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Energy, transport and environment indicators

2013 edition

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Introduction

The 2013 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.

For the first time, the indicators present national data for the 28 EU Member States, the EFTA and candidate countries. When available, the EU-28 aggregate is also provided. When the EU-28 aggregate is not available, the EU-27 aggregate is provided. Data are generally available for the period between 2001 and 2011; transport mainly between 2006 and 2011. 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 forest area and wood harvest by ownership whereas imports of wood and wood products come from Eurostat. Data on bird indicators are provided by the European Bird Census Council/The Royal Society for Protection of Birds/BirdLife International/Statistics Netherlands.

General data offer a first macroscopic overview of the main characteristics of the EU and its position with regard to the main economies worldwide.

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, transport infrastructure, road safety and transport-related emissions.

The *Environment* chapter includes indicators on climate change and greenhouse gas emissions, waste generation and treatment, water resources, abstraction and use, wastewater treatment, forestry and biodiversity, chemicals, material flow accounts and relevant financial indicators such as environmental protection expenditure and environmental 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).

Eurostat — the statistical office of the European Union

Eurostat is the statistical office of the European Union, situated in Luxembourg. Its task is to provide the EU with statistics at a European level that enable comparisons between countries and regions.

Eurostat's mission is *'to be the leading provider of high quality statistics on Europe'*.

In 2011, Eurostat had around 880 persons working for it and its executed budget amounted to EUR 85 million (excluding costs of statutory staff and administrative expenses).

The production of Union statistics shall conform to impartiality, reliability, objectivity, scientific independence, cost-effectiveness and statistical confidentiality; it shall not entail excessive burdens on economic operators.

Eurostat aims:

- to provide other European institutions and the governments of the Member States with the information needed to design, implement, monitor and evaluate Community policies;
- to disseminate statistics to the European public and enterprises and to all economic and social agents involved in decision making;
- to implement a set of standards, methods and organizational structures which allow comparable, reliable and relevant statistics to be produced throughout the Union, in line with the principles of the European statistics Code of Practice;
- to improve the functioning of the European Statistical System, to support the Member States, and to assist in the development of statistical systems on international level.

A practical guide to accessing European statistics

The simplest way to access Eurostat's broad range of statistical information is through the Eurostat website (http://ec.europa.eu/eurostat). Eurostat provides users with free access to its databases and all of its publications in PDF format via the Internet. The website is updated daily and gives access to the latest and most comprehensive statistical information available on the EU, its Member States, EFTA countries, and candidate countries.

Eurostat online data code(s) — easy access to the freshest data

Eurostat online data codes, such as tps00001 and nama_gdp_c [2], allow the reader to easily access the most recent data on Eurostat's website. In this pocketbook these online data codes are given as part of the source below each table and figure.

[2] There are two types of online data codes:
— Tables (accessed using the TGM interface) have 8-character codes, which consist of 3 or 5 letters the first of which is 't' — followed by 5 or 3 digits, e.g. tps00001 and tsdph220.
— Databases (accessed using the Data Explorer interface) have codes that use an underscore '_' within the syntax of the code, e.g. nama_gdp_c and proj_08c2150p.

In the PDF version of this publication, the reader is led directly to the freshest data when clicking on the hyper-links that form part of each online data code. Readers of the paper version can access the freshest data by typing a standardised hyper-link into a web browser, http://ec.europa.eu/eurostat/product?code=<data_code>&mode=view, where <data_code> is to be replaced by the online data code printed under the table or figure in question. The data is presented either in the TGM or the Data Explorer interface.

Online data codes can also be fed into the 'Search' function on Eurostat's website, which is found in the upper-right corner of the Eurostat homepage, at http://ec.europa.eu/eurostat.

The results from such a search present related dataset(s) and possibly publication(s) and metadata. By clicking on these hyperlinks users are taken to product page(s) ([3]), which provide some background information about each dataset/publication or set of metadata. For example, it is possible to move directly to the data from the data product page by clicking the TGM or Data Explorer icons presented under the 'View table' sub-heading.

Note that the data on the Eurostat's website is frequently updated.

Note also that the description above presents the situation as of the end of November 2011.

Statistics Explained

Statistics Explained is part of Eurostat's website — it provides easy access to Eurostat's statistical information. It can be accessed via a link on the right-hand side of Eurostat's homepage, or directly at http://epp.eurostat.ec.europa.eu/statistics_explained.

Statistics Explained is a wiki-based system that presents statistical topics. Together, the articles make up an encyclopedia of European statistics, which is completed by a statistical glossary that clarifies the terms used. In addition, numerous links are provided to the latest data and metadata and to further information, making Statistics Explained a portal for regular and occasional users alike.

