*108*	*1 576*	*517*	*97*	*345*
NL	207 436	10 585	48 779	54 973	28 464	26 078	38 557
AT	70 251	987	30 641	11 573	7 041	3 584	16 424
PL	332 141	13 018	75 467	163 201	21 399	17 246	41 810
PT	*62 493*	*1 246*	*22 531*	*17 370*	*6 668*	*5 403*	*9 274*
RO	*104 812*	*333*	*22 510*	*49 170*	*15 707*	*2 369*	*14 723*
SI	19 739	234	3 180	6 551	4 097	703	4 974
SK	39 764	104	*23 393*	*8 345*	*1 893*	*3 013*	3 016
FI	*63 322*	*1 909*	*20 555*	*21 163*	*10 218*	*2 755*	*6 722*
SE	60 185	2 613	19 360	8 545	14 239	4 705	10 723
UK	592 431	5 873	110 574	197 147	92 475	42 821	143 540
IS	:	:	:	:	:	:	:
LI	:	:	:	:	:	:	:
NO	58 262	1 750	12 894	14 968	22 130	1 529	4 992
CH	:	:	:	:	:	:	:
ME	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:
MK	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:

(1) Other services include: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation; Real estate, renting and business activities; Public administration and defence; compulsory social security; Education; Health and social work; Other community, social and personal service activities; Activities of households as employers of domestic staff; Extra-territorial organizations and bodies.

Source: Eurostat (online data codes: env_ac_ainacehh)

Figure 4.1.4: CO_2 emissions by economic activity, 2008 (%)



(1) Other services include: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation; Real estate, renting and business activities; Public administration and defence; compulsory social security; Education; Health and social work; Other community, social and personal service activities; Activities of households as employers of domestic staff; Extra-territorial organizations and bodies.

Source: Eurostat (online data code: env_ac_ainacehh)

In 2008, the CO_2 emissions from production activities (all NACE sections) in the EU-27 reached 3 435 million tonnes; while those of households (consumption) were 888 million tonnes, reaching a total of 4 323 million tonnes. Out of this total, the biggest emitters were mining and quarrying and electricity, gas and water supply with a 33 % share, followed by manufacturing and construction (26 %), households (21 %) and transport, storage and communication (12 %). The trend was similar across Member States, where the most intensive activities in terms of emissions related to mining and quarrying and electricity, gas and water supply or manufacturing and construction. The only exceptions were Denmark and Latvia, where most emissions came from transport and Ireland, where households were the main emitter.

Table 4.1.5: Carbon (CO_2) productivity of the EU economy, by NACE section (Gross value added (GVA) in EUR/ CO_2 emissions in tonnes)

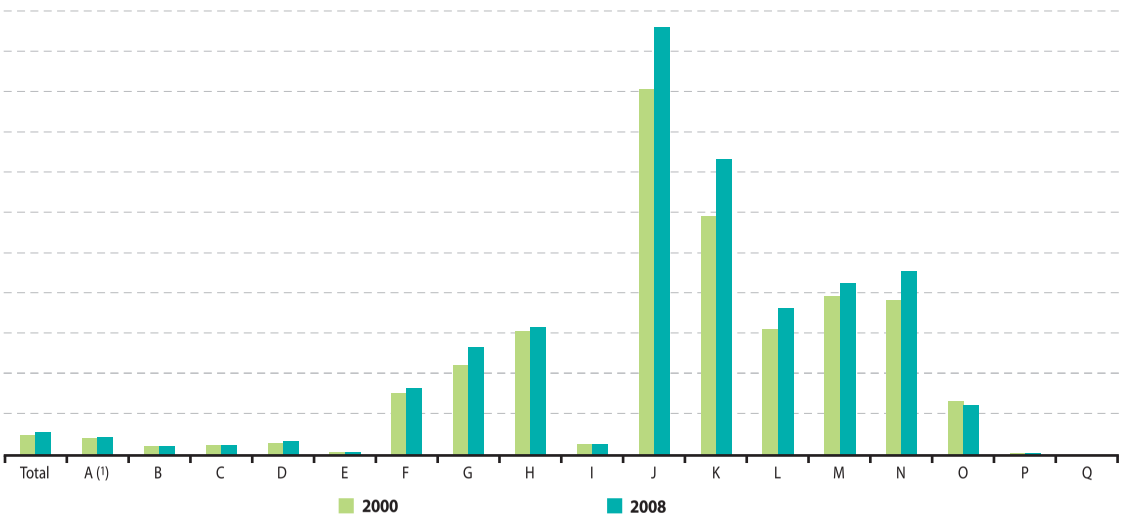
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total - all NACE activities	2 445	2 464	2 503	2 474	2 519	2 565	2 632	2 707	2 809
Agriculture, hunting and forestry (A)	2 071	2 040	2 111	2 029	2 288	2 151	2 206	2 237	2 222
Fishing (B)	1 096	1 025	1 028	984	1 012	1 030	1 092	1 172	1 142
Mining and quarrying (C)	1 266	1 196	1 256	1 219	1 196	1 109	1 150	1 191	1 265
Manufacturing (D)	1 462	1 503	1 524	1 506	1 547	1 581	1 646	1 697	1 723
Electricity, gas and water supply (E)	119	119	122	119	128	128	123	122	130
Construction (F)	7 768	7 797	7 657	7 494	7 623	7 605	7 889	8 073	8 355
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods (G)	11 245	11 159	11 371	11 763	11 865	12 325	12 870	13 518	13 480
Hotels and restaurants (H)	15 116	13 999	15 234	14 875	15 077	15 559	15 736	17 008	15 937
Transport, storage and communication (I)	1 356	1 387	1 424	1 401	1 392	1 369	1 385	1 412	1 417
Financial intermediation (J)	45 175	41 566	47 104	46 578	48 242	47 802	49 286	55 781	53 166
Real estate, renting and business activities (K)	29 771	29 434	33 810	34 416	34 482	35 354	36 454	38 080	36 826
Public administration and defence; compulsory social security (L)	15 709	15 224	15 486	15 294	15 281	15 799	16 283	18 429	18 244
Education (M)	19 762	18 344	19 978	19 739	19 256	19 229	20 217	22 547	21 433
Health and social work (N)	19 220	17 989	19 405	19 580	19 390	19 846	21 488	23 267	22 943
Other community, social and personal service activities (O)	6 685	6 491	6 344	6 195	6 046	6 180	6 262	6 452	6 219
Activities of households (P)	43	43	44	44	45	46	48	52	52
Extra-territorial organizations and bodies (Q)	0	0	0	0	0	0	0	0	0

Source: Eurostat (online data code: env_ac_ainacehh and nama_nace31_k)

In 2008, total carbon productivity of the EU economy amounted to 2 809 EUR for every tonne of CO_2 emissions. The economic activity which presented the highest carbon productivity in 2008 was financial intermediation (53 166 EUR/tonne CO_2), followed by real estate, renting and business activities (36 826). By contrast, the activity with the least economic value compared to its emissions was electricity, gas and water supply with only 130 EUR/tonne CO_2. Households, generally regarded rather as consumers than producers of economic value, also have very low carbon productivity.

From 2000 to 2008, all economic sectors increased their carbon productivity, except mining and quarrying, which remained stable, and other community, social and personal service activities, which presented a 7 % drop. The highest increases were recorded in real estate, renting and business activities (24 %) households (20 %) and wholesale and retail trade (20 %). The tertiary sectors (services, excl. transport) have the highest carbon productivity as they are also the least energy-intensive.

Figure 4.1.5: Carbon (CO_2) productivity of the EU economy, by NACE section (Gross value added (GVA) in EUR/ CO_2 emissions in tonnes)



(1) Letters refer to the explanation in table 4.1.5.

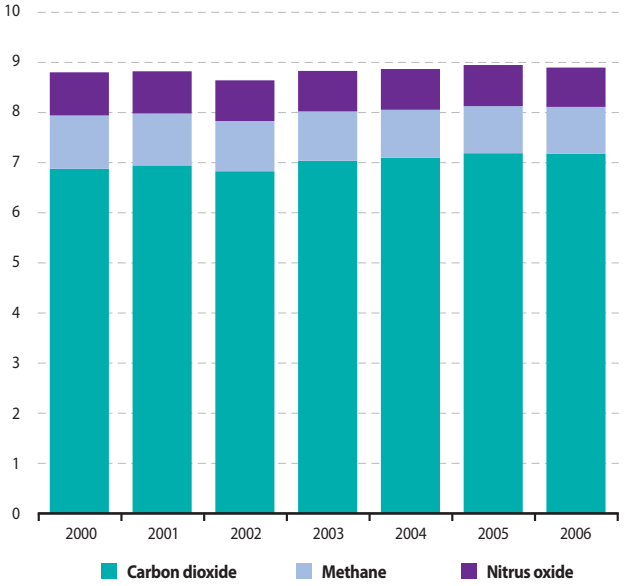
Source: Eurostat (online data code: env_ac_ainacehh and nama_nace31_k)

Table 4.1.6: Greenhouse gas emissions "from a consumption perspective" per capita, EU-27 (tonnes of CO_2 equivalent per capita)

	2000	2001	2002	2003	2004	2005	2006
Carbon dioxide	*6.90*	*6.97*	*6.85*	*7.06*	*7.12*	*7.20*	*7.19*
Methane	*1.07*	*1.04*	*1.01*	*0.99*	*0.96*	*0.96*	*0.95*
Nitrous oxide	*0.86*	*0.85*	*0.81*	*0.81*	*0.82*	*0.81*	*0.79*

Source: Eurostat (online data codes: env_ac_io and demo_pjan)

Figure 4.1.6: Greenhouse gas emissions "from a consumption perspective" per capita, EU-27 (tonnes of CO_2 equivalent per capita)



Source: Eurostat (online data codes: env_ac_io and demo_pjan)

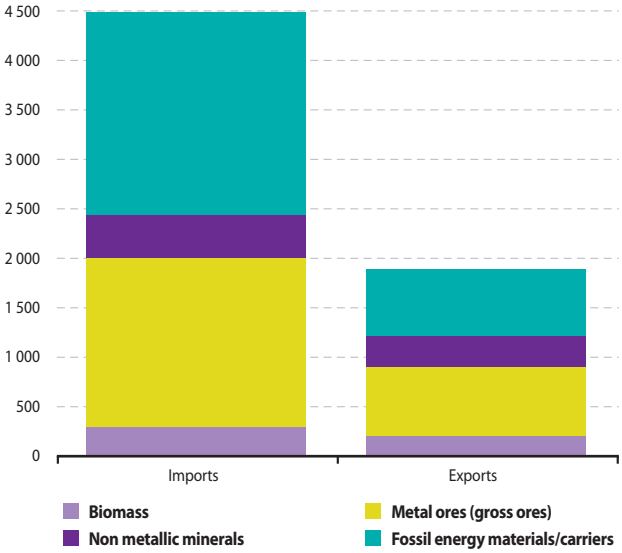
In 2006, EU-27 carbon dioxide emissions per capita "from a consumption perspective" amounted to 7.19 tonnes of CO_2 equivalent. Methane emissions were 0.95 tonnes and nitrous oxide emissions 0.79 tonnes. Between 2000 and 2006, EU-27 carbon dioxide emissions per capita grew by 4 %, while methane and nitrous oxide emissions dropped by 11 % and 9 % respectively.

Table 4.2.1: Raw material input and raw material consumption per capita, EU-27, 2007 (tonnes per capita)

	Raw material input	of which:		Raw material consumption	Exports
		Domestic extraction	Imports		
Total	22.81	13.88	8.93	19.13	3.68
Biomass	3.99	3.33	0.66	3.58	0.41
Metal ores (gross ores)	3.56	0.21	3.35	2.26	1.30
Non metallic minerals	9.41	8.51	0.90	8.78	0.63
Fossil energy materials/carriers	5.86	1.83	4.03	4.51	1.34

Source: Eurostat

Figure 4.2.1: Raw material imports and exports by material, EU-27, 2008 (million tonnes)



Source: Eurostat

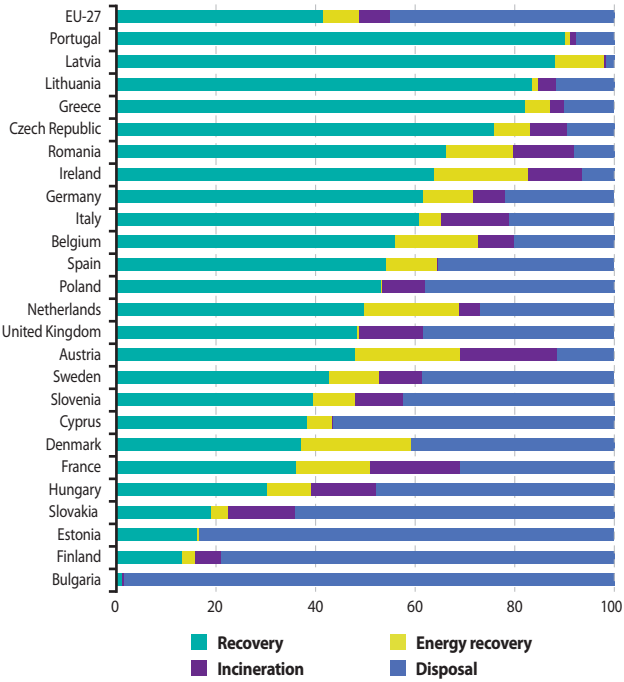
EU-27 raw material input per capita was 22.81 tonnes in 2007; 61 % of this amount was domestically extracted, while the remaining 39 % was imported. In 2007, raw material consumption (RMC) per capita amounted to 19.13 tonnes and exports per capita were 3.68 tonnes. On a breakdown by material, in 2007 non metallic minerals made up 46 % of total RMC per capita, followed by fossil energy materials/carriers (24 %) and biomass (19 %).

Table 4.3.1: Total waste generated (hazardous, non-hazardous) (thousand tonnes)

	Hazardous waste		Non-hazardous waste	
	2006	2008	2006	2008
EU-27	100 680	97 680	2 633 920	2 517 530
Belgium	4 039	5 919	55 313	42 703
Bulgaria	13 551	13 043	241 704	273 050
Czech Republic	1 307	1 510	23 439	23 909
Denmark	493	420	14 210	14 736
Germany	21 705	22 323	342 081	350 473
Estonia	6 619	7 538	12 314	12 046
Ireland	709	743	28 890	22 894
Greece	275	253	51 050	68 391
Spain	4 028	3 649	156 918	145 606
France	8 959	10 893	311 469	334 109
Italy	7 465	6 655	147 560	172 379
Cyprus	17	24	1 232	1 819
Latvia	65	67	1 793	1 428
Lithuania	127	116	7 538	6 719
Luxembourg	234	199	9 353	9 393
Hungary	1 300	671	20 987	19 409
Malta	51	55	2 810	1 444
Netherlands	4 808	4 724	89 501	94 867
Austria	962	1 330	53 325	54 979
Poland	2 381	1 469	167 850	138 872
Portugal	6 063	3 368	28 890	33 112
Romania	1 054	524	343 303	188 786
Slovenia	116	153	5 919	4 886
Slovakia	533	527	13 969	10 945
Finland	2 711	2 163	69 495	79 630
Sweden	2 654	2 063	95 317	84 105
United Kingdom	8 448	7 285	337 695	326 842
Iceland	:	:	:	:
Liechtenstein	:	0	:	0
Norway	1 218	1 336	8 695	9 091
Switzerland	:	:	:	:
Montenegro	:	:	:	:
Croatia	:	221	:	3 951
FYR of Macedonia	:	6	:	1 356
Turkey	11	1 024	46 081	63 746

Source: Eurostat (online data code: env_wasgen)

Figure 4.3.1: Hazardous waste treatment by type, 2008 (% of total hazardous waste)



Source: Eurostat (online data code: env_wastrt)

In 2008, 2 615 million tonnes of waste were generated in the EU-27. 96 % of this amount was non-hazardous waste, while the remaining 4 % was hazardous — harmful for health or the environment. At Member State level, the share of hazardous waste did not exceed 6 % of the total in most countries. The only exceptions were Estonia (38 %), Belgium (12 %) and Portugal (9 %). The very high share of hazardous waste in Estonia is due to energy production from shale oil. Between 2006 and 2008, the amount of hazardous waste in the EU-27 has dropped by 3 % and the amount of non-hazardous waste by 4 %.

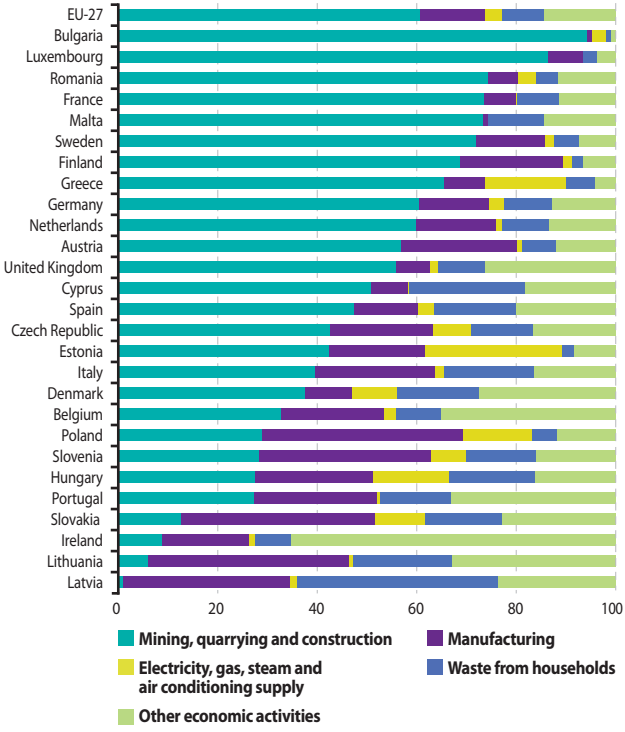
In 2008, the most common treatment types of hazardous waste for the EU-27 were disposal (45 % share of the total) and recovery (41 %) (more information on recovery is available in Annex C). The treatment options varied across Member States. In Denmark and Austria energy recovery was significantly higher than the EU average (7 %) with shares that reached 22 % and 21 % respectively; Austria incinerated a 20 % share of its hazardous waste.