In May 2012 Statistics Explained contained well over 500 statistical and background articles and some 1 200 glossary pages in English; their number is continuously growing. About 100 of these articles, the content of the Eurostat yearbook (by the end of September 2012) and Eurostat regional yearbook are available in French and German, and 20 representative ones have been translated into 18 other EU languages. As a result, 570 articles in 20 languages besides English can be consulted.

Users can search for articles using navigational features in the lefthand menu. The top-right menu bar of Statistics Explained offers tools, among others, to print, forward, cite, blog or share content easily.

([3]) The product page can also be accessed by using a hyper-link, for example, http://ec.europa.eu/eurostat/product?code=<data_code>, where <data_code> is to be replaced by the online data code in question.

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Table of contents

3 Transport indicators

4 Environment indicators

Table des matières

Inhaltsverzeichnis

3 Verkehrsindikatoren

4 Umweltindikatoren

Symbols and abbreviations

Symbols

Eurostat online databases contain a large amount of metadata that provides information on the status of particular values or data series. In order to improve readability, only the most significant information has been included in the tables and figures. The following symbols are used, where necessary:

:	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
N/A	Not available

Breaks in series are indicated in the footnotes provided under each table and figure.

Units of measurement

ECU	European currency unit, data up to 31.12.1998
EUR	Euro, data from 1.1.1999 on
GJ	Giga Joule
GW	Giga Watt
GWh	Gigawatt hour
ha	Hectare
kg	Kilogram
kgoe	Kilograms of oil equivalent
km	Kilometre
km^2	Square kilometre
ktoe	Thousand tonnes of oil equivalent
kWh	Kilo Watt hour
m^3	Cubic metre
mio	Million (10^6)
Mt	Million tonnes
Mtoe	Million tonnes of oil equivalent
MW	Mega Watt
PJ	Peta Joule
pkm	Passenger-kilometre
tkm	Tonne-kilometre
t	Tonne
toe	Tonne of oil equivalent
TWh	Terawatt hour
USD	United States dollar
vkm	Vehicle-kilometre

Abbreviations

AWU	Annual work units
CARE	Community Road Accident Database
CH_4	Methane
CHP	Combined heat and power
CMR	Carcinogenic, mutagenic and reprotoxic
CO_2	Carbon dioxide
DEU	Domestic Extraction Used
DMC	Domestic Material Consumption
DMI	Direct Material Input
EBCC	European Bird Census Council
ECE	United Nations Economic Commission for Europe
EEA	European Environment Agency
EPE	Environmental protection expenditure
FAWS	Forests available for wood supply
FEC	Final Energy Consumption
FLEGT	Forest Law Enforcement, Governance and Trade
GDP	Gross Domestic Product
GHG	Greenhouse gases
GIC	Gross Inland Consumption
GNI	Gross National Income
GVA	Gross Value Added
GWP	Global warming potential
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
IT	Information technology
ITF	International Transport Forum
NACE	Statistical Classification of economic activities in the European Community
N_2O	Nitrous oxide
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
RES	Renewable Energy Sources
RMC	Raw Material Consumption
RME	Raw Material Equivalents
RMI	Raw Material Input
RSPB	The Royal Society for the Protection of Birds
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
VPA	Voluntary Partnership Agreements
WEEE	Waste electrical and electronic equipment

Abbreviations of countries

EU-28	The 28 Member States of the European Union from 1 July 2013 (BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK)
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
HR	Croatia
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[4]	Iceland
LI	Liechtenstein
NO	Norway
CH	Switzerland
ME	Montenegro
MK[5]	The former Yugoslav Republic of Macedonia
RS	Serbia
TR	Turkey

[4] Also a candidate country.

[5] 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.

Other country codes

CN	China
JP	Japan
RU	Russia
US	United States

Forest Law Enforcement, Governance and Trade Voluntary Partnership Agreement country codes

CM	Cameroon
CF	Central African Republic
CG	Congo
CD	Democratic Republic of the Congo
GA	Gabon
CI	Côte d'Ivoire
GH	Ghana
LR	Liberia
HN	Honduras
GY	Guyana
ID	Indonesia
MY	Malaysia
TH	Thailand
VN	Vietnam

1

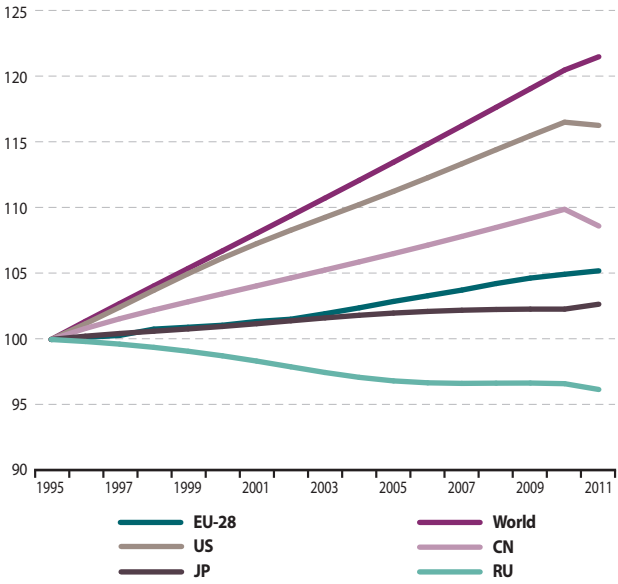
General Data

Table 1.1.1: Area and population worldwide, 2011

	Land area (1 000 km^2)	Population (thousand)	Population density (inhabitants/km^2)
EU-28	4 381	506 781	116
CN	9 597	1 344 100	140
JP	378	127 817	338
RU	17 098	142 961	8
US	9 629	311 592	32
World	136 127	6 974 036	51

Source: Population: United Nations Demographic Yearbook; EU-28: Eurostat (online data code: demo_pjan), Land area: United Nations Demographic Yearbook.

Figure 1.1.1: Population index worldwide (1995 = 100)



Source: EU-28: Eurostat (online data code: demo_pjan); United Nations Demographic Yearbook and World Population Prospects — The 2012 Revision United Nations Population Division

The world's population reached 6 974 million inhabitants in 2011. China was the most populous country with 1 344 million inhabitants, accounting for 19 % of the world's population. The population of the EU-28 broke through the threshold of 500 million in 2008 and reached 507 million inhabitants in 2011, followed by the United States (312 million), Russia (143 million) and Japan (128 million). The trend in world population growth has been unbroken since 1995. The overall increase between 1995 and 2011 was 21 %. Over this period, the fastest population growth was recorded in the United States (16 %), followed by China (9 %), the EU-28 (5 %) and Japan (3 %). In contrast, Russia recorded a 4 % decrease between 1995 and 2011.

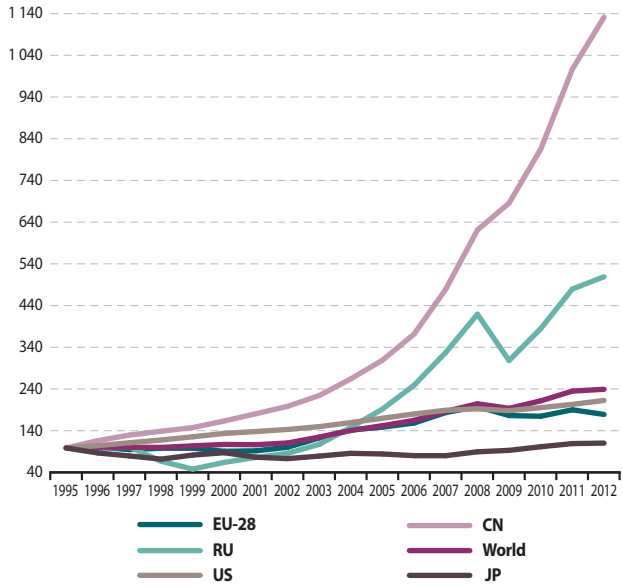
Population density is the ratio of the population of the territory to the surface (land) area of the territory. In 2011, world population density was estimated at 51 inhabitants/km^2. The most densely populated country was Japan (338 inhabitants/km^2), followed by China (140) and the EU-28 (116). The United States and Russia presented densities below the world average (32 and 8 inhabitants/km^2 respectively).

Table 1.1.2: GDP, GDP share in the world, GDP per head in PPP worldwide, 2012

	GDP at current prices (million USD)	Share of world GDP (%)	GNI per capita in PPP (world = 100)
EU-28	16 633 942	23.2	272.8
CN	8 227 103	11.5	76.2
JP	5 959 718	8.3	300.7
RU	2 014 775	2.8	188.4
US	15 684 800	21.9	419.0
World	71 666 350	100.0	100.0

Source: The World Bank

Figure 1.1.2: GDP (1995 = 100)



Source: The World Bank

In 2012, world's Gross Domestic Product (GDP) was valued at USD 71 666 billion. The EU-28 accounted for USD 16 634 billion, a 23.2 % share of the world's GDP; while the United States accounted for a 21.9 % share. The share of China in the world's GDP was 11.5 %, Japan's 8.3 % and Russia's 2.8 %. Compared to 1995, all major economies increased their GDPs in 2012. Over this period, China presented an 11-fold increase and Russia a fivefold increase.

Gross national income (GNI) is the sum of gross primary incomes receivable by resident institutional units/sectors. Therefore, it is GDP less primary income payable to non-residents plus primary income receivable from non-residents. With the use of GNI per capita in purchasing power parity (PPP) the relative position of individual countries can be expressed through a comparison with the world value (100). The highest value among the major world economies was recorded for the United States (419.0 compared to world average), followed by Japan (300.7), EU-28 (272.8) and Russia (188.4); while for China it was 76.2.