Table 4.3.2: Waste generation by economic activity, 2008 (thousand tonnes)

	Total waste	Mining, quarrying and construction	Manufacturing	Electricity, gas, steam and air conditioning supply	Waste from households	Other
EU-27	2 615 220	1 586 230	342 710	90 880	220 950	373 980
BE	48 622	15 945	10 090	1 087	4 459	17 040
BG	286 093	269 387	3 447	7 655	2 907	2 697
CZ	25 420	10 818	5 293	1 920	3 176	4 214
DK	15 155	5 677	1 454	1 358	2 514	4 152
DE	372 796	225 495	52 322	11 708	35 405	47 866
EE	19 584	8 297	3 772	5 424	440	1 652
IE	23 637	2 061	4 026	292	1 677	15 114
EL	68 644	44 980	5 703	11 181	3 954	2 826
ES	149 254	70 643	19 369	4 872	24 431	29 939
FR	345 002	254 175	21 640	1 004	29 311	38 872
IT	179 034	70 995	43 086	3 090	32 472	29 392
CY	1 843	936	138	2	433	334
LV	1 495	15	501	20	606	353
LT	6 835	415	2 758	51	1 363	2 248
LU	9 592	8 292	673	1	276	350
HU	20 080	5 513	4 789	3 050	3 466	3 262
MT	1 499	1 099	17	0	169	214
NL	99 591	59 746	15 824	1 318	9 482	13 222
AT	56 309	32 068	13 077	569	3 819	6 776
PL	140 340	40 595	56 746	19 541	6 879	16 579
PT	36 480	9 976	9 001	255	5 157	12 091
RO	189 311	140 995	11 064	7 058	8 464	21 730
SI	5 038	1 431	1 735	354	714	805
SK	11 472	1 453	4 469	1 151	1 772	2 627
FI	81 793	56 252	16 948	1 531	1 674	5 387
SE	86 169	62 012	11 927	1 508	4 393	6 328
UK	334 127	186 962	22 837	4 885	31 539	87 904
IS	:	:	:	:	:	:
LI	0	0	0	0	0	0
NO	10 427	1 612	3 689	46	2 365	2 715
CH	:	:	:	:	:	0
ME	:	:	:	:	:	0
HR	4 172	163	1 727	136	0	2 145
MK	1 362	:	1 362	:	:	:
TR	64 770	:	10 741	25 525	28 454	:

Source: Eurostat (online data code: env_wasgen)

Figure 4.3.2: Waste generation by economic activity, 2008 (%)



Source: Eurostat (online data code: env_wasgen)

In 2008, the mining, quarrying and construction industries accounted for 61 % of the 2 615 million tonnes of waste generated in the EU-27. The manufacturing industry generated 13 % of the total, households 8 % and electricity, gas, steam and air conditioning supply 3 %. Other economic activities made up the remaining 14 %.

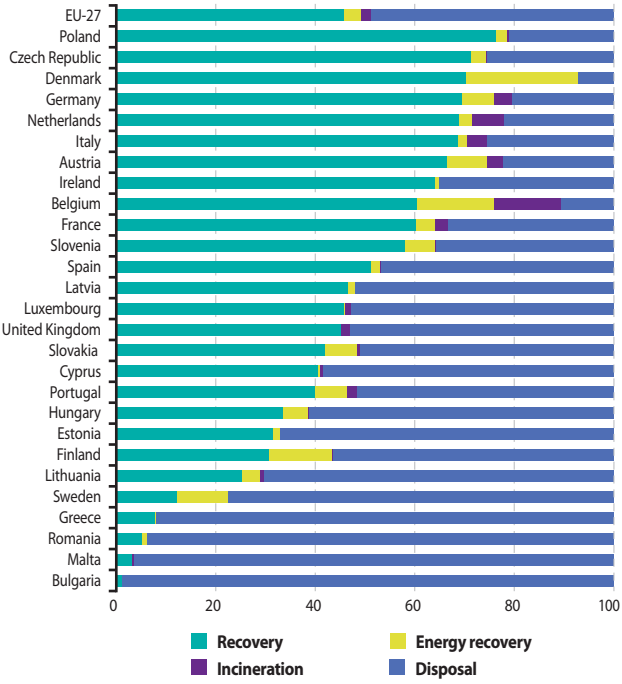
In 20 Member States the mining, quarrying and construction industries were responsible for the largest share of waste. However, the manufacturing industry accounted for the majority of generated waste in Lithuania (40 %), Poland (40 %), Slovakia (39 %), Slovenia (34 %) and Ireland (17 %). In Latvia waste from households made up 41 % of the total.

Table 4.3.3: Waste management, 2008 (thousand tonnes)

	Recovery	Energy recovery	Incineration	Disposal
EU-27	1 092 900	81 690	47 550	1 168 950
Belgium	17 345	4 453	3 883	3 050
Bulgaria	2 700	94	61	276 752
Czech Republic	13 442	556	69	4 798
Denmark	10 283	3 320	0	1 034
Germany	255 337	23 316	13 895	74 708
Estonia	5 456	257	0	11 675
Ireland	10 415	104	21	5 707
Greece	5 251	135	29	62 108
Spain	70 355	2 552	490	64 291
France	194 549	12 056	8 612	107 424
Italy	87 826	2 459	5 157	32 452
Cyprus	745	8	14	1 076
Latvia	646	18	0	721
Lithuania	1 361	194	52	3 810
Luxembourg	5 311	38	135	6 147
Hungary	5 307	767	65	9 684
Malta	43	0	6	1 371
Netherlands	67 619	2 456	6 369	21 606
Austria	32 150	3 904	1 594	10 706
Poland	107 179	3 122	670	29 486
Portugal	8 812	1 432	400	11 400
Romania	8 172	1 333	55	148 947
Slovenia	3 040	314	16	1 873
Slovakia	3 875	586	66	4 715
Finland	22 855	9 631	170	42 195
Sweden	9 818	8 411	87	63 036
United Kingdom	143 008	171	5 635	168 178
Iceland	:	:	:	:
Liechtenstein	:	:	:	:
Norway	4 542	2 091	514	2 390
Switzerland	:	:	:	:
Montenegro	:	:	:	:
Croatia	384	321	25	2 621
FYR of Macedonia	323	0	0	1 180
Turkey	14 632	143	81	45 380

Source: Eurostat (online data code: env_wastrt)

Figure 4.3.3: Waste management, 2008 (% of total waste)



Source: Eurostat (online data code: env_wastrt)

In 2008, the main waste management options in the EU-27 were disposal and recovery. About 49 % of waste was disposed and 46 % was recovered. Energy recovery and incineration were less common with 3 % and 2 % respectively.

Important differences can be observed among Member States. Bulgaria, Malta and Romania deposited 99 %, 97 % and 94 % of their waste in 2008. In contrast, Poland recovered 76 %, followed by the Czech Republic (71 %) and Denmark (70 %). Compared to the EU average, energy recovery was considerably higher in Denmark (23 %), Belgium (15 %), Finland (13 %) and Sweden (10 %). Belgium also incinerated an outstandingly higher proportion than the EU average (14 %) and the Netherlands followed (6 %).

Table 4.3.4: Municipal waste generated per capita (kg)

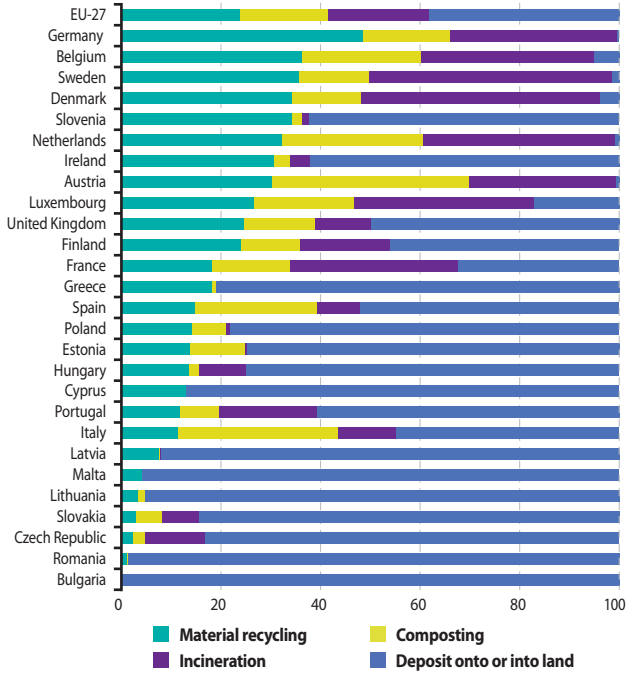
	1999	2000	2006	2007	2008	2009	Change 1999-2009 (%)
EU-27	510	523	522	523	520	512	0.4
Belgium	463	475	483	495	489	489	5.6
Bulgaria	504	517	461	433	474	470	- 6.7
Czech Republic	327	334	296	293	305	316	- 3.4
Denmark	626	664	740	790	830	*831*	32.7
Germany	*638*	*642*	564	582	589	*587*	- 8.0
Estonia	414	462	399	449	391	346	- 16.4
Ireland	577	599	794	780	729	662	14.7
Greece	392	407	442	447	452	457	16.6
Spain	613	658	594	*583*	*556*	*547*	- 10.8
France	507	514	536	543	*542*	*535*	5.5
Italy	498	509	552	548	543	*540*	8.4
Cyprus	666	677	739	748	767	*775*	16.4
Latvia	*256*	*271*	412	378	332	334	30.5
Lithuania	351	365	391	401	408	361	2.8
Luxembourg	646	654	683	695	697	*701*	8.5
Hungary (1)	483	446	468	457	454	430	- 11.0
Malta	476	546	622	650	670	648	36.1
Netherlands (2)	597	613	622	629	624	611	2.3
Austria	563	580	653	596	599	591	5.0
Poland	319	318	*321*	*322*	*320*	*316*	- 0.9
Portugal	441	471	463	468	515	517	17.2
Romania	314	355	*389*	*379*	*392*	*396*	26.1
Slovenia	550	*513*	431	439	457	448	- 18.5
Slovakia	261	254	301	309	328	322	23.4
Finland	484	502	494	506	521	480	- 0.8
Sweden	428	428	496	516	513	482	12.6
United Kingdom	569	577	586	570	544	526	- 7.6
Iceland	454	462	563	*558*	*551*	*556*	22.5
Liechtenstein	:	:	:	:	:	:	:
Norway	594	613	459	491	487	470	- 20.9
Switzerland	635	655	709	720	735	702	10.6
Montenegro	:	:	:	:	:	:	:
Croatia (3)	:	:	553	:	416	:	- 24.8
FYR of Macedonia	:	:	:	:	*349*	:	:
Turkey	*459*	*454*	412	*433*	400	*389*	- 15.3

(1) Break in series in 2000.
(2) Break in series in 2007.
(3) Change 2006-2008.

Source: Eurostat (online data code: env_wasmun)

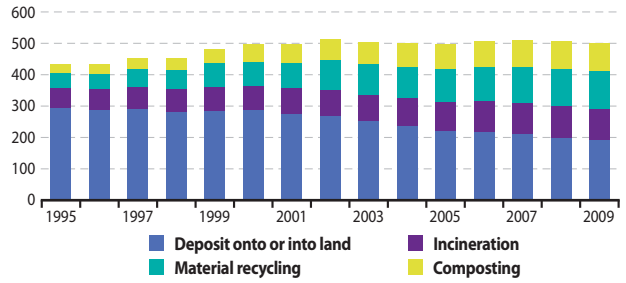
This indicator presents the amount of municipal waste generated. It consists of waste collected by or on behalf of municipal authorities and disposed of through the waste management system. The bulk of this waste stream is from households, though similar wastes from sources such as commerce, offices and public institutions are included. For areas not covered by a municipal waste scheme an estimation has been made of the amount of waste generated. The amount of municipal waste treatment is reported for the treatment operations incineration (with and without energy recovery), recycling, composting and landfilling. The quantity of waste generated is expressed in kg per person per year (per capita).

Figure 4.3.4a: Shares of municipal waste treatment, 2009 (% of total treated municipal waste)



Source: Eurostat (online data code: env_wasmun)

Figure 4.3.4b: Municipal waste treatment per capita, EU-27 (kg)



Source: Eurostat (online data code: env_wasmun)

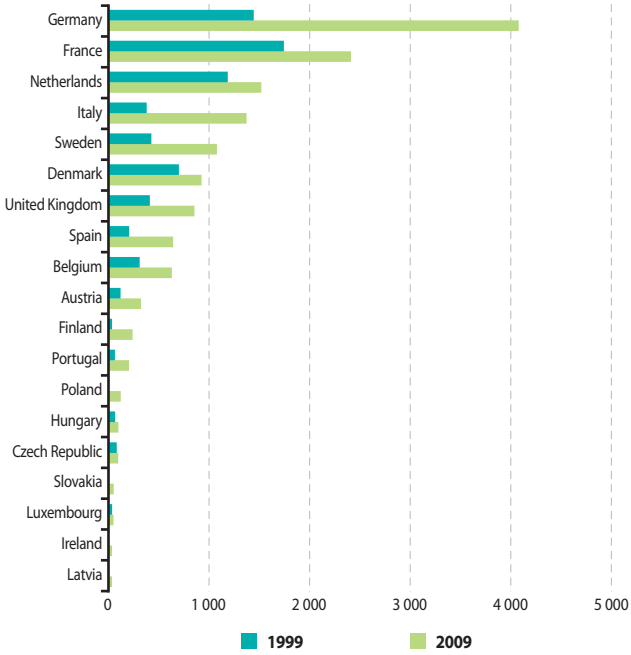
Between 1995 and 2009, landfilling remained the most common municipal waste treatment option. However, the share of municipal waste going to landfill dropped from 68 % of the total in 1995 to 38 % in 2009. Alternative treatment options became more important. In 2009, 24 % of total municipal waste was recycled and 18 % was composted.

Table 4.3.5: Energy production from municipal waste incineration (thousand tonnes oil equivalent)

	1999	2005	2006	2007	2008	2009
EU-27	7 121	10 360	10 998	14 491	14 971	14 663
Belgium	304	490	589	368	562	626
Bulgaria	-	-	-	-	-	-
Czech Republic	75	97	95	96	100	89
Denmark	696	903	918	949	975	922
Germany	1 444	1 662	1 838	4 933	4 923	4 091
Estonia	-	-	-	-	-	-
Ireland	-	-	-	-	-	18
Greece	-	-	-	-	-	-
Spain	199	379	504	618	656	638
France	1 745	2 278	2 199	2 272	2 339	2 415
Italy	374	1 111	1 281	1 400	1 278	1 372
Cyprus	-	-	-	-	-	-
Latvia	-	-	-	-	-	1
Lithuania	-	-	-	-	-	-
Luxembourg	29	29	31	32	32	43
Hungary	59	66	94	108	92	92
Malta	-	-	-	-	-	-
Netherlands	1 184	1 355	1 324	1 386	1 489	1 519
Austria	113	212	273	261	269	317
Poland	-	18	39	43	19	115
Portugal	57	207	201	188	183	198
Romania	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-
Slovakia	-	35	42	38	46	45
Finland	15	157	134	172	210	233
Sweden	421	736	765	923	1 059	1 076
United Kingdom	406	625	670	703	740	851
Iceland	-	-	-	-	-	-
Liechtenstein	:	:	:	:	:	:
Norway	136	191	195	203	219	229
Switzerland	728	903	990	1 041	1 017	1 004
Montenegro	:	:	:	:	:	:
Croatia	-	-	-	-	-	-
FYR of Macedonia	-	-	-	-	-	-
Turkey	-	-	-	-	-	-

Source: Eurostat (online data code: nrg_1071a)

Figure 4.3.5: Energy production from municipal waste incineration (thousand tonnes oil equivalent)



Source: Eurostat (online data code: nrg_1071a)

Energy production from municipal waste incineration in the EU-27 was 14 663 ktoe in 2009. Over the last ten years, incineration of municipal solid waste for energy production more than doubled. However, between 2008 and 2009 it declined by 2 %. In 2009, Germany accounted for 28 % of total EU-27 production, followed by France (16 %), the Netherlands (10 %) and Italy (9 %).

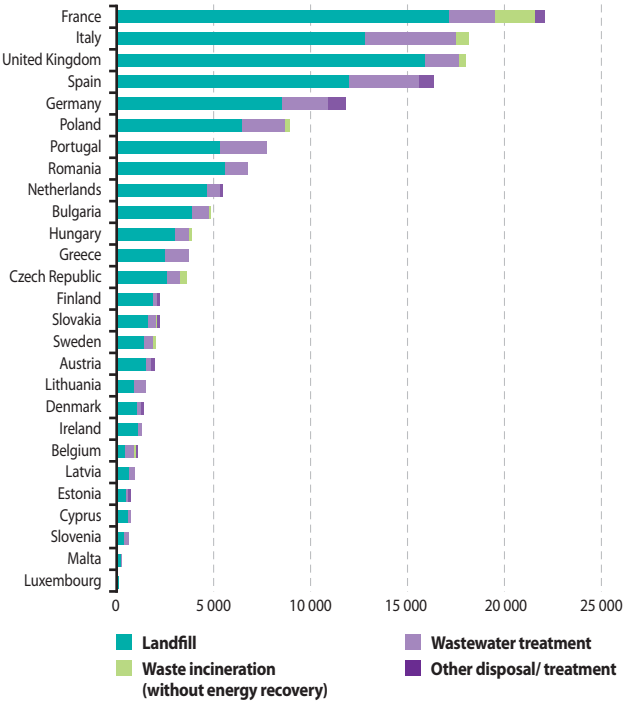
Between 1999 and 2009, all Member States recorded significant increases in their energy production from municipal waste incineration. Finland showed the highest increase (about sixteen-fold). However, its share of the EU total remained low (1.6 %). Among the main producers, Italy presented an almost fourfold and Germany an almost threefold increase.

Table 4.3.6: Greenhouse gas emissions from waste treatment, 2009 (thousand tonnes of CO_2 equivalent)

	Total	Landfill	Wastewater treatment	Waste incineration (without energy recovery)	Other disposal/ treatment
EU-27	146 531	111 715	27 900	3 978	2 938
Belgium	978	424	417	77	61
Bulgaria	4 755	3 870	851	34	-
Czech Republic	3 555	2 529	712	314	-
Denmark	1 344	1 039	156	0	149
Germany	11 760	8 463	2 385	-	912
Estonia	663	468	77	0	117
Ireland	1 243	1 082	161	-	-
Greece	3 690	2 464	1 222	4	-
Spain	16 267	11 950	3 570	12	734
France	21 982	17 070	2 350	2 090	472
Italy	18 094	12 741	4 687	661	4
Cyprus	617	572	46	-	-
Latvia	863	593	267	0	3
Lithuania	1 382	830	551	1	-
Luxembourg	67	38	14	-	15
Hungary	3 735	2 990	674	71	-
Malta	219	191	26	1	-
Netherlands	5 339	4 637	645	-	57
Austria	1 926	1 458	288	12	167
Poland	8 866	6 425	2 201	240	-
Portugal	7 692	5 294	2 397	2	-
Romania	6 744	5 555	1 181	8	-
Slovenia	584	361	218	4	-
Slovakia	2 137	1 584	425	8	121
Finland	2 189	1 849	214	-	125
Sweden	1 937	1 367	456	114	-
United Kingdom	17 903	15 870	1 709	325	-
Iceland	212	185	24	1	2
Liechtenstein	2	0	1	0	1
Norway	1 235	1 065	169	0	-
Switzerland	614	212	240	44	119
Montenegro	:	:	:	:	:
Croatia	:	:	:	:	:
FYR of Macedonia	:	:	:	:	:
Turkey	33 934	30 170	3 764	-	-

Source: European Environment Agency

Figure 4.3.6: Greenhouse gas emissions from waste treatment, by treatment type, 2009 (thousand tonnes of CO_2 equivalent)



Source: European Environment Agency

GHG emissions from waste treatment in the EU-27 amounted to 146 531 thousand tonnes of CO_2 equivalent in 2009. Landfilling accounted for 76 % of this amount, while wastewater treatment contributed 19 %, waste incineration (without energy recovery) 3 % and other disposal 2 %.

France was the largest contributor (15 %) to the total EU-27's emissions from waste in 2009. Italy (12 %), the United Kingdom (12 %), Spain (11 %) and Germany (8 %) also made significant contributions. The five largest Member States made up 59 % of total emissions in 2009.