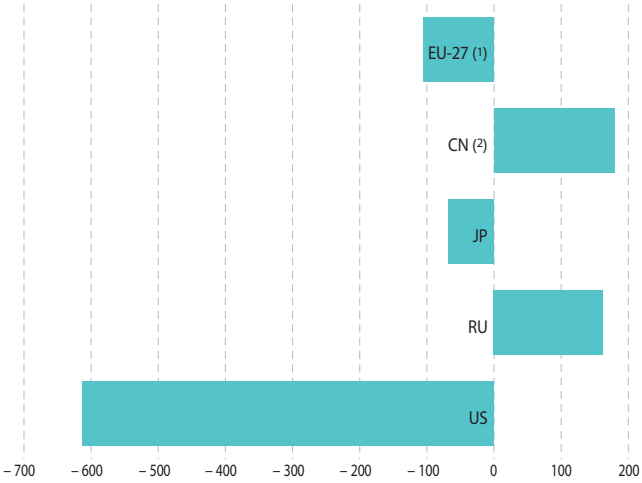
Table 1.1.3: Trade in goods worldwide (million EUR)

	Exports				Imports				Net exports			
	2001	2006	2011	2012	2001	2006	2011	2012	2001	2006	2011	2012
EU-27 (1)	884 707	1 161 776	1 561 890	1 686 295	979 143	1 363 882	1 726 514	1 791 618	– 94 436	– 202 106	– 164 624	– 105 323
CN (2)	297 117	771 691	1 363 785	1 594 631	271 944	630 345	1 252 439	1 415 161	25 173	141 346	111 346	179 470
JP	450 384	515 073	591 368	621 550	390 018	461 185	614 497	689 480	60 366	53 888	– 23 129	– 67 930
RU	111 510	239 920	371 403	408 285	46 746	109 754	219 893	245 942	64 764	130 166	151 510	162 343
US	816 219	825 923	1 063 025	1 202 962	1 317 635	1 528 351	1 625 421	1 816 474	– 501 416	– 702 428	– 562 396	– 613 512

(1) Data for EU–28 not available.
(2) Except Hong Kong.

Source: Eurostat (online data code: ext_lt_introle)

Figure 1.1.3: Net exports, 2012 (billion EUR)



(1) Data for EU-28 not available.
(2) Except Hong Kong.

Source: Eurostat (online data code: ext_lt_introle)

In 2012, the EU-27 presented the highest absolute values of exports (EUR 1 686 billion), followed by China (EUR 1 595 billion); while the United States presented the highest value of imports (EUR 1 816 billion). As far as net exports (exports minus imports) are concerned, in 2012 the net exporting countries were China (except Hong Kong) (EUR 179 billion) and Russia (EUR 162 billion), while the United States, the EU-27 and Japan were net importers with EUR 614 billion, 105 billion and 68 billion respectively.

For the period between 2001 and 2012, all countries presented increased exports and imports. The highest increases in exports were recorded in China (fivefold) and Russia (fourfold); while in imports the highest increase was recorded in Russia, followed by China (fivefold).

Energy indicators

2

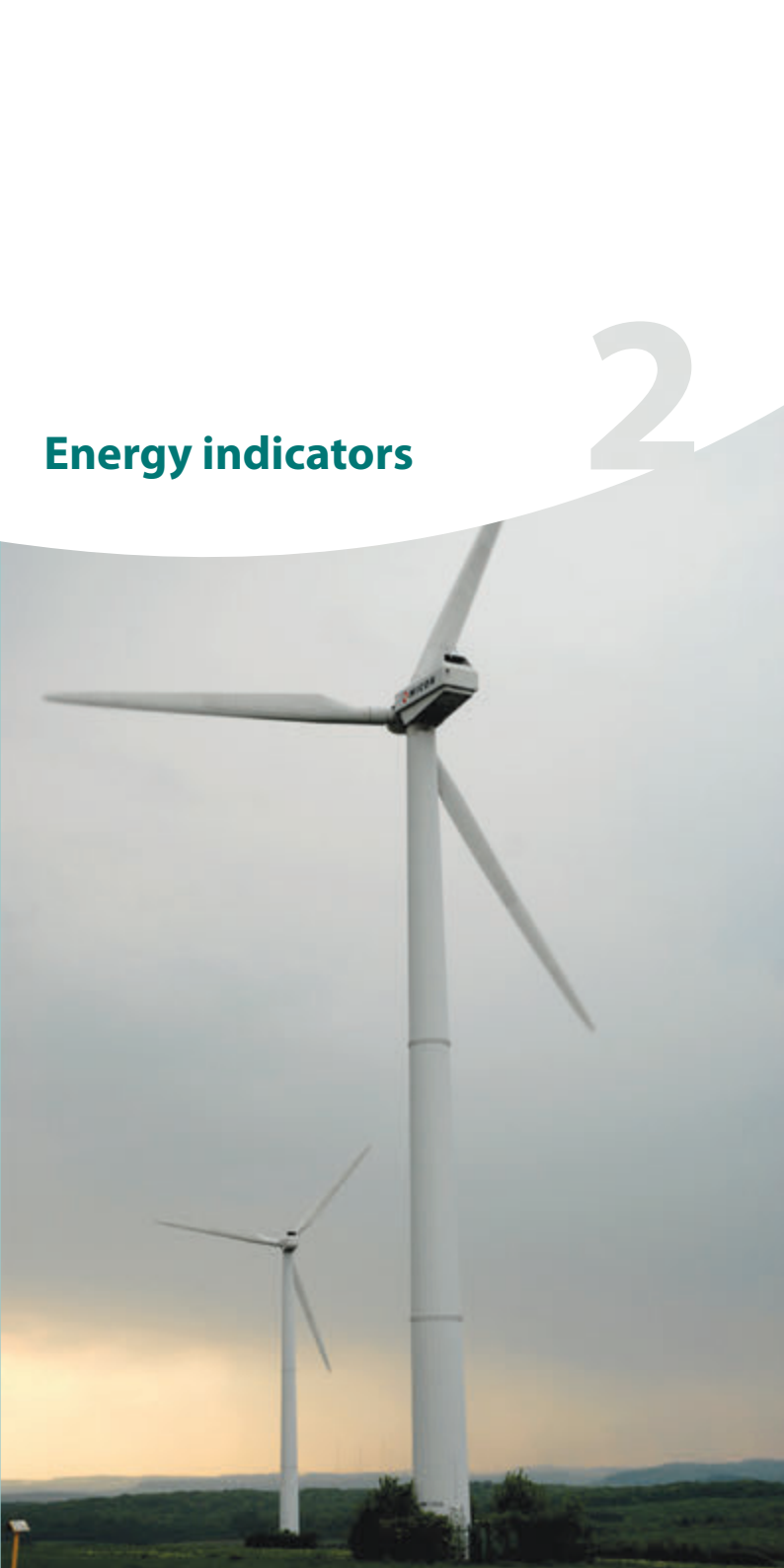
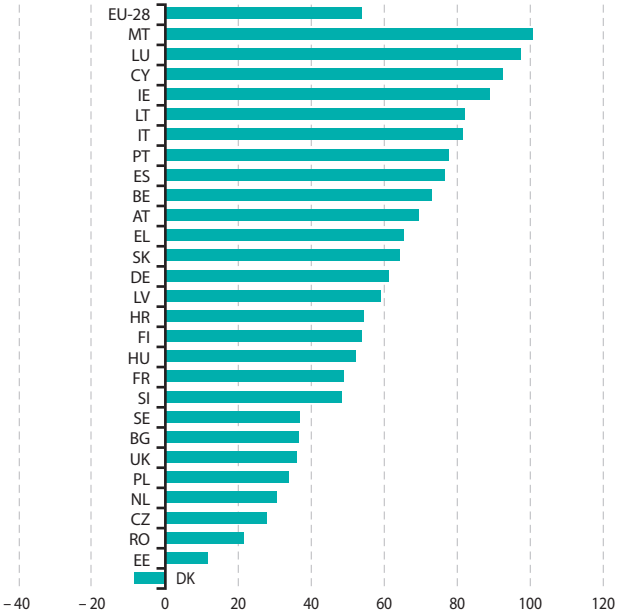


Table 2.1.1: Energy dependency — all products (%)