Table 4.3.7: Recycling and recovery rate for packaging waste, 2008 (%)

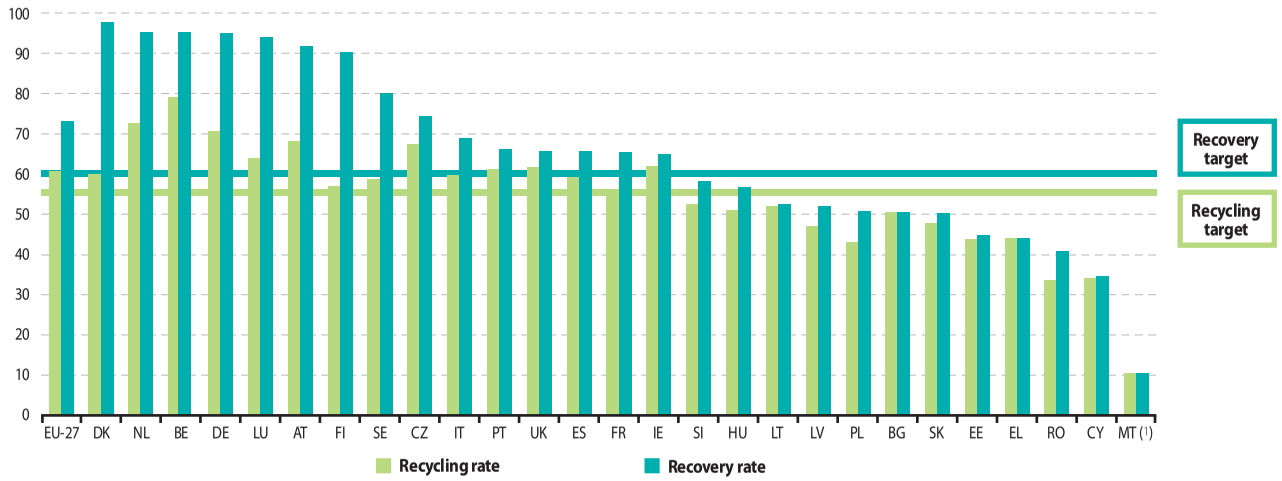
	Recycling rate	Recovery rate
EU-27	*61*	*73*
Belgium	79	95
Bulgaria	50	50
Czech Republic	67	74
Denmark	60	98
Germany	71	95
Estonia	44	45
Ireland	*62*	*65*
Greece	44	44
Spain	59	65
France	55	65
Italy	60	69
Cyprus	34	34
Latvia	47	52
Lithuania	52	52
Luxembourg	64	94
Hungary	51	57
Malta (1)	10	10
Netherlands	72	95
Austria	68	92
Poland	43	51
Portugal	61	66
Romania	34	41
Slovenia	52	58
Slovakia	48	50
Finland	57	90
Sweden	59	80
United Kingdom	62	66
Iceland	:	:
Liechtenstein	85	100
Norway	55	83
Switzerland	:	:
Montenegro	:	:
Croatia	:	:
FYR of Macedonia	:	:
Turkey	:	:

(1) No data for 2008; 2007 data instead.

Source: Eurostat, Environmental Data Centre on Waste (online data code: env_waspac)

According to the Directive on packaging and packaging waste, in 2008 Member States had a minimum recovery target of 60 % and a recycling target of 55 %. In 2008, the EU-27 exceeded their targets, as they recycled 61 % of all packaging in the market and they recovered 73 %. However, twelve Member States did not meet their targets.

Figure 4.3.7: Recycling and recovery rate for packaging waste, 2008 (%)



(1) No data for 2008; 2007 data instead.

Source: Eurostat, Environmental Data Centre on Waste (online data code: env_waspac)

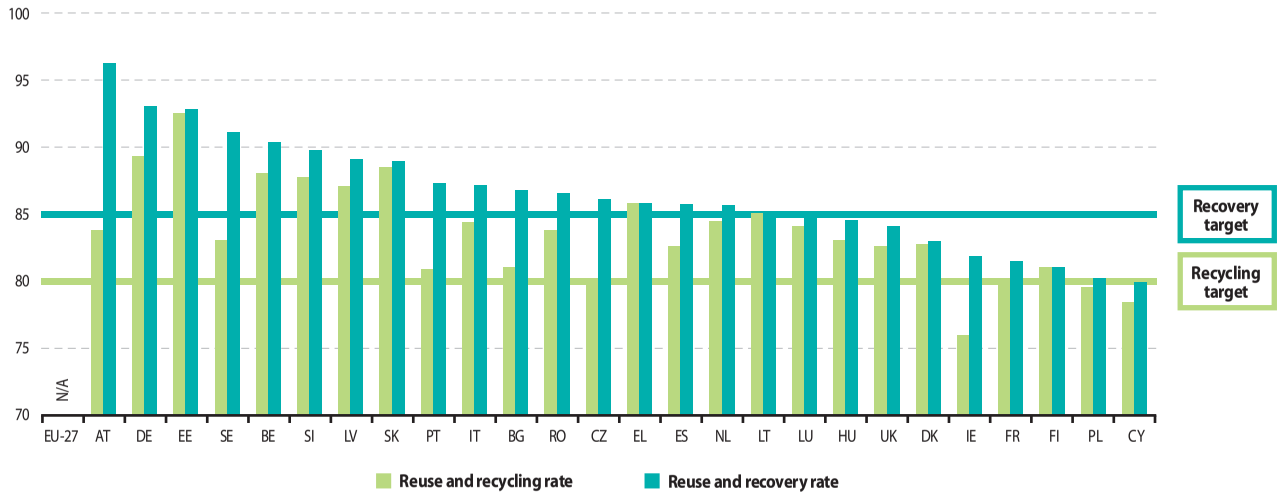
Table 4.3.8: Recycling and recovery rate for end-of-life vehicles, 2008 (%)

	Reuse and recycling rate	Reuse and recovery rate
EU-27	:	:
Belgium	88.0	90.2
Bulgaria	81.0	86.7
Czech Republic	80.1	86.0
Denmark	82.7	82.9
Germany	89.2	92.9
Estonia	92.4	92.7
Ireland	75.9	81.8
Greece	85.7	85.7
Spain	82.5	85.7
France	79.9	81.4
Italy	84.3	87.1
Cyprus	78.3	79.8
Latvia	87.0	89.0
Lithuania	85.0	85.0
Luxembourg	84.0	85.0
Hungary	83.0	84.4
Malta	:	:
Netherlands	84.4	85.6
Austria	83.7	96.1
Poland	79.5	80.1
Portugal	80.8	87.2
Romania	83.7	86.5
Slovenia	87.6	89.7
Slovakia	88.4	88.8
Finland	81.0	81.0
Sweden	83.0	91.0
United Kingdom	82.5	84.0
Iceland	:	:
Liechtenstein	96.0	*100.0*
Norway	82.2	82.7
Switzerland	:	:
Montenegro	:	:
Croatia	:	:
FYR of Macedonia	:	:
Turkey	:	:

Source: Eurostat, Environmental Data Centre on Waste (online data code: env_waselvt)

The EU has set targets for the reuse, recycling and recovery of end-of-life vehicles. Member States should have ensured a minimum rate of 85 % for reuse and recovery and 80 % for reuse and recycling by the 1st January 2006. The Member States will also have to reach targets of 85 % for reuse and recycling and 95 % for reuse and recovery by the 1st January 2015. In 2008, Austria with a 96 % reuse and recovery rate already met the 2015 target, while eight countries met their 2015 target of 85 % for reuse and recycling.

Figure 4.3.8: Recycling and recovery rate for end-of-life vehicles, 2008 (%)



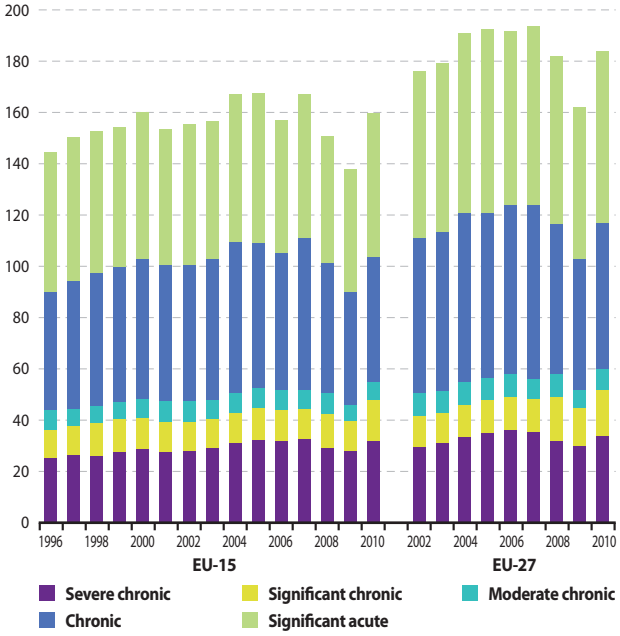
Source: Eurostat, Environmental Data Centre on Waste (online data code: env_waselvt)

Table 4.3.9: Production of environmentally harmful chemicals (million tonnes)

Impact on the environment		EU-15															EU-27								
		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2002	2003	2004	2005	2006	2007	2008	2009	2010
Harmful	Severe chronic effects	26	27	26	28	29	28	28	29	31	33	32	33	29	28	32	30	31	34	35	36	36	32	30	34
	Significant chronic effects	11	11	13	13	12	11	12	11	12	12	12	12	13	12	16	12	12	12	13	13	13	17	15	18
	Moderate chronic effects	8	7	7	7	8	8	8	8	8	8	8	7	8	6	7	9	9	9	9	9	8	9	7	8
	Chronic effects	46	50	52	53	54	53	53	55	59	57	53	59	51	44	49	60	62	66	64	66	68	59	51	57
	Significant acute effects	54	56	55	54	57	53	55	53	58	58	52	56	50	48	56	65	66	70	72	68	70	65	59	67
	Environmentally harmful chemicals, total production	145	151	153	154	160	153	156	157	167	168	157	167	151	138	160	176	179	191	193	192	194	182	162	184
	Chemicals with no env. impact, total	112	121	120	117	138	131	135	134	137	137	139	145	135	112	133	154	153	158	158	163	168	156	130	155
	Chemicals, total production	257	272	273	272	298	284	291	290	305	305	296	313	286	250	293	330	333	349	351	355	362	338	292	339

Source: Eurostat, derived from production statistics

Figure 4.3.9: Production of environmentally harmful chemicals (million tonnes)



Source: Eurostat, derived from production statistics

The aggregated production volumes of environmentally harmful chemicals are divided into five impact classes. The most harmful ones are the "severe chronic", followed by "significant chronic", "moderate chronic", "chronic" and "significant acute" chemicals. The indicator monitors progress in shifting production from the most environmentally harmful to less harmful chemicals.

The EU-27 production of environmentally harmful chemicals (all five environmental impact classes) grew from 2002 to 2007 by 10.1 % overall to a peak of 194 million tonnes. Production fell by 31 million tonnes (- 16.5 %) over the next two years to a level of 162 million tonnes, which was 8.1 % lower than in 2002. In 2010 the production of environmentally harmful chemicals increased again by 22 million tonnes (+ 13.6 %) to 184 million tonnes. The EU-15 production of environmentally harmful chemicals increased from 1996 to 2005 by 15.9 % overall to record a peak in production of 168 million tonnes. However, by 2010 the EU-15's output stood at 160 million tonnes and was 10.3 % higher than in 1996. The share of environmentally harmful chemicals in total EU-27 chemical output has not changed significantly, from 53.3 % in 2002 to 54.3 % in 2010. The 12 Member States that joined the EU in 2004 and 2007 produced 24 million tonnes of environmentally harmful chemicals, equivalent to 13 % of the EU-27 production volume of these substances.

Table 4.4.1: Carbon stock in forest ecosystems (million metric tonnes)

	Forest components								
	Biomass			Deadwood			Soil and litter		
	1990	2000	2010	1990	2000	2010	1990	2000	2010
EU-27	*7 843*	*8 822*	*9 901*	*644*	*581*	*648*	*17 820*	*18 406*	*18 604*
BE	50	61	64	1	1	2	62	61	62
BG	127	161	202	*31*	*31*	*31*	323	327	380
CZ	287	322	356	17	17	17	182	184	187
DK	22	26	*39*	0	0	*1*	*63*	*63*	*79*
DE	981	1 193	1 405	*88*	27	35	*1 188*	*1 194*	*1 198*
EE	138	168	162	7	8	12	*236*	*238*	*238*
IE	16	18	23	1	1	1	284	283	281
EL	67	73	79	*31*	*30*	*31*	*419*	*421*	*422*
ES	289	396	422	*144*	*141*	*146*	*1 949*	*1 960*	*1 965*
FR	965	1 049	1 208	*127*	*124*	*128*	1 148	1 212	1 258
IT	375	467	558	12	15	17	703	775	847
CY	3	3	3	*1*	*1*	*1*	*19*	*19*	*19*
LV	193	234	272	5	5	17	297	304	318
LT	134	146	156	10	10	11	187	194	208
LU	7	9	9	*1*	*1*	*1*	9	9	9
HU	95	107	117	*16*	*16*	*16*	*219*	*220*	*221*
MT	0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NL	21	24	28	1	1	2	46	48	49
AT	339	375	393	3	4	5	*414*	*416*	*417*
PL	691	807	1 073	8	5	26	*1 000*	*1 005*	*1 008*
PT	*146*	*150*	*102*	*27*	*27*	*28*	*371*	*373*	*374*
RO	600	599	618	*52*	*51*	*53*	723	722	745
SI	116	141	178	4	4	6	124	128	130
SK	163	190	211	13	15	15	287	290	293
FI	721	802	832	15	15	16	3 844	4 200	4 111
SE	1 178	1 183	1 255	27	28	29	3 045	3 034	3 030
UK	120	119	136	2	2	2	681	727	755
IS	0	0	0	*0*	*0*	*0*	1	2	3
LI	0	1	1	*0*	*0*	*0*	*1*	*1*	*1*
NO	280	323	399	19	19	19	*1 099*	*1 105*	*1 108*
CH	126	136	143	3	6	9	114	117	122
ME	:	:	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:	:	:
MK	:	:	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:	:	:

Source: State of Europe's Forests (MCPFE, 2011)

Figure 4.4.1: Carbon stock in forest ecosystems (million metric tonnes)

Source: State of Europe's Forests (MCPFE, 2011)

Forests influence the climate by absorbing carbon into their wood, their leaves and the soil, where it remains stored until it is released into the atmosphere either by decomposition or by combustion. In 2010, the total carbon stock in deadwood amounted to 648 million tonnes. The total carbon stock in the soil and litter was estimated at 18 604 million tonnes, while only half that amount was estimated for the living forest biomass (9 901 million tonnes). Taking together all of the carbon in living biomass, deadwood, soil and litter, the estimated total carbon stock in the EU's forests in 2010 was 29 153 million tonnes, of which 34 % was in the living biomass, 2 % in deadwood and 64 % in the soil and litter. Carbon stock has increased by 11 % in twenty years (1990–2010). Biomass stock presented the highest increment over this period (26 %), while moderate increases were recorded for deadwood (1 %) and soil and litter (4 %). At Member State level, in 2010 the largest total carbon stocks were found in Finland and Sweden.

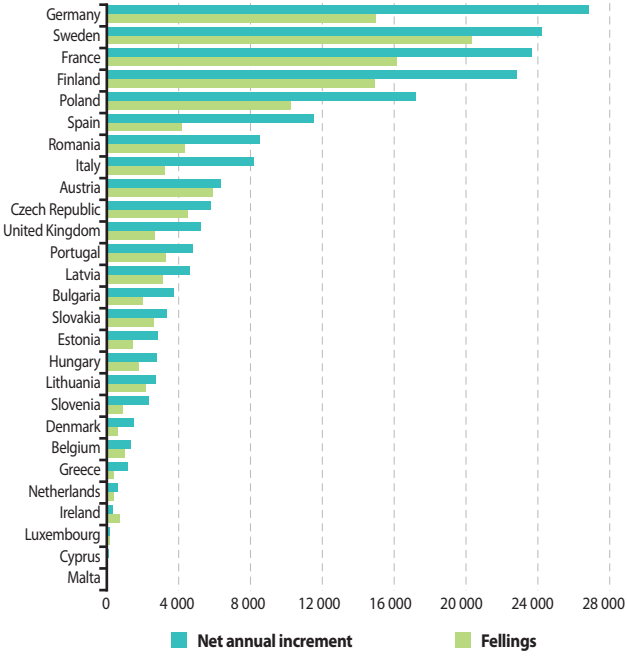
Table 4.4.2: Increment and fellings in forests available for wood supply

	Net annual increment, 2010				Fellings, 2010				Fellings as percent of net annual increment (%)		
	1 000 m^3 o.b.	1 000 t C	2010/2000 (%)	2010/1990 (%)	1 000 m^3 o.b.	1 000 t C	2010/2000 (%)	2010/1990 (%)	1990	2000	2010
EU-27	*766 029*	*191 507*	*102*	*110*	*484 079*	*121 020*	*104*	*122*	57	62	63
BE	5 289	*1 322*	100	102	3 852	*963*	111	89	84	65	73
BG	14 677	*3 669*	108	131	7 781	*1 945*	207	199	35	28	53
CZ	23 086	*5 771*	107	123	17 940	*4 485*	113	121	78	74	78
DK	5 796	*1 449*	120	127	2 371	*593*	113	122	43	43	41
DE	107 000	*26 750*	88	88	59 610	*14 903*	100	133	37	49	56
EE	11 201	*2 800*	95	106	5 714	*1 429*	46	152	36	105	51
IE	*1 289*	*322*	*123*	*139*	*2 826*	*707*	102	169	*180*	*264*	*219*
EL	*4 511*	*1 128*	*108*	*118*	*1 463*	*366*	*66*	*49*	*78*	*53*	*32*
ES	45 842	*11 460*	105	152	16 577	*4 144*	98	93	59	39	36
FR	94 367	*23 592*	97	112	64 316	*16 079*	95	96	80	69	68
IT	32 543	*8 136*	108	117	12 755	*3 189*	89	96	48	48	39
CY	38	*10*	90	82	10	*2*	40	19	111	58	25
LV	18 333	*4 583*	104	111	12 421	*3 105*	80	234	32	88	68
LT	*10 750*	*2 688*	*120*	*173*	8 600	*2 150*	136	228	*61*	*71*	*80*
LU	*650*	*163*	*100*	*100*	*249*	*62*	*81*	*35*	*109*	*47*	*38*
HU	11 099	*2 775*	119	105	6 899	*1 725*	99	93	70	75	62
MT	0	*0*	100	100	0	*0*	100	100	100	100	100
NL	2 250	*563*	101	102	1 552	*388*	118	90	78	59	69
AT	25 136	*6 284*	87	106	23 511	*5 878*	134	131	75	60	94
PL	*68 519*	*17 130*	*102*	*103*	40 693	*10 173*	130	164	*37*	*47*	*59*
PT	*19 087*	*4 772*	*100*	*103*	*13 042*	*3 260*	*103*	*94*	*75*	*66*	*68*
RO	*33 984*	*8 496*	*98*	*106*	17 232	*4 308*	122	100	*54*	*41*	*51*
SI	9 165	*2 291*	125	152	3 401	*850*	134	162	35	35	37
SK	13 193	*3 298*	112	130	10 418	*2 605*	156	191	54	57	79
FI	91 038	*22 760*	113	124	59 447	*14 862*	90	118	69	82	65
SE	96 486	*24 122*	111	105	80 900	*20 225*	114	134	66	82	84
UK	20 700	*5 175*	100	115	10 500	*2 625*	108	132	44	47	51
IS	*7*	*2*	*160*	*215*	3	*1*	162	180	*50*	*41*	*42*
LI	*24*	*6*	*97*	*97*	29	*7*	140	156	*74*	*82*	*118*
NO	21 878	*5 470*	96	109	11 004	*2 751*	99	82	67	49	50
CH	6 232	*1 558*	81	69	6 176	*1 544*	86	107	64	94	99
ME	:	:	:	:	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:	:	:	:	:
MK	:	:	:	:	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:	:	:	:	:

N.B: o.b.: over bark, i.e. including the bark.

Source: State of Europe's Forests (MCPFE, 2011)

Figure 4.4.2: Increment and fellings in forests available for wood supply, 2010 (thousand tonnes of carbon)



Source: State of Europe's Forests (MCPFE, 2011)

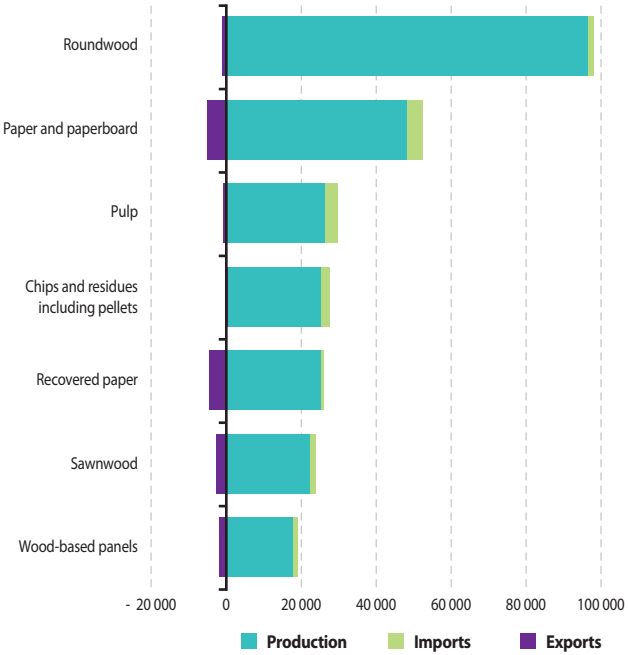
In 2010, the net annual increment in the EU's forests amounted to 766 029 thousand m^3 over bark, while fellings amounted to 484 079 thousand m^3 over bark. The percentage of net annual increment in forests available for wood supply that was harvested in 2010 was 63 %, an increase of 5 percentage points since 1990. This implies that although wood harvesting has increased, it is still at a modest level; a slightly higher demand for wood could be absorbed without having a negative effect on the potential of the EU's forests to supply wood.

Table 4.4.3: Supply balance for wood products, EU-27 (thousand tonnes of carbon)

		2000			2010		
		Production	Exports	Imports	Production	Exports	Imports
1	Roundwood	91 821	1 652	8 152	96 418	868	1 885
1.1	Fuelwood, including wood for charcoal	15 510	44	256	19 009	50	301
1.2	Industrial roundwood (wood in the rough)	76 311	1 609	7 897	77 409	817	1 584
2	Wood charcoal	183	13	174	1 442	27	394
3	Wood chips and particles	9 612	201	588	13 502	82	1 070
4	Wood residues including pellets	8 180	66	385	12 181	40	1 214
5	Sawnwood	22 514	2 743	4 686	22 597	2 547	1 667
6	Wood-based panels	15 641	1 699	2 168	17 621	1 953	1 314
6.1	Veneer sheet	452	46	159	1 145	41	143
6.2	Plywood	1 206	184	949	968	110	869
6.3	Particle board, OSB and other	10 681	725	488	11 230	1 101	137
6.4	Fiber board	3 301	772	525	4 279	701	165
7	Wood pulp	18 956	780	4 717	20 476	635	3 562
7.1	Mechanical	5 693	42	114	5 685	50	125
7.2	Semi-chemical	679	42	178	569	72	98
7.3	Chemical	12 424	655	4 271	13 935	485	3 222
7.4	Dissolving grades	160	47	151	287	29	118
8	Other pulp	3 273	9	46	6 059	21	49
8.1	Pulp from fibres other than wood	114	7	46	667	7	44
8.2	Recovered fibre pulp	3 158	26	27	5 393	14	6
9	Recovered paper	20 277	1 938	486	25 648	4 637	547
10	Paper and paperboard	44 849	7 274	4 672	48 709	5 315	4 421
10.1	Graphic paper	22 078	4 024	2 361	21 529	2 417	2 279
10.2	Sanitary and household paper	2 702	88	85	3 031	326	105
10.3	Packaging materials	17 827	2 714	2 082	22 597	2 488	1 999
10.4	Other paper and paperboard NES	2 241	341	143	1 552	84	38

Source: Eurostat (online data codes: for_basic, for_swpan and for_pp)

Figure 4.4.3: Supply balance for wood products, EU-27, 2010 (thousand tonnes of carbon)



Source: Eurostat (online data codes: for_basic, for_swpan and for_pp)

A supply balance for wood products covers production plus imports minus exports. It is a measure of the self-sufficiency of countries for wood products. The supply balance of the EU includes the data of all the Member States, including those that joined the EU after 2004, in both years shown. As the EU is a single market, only the imports and exports to countries outside the EU are covered. In order to make products in different units of measurement comparable, the data were converted to tonnes of carbon using recommended conversion factors.

Most of the carbon in wood products remains within the EU and only relatively small amounts are exported as paper and paperboard products, recovered paper, sawnwood, wood-based panels, roundwood and pulp. In 2010, exports to countries outside the EU contained approximately 16 million tonnes of carbon, while imports from countries outside the EU and production in the EU contained 279 million tonnes of carbon. The amount of carbon that leaves the EU represents a share of about 6 % of the amount of carbon that remains in the EU.

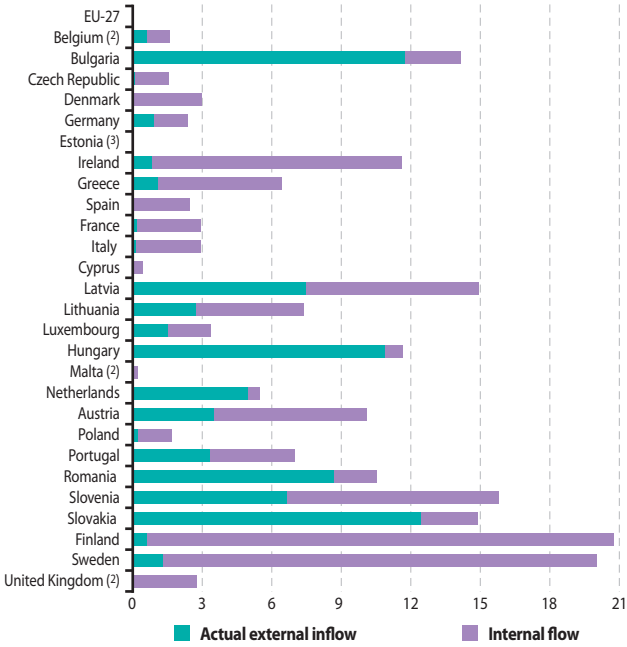
Table 4.5.1: Fresh water resources: LTAA (1) — split into external inflow and internal flow

	Water resources (million m³/year)			Water resources per capita (m³/year)		
	Internal flow	Actual external inflow	Total fresh water sources	Internal flow	Actual external inflow	Total fresh water sources
EU-27	:	:	:	:	:	:
Belgium (2)	12 327	7 606	19 933	*983*	*590*	*1 573*
Bulgaria	18 085	89 141	107 226	2 378	11 719	14 097
Czech Republic	15 237	740	15 977	1 456	71	1 526
Denmark	16 340	*0*	16 340	2 965	*0*	2 965
Germany	117 000	75 000	188 000	1 427	915	2 293
Estonia	:	:	12 347	:	:	9 211
Ireland	47 500	*3 473*	*50 973*	10 674	*780*	*11 455*
Greece	60 000	12 000	72 000	5 328	1 066	6 394
Spain	111 133	*0*	111 133	2 425	*0*	2 425
France	175 293	11 000	186 293	2 723	171	2 894
Italy	167 000	8 000	175 000	2 781	133	2 914
Cyprus	327	*0*	327	410	*0*	410
Latvia	16 901	16 830	33 731	7 474	7 443	14 917
Lithuania	15 510	8 990	24 500	4 630	2 684	7 314
Luxembourg	905	739	1 644	1 834	1 497	3 332
Hungary	7 533	108 897	116 430	751	10 856	11 607
Malta (3)	*71*	*0*	*71*	*177*	*0*	*177*
Netherlands	8 480	81 200	89 680	514	4 925	5 440
Austria	55 000	29 000	84 000	6 583	3 471	10 054
Poland	54 800	8 300	63 100	1 437	218	1 655
Portugal	38 593	35 000	73 593	3 632	3 293	6 925
Romania	39 415	*186 320*	*225 735*	1 833	*8 667*	*10 500*
Slovenia	18 596	13 496	32 092	9 150	6 640	15 791
Slovakia	13 074	67 252	80 326	2 416	12 426	14 842
Finland	107 000	3 200	110 000	20 089	601	20 652
Sweden	172 710	11 830	183 360	18 659	1 278	19 809
United Kingdom (2)	172 502	2 841	175 342	*2 685*	*41*	*2 726*
Iceland	170 000	0	170 000	532 301	0	532 301
Liechtenstein	:	:	:	:	:	:
Norway	377 290	12 152	389 442	78 614	2 532	81 146
Switzerland	40 714	12 798	53 512	5 286	1 662	6 948
Montenegro	:	:	:	:	:	:
Croatia	23 007	:	:	5 188	:	:
FYR of Macedonia	:	1 014	:	:	495	:
Turkey	227 400	6 900	234 300	3 180	96	3 276

(1) LTAA: Long term annual average (>20 years).
(2) Data for the last 5 available years have been used for per capita values.
(3) Data for the last 5 available years have been used.

Source: Eurostat (online data code: env_watq1a)

Figure 4.5.1: Fresh water resources: LTAA (1) per capita — split into external inflow and internal flow (thousand m³/year)



(1) LTAA: Long term annual average (>=20 years).
(2) Data for the last 5 available years have been used.
(3) No data available for external inflow and internal flow. Total water resources are 9.211 mio m³.

Source: Eurostat (online data code: env_watq1a)

Water statistics data are collected through the Joint OECD/Eurostat Questionnaire on Inland Waters. Due to absence of legal obligation data availability is limited.

Renewable fresh water resources are the sum of internal flow and actual external inflow. Internal flow is the volume of precipitation minus the evaporation from surfaces and the evapotranspiration by plants. Actual external inflow refers to the inflow of water from neighbouring territories. In order to account for the annual fluctuations in rainfall and evaporation/transpiration, water resources are calculated as long term annual averages (LTAA) for 20 years or more. In absolute values, Member States' water resources show considerable variations according to the countries' climate and hydrology (position in river basins). Per capita values also varied significantly among countries, based on population density, hydrology and geography.

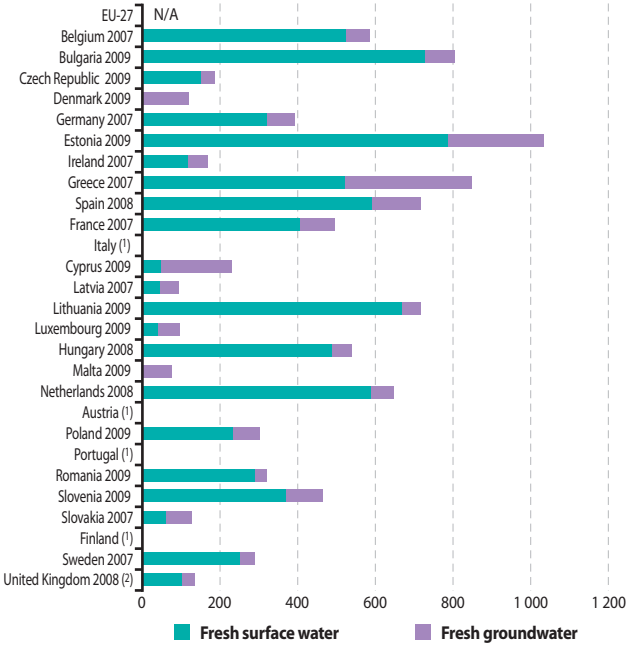
Table 4.5.2: Total abstraction of fresh water per capita, by source, last year available (m^3)

	Fresh surface water	Fresh groundwater	Total fresh water abstraction
EU-27	:	:	:
Belgium 2007	526	61	587
Bulgaria 2009	728	77	805
Czech Republic 2009	150	36	186
Denmark 2009	2	118	120
Germany 2007	322	71	392
Estonia 2009	788	247	1 036
Ireland 2007	120	49	169
Greece 2007	521	327	854
Spain 2008	591	126	717
France 2007	407	90	497
Italy (1)	:	:	:
Cyprus 2009	49	182	231
Latvia 2007	46	47	93
Lithuania 2009	669	48	720
Luxembourg 2009	41	55	95
Hungary 2008	490	50	541
Malta 2009	0	76	76
Netherlands 2008	588	59	647
Austria (1)	:	:	:
Poland 2009	234	68	302
Portugal (1)	:	:	:
Romania 2009	291	29	320
Slovenia 2009	370	94	464
Slovakia 2007	61	66	128
Finland (1)	:	:	:
Sweden 2007	251	38	289
United Kingdom 2008 (2)	101	35	137
Iceland 2005	17	545	562
Liechtenstein (3)	:	:	:
Norway (1)	:	:	:
Switzerland 2006	251	106	357
Montenegro (3)	:	:	:
Croatia 2007	:	262	:
FYR of Macedonia 2009	432	79	511
Turkey 2001	*498*	*157*	*655*

(1) No data available after 1999.
(2) Data only include England and Wales.
(3) No data on total abstraction available.

Source: Eurostat (online data code: env_watq2)

Figure 4.5.2: Total abstraction of fresh water per capita, by source, last year available (m^3)



(1) No data available after 1999.
(2) Data only include England and Wales.

Source: Eurostat (online data code: env_watq2)

Total abstraction of fresh water per capita presented considerable differences among Member States. The highest total fresh water abstraction per capita was reported by Estonia (1 036 m^3 in 2009), Greece (854 m^3 in 2007) and Bulgaria (805 m^3 in 2009). On the other hand, the lowest volumes were recorded in Malta (76 m^3 in 2009), Latvia (93 m^3 in 2007) and Luxembourg (95 m^3 in 2009).

Regarding the abstraction of surface water per capita, the highest volumes were observed in Estonia (788 m^3 in 2009) and Bulgaria (728 m^3 in 2009), where more than half of the water is needed for cooling in electricity production. The lowest volumes were recorded in Malta (0 m^3 in 2009 – no fresh surface waters) and Denmark (2 m^3 in 2009). The Member States with the highest groundwater abstraction per capita was Greece (327 m^3 in 2007), followed by Estonia (247 m^3 in 2009) and the countries with the lowest were Romania (29 m^3 in 2009), England and Wales (35 m^3 in 2008), the Czech Republic (36 m^3 in 2009) and Sweden (38 m^3 in 2007).

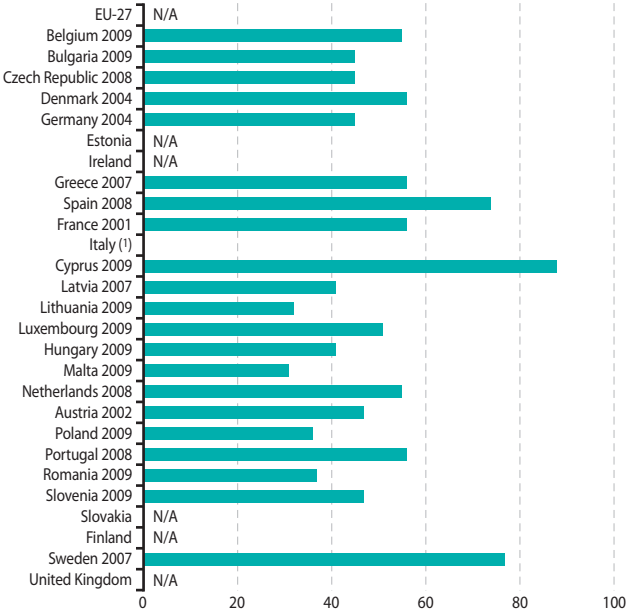
Table 4.5.3: Use of water from public and self supply by the domestic sector (households and services) per capita (m^3)

	1990	1995	2000	2005	2007	2009
EU-27	:	:	:	:	:	:
Belgium	:	63	45	39	38	55
Bulgaria	87	53	49	42	44	45
Czech Republic (1)	57	41	53	45	44	45
Denmark (2)	76	67	:	56	:	:
Germany (3)	59	47	46	45	:	:
Estonia	:	:	:	:	:	:
Ireland	:	:	:	:	:	:
Greece	:	:	51	58	56	:
Spain (4)	:	:	82	80	78	74
France (5)	:	:	56	:	:	:
Italy (6)	87	:	86	:	:	:
Cyprus	:	71	69	98	:	88
Latvia	:	:	40	38	41	:
Lithuania	:	:	:	23	34	32
Luxembourg	:	:	:	:	:	51
Hungary (7)	56	57	62	55	50	41
Malta	:	32	30	21	34	31
Netherlands (8)	*60*	61	52	79	82	55
Austria	:	46	47	:	:	:
Poland (9)	49	49	39	36	36	36
Portugal (10)	:	39	:	51	57	56
Romania (11)	50	51	:	:	37	31
Slovenia	:	:	:	47	49	47
Slovakia	:	:	:	:	:	:
Finland	:	:	:	:	:	:
Sweden	74	72	70	77	77	:
United Kingdom	:	:	:	:	:	:
Iceland	:	:	:	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	:	:	188	187	:	105
Switzerland (4)	111	100	105	94	95	:
Montenegro	:	:	:	:	:	:
Croatia	:	44	44	49	55	29
FYR of Macedonia	:	:	42	41	42	48
Turkey (4)	:	:	:	:	31	38

(1) No data for 2009; 2008 data instead.
(2) No data for 1995 and 2005; 1994 and 2004 data instead.
(3) No data for 1990, 2000 and 2005; 1991, 2001 and 2004 data instead.
(4) No data for 2007 and 2009; 2006 and 2008 data instead.
(5) No data for 2000; 2001 data instead.
(6) No data for 2000; 1999 data instead.
(7) No data for 1995, 2000 and 2007; 1996, 2001 and 2006 data instead.
(8) No data for 1990 and 2009; 1991 and 2008 data instead.
(9) No data for 1990; 1991 data instead.
(10) No data for 1995 and 2009; 1994 and 2008 data instead.
(11) No data for 1990 and 1995; 1991 and 1994 data instead.

Source: Eurostat (online data code: env_watq3)

Figure 4.5.3: Use of water from public and self supply by the domestic sector (households and services) per capita, last year available (m^3)



(1) No data available after 1999.