	2001	2007	2008	2009	2010	2011
EU-28	47.4	53.0	54.6	53.8	52.6	53.8
BE	80.6	77.1	79.9	74.3	76.8	72.9
BG	46.3	51.3	52.1	45.3	40.1	36.6
CZ	25.3	25.0	27.9	27.1	25.6	27.9
DK	– 28.4	– 24.7	– 21.7	– 20.4	– 16.9	– 8.5
DE	61.0	58.1	60.5	61.5	59.8	61.1
EE	32.1	23.8	24.0	21.4	13.1	11.7
IE	89.5	87.5	89.7	88.2	85.6	88.9
EL	68.9	71.2	73.3	67.8	69.1	65.3
ES	74.7	79.6	81.3	79.2	76.8	76.4
FR	50.7	50.5	50.9	51.0	49.1	48.9
HR	52.0	56.5	59.9	51.1	52.2	54.4
IT	83.3	85.1	85.3	82.8	83.8	81.3
CY	96.1	95.9	97.5	96.3	100.7	92.4
LV	58.9	61.5	57.9	58.8	41.6	59.0
LT	46.9	61.3	58.1	50.3	82.0	81.8
LU	97.4	96.5	97.4	97.4	97.0	97.2
HU	53.6	61.3	63.4	58.7	58.3	52.0
MT	99.8	100.0	100.0	101.1	99.1	100.6
NL	34.3	38.9	34.4	36.5	30.7	30.4
AT	65.0	68.9	68.9	65.0	62.1	69.3
PL	10.4	25.6	30.6	31.7	31.6	33.7
PT	84.9	82.0	82.8	81.0	75.4	77.4
RO	26.3	31.5	27.7	20.2	21.7	21.3
SI	50.2	52.5	55.1	48.1	49.4	48.4
SK	62.2	68.4	64.6	66.4	63.0	64.2
FI	55.1	53.0	54.2	54.0	48.3	53.8
SE	36.9	36.3	37.9	37.1	36.7	36.8
UK	– 9.4	20.5	26.2	26.2	28.1	36.0
IS	33.4	:	:	:	:	:
NO	– 718.8	– 654.4	– 612.2	– 638.7	– 519.9	– 584.9
CH	54.6	52.3	54.9	55.4	54.2	:
MK	38.6	48.0	46.2	44.8	43.9	45.5
TR	65.1	74.4	72.2	70.4	69.3	71.1

Source: Eurostat (online data code: nrg_100a)

Figure 2.1.1: Energy dependency — all products, 2011 (%)



Source: Eurostat (online data code: nrg_100a)

Table 2.1.1a: Energy dependency — all products (%)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	47.4	47.6	49.0	50.3	52.5	53.7	53.0	54.6	53.8	52.6	53.8

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. Values over 100 % are possible due to changes in stocks.

EU-28 dependency on energy imports increased from 47.4 % of gross energy dependency in 2001 to 53.8 % in 2011. In the last decade, the energy dependency rate grew continuously between 2001 and 2006 and it has fluctuated since. The highest rate was recorded in 2008 (54.6 %).

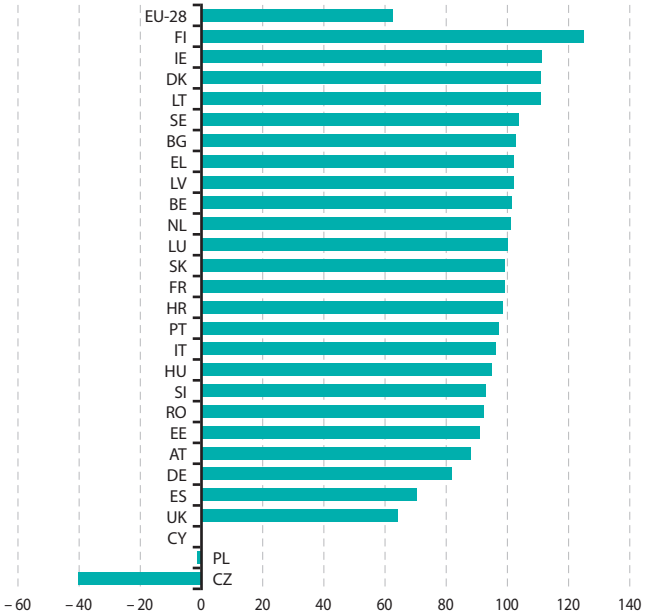
As a net exporter, Denmark was the only EU-28 Member State with a negative dependency rate in 2011 (– 8.5 %). Among other Member States, in 2011 dependency rates below 30 % were reported by Estonia (11.7 %), Romania (21.3 %) and the Czech Republic (27.9 %). Between 2001 and 2011, the dependency rate in Estonia fell from 32.1 % to 11.7 %. On the contrary, the United Kingdom became a net importer with a 36.0 % dependency rate in 2011 compared to – 9.4 % in 2001; while in Lithuania the rate grew from 46.9 % in 2001 to 81.8 % in 2011.