Source: Eurostat (online data code: env_watq3)

Per capita use of water from public water supply by the domestic sector varied among the EU-27. It ranged between 31 m^3 per capita for Malta in 2009 and 88 m^3 for Cyprus in 2009. Similarly to previous water indicators, data availability was limited and fragmentary; therefore drawing solid conclusions should be dealt with caution. Per capita water use by the domestic sector was higher among the Mediterranean countries (Cyprus, Spain, Portugal, France and Greece). The only exception was Malta, which presented the lowest water use. Except for Mediterranean countries, Sweden and Denmark also recorded significant domestic water use per capita. On the contrary, the lowest figures appeared among Member States which joined the EU after 2004.

Depending on data availability, from 1990 to 2009, the trends in the evolution of domestic water use per capita have also varied per Member State. Notable increases were recorded in Portugal (44 % from 1994 until 2009) and Lithuania (39 % from 2005 until 2009), while decreases were observed in Bulgaria (- 48 % from 1990 until 2009) and Romania (- 38 % from 1991 until 2009).

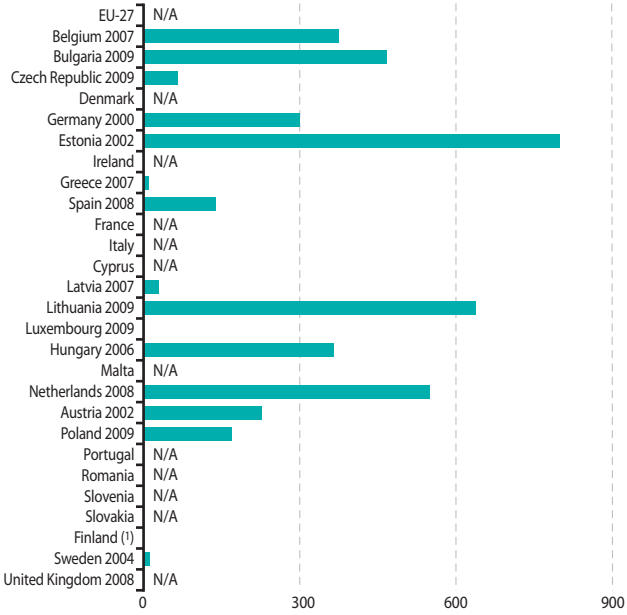
Table 4.5.4: Self supply water use for energy production (cooling water only)

	Water use for energy production (cooling water) per capita (m³)						Water use for energy production (cooling purposes) — share of total water use in the country (%)					
	1990	1995	2000	2005	2007	2009	1990	1995	2000	2005	2007	2009
EU-27	:	:	:	:	:	:	:	:	:	:	:	:
BE	:	532	488	396	374	:	:	73	61	63	62	:
BG	493	501	423	536	455	467	44	70	72	78	71	72
CZ (1)	99	78	49	57	59	65	34	38	33	34	35	54
DK	:	:	:	:	:	:	:	:	:	:	:	:
DE	:	:	300	:	:	:	:	:	:	:	:	:
EE	:	:	814	:	:	:	:	:	87	:	:	:
IE	:	:	:	:	:	:	:	:	:	:	:	:
EL	:	:	:	:	9	:	:	:	:	:	1	:
ES (2)	:	:	148	155	132	138	:	:	19	23	21	22
FR	:	:	:	:	:	:	:	:	:	:	:	:
IT	:	:	:	:	:	:	:	:	:	:	:	:
CY	:	:	:	:	:	:	:	:	:	:	:	:
LV	:	:	0	0	0	:	:	:	0	*0*	*0*	:
LT	:	:	:	612	584	638	:	:	:	88	88	90
LU	0	0	0	0	0	0	:	:	:	:	:	0
HU (3)	:	376	379	362	366	:	:	67	21	19	21	:
MT	:	:	:	:	:	:	:	:	:	:	:	:
NL (4)	*563*	518	662	601	574	551	*67*	68	72	66	65	64
AT	208	173	204	:	:	:	:	:	:	:	:	:
PL	180	173	166	173	186	168	51	57	62	64	65	62
PT	:	:	:	:	:	:	:	:	:	:	:	:
RO	:	:	:	:	:	:	:	:	:	:	:	:
SI	:	:	:	:	:	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:	:	:	:	:	:
FI (5)	:	90	31	:	:	:	:	:	39	:	:	:
SE (6)	3	7	10	10	:	:	1	2	3	3	:	:
UK 2008	:	:	:	:	:	:	:	:	:	:	:	:
IS (7)	0	0	:	:	:	:	:	0	:	:	:	:
LI	:	:	:	:	:	:	:	:	:	:	:	:
NO	:	:	:	:	:	:	:	:	:	:	:	:
CH (3)	225	214	210	203	225	:	56	58	59	60	63	:
ME	:	:	:	:	:	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:	:	:	:	:	:
MK	41	1	4	0	6	9	4	0	0	0	0	0
TR (8)	:	29	28	36	37	64	:	:	:	:	:	:

(1) No data for 2005; 2006 data instead.
(2) No data for 2009; 2008 data instead.
(3) No data for 2007; 2006 data instead.
(4) No data for 1995, 2000 and 2009; 1996, 2001 and 2008 data instead.
(5) No data for 2000; 1999 data instead.
(6) No data for 2005; 2004 data instead.
(7) No data for 1990 and 1995; 1991 and 1994 data instead.
(8) No data for 2005, 2007 and 2009; 2004, 2006 and 2008 data instead.

Source: Eurostat (online data code: env_watq3)

Figure 4.5.4: Self supply water use for energy production (cooling water only) per capita, last year available (m^3)



(1) No data available after 1999.

Source: Eurostat (online data code: env_watq3)

Data on water use for energy production were scarce. Considerable differences were observed among countries. Estonia presented the highest self supply water use for cooling water in energy production with 801 m^3 per capita in 2002, followed by Lithuania (638 in 2009), the Netherlands (551 in 2008) and Bulgaria (467 in 2009). On the other end of the range, Luxembourg presented zero self supply water use for cooling water in 2009, while Greece reported 9 m^3 per capita in 2007.

The share of water use for energy production over total water use also varied considerably. In Lithuania it was 90 % in 2009, while in Latvia in 2007 and in Luxembourg in 2009 it was approximately zero.

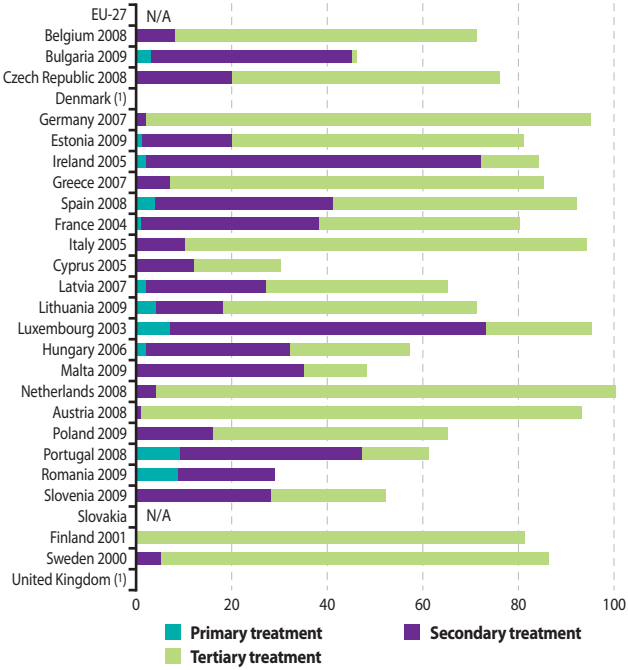
Table 4.5.5: Population connected to at least secondary wastewater treatment (% of national resident population)

	1990	1995	2000	2005	2007	2009
EU-27	:	:	:	:	:	:
Belgium (1)	:	:	*41*	*54*	69	71
Bulgaria	:	35	36	38	40	43
Czech Republic (1)	:	:	:	73	75	75
Denmark	71	85	:	:	:	:
Germany (2)	79	84	93	97	95	:
Estonia	:	68	68	73	74	80
Ireland (3)	21	34	29	82	:	:
Greece	:	22	:	:	85	87
Spain (4)	:	:	:	:	88	88
France (5)	:	:	77	79	:	:
Italy	:	60	:	94	:	:
Cyprus	:	8	14	30	:	:
Latvia	:	:	:	64	63	:
Lithuania	:	:	:	57	61	67
Luxembourg	:	68	:	:	:	:
Hungary (6)	15	18	30	52	55	:
Malta	*13*	*13*	36	36	35	48
Netherlands (1)	93	97	98	99	99	99
Austria (7)	67	74	:	89	92	93
Poland	:	34	50	58	62	64
Portugal (8)	12	17	:	43	51	52
Romania	:	:	:	*17*	20	21
Slovenia	:	:	14	31	47	52
Slovakia	:	:	:	:	:	:
Finland	76	77	80	:	:	:
Sweden (6)	:	:	86	86	86	:
United Kingdom (9)	68	78	:	:	:	:
Iceland	0	0	0	2	:	:
Liechtenstein	:	:	:	:	:	:
Norway	44	52	51	58	58	59
Switzerland	90	94	96	97	:	:
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	:	:
FYR of Macedonia	:	:	:	:	:	:
Turkey (4)	:	3	*17*	25	28	31

(1) No data for 2009; 2008 data instead.
(2) No data for 1990 and 2000; 1991 and 2001 data instead.
(3) No data for 2000; 2001 data instead.
(4) No data for 2007 and 2009; 2006 and 2008 data instead.
(5) No data for 2000 and 2005; 2001 and 2004 data instead.
(6) No data for 2007; 2006 data instead.
(7) No data for 2005, 2007 and 2009; 2004, 2006 and 2008 data instead.
(8) No data for 1995 and 2009; 1994 and 2008 data instead.
(9) No data for 1990 and 1995; 1991 and 1994 data instead.

Source: Eurostat (online data code: env_wat_urbww)

Figure 4.5.5: Population connected to urban wastewater treatment, last year available (% of national resident population)



(1) No data available after 1999.

Source: Eurostat (online data code: env_watq4)

In the Member States for which data were available (mixed reference years), the proportion of the population connected to at least secondary wastewater treatment was more than one in every four persons. The only exception was Romania, where only 21 % of its population was connected to at least secondary wastewater treatment. Low shares were also recorded in Cyprus (30 % in 2005), Bulgaria (43 % in 2009) and Malta (48 % in 2009). On the other hand, this was as high as 99 % in the Netherlands in 2009, 95 % in Germany in 2007, 94 % in Italy in 2005 and 93 % in Austria in 2009.

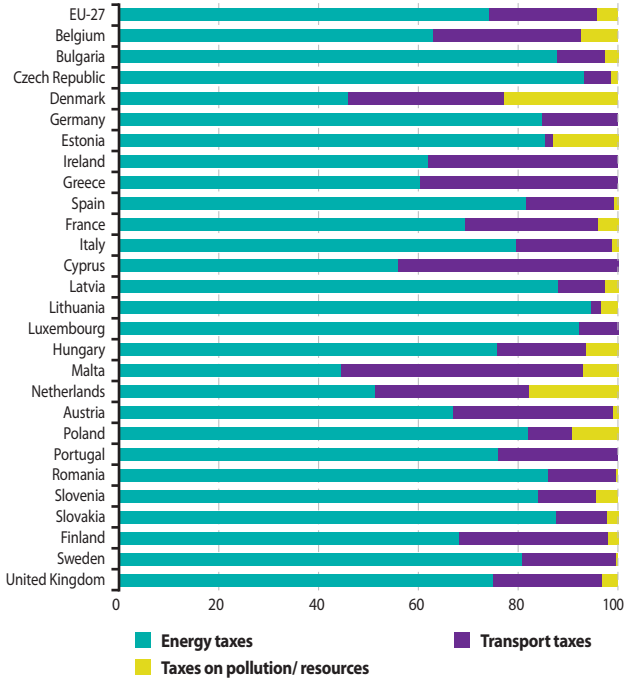
In terms of treatment levels, tertiary wastewater treatment was most common in the Netherlands (96 %), Germany (93 %), Austria (92 %), Italy (84 %), Sweden (81 %), Finland (81 %) and Greece (78 %). In contrast, less than one in ten persons was connected to tertiary wastewater treatment in Bulgaria and Romania. Secondary wastewater treatment presented significant shares in Ireland (70 %) and Luxembourg (66 %).

Table 4.6.1: Environmental taxes by revenue type, 2009

	(million EUR)				(% of GDP)			
	Total environmental taxes	Energy taxes	Transport taxes	Taxes on pollution / resources	Total environmental taxes	Energy taxes	Transport taxes	Taxes on pollution / resources
EU-27	286 603	212 189	62 499	11 915	2.43	1.80	0.53	0.10
BE	6 874	4 323	2 046	505	2.03	1.27	0.60	0.15
BG	1 060	932	101	28	3.03	2.66	0.29	0.08
CZ	3 418	3 183	188	47	2.49	2.32	0.14	0.03
DK	10 663	4 882	3 350	2 430	4.79	2.20	1.51	1.09
DE	54 164	45 944	8 200	20	2.26	1.92	0.34	-
EE	413	353	6	54	2.98	2.55	0.04	0.39
IE	3 781	2 341	1 438	2	2.37	1.47	0.90	-
EL	4 611	2 784	1 827	-	1.98	1.19	0.78	-
ES	17 163	14 014	3 006	143	1.63	1.33	0.29	0.01
FR	39 927	27 718	10 576	1 633	2.09	1.45	0.55	0.09
IT	39 865	31 756	7 617	492	2.62	2.09	0.50	0.03
CY	490	274	216	-	2.89	1.62	1.28	-
LV	429	377	41	11	2.32	2.04	0.22	0.06
LT	543	514	12	18	2.05	1.94	0.04	0.07
LU	931	858	73	-	2.45	2.26	0.19	-
HU	2 436	1 847	432	157	2.62	1.99	0.46	0.17
MT	195	87	94	14	3.34	1.49	1.62	0.24
NL	22 764	11 676	7 024	4 064	3.98	2.04	1.23	0.71
AT	6 658	4 456	2 135	67	2.43	1.62	0.78	0.02
PL	7 944	6 505	706	733	2.56	2.10	0.23	0.24
PT	4 203	3 192	1 010	1	2.50	1.90	0.60	-
RO	2 214	1 904	302	7	1.88	1.62	0.26	0.01
SI	1 261	1 060	147	54	3.56	2.99	0.41	0.15
SK	1 225	1 073	125	28	1.94	1.70	0.20	0.04
FI	4 553	3 102	1 359	92	2.66	1.81	0.79	0.05
SE	8 213	6 635	1 542	36	2.82	2.28	0.53	0.01
UK	40 603	30 401	8 925	1 278	2.59	1.94	0.57	0.08
IS	135	100	17	18	1.55	1.15	0.20	0.20
LI	:	:	:	:	:	:	:	:
NO	7 371	3 558	3 155	658	2.70	1.30	1.16	0.24
CH	:	:	:	:	:	:	:	:
ME	:	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:	:
MK	:	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:	:

Source: Eurostat (online data code: env_ac_tax)

Figure 4.6.1: Environmental taxes by revenue type, 2009 (% of total environmental taxes)



Source: Eurostat (online data code: env_ac_tax)

The revenue from environmental taxes expressed as percent of GDP provides insight into the tax burden placed on products and processes that harm the environment. In 2009, the revenue from environmental taxes in the EU-27 accounted for 2.4 % of GDP; in most Member States the figure was between 2 to 3 % of GDP. There were four Member States with revenues less than 2 % of GDP (Spain, Romania, Slovakia and Greece) and five Member States with revenues over 3 % (Denmark, the Netherlands, Slovenia, Malta and Bulgaria). Energy taxes represented almost three quarters of environmental taxes by revenue type (74 %) in the EU-27 in 2009, while transport taxes accounted for 22 % and taxes on pollution/resources for 4 %. Over half of the total environmental tax revenues came from energy taxes in all Member States, except Denmark and Malta. The contribution of transport taxes varied across Member States from 48 % in Malta to 1 % in Estonia. Resource and pollution taxes represented small shares of the total in most countries. The only exceptions were Denmark (23 %), the Netherlands (18 %) and Estonia (13 %).

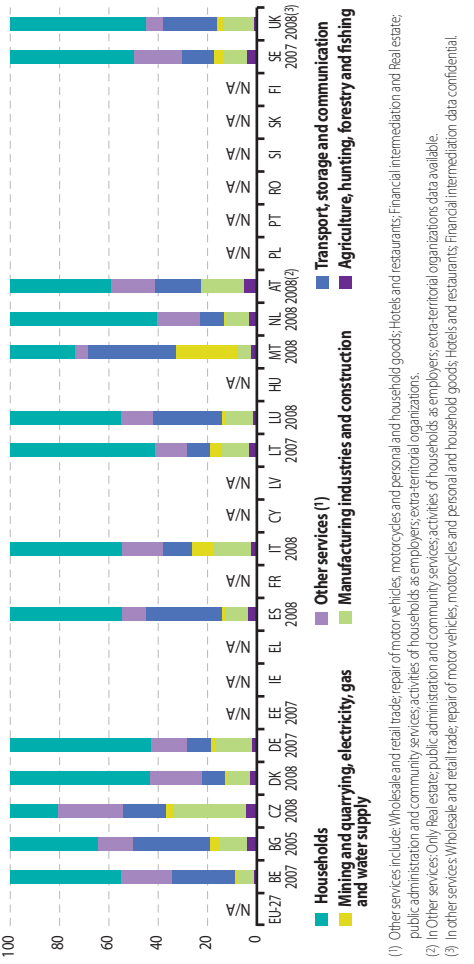
Table 4.6.2: Energy taxes by economic activity, latest year available (thousand EUR)

	Agriculture, hunting, forestry and fishing	Manufacturing industries and construction	Mining and quarrying, electricity, gas and water supply	Transport, storage and communication	Other services(1)	Households	Not allocated
EU-27	:	:	:	:	:	:	:
BE 2007	44 835	339 558	6 904	1 132 375	939 616	1 989 009	-
BG 2005	23 786	66 621	24 517	189 714	86 359	216 980	:
CZ 2008	147 519	972 581	94 725	571 434	876 333	629 760	14 592
DK 2008	130 354	509 254	16 497	459 764	1 091 336	2 866 819	-
DE 2007	970 315	6 347 404	1 036 434	4 179 223	6 518 283	25 313 341	:
EE	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:
ES 2008	460 700	1 220 800	115 300	4 052 200	1 263 000	5 867 000	1 133 000
FR	:	:	:	:	:	:	:
IT 2008	602 633	4 323 053	2 416 962	3 361 050	4 620 005	12 771 301	-
CY	:	:	:	:	:	:	:
LV	:	:	:	:	:	:	:
LT 2007	14 545	51 112	19 776	43 073	57 004	265 677	:
LU 2008	6 632	59 636	5 872	142 788	65 071	229 445	-
HU	:	:	:	:	:	:	:
MT 2008	1 410	3 340	15 050	21 700	3 220	15 830	:
NL 2008	351 000	1 087 000	70 000	1 113 000	1 961 000	6 722 000	:
AT 2008 (2)	247 428	769 955	31 155	843 700	839 111	1 871 683	:
PL	:	:	:	:	:	:	:
PT	:	:	:	:	:	:	:
RO	:	:	:	:	:	:	:
SI	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:
FI	:	:	:	:	:	:	:
SE 2007	268 006	652 916	295 084	901 454	1 361 104	3 481 437	1 622
UK 2008 (3)	412 189	4 363 387	821 158	7 636 547	2 397 544	19 028 337	c
IS	:	:	:	:	:	:	:
LI	:	:	:	:	:	:	:
NO 2007 (4)	63 369	295 141	126 240	863 469	396 557	1 277 740	:
CH	:	:	:	:	:	:	:
ME	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:
MK	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:

(1) Other services include: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation and Real estate; public administration and community services; activities of households as employers; extra-territorial organizations.
(2) In Other services: Only Real estate; public administration and community services; activities of households as employers; extra-territorial organizations data available.
(3) In other services: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation data confidential.
(4) In Other services: Real estate; public administration and community services; activities of households as employers; extra-territorial organizations data not available.

Source: Eurostat (online data code: env_ac_taxind)

Figure 4.6.2: Energy taxes by economic activity, latest year available (%)



(1) Other services include: Wholesale and retail trade; repair of motor vehicles; motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation and Real estate; public administration and community services; activities of households as employers; extra-territorial organizations.
(2) In Other services: Only Real estate; public administration and community services; activities of households as employers; extra-territorial organizations data available.
(3) In other services: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation data confidential.

Source: Eurostat (online data code: env_ac_taxind)

Data availability regarding the distribution of energy taxes, as well as transport taxes and pollution/resource taxes by economic activity is rather limited. Among Member States, for which data were available, households pay between 19 % (the Czech Republic) and 59 % (the Netherlands and Lithuania) of energy taxes, i.e. taxes levied on energy products, such as gasoline. The contribution of the transport sector to energy taxes was considerable in Malta, Spain, Bulgaria, Luxembourg and Belgium, where it reached between 25 % and 36 % of the total taxes by economic activities. In the Czech Republic 30 % of energy taxes were paid by manufacturing and construction and in Malta mining and quarrying and the electricity, gas and water supply paid 25 % of energy taxes.

Table 4.6.3: Transport taxes by economic activity, latest year available (thousand EUR)

	Agriculture, hunting, forestry and fishing	Manufacturing industries and construction	Mining and quarrying, electricity, gas and water supply	Transport, storage and communication	Other services(1)	Households	Not allocated
EU-27	:	:	:	:	:	:	:
BE 2007	17 568	210 275	16 005	167 240	627 175	1 472 652	19 300
BG	:	:	:	:	:	:	:
CZ 2008	13 148	30 947	14 030	76 605	96 849	481	481
DK 2008	21 191	114 941	9 388	114 002	158 664	2 848 847	1 048 283
DE 2008	24 301	376 871	22 383	294 532	1 328 194	6 795 481	:
EE	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:
ES 2008	-	:	:	-	:	2 964 000	429 000
FR	:	:	:	:	:	:	:
IT 2008	96 851	456 569	17 583	128 034	636 963	4 442 000	3 332 000
CY	:	:	:	:	:	:	:
LV	:	:	:	:	:	:	:
LT 2008	1 332	8 109	261	23 343	8 689	:	:
LU 2008	56	5 744	340	14 368	6 394	39 596	:
HU	:	:	:	:	:	:	:
MT 2008 (2)	430	3 590	30	4 430	9 600	:	:
NL 2008	17 497	228 876	6 379	252 421	2 585 827	4 802 000	:
AT 2008 (3)	10 350	89 209	7 739	44 403	338 317	1 672 208	:
PL	:	:	:	:	:	:	:
PT	:	:	:	:	:	:	:
RO	:	:	:	:	:	:	:
SI	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:
FI	:	:	:	:	:	:	:
SE 2007	63 026	73 837	2 162	28 973	150 593	800 208	39 351
UK 2008	86 963	280 712	9 441	198 122	c	7 261 731	c
IS	:	:	:	:	:	:	:
LI	:	:	:	:	:	:	:
NO 2006 (4)	12 924	202 468	31 750	181 852	563 910	2 442 340	:
CH	:	:	:	:	:	:	:
ME	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:
MK	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:

(1) Other services include: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation and Real estate; public administration and community services; activities of households as employers; extra-territorial organizations.
(2) In other services: Financial intermediation data not available.
(3) In other services: Only Real estate; public administration and community services; activities of households as employers; extra-territorial organizations data available.
(4) In other services: Real estate; public administration and community services; activities of households as employers; extra-territorial organizations data not available.

Source: Eurostat (online data code: env_ac_taxind)

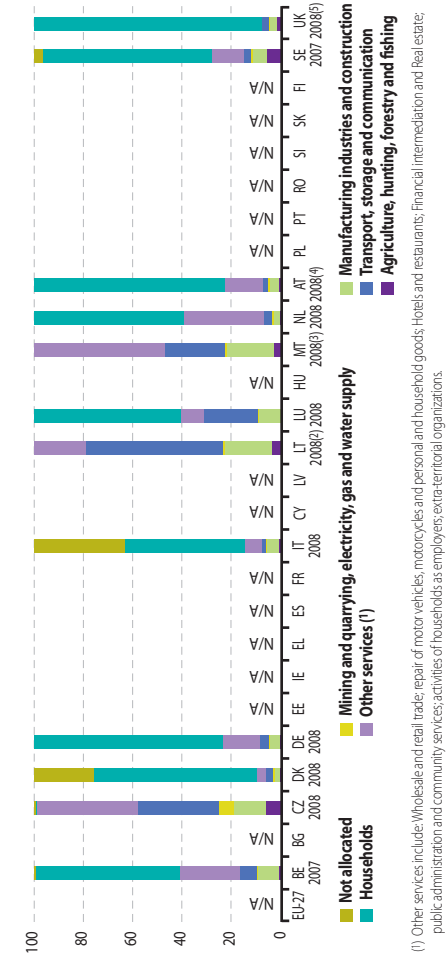


Figure 4.6.3: Transport taxes by economic activity, latest year available (%)

(1) Other services include: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation and Real estate; public administration and community services; activities of households as employers; extra-territorial organizations.
(2) Households data not available.
(3) Households data not available and in other services: Financial intermediation data not available.
(4) In other services: Only Real estate; public administration and community services; activities of households as employers; extra-territorial organizations data available.
(5) Other services data confidential.

Source: Eurostat (online data code: env_ac_taxind)

Similarly to energy taxes, households also made the most considerable payments of transport taxes (e.g. vehicle tax) in the countries for which data were available. The only exception was the Czech Republic, where other services and transport, storage and communication paid the largest shares of transport taxes (42 % and 33 % respectively). In Lithuania 56 % of transport taxes were paid by transport, storage and communication, but data for households' contribution were not available. Households paid from 93 % of transport taxes in the United Kingdom and 87 % in Denmark to 59 % in Belgium.

Table 4.6.4: Pollution/resource taxes by economic activity, latest year available (thousand EUR)

	Agriculture, hunting, forestry and fishing	Manufacturing industries and construction	Mining and quarrying, electricity, gas and water supply	Transport, storage and communication	Other services(1)	Households	Not allocated
EU-27	:	:	:	:	:	:	:
BE 2007	16 059	28 066	3 158	7 959	132 112	411 035	103 711
BG	:	:	:	:	:	:	:
CZ 2008	279	15 344	16 630	5 693	6 909	4 985	2
DK 2008	50 295	91 336	3 427 441	5 097	220 896	262 607	9 254
DE	:	:	:	:	:	:	:
EE	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:
ES 2008 (2)	300	63 800	65 100	1 900	-	-	15 900
FR	:	:	:	:	:	:	:
IT 2008 (2)	3 874	129 790	48 545	41 971	211 201	52 789	-
CY	:	:	:	:	:	:	:
LV	:	:	:	:	:	:	:
LT 2008	434	9 537	19 144	2 433	5 995	:	:
LU	:	:	:	:	:	:	:
HU	:	:	:	:	:	:	:
MT 2008	-	150	-	20	:	:	:
NL 2008	29 000	173 000	20 000	9 000	158 000	171 000	:
AT 2008	9 890	75 249	15 096	10 889	205 110	321 851	:
PL	:	:	:	:	:	:	:
PT	:	:	:	:	:	:	:
RO	:	:	:	:	:	:	:
SI	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:
FI	:	:	:	:	:	:	:
SE 2007 (2)	41 870	10 107	32 340	-	65 934	17	-
UK 2008	3 457	130 500	426 538	44 941	c	-	c
IS	:	:	:	:	:	:	:
LI	:	:	:	:	:	:	:
NO 2006 (2)	1 491	11 159	249	3 479	23 449	129 983	:
CH	:	:	:	:	:	:	:
ME	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:
MK	:	:	:	:	:	:	:
TR	:	:	:	:	:	:	:

(1) Other services include: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation and Real estate; public administration and community services; activities of households as employers; extra-territorial organizations.
(2) Resource taxes data not available.

Source: Eurostat (online data code: env_ac_taxind)

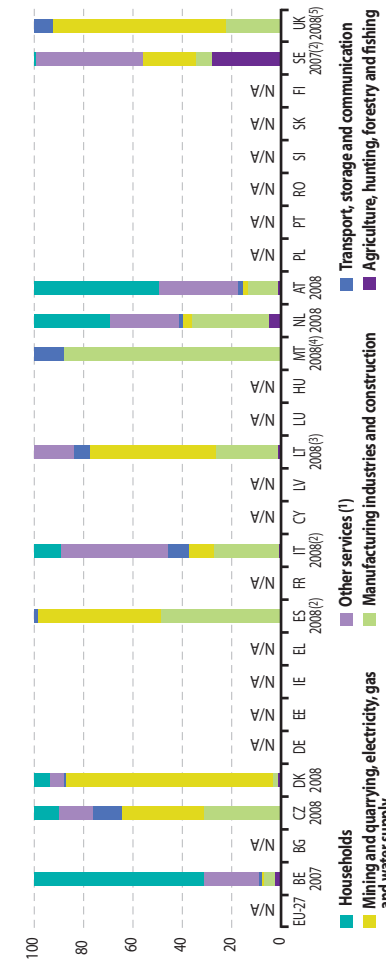


Figure 4.6.4: Pollution/resource taxes by economic activity, latest year available (%)

(1) Other services include: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; Hotels and restaurants; Financial intermediation and Real estate; public administration and community services; activities of households as employers; extra-territorial organizations.
(2) Resource taxes data not available.
(3) Households data not available.
(4) Households and other services data not available.
(5) Other services data confidential.

Source: Eurostat (online data code: env_ac_taxind)

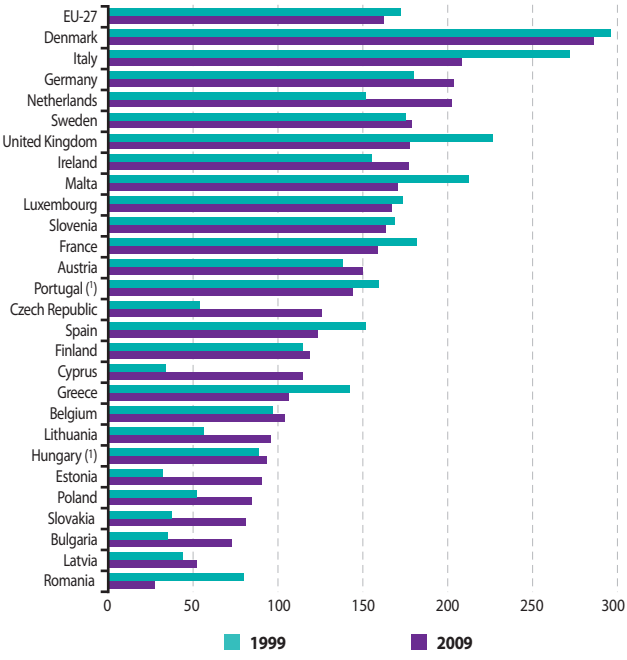
In the case of pollution/resource taxes, the mining, quarrying and electricity, gas and water supply paid the largest shares of total pollution/resource taxes in Denmark (84 %), the United Kingdom (70 %), Lithuania (51 %) and Spain (50 %). Households paid significant pollution/resource taxes in Belgium (69 %), Austria (50 %) and the Netherlands (31 %). The manufacturing and construction industries made the largest contribution in Malta (88 %), yet households and other services data were not available. The only Member State where the agriculture, hunting, forestry and fishing made up a notable share of total pollution/resource taxes was Sweden (28 %).

Table 4.6.5: Implicit tax rate on energy (EUR per toe)

	1999	2000	2006	2007	2008	2009
EU-27	171.6	171.1	162.7	163.7	155.4	161.5
Belgium	96.5	92.4	103.0	112.0	96.4	103.3
Bulgaria	34.5	40.6	50.4	66.2	71.7	72.0
Czech Republic	53.6	55.2	98.9	108.1	126.9	125.1
Denmark	295.8	301.0	278.8	272.2	267.1	285.6
Germany	179.7	192.7	198.1	198.5	190.7	202.8
Estonia	31.7	31.6	67.4	69.2	72.4	89.9
Ireland	154.7	140.7	150.1	163.8	152.0	176.5
Greece	141.6	117.3	96.5	102.3	99.5	105.8
Spain	151.3	137.9	119.9	117.6	114.7	122.7
France	181.2	174.2	163.5	161.0	153.2	158.3
Italy	271.4	245.8	202.7	196.8	187.2	207.8
Cyprus	33.3	43.1	126.7	123.1	110.4	113.8
Latvia	43.2	48.2	52.6	49.9	48.9	51.9
Lithuania	55.6	57.9	74.5	77.5	78.5	94.9
Luxembourg	172.9	164.4	161.8	161.2	166.0	166.2
Hungary	87.9	79.7	82.8	93.5	92.8	:
Malta	211.7	180.8	138.6	189.1	146.9	170.3
Netherlands	151.1	153.4	192.7	183.8	193.0	201.7
Austria	137.6	141.6	142.5	148.2	148.7	149.7
Poland	51.3	59.0	87.6	97.6	105.3	83.8
Portugal	158.6	111.8	148.3	150.4	143.8	:
Romania	79.0	58.2	26.2	32.2	25.2	26.6
Slovenia	168.3	118.6	113.6	123.8	121.4	163.2
Slovakia	37.0	42.4	67.2	76.5	84.2	80.3
Finland	113.9	108.7	104.4	101.8	111.8	118.4
Sweden	174.8	179.7	199.2	196.5	188.6	178.6
United Kingdom	225.9	245.8	208.5	216.7	178.7	177.4
Iceland	48.1	49.2	52.9	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	178.3	176.2	159.1	159.1	144.5	:
Switzerland	:	:	:	:	:	:
Montenegro	:	:	:	:	:	:
Croatia	:	:	:	:	:	:
FYR of Macedonia	:	:	:	:	:	:
Turkey	:	:	:	:	:	:

Source: Eurostat (online data code: tsdcc360)

Figure 4.6.5: Implicit tax rate on energy (EUR per toe)



(1) 2008 data instead of 2009.

Source: Eurostat (online data code: tsdcc360)

Implicit tax rate on energy (ITR) is the ratio between energy tax revenues and final energy consumption. It accounts for the taxes levied on the use of energy, which can be seen as an indicator of measures fostering energy efficiency. The implicit tax rate on energy for the EU-27 was 161.5 EUR per toe in 2009, a 6 % reduction from 1999. This decrease is not consistent with the EU aim to shift taxation from labour onto resource and energy consumption.

In 2009, Denmark displayed the highest rate (286 EUR per toe). On the other hand, Eastern European countries presented the lowest rates. Romania, which was the country with the lowest rate of ITR (27 EUR per toe), also reported the most notable decrease (- 66 %) between 1999 and 2009. Over this period, the most considerable increase was observed in Cyprus (more than threefold). In spite of this increase, it remained at lower levels compared to the EU average. The only country for which no change in ITR on consumption was noted is Luxembourg.

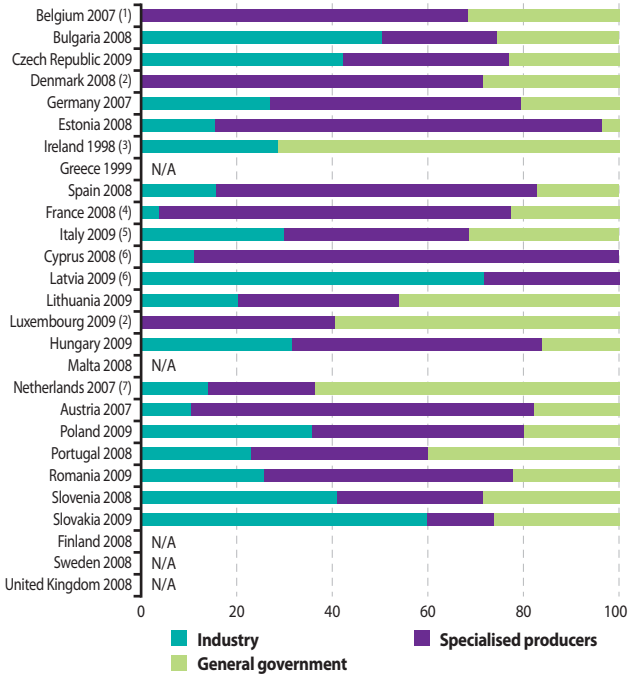
Table 4.7.1: Environmental protection investment and current expenditure by sector, latest year available (million EUR)

	Industry		Specialised producers		General government	
	Total investment	Total current expenditure	Total investment	Total current expenditure	Total investment	Total current expenditure
EU-27 2006	*11 671*	*40 138*	:	:	:	:
BE 2007	c	c	764	2 685	316	1 276
BG 2008	203	212	104	94	108	101
CZ 2009	415	704	149	766	270	340
DK 2008	:	:	721	2 411	170	1 080
DE 2007	1 840	8 250	4 120	15 420	1 830	5 860
EE 2008	74	37	95	485	15	11
IE 1998	104	62	:	:	141	270
EL 1999	:	:	:	:	199	531
ES 2008	1 534	1 596	3 653	9 695	1 551	1 854
FR 2008	1 531	:	6 290	21 959	2 717	5 988
IT 2009 (1)	:	11 870	1 823	13 486	3 290	9 094
CY 2008	4	24	95	121	:	:
LV 2009	87	41	20	30	:	:
LT 2009	66	73	119	108	214	98
LU 2009	:	:	8	123	15	178
HU 2009	90	266	128	456	95	86
MT 2008	:	:	:	:	31	53
NL 2007 (2)	462	1 414	507	2 436	1 711	6 700
AT 2007	210	612	1 051	4 431	114	1 256
PL 2009	1 173	1 530	172	3 164	981	526
PT 2008	263	193	403	330	157	633
RO 2009	395	422	247	1 393	358	341
SI 2008	159	188	63	193	199	41
SK 2009	196	190	11	79	20	149
FI 2008	229	491	:	:	:	:
SE 2008 (3)	420	701	:	:	:	:
UK 2008	2 471	2 702	:	:	:	:
IS 2002	:	:	:	:	6	21
LI	:	:	:	:	:	:
NO 2008 (4)	588	612	:	:	465	1 146
CH 2003	290	545	75	490	628	1 295
ME	:	:	:	:	:	:
HR 2009	243	139	28	39	3	8
MK	:	:	:	:	:	:
TR 2008	136	320	:	:	491	1 599

(1) Specialised producers: data refer only to private specialised producers and only EP domains 'wastewater' and 'waste' included. Public specialised producers are reported under general government.
(2) Specialised producers: data refer only to private specialised producers. Public specialised producers are included in general government.
(3) Only manufacturing and electricity, gas, water supply included.
(4) Industry: only mining and quarrying and manufacturing included.