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

	2001	2007	2008	2009	2010	2011
EU-28	48.3	58.9	64.8	62.3	58.6	62.3
BE	106.9	96.0	106.8	81.6	98.2	101.3
BG	97.2	99.2	113.8	94.0	88.3	102.7
CZ	– 51.6	– 40.8	– 40.7	– 69.7	– 50.1	– 40.6
DK	96.6	100.3	108.5	98.0	69.4	111.0
DE	53.4	67.4	71.7	74.1	79.0	81.8
EE	67.2	152.3	100.3	4.0	132.6	91.0
IE	100.4	90.7	112.4	111.7	79.3	111.1
EL	107.0	83.0	126.5	78.7	100.5	102.1
ES	64.0	71.4	79.2	85.5	86.0	70.2
FR	89.2	92.3	109.9	91.7	101.0	99.0
HR	92.2	101.9	112.7	89.3	102.5	98.3
IT	101.1	99.3	101.8	97.4	100.9	96.1
CY	111.3	67.3	102.5	123.8	65.4	0.0
LV	71.0	92.1	99.9	94.1	106.5	102.1
LT	91.3	93.9	114.0	83.0	95.5	110.8
LU	100.0	100.0	100.0	100.0	100.0	100.0
HU	99.4	101.4	103.2	93.5	97.7	94.7
MT	–	–	–	–	–	–
NL	100.6	104.1	105.9	124.5	121.6	101.0
AT	99.1	104.8	103.3	95.5	99.6	88.0
PL	– 37.6	– 19.7	– 8.7	– 6.9	– 6.5	– 1.5
PT	92.9	100.5	91.2	106.7	98.3	97.3
RO	95.0	97.4	99.5	90.1	104.7	92.2
SI	93.3	96.5	124.9	86.3	100.2	92.9
SK	101.4	110.7	101.2	99.1	89.5	99.0
FI	101.0	95.2	112.5	108.2	86.3	125.1
SE	95.8	98.3	104.5	77.0	113.7	103.7
UK	55.9	69.5	74.9	77.7	51.2	64.1
IS	100.0	:	:	:	:	:
NO	– 13.3	– 192.9	– 175.2	– 202.1	– 50.2	– 26.3
CH	87.6	120.6	94.6	113.0	80.5	:
MK	103.4	99.7	114.1	72.7	125.3	92.4
RS	79.0	100.7	105.6	91.7	99.1	98.9
TR	78.8	91.4	88.7	91.3	82.9	88.8

Source: Eurostat (online data code: nrg_101a)

Figure 2.1.2: Energy dependency — hard coal and derivatives, 2011 (%)



Source: Eurostat (online data code: nrg_101a)

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

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	48.3	48.1	50.2	54.7	56.4	58.4	58.9	64.8	62.3	58.6	62.3

Source: Eurostat (online data code: nrg_101a)

Negative dependency rate indicates a net exporter country. Values over 100 % are possible due to changes in stocks.

In 2001, EU-28 dependency on hard coal and derivatives was 48.3 %. Since 2003, the EU-28's net imports of hard coal and derivatives have been greater than its primary production. In 2011, it reached 62.3 %, an increase of 14 percentage points compared to 2001.

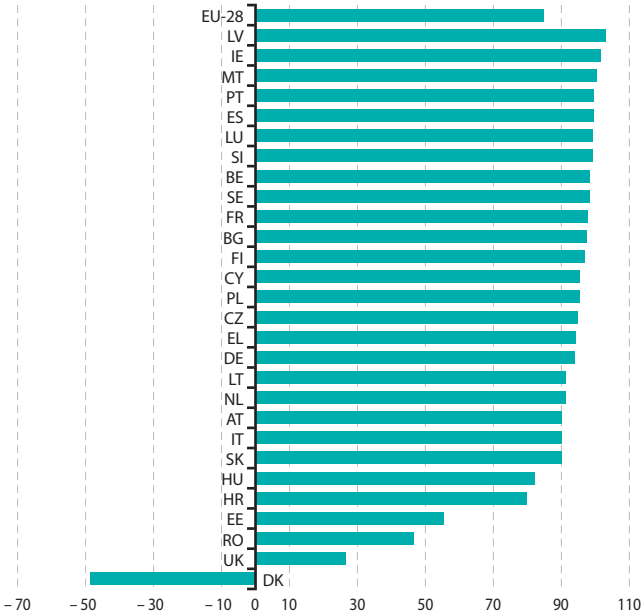
The only net exporters among EU Member States were the Czech Republic and Poland. In 2011, their dependency rates were – 40.6 % and – 1.5 % respectively; in contrast, the majority of Member States were almost entirely dependent on primary hard coal imports. In comparison to 2001, Poland recorded a significant decrease in its exports (from – 37.6 % to – 1.5 %); while increases were recorded in the dependency rates of Latvia (from 71 % in 2001 to 102.1 % in 2011) and Germany (from 53.4 % to 81.8 %).

Table 2.1.3: Energy dependency — oil (%)