Source: Eurostat (online data codes: env_ac_exp1 and env_ac_exp1r2)

Figure 4.7.1: Environmental protection investment and current expenditure by sector, latest year available (%)



(1) Industry data confidential.
(2) Industry data not available.
(3) Specialised producers data not available.
(4) Industry data only include total investment.
(5) Industry data only include total current expenditure; Specialised producers: data refer only to private specialised producers and only EP domains 'wastewater' and 'waste' included. Public specilaised producers are reported under general government.
(6) General government data not available.
(7) Only private specialised producers included; Specialised producers: data refer only to private specialised producers. Public specialised producers are included in general government.

Source: Eurostat (online data codes: env_ac_exp1 and env_ac_exp1r2)

In the majority of Member States for which data were available, specialised producers made up the largest share of total environmental protection expenditure and current expenditure. In Cyprus and Estonia specialised producers represented 89 % and 81 % of total investment and expenditure respectively. The industrial sector made the largest contribution in total investment and expenditure in five Member States. In Latvia and Slovakia its share of the total was 72 % and 60 % respectively. General government made the most significant contribution in total investment and expenditure in four Member States; most notably in the Netherlands (64 %) and Luxembourg (59 %).

Table 4.7.2: Environmental protection expenditure by environmental domain, latest year available (million EUR)

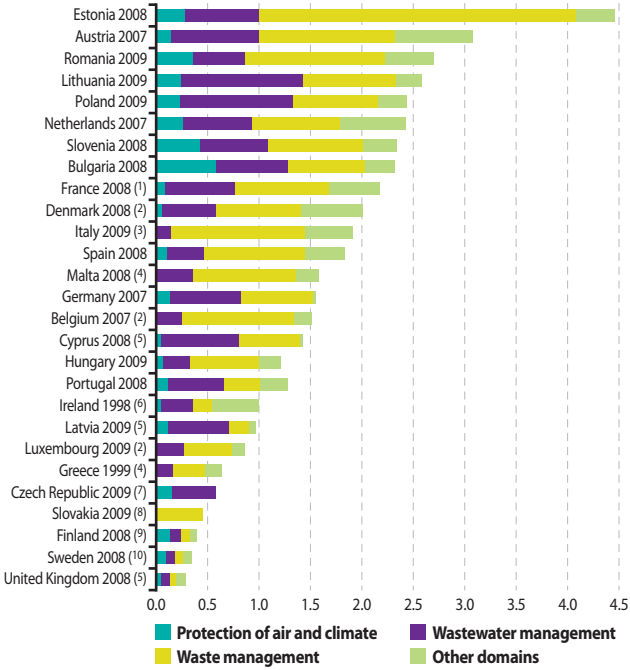
	Protection of air and climate	Wastewater management	Waste management	Other domains	Total	% of GDP
EU-27 2006 (1)	656	9 518	22 659	:	:	:
Belgium 2007 (2)	24	787	3 670	583	5 064	1.51
Bulgaria 2008	205	247	266	103	822	2.32
Czech Republic 2009	229	618	c	c	2 643	1.93
Denmark 2008 (2)	111	1 239	1 934	1 401	4 684	2.01
Germany 2007	3 060	16 860	17 090	340	37 320	1.53
Estonia 2008	45	115	496	61	717	4.45
Ireland 1998 (3)	36	241	145	352	774	0.98
Greece 1999 (1)	1	206	411	205	823	0.62
Spain 2008	1 066	3 886	10 743	4 188	19 882	1.83
France 2008 (4)	1 544	13 126	17 637	9 483	41 790	2.14
Italy 2009 (2)	:	2 111	19 843	6 955	28 909	1.90
Cyprus 2008 (5)	7	132	102	3	244	1.41
Latvia 2009 (5)	20	109	36	13	178	0.96
Lithuania 2009	63	315	239	65	682	2.57
Luxembourg 2009 (2)	-33	99	181	46	293	0.77
Hungary 2009	54	243	631	194	1 223	1.32
Malta 2008 (1)	0	21	59	13	93	1.57
Netherlands 2007	1 446	3 848	4 886	3 661	13 842	2.42
Austria 2007	384	2 327	3 586	2 054	8 351	3.07
Poland 2009	700	3 405	2 565	861	7 531	2.43
Portugal 2008	197	938	587	456	2 178	1.27
Romania 2009	411	600	1 590	554	3 156	2.69
Slovenia 2008	157	245	344	123	868	2.33
Slovakia 2009	c	c	278	c	645	1.02
Finland 2008 (6)	233	210	160	118	721	0.39
Sweden 2008 (7)	309	282	255	276	1 122	0.34
United Kingdom 2008 (5)	801	1 437	1 214	1 722	5 174	0.29
Iceland 2002 (1)	:	6	28	:	34	0.36
Liechtenstein	:	:	:	:	:	:
Norway 2008 (8)	544	1 061	748	664	3 018	0.99
Switzerland 2003	209	1 457	1 555	595	3 846	1.34
Montenegro	:	:	:	:	:	:
Croatia 2009	55	98	96	210	460	1.01
FYR of Macedonia	:	:	:	:	:	:
Turkey 2008 (3)	146	495	1 384	520	2 546	0.51

(1) Only general government included.
(2) Industry not included.
(3) Only general government, manufacturing and electricity, gas, water supply included.
(4) For industry only investments included.
(5) General government not included.
(6) Only industry included.
(7) Only manufacturing and electricity, gas, water supply included.
(8) Only general government, mining and quarrying and manufacturing included.

N.B: Data refer to industry, specialised producers and general government.

Source: Eurostat (online data codes: env_ac_exp1, env_ac_exp1r2 and nama_gdp_c)

Figure 4.7.2: Environmental protection expenditure as % of GDP by environmental domain, latest year available (%)



(1) For industry only investments included.
(2) Industry not included.
(3) Industry not included and protection of air and climate data not available.
(4) Only general government included.
(5) General government not included.
(6) Only general government, manufacturing and electricity, gas, water supply included.
(7) Waste management and other domains data confidential.
(8) Protection of air and climate, wastewater management and other domains data confidential.
(9) Only industry included.
(10) Only manufacturing and electricity, gas, water supply included.

Source: Eurostat (online data codes: env_ac_exp1, env_ac_exp1r2 and nama_gdp_c)

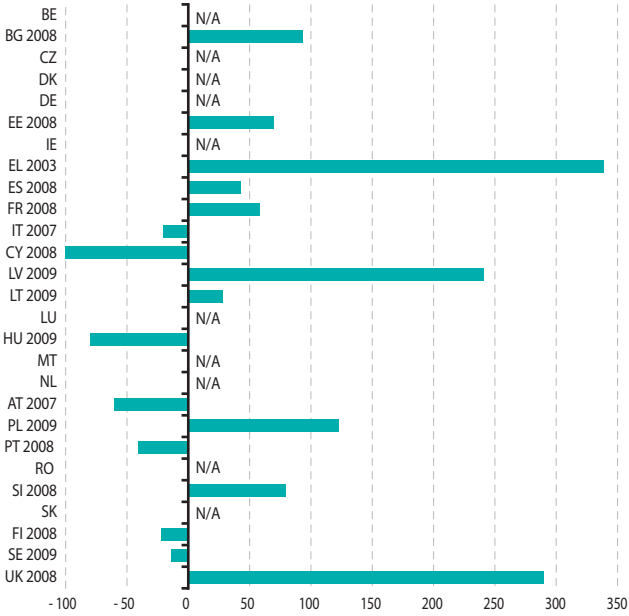
The expenditure in order to tackle environmental issues relating to waste management made up the largest share of total expenditure in seventeen Member States. The highest shares were recorded in Belgium (72 %), Estonia (69 %), Italy (69 %), Malta (64 %) and Luxembourg (62 %). Wastewater management expenditure accounted for the largest shares of total expenditure in Latvia (61 %), Cyprus (54 %), Lithuania (46 %), Germany (45 %), Poland (45 %) and Portugal (43 %). Protection of air and climate expenditure made up the largest share of total expenditure in Finland (32 %) and Sweden (28 %). Estonia presented the highest expenditure (4.45 %) as a share of GDP.

Table 4.7.3: Pollution prevention investments of manufacturing sector (million EUR)

	2002	2003	2004	2005	2006	2007	2008	2009
EU-27	:	:	:	:	:	:	:	:
Belgium	-	:	:	:	:	:	:	:
Bulgaria	7	6	3	3	5	2	15	:
Czech Republic	:	52	66	77	84	126	93	55
Denmark	:	:	:	:	:	:	:	:
Germany	:	:	:	:	:	:	:	:
Estonia	7	3	2	2	18	10	13	:
Ireland	:	:	:	:	:	:	:	:
Greece	6	25	:	:	:	:	:	:
Spain	357	316	406	413	471	476	511	:
France	145	141	95	156	187	230	229	:
Italy	184	117	170	114	154	147	:	:
Cyprus	11	1	1	0	4	12	0	:
Latvia	6	4	5	4	14	15	11	19
Lithuania	6	4	5	4	3	10	4	8
Luxembourg	:	:	:	:	:	:	:	:
Hungary	44	92	22	22	34	34	15	9
Malta	:	:	:	:	:	:	:	:
Netherlands	:	105	:	87	:	129	:	:
Austria	126	120	131	53	45	50	:	:
Poland	32	48	48	130	112	59	62	72
Portugal	62	100	86	115	132	41	37	:
Romania	:	:	:	:	:	:	107	109
Slovenia	29	71	24	35	41	41	52	:
Slovakia	:	8	19	11	25	17	16	9
Finland	90	32	35	27	26	75	70	:
Sweden	115	89	107	111	78	79	137	100
United Kingdom	204	221	216	212	169	299	795	:
Iceland	:	:	:	:	:	:	:	:
Liechtenstein	:	:	:	:	:	:	:	:
Norway	90	45	24	46	26	19	152	:
Switzerland	:	134	:	:	:	:	:	:
Montenegro	:	:	:	:	:	:	:	:
Croatia	:	:	15	12	7	10	7	29
FYR of Macedonia	:	:	:	:	:	:	:	:
Turkey	:	:	:	:	:	:	:	:

Source: Eurostat (online data code: env_ac_exp1 and env_ac_exp1r2)

Figure 4.7.3: Evolution of investment in "cleaner technologies" (pollution prevention investments) of manufacturing sector, latest year available (2002 = 100)



Source: Eurostat (online data codes: env_ac_exp1 and env_ac_exp1r2)

Pollution prevention investments are defined as capital expenditure on new, or modification of existing methods, technologies, processes, equipments (or parts thereof) designed to prevent or reduce the amount of pollution created at the source, thereby reducing the environmental impacts associated with the release of pollutants and/or with polluting activities. From 2002 to 2009, the trend for pollution prevention technologies by the manufacturing sector was not uniform among European countries. Moreover, annual variations were observed per country. In absolute values, in 2008 the highest level of investments in pollution prevention technologies was recorded in the United Kingdom (795 million EUR), Spain (511) and France (229). In 2002, the countries spending most were Spain (357 million EUR), the United Kingdom (204) and Italy (184).

Annex A: Glossary of terms used in the energy section

Biofuels

Liquid or gaseous fuels used primarily for transport produced from biomass. Biofuels comprise biogasoline, biodiesel and other liquid biofuels. Second-generation biofuels refer to biofuels produced from wastes, residues, non-food cellulosic material and lingo-cellulosic material.

CHP

See "Combined Heat and Power".

Cogeneration

See "Combined Heat and Power".

Combined heat and power

A combined heat and power (also referred to as a cogeneration or a CHP) unit is an installation in which heat energy released from fuel is transmitted to electrical generator sets which are designed and operated in such a way that energy is partly used for generating electrical energy and partly for supplying heat for various purposes. The thermal efficiency of a combined heat and power unit is significantly higher than that of a unit producing electricity only.

Energy balance sheets

The energy balance sheets expressed in specific units and in tonnes of oil equivalent, for the European Union as a whole, as well as for each Member State and Norway, and the Candidate Countries Croatia and Turkey can be found in the Eurostat publication "Energy balance sheets — 2008-2009", available at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-EN-11-001/EN/KS-EN-11-001-EN.PDF.

Energy dependency

Energy dependency shows the extent to which a country relies upon imports in order to meet its energy needs. It is calculated using the following formula: net imports / (gross inland consumption + bunkers).

Energy intensity

Energy intensity gives an indication of the effectiveness with which energy is being used to produce added value. It is defined as the ratio of Gross Inland Consumption of energy to Gross Domestic Product.

Final energy consumption

Final energy consumption is the energy consumed in the following sectors: industry, transport, commercial and public services, agriculture/forestry, fishing, residential and other. It excludes the non-energy consumption, deliveries to the energy transformation sector and to the energy sector.

GCV

See "Gross Calorific Value".

GDP

See "Gross Domestic Product".

Gross calorific value

The gross calorific value (GCV) is the total amount of heat released by a unit quantity of fuel, when it is burned completely with oxygen, and when the products of combustion are returned to ambient temperature. This quantity includes the heat of condensation of any water vapour contained in the fuel and of the water vapour formed by the combustion of any hydrogen contained in the fuel.

Gross domestic product

The gross domestic product (GDP) is the value of the output of all goods and services produced within the borders of a country.

Gross inland consumption

Gross inland consumption is the quantity of energy consumed within the borders of a country. It is calculated using the following formula: primary production + recovered products + imports + stock changes – exports – bunkers (i.e. quantities supplied to sea going ships).

Hard coal and derived products

Hard coal and derived products include hard coal (anthracite, coking coal, bituminous coal and sub-bituminous coal), patent fuels, coke oven coke and coal tar.

Installed capacity

Installed capacity represents the maximum active power that can be supplied, continuously, with all plants running.

Lignite and derived products

Lignite and derived products include lignite, peat, brown coal/lignite briquettes and peat briquettes.

Natural gas

Natural gas comprises gases, occurring in underground deposits, whether liquefied or gaseous, consisting mainly of methane. It includes both "non-associated" gas originating from fields producing hydrocarbons only in gaseous form, and "associated" gas produced in association with crude oil as well as methane recovered from coal mines.

NCV

See "Net Calorific Value".

Net calorific value

The net calorific value (NCV) is the amount of heat released by a unit quantity of fuel, when it is burned completely with oxygen, and when the products of combustion are returned to ambient temperature. This quantity does not include the heat of condensation of the water vapour formed by the combustion of hydrogen contained in the fuel.

Net import

Net import is calculated as the difference between imports and exports.

Power station efficiency

The efficiency of a thermal or nuclear power station is defined as the ratio between the output, i.e. the gross electricity generated, and the fuel input. In the case of a combined heat and power installation the output is the gross electricity generated plus the heat produced.

Primary energy production

Primary energy production is the extraction of energy from a natural source. The precise definition depends on the fuel involved:

— *Hard coal, lignite:* Quantities of fuels extracted or produced, calculated after any operation for removal of inert matter. In general, production includes the quantities consumed by the producer during the production process (e.g. for heating or operation of equipment and auxiliaries) as well as any quantities supplied to other on-site producers of energy for transformation or other uses.

— *Crude oil:* Quantities of fuels extracted or produced within national boundaries, including off-shore production. Production includes only marketable production, and excludes any quantities returned to formation.

— *Natural gas:* Quantities of dry gas within national boundaries, measured after purification and extraction of natural gas liquids and sulphur. The production includes only marketable production, and excludes any quantities re-injected, vented and flared, and any extraction losses. The production includes all quantities used within the natural gas industry, in gas extraction, pipeline systems and processing plants.

— *Nuclear heat:* Quantities of heat produced in a reactor. Production is the actual heat produced or the heat calculated on the basis of the gross electricity generated and the thermal efficiency of the nuclear plant

— *Hydropower, Wind, Solar photovoltaic:* Quantities of electricity generated. Production is calculated on the basis of the gross electricity generated and a conversion factor of 3 600 kJ/kWh.

— *Geothermal energy:* Quantities of heat extracted from geothermal fluids. Production is calculated on the basis of the difference between the enthalpy of the fluid produced in the production borehole and that of the fluid disposed of via the re-injection borehole.

— *Biomass / Wastes:* In the case of municipal solid wastes (MSW), wood, wood wastes and other solid wastes, production is the heat produced after combustion and corresponds to the heat content (NCV) of the fuel.

In the case of anaerobic digestion of wet wastes, production is the heat content (NCV) of the biogases produced. The production includes all quantities of gas consumed in the installation for the fermentation processes, and excludes all quantities of flared gases.

In the case of biofuels, the production is the heat content (NCV) of the fuel.

RES

See “Renewable Energy”.

Renewable energy

Renewable energy includes hydroelectricity, biomass, wind, solar, tidal and geothermal energies.

Annex B: Terms and methodology used in the transport section

The main terms used in the field of transport statistics are defined in the "Eurostat concepts and definitions database (CODED)" accessible under the Eurostat web site at http://forum.europa.eu.int/irc/dsis/coded/info/data/coded/en/Theme7.htm. Further clarification of the terms used in transport statistics can be found in the Eurostat/ITF/UNECE "Illustrated Glossary for Transport Statistics" publication, available at http://www.unece.org/trans/main/wp6/pdfdocs/glossen4.pdf.
The indicators presented in the transport section of this pocket book represent a small part of the very detailed data collected by Eurostat in the framework of legal acts and voluntary data agreements.
According to a commonly agreed breakdown, the indicators are presented on the one hand by domains of interest (equipment, vehicle-kilometres, quantity and performance for the transport of freight and passengers, safety) and on the other hand, by modes of transport (rail, road, inland waterways, pipelines, maritime and aviation).
To facilitate the comparisons between smaller and bigger countries, most of the indicators combine basic transport figures with population or Gross Domestic Product (GDP).

Eurostat's on-line database has been used as the main source for the indicators, while figures from the DG for Mobility and Transport have been used as an additional source. For some missing data, figures from miscellaneous international or national bodies have been used and some estimates (put in italics) have been made.

Two main channels are used by Eurostat to collect statistical data:

1. Legal acts on transport statistics which cover detailed data collections for all the main modes of transport:
   - Rail freight: Council Directive 80/1177/EEC of 4 December 1980 **(O.J. L 350 of 23.12.1980)** replaced by Regulation (EC) No 91/2003 of the European Parliament and of the Council of 16 December 2002 (rail freight, passengers, traffic and accidents) **(O.J. L 14 of 21.1.2003)**
   - Road freight: Council Regulation (EC) 1172/98 of 25 May 1998 **(O.J. L 163 of 6.6.1998)**
   - Inland waterways: Regulation (EC) 1365/2006 of the European Parliament and of the Council of 6 September 2006 **(O.J. L 264 of 25.9.2006)**
   - Maritime: Directive 2009/42/EC of the European Parliament and of the Council of 6 May 2009 on statistical returns in respect of carriage of goods and passengers by sea **(O.J. L 141 of 6.6.2009)**
   - Aviation passengers, freight and traffic: Regulation (EC) No 437/2003 of the European Parliament and of the Council of 27 February 2003 **(O.J. L 66 of 11.3.2003)**
   - Road accidents: Council Decision 93/704/EC of 30 November 1993 **(O.J. L 329 of 30.12.1993)**
2. The "Common Questionnaire" of Eurostat, UNECE and ITF, which is used to collect, on a voluntary basis, annual aggregated data covering many aspects of inland modes of transport (rail, road, inland waterways and pipelines). Other voluntary agreements cover the collection of other types of data such as regional transport indicators.

The main dissemination channel used for Eurostat data is the on-line database which covers, from the early eighties, millions of transport figures from EU countries plus, to a lesser extent, statistics from EFTA, Mediterranean and Candidate countries. Some miscellaneous publications in paper and electronic formats are also available, such as the "Panorama of transport" and several "Statistics in Focus".

Annex C: Glossary of terms used in the environment section

Carbon content of woody biomass and wood products

Different tree species store different amounts of carbon, which are released into the atmosphere when the wood is incinerated or ultimately broken down during the process of decomposition. Before that happens, the carbon remains stored in products made from wood (rafters used in buildings, panels, veneers, paper, cardboard, etc). The International Panel for Climate Change has developed carbon factors for estimating the carbon content of forests and of different types of wood products([1]). These factors were applied to standard forest data on standing volume of forest trees, net annual increment and wood products to convert these data to tonnes of carbon.

Carbon productivity

Carbon productivity is an indicator of the economic value generated per unit of emissions and in this sense is the inverse of intensity. The more economic value per unit of emissions, usually measured in EUR/tonne of CO_2, the higher the productivity of the given economic activity. In other words, if a certain economic sector is more carbon productive, it is managing to generate a lot of economic value while polluting less.

CO_2 equivalent

Emissions of some substances resulting from burning of fossil fuels and other activities like industrial processes or agriculture significantly change the composition of the atmosphere and cause the anthropogenic greenhouse effect: carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) and hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6). These substances have individual global warming potentials (GWP) ranging from 1 (CO_2) to 23 900 (SF_6). In order to aggregate the emissions of the different substances and present a single figure for the climate change issue they are expressed in CO_2 equivalents.

CRF – Common reporting format for source sector and sink categories

The CRF is used by countries for reporting of greenhouse gas inventories since 2000 under the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, and EU GHG Monitoring Mechanism (Decision 280/2004/EC). It is in line with the 1996 IPCC Guidelines (IPCC 19971), and is described in the Reporting guidelines (http://www.unfccc.int/resource/docs/cop5/07.pdf). The source sector categories at the highest aggregated levels are the following:

CRF 1 Energy
CRF 2 Industrial Processes
CRF 3 Solvent and Other Product Use
CRF 4 Agriculture
CRF 5 Land-Use Change & Forestry
CRF 6 Waste
CRF 7 Other

([1]) http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html

Please note that the fuel combustion for energy use in the industry and in the agriculture as well as the waste incineration with energy use — all these emissions count to the CRF source and sink categories "Energy".

Domestic Extraction Used (DEU)

Domestic Extraction Used (DEU) is one indicator derivable from Eurostat's economy-wide Material Flow Accounts (EW-MFA). DEU is the amount of raw materials (without water and air) extracted from the domestic natural environment and further processed in the economy.

Domestic Material Input (DMI)

Domestic Material Input (DMI) is one indicator derivable from Eurostat's economy-wide Material Flow Accounts (EW-MFA). DMI measures the amount of materials (without water and air) which is actually being made available in an economy to produce goods and services (output). It is composed of the domestic extraction used plus the simple mass weight of imported goods (DMI = DEU + IMP).

Domestic Material Consumption (DMC)

Domestic Material Consumption (DMC) is one indicator derivable from Eurostat's economy-wide Material Flow Accounts (EW-MFA). DMC measures the amount of materials (without water and air) which is actually used by the categories of domestic final demand (consumption by households and government, and gross fixed capital formation). DMC is defined and calculated as Domestic Material Input minus the simple mass weight of exports (DMC = DMI - EXP).

Environmental domains

The scope of environmental protection is defined according to the Classification of Environmental Protection Activities (CEPA 2000), which distinguishes among nine different environmental domains: protection of ambient air and climate (air); wastewater management (wastewater); waste management (waste); protection and remediation of soil; groundwater and surface water; noise and vibration abatement; protection of biodiversity and landscape; protection against radiation; research and development and other environmental protection activities.

Environmental protection expenditure

Environmental protection expenditure (EPE) include all purposeful activities directly aimed at the prevention, reduction and elimination of pollution or any other degradation of the environment resulting from the production process or from the consumption of goods and services.

Environmental protection sectors

— **Public sector** includes central, regional and local governments, authorities, communities and government agencies, meaning mainly NACE rev. 1.1 divisions 75 (NACE rev. 2 divisions 84). Data reported are net of any transfers between these government bodies.

It is important to make a clear distinction between Public sector and Specialized producers. All NACE rev. 1.1 /ISIC division 90 (NACE Rev. 2 /ISIC activities and classes 37, 38.1, 38.2 and 39) activities are part of the

Specialized producers' sector. This includes the Public sector related parts such as publicly owned enterprises and waste and wastewater departments in large municipalities (which can be separately identified and are thus recorded under NACE Rev. 1.1 / ISIC division 90 (NACE Rev. 2 /ISIC divisions and classes 37, 38.1, 38.2 and 39 in the business register). User fees finance a substantial part of the expenditures of both of these categories.

— **Industry** includes all activities in NACE Rev. 1.1 / ISIC divisions C, D and E (NACE Rev. 2 / ISIC divisions B, C, D35, E36). Expenditure for the industry water supply NACE Rev. 1.1 division 41(NACE Rev. 2 division 36) e.g. only relate to production of drinking water and not include expenditure for wastewater treatment plants, if any, which treat wastewater generated by other companies.

— **Specialized producers of environmental services** - These are mainly activities within NACE Rev. 1.1 / ISIC division 90 (NACE Rev. 2 / ISIC divisions and classes 37, 38.1, 38.2 and 39). These enterprises (both privately and publicly owned) and/or separately identified departments of large municipalities have as their main activity the production of environmental protection services.
Specialized producers could also include environmental management activities provided by environmental consultants, the activities of e.g. volunteer environmental organizations or secondary environmental activities in e.g. NACE Rev. 1.1 division 37 Recycling (NACE Rev. 2 class 38.3 Materials recovery), if such information is available.

Environmental protection investments

Investment for environmental protection includes all outlays in a given year (purchases and own-account production) for machinery, equipment and land used for Environmental Protection purposes. It is the sum of two categories:

— End-of-pipe (pollution treatment) investments. These investments do not affect the production process itself, and the amount of pollution generated, instead they serve to treat pollution already generated.

— Investments in integrated technologies (pollution prevention investments). These are investments which lead to a modified or adapted production process. They serve to reduce the amount of pollution generated.

Environmentally related taxes

Called "environmental taxes" for practical reasons, these taxes are the ones whose tax base is a physical unit (or a proxy of it) of something that has a proven, specific negative impact on the environment. The concept consists of the revenues from four types of taxes: energy-, transport-, pollution- and resource taxes. Carbon dioxide taxes are included under energy as they are often an integral part of general energy taxes, and excluded are general Value Added Tax (VAT).

For the purpose of this publication, environmentally related taxes can be broken down by:

— Sectors: industry, private households activities, non-residents and not-allocated (impossible to be allocated to the first 3 categories)

— Industry: includes the breakdown of the first category described in Sectors according to NACE.

Fellings

Average annual standing volume of all trees, living or dead, measured over bark that are felled during the given reference year, including the volume of trees or parts of trees that are not removed from the forest, other wooded land or other felling site. It includes silvicultural and pre-commercial thinnings and cleanings left in the forest as well as natural losses that are recovered (harvested).

Fluorinated gases (F-gases)

Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6) are greenhouse gases with a very high global warming potential. The main uses of HFCs are as refrigerants, cleaning solvents and foam blowing agents. PFCs are used in semi-conductor manufacture and as cleaning solvents, and SF_6 is used in high-voltage switch gear and magnesium production.

Global Warming Potential (GWP)

The global warming potential is the estimated potential of a greenhouse gas contributing to global warming in the atmosphere. It is based on its effect over a 100-year time horizon. These substances have individual GWP ranging from 1 (carbon dioxide), 21 (methane), 310 (nitrous oxide) to 23 900 (sulphur hexafluoride). Hydrofuorocarbons and perfluorocarbons comprise a large number of different gases that have different GWPs (IPCC, 1996).

Greenhouse Gases (GHG)

These emissions are reported under 1992 United Nations Framework Convention on Climate Change and for the EU member states under the Decision 280/2004/EC. According to the Kyoto Protocol anthropogenic emissions of the six greenhouse gases (the 'Kyoto basket') are aggregated using the global warming potential: carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) and hydrofuorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

Implicit tax rate on energy

The indicator expresses energy tax revenues in relation to final energy consumption calculated for a calendar year (Euro per tonne oil equivalent, deflated with the final demand deflator). It measures the taxes levied on the use of energy which contributes to foster energy efficiency.

Energy Tax Revenues is the sum of taxes on energy products used for both mobile and immobile purposes.

Final Energy Consumption include energy consumed in the transport, industrial, commercial, agricultural, public and households sectors but exclude deliveries to the energy transformation sector and to the energy industries themselves. The different energy products are aggregated on the basis of their net calorific value, and expressed in tonnes of oil equivalent.

Increment

The term refers to the net annual increment in forests available for wood supply. It is the average annual volume over the reference period of gross increment less natural losses. It is measured in cubic metres over bark (including the bark).

Kyoto base year

In general, the base year it is 1990 for carbon dioxide, methane, nitrous oxide, and 1995 for the fluorinated gases (hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride). Some countries have selected different base years: Bulgaria (1988), Hungary (average 1985–87), Poland (1988), Romania (1989) and Slovenia (1986).

Kyoto reduction targets

In the first quantified emission limitation and reduction commitment period, from 2008 to 2012, the EU-15 has agreed to an 8% reduction in its greenhouse gas emissions compared to 1990. Individual targets for each of the EU-15 countries have been agreed under the EU burden sharing agreement (Council Decision 2002/358/EC4) which allows five countries (Greece, Ireland, Portugal, Spain and Sweden) to increase emissions, provided these are off set by reductions in the other Member States. The new EU Member States and candidate countries have differing targets under the Kyoto Protocol which became binding to its Parties worldwide in February 2005. No targets exist for Cyprus, Malta and Turkey.

NACE

Nomenclature statistique des Activités économiques dans la Communauté Européenne; in English: Statistical classification of economic activities in the European Community. NACE is organised in sections and sub-sections.

Sections of NACE rev 1.1

A Agriculture, hunting and forestry
B Fishing
C Mining and quarrying
D Manufacturing
E Electricity, gas and water supply
F Construction
G Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
H Hotels and restaurants
I Transport, storage and communication
J Financial intermediation
K Real estate, renting and business activities
L Public administration and defence; compulsory social security
M Education
N Health and social work
O Other community, social and personal service activities
P Activities of households
Q Extra-territorial organizations and bodies

Sub-sections of NACE rev 1.1

DA Manufacture of food products, beverages and tobacco
DB Manufacture of textiles and textile products
DC Manufacture of leather and leather products
DD Manufacture of wood and wood products
DE Manufacture of pulp, paper and paper products; publishing and printing

DF Manufacture of coke, refined petroleum products and nuclear fuel
DG Manufacture of chemicals, chemical products and man-made fibres
DH Manufacture of rubber and plastic products
DI Manufacture of other non-metallic mineral products
DJ Manufacture of basic metals and fabricated metal products
DK Manufacture of machinery and equipment n.e.c.
DL Manufacture of electrical and optical equipment
DM Manufacture of transport equipment
DN Manufacturing n.e.c

Raw Material Consumption (RMC)

Raw Material Consumption (RMC) is one indicator derivable from Eurostat's economy-wide Material Flow Accounts (EW-MFA). RMC is the amount of raw materials (without water and air) which is virtually used by the categories of domestic final demand (consumption by households and government, and gross fixed capital formation). RMC is defined and calculated as Raw Material Input minus the exported goods expressed in tonnes raw material equivalents (DMC = DMI - EXP).

Raw Material Equivalents (RME)

Raw Material Equivalents is a measurment concept in Eurostat's economy-wide Material Flow Accounts (EW-MFA) related to traded goods. Traded goods (imports and exports) are usually reported in simple mass weight as they pass the border. Raw material equivalents is the amount of extracted raw materials (without water and air) which was necessary to produce the traded good. Imports and exports expressed in raw material equivalents are components of the indicators RMI and RMC.

Raw Material Input (RMI)

Raw Material Input (RMI) is one indicator derivable from Eurostat's economy-wide Material Flow Accounts (EW-MFA). RMI is the amount of raw materials (without water and air) which is virtually being made available in an economy to produce goods and services (output). It is composed of the raw materials domestically extracted and the imported goods expressed in tonnes raw material equivalents (RMI = DEU + IMPRME).

Total current expenditure for environmental protection

There are used also in the data reported under Structural Business Statistics regulation, and includes both internal current expenditure and fees/purchases:

— *Internal current expenditure (in-house)*
Internal current expenditure includes the use of energy, material, maintenance and own personnel for measures made by the sector to protect the environment. A large part of internal expenditure is related to operating environmental protection equipment. There are also other internal expenditure such as general administration, education, information, environmental management and certification, research and development.

Internal current expenditure includes purchases of connected and adapted non-capital goods such as extra cost for low sulphur fuels. These are sometimes not part of specific surveys but estimated based on existing information e.g. on number of units and unit costs. The coverage of adapted and connected products in the figures reported could vary considerably between countries.

Internal current expenditure exclude purchases of environmental protection services bought from the Public sector or Specialized producers such as waste collection, sewage treatment, environmental consultancy services, or surveillance fees. All such purchases are reported under Fees/Purchases.

— *Fees/Purchases*
Fees/Purchases include all purchases of environmental protection services, both from public and private producers. These payments are clearly linked with an environmental protection activity done outside the enterprise and should exclude e.g. fines and penalties. The payments include:
- Payments to specialised producers (enterprises) for waste and wastewater collection and treatment and payments to environmental consultants linked e.g. with environmental management and education.
- Payments to public sector for waste and wastewater collection and treatment (whatever the name of the payments — fees, charges etc) as well as permits and surveillance fees.

Payments of taxes directly used for financing environmental protection expenditure — so called earmarked environmental taxes are excluded, but are reported as Subsidies/Transfers. Payments of general environmental or green taxes (such as energy taxes) are excluded completely from this statistics.

Waste

Waste means any substance or object which the holder discards or intends or is required to discard. Municipal waste generated consists of waste collected by or on behalf of municipal authorities and disposed of through the waste management system. The bulk of this waste stream is from households, though similar wastes from sources such as commerce, offices and public institutions are included. For areas not covered by a municipal waste scheme an estimation has been made of the amount of waste generated.

Waste recovery:
Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfill

a particular function, or waste being prepared to fulfill that function, in the plant or in the wider economy. Some examples of recovery operations are: Solvent reclamation/regeneration, Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), Recycling/reclamation of metals and metal compounds, Regeneration of acids or bases, Oil re-refining or other reuses of oil.

Waste recycling:
Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

Water

Water net abstraction (= water withdrawal):
Water gross abstraction minus returned water.

Cooling water:
Water which is used to absorb and remove heat. In the questionnaire cooling water is broken down into cooling water used in the generation of electricity in power stations, and cooling water used in other industrial processes.

Public water supply:
Water supplied by economic units engaged in collection, purification and distribution of water (including desalting of sea water to produce water as the principal product of interest, and excluding system operation for agricultural purposes and treatment of waste water solely in order to prevent pollution). It corresponds to division 41 (NACE/ISIC) independently of the sector involved. Deliveries of water from one public supply undertaking to another are excluded.

Wastewater treatment:
The major aim of wastewater treatment is to remove as much of the pollution (dissolved substances and suspended solids) as possible before the remaining water, called effluent, is discharged back to the environment. Primary treatment removes by means of settling typically about 60 % of suspended solids from wastewater. Secondary treatment (biological) removes more than 90 % of suspended solids and a considerable part of the nutrients. Tertiary treatment includes targeted removal of nutrients such as phosphorus and nitrogen and practically all suspended and organic matter from wastewater.

Annex D: Calorific values and conversion factors

Calorific values

		kJ (NCV)	kgoe (NCV)
Hard coal	1 kg	17 200 - 30 700	0.411 - 0.733
Recovered hard coal	1 kg	13 800 - 28 300	0.330 - 0.676
Patent fuels	1 kg	26 800 - 31 400	0.640 - 0.750
Hard coke	1 kg	28 500	0.681
Brown coal	1 kg	5 600 - 10 500	0.134 - 0.251
Black lignite	1 kg	10 500 - 21 000	0.251 - 0.502
Peat	1 kg	7 800 - 13 800	0.186 - 0.330
Brown coal briquettes	1 kg	20 000	0.478
Tar	1 kg	37 700	0.900
Benzol	1 kg	39 500	0.943
Oil equivalent	1kg	41 868	1
Crude oil	1 kg	41 600 - 42 800	0.994 - 1.022
Feedstocks	1 kg	42 500	1.015
Refinery gas	1 kg	49 500	1.182
LPG	1 kg	46 000	1.099
Motor spirit	1 kg	44 000	1.051
Kerosenes, jet fuels	1 kg	43 000	1.027
Naphtha	1 kg	44 000	1.051
Gas diesel oil	1 kg	42 600	1.017
Residual fuel oil	1 kg	40 000	0.955
White spirit, industrial spirit	1 kg	43 600	1.041
Lubricants	1 kg	42 000	1.003
Bitumen	1 kg	39 000	0.931
Petroleum cokes	1 kg	32 000	0.764
Others petroleum products	1 kg	40 000	0.955
(paraffins, waxes, etc.)			
Natural gas	1 MJ (GCV)	900	0.0215
Coke-oven gas	1 MJ (GCV)	900	0.0215
Blast-furnace gas	1 MJ (GCV)	1 000	0.0239
Works gas	1 MJ (GCV)	900	0.0215
Nuclear energy	1 MJ (GCV)	1 000	0.0239
Biomass	1 MJ (GCV)	1 000	0.024
Solar energy	1 MJ (GCV)	1 000	0.024
Geothermal energy	1 MJ (GCV)	1 000	0.024
Hydro energy	1 kWh	3 600	0.086
Wind energy	1 kWh	3 600	0.086
Derived heat	1 MJ (GCV)	1 000	0.024
Electrical energy	1 kWh	3 600	0.086

The tonne of oil equivalent is a conventional standardised unit defined on the basis of a tonne of oil with a net calorific value of 41 868 kilojoules/kg. The conversion coefficients from the specific units to kgoe (kilogramme of oil equivalent) are thus computed by dividing the conversion co-efficients to the kilojoules by 41 868.

The following prefixes are used for multiples of toe, joules, watts and watt hours:

kilo (k)	=	1 000	or	10^3
mega (M)	=	1 000 000	or	10^6
giga (G)	=	1 000 000 000	or	10^9
tera (T)	=	1 000 000 000 000	or	10^{12}
peta (P)	=	1 000 000 000 000 000	or	10^{15}

Conversion factors

Energy	To	TJ	Gcal	Mtoe	MBtu	GWh
From						
TJ		1	238.8	2.388×10^{-5}	947.8	0.2778
Gcal		4.1868×10^{-3}	1	1×10^{-7}	3.968	1.163×10^{-3}
Mtoe		4.1868×10^{4}	1×10^{7}	1	3.968×10^{7}	11 630
Mbtu		1.0551×10^{-3}	0.252	2.52×10^{-8}	1	2.931×10^{-4}
GWh		3.6	860	8.6×10^{-5}	3 412	1

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