	2001	2007	2008	2009	2010	2011
EU-28	77.2	82.4	84.1	83.2	84.1	84.9
BE	100.8	97.4	98.8	95.4	98.0	98.7
BG	97.9	100.0	98.7	101.3	100.8	97.7
CZ	97.5	96.2	97.5	96.6	96.3	95.0
DK	– 69.1	– 66.4	– 49.6	– 60.4	– 45.7	– 48.7
DE	96.6	94.0	95.2	95.2	95.8	94.2
EE	72.9	73.0	64.1	64.7	56.3	55.6
IE	101.7	97.0	99.7	99.2	97.5	101.7
EL	98.5	100.9	101.2	96.7	98.5	94.5
ES	99.3	99.7	100.4	98.9	99.9	99.8
FR	97.8	97.8	97.6	97.6	97.7	98.0
HR	67.7	81.1	84.0	77.8	80.5	79.9
IT	92.9	92.0	91.3	91.2	92.7	90.2
CY	97.5	98.6	100.1	98.9	104.2	95.8
LV	101.3	98.1	99.0	99.4	93.6	103.2
LT	75.0	94.4	92.5	90.1	98.7	91.6
LU	98.8	98.8	100.2	100.1	99.4	99.6
HU	71.6	82.3	80.7	77.6	84.2	82.3
MT	99.8	100.0	100.0	101.1	99.3	100.6
NL	94.8	92.4	97.6	97.1	93.4	91.5
AT	89.2	91.4	92.9	90.4	88.6	90.4
PL	92.5	104.4	96.0	98.3	96.7	95.5
PT	102.8	98.8	102.1	99.0	98.0	99.9
RO	46.0	51.2	51.5	51.1	51.7	46.6
SI	97.9	98.9	101.7	98.3	100.5	99.5
SK	89.4	90.4	90.9	88.0	88.9	90.2
FI	101.1	96.3	98.9	96.5	89.3	97.2
SE	104.2	99.1	102.6	101.8	93.7	98.6
UK	– 44.1	2.2	9.0	7.6	14.5	26.8
IS	99.7	:	:	:	:	:
NO	– 1 733.5	– 1 021.7	– 811.1	– 852.9	– 620.9	– 763.8
CH	98.8	97.4	100.5	100.7	99.9	:
ME	:	100.0	100.0	100.0	100.0	100.0
MK	102.7	96.6	97.4	106.5	97.8	97.3
RS	66.0	83.4	86.8	80.4	75.0	72.5
TR	91.9	96.4	93.4	90.9	92.4	91.8

Source: Eurostat (online data code: nrg_102a)

Figure 2.1.3: Energy dependency — oil, 2011 (%)



Source: Eurostat (online data code: nrg_102a)

Table 2.1.3a: Energy dependency — oil (%)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	77.2	75.9	78.4	79.8	82.2	83.4	82.4	84.1	83.2	84.1	84.9

Source: Eurostat (online data code: nrg_102a)

Negative dependency rate indicates a net exporter country. Values over 100 % are possible due to changes in stocks.

EU-28 dependency on oil imports grew from 77.2 % in 2001 to 84.9 % in 2011. In the last decade, the EU-28 oil dependency rate has remained higher compared to the dependency rates of hard coal and natural gas.

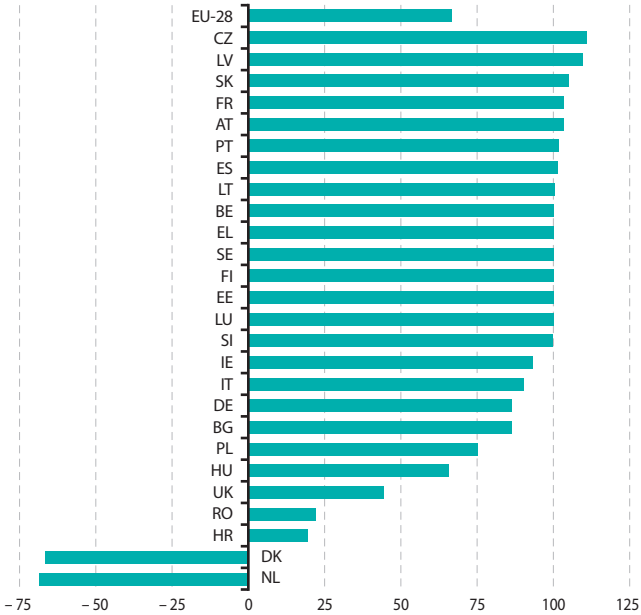
Among Member States, the only net exporter was Denmark (– 48.7 % in 2011). The United Kingdom was also a net exporter until 2005, but became an importer since. In 2011, low dependency rates were recorded in the United Kingdom (26.8 %), Romania (46.6 %) and Estonia (55.6 %). Twenty two Member States presented oil dependency rates over 90 % in 2011. Among EFTA countries, Norway had significant exports (– 763.8 % in 2011).

Table 2.1.4: Energy dependency — natural gas (%)

	2001	2007	2008	2009	2010	2011
EU-28	47.1	60.0	62.0	63.9	62.1	66.7
BE	99.7	99.8	100.4	99.0	99.0	100.1
BG	99.7	91.5	96.2	98.6	92.6	86.1
CZ	96.3	93.4	98.7	104.6	85.2	110.8
DK	– 66.0	– 99.7	– 121.1	– 91.9	– 68.3	– 66.3
DE	77.0	80.3	84.5	87.9	81.9	86.1
EE	100.0	100.0	100.0	100.0	100.0	100.0
IE	81.6	91.4	92.1	92.5	93.4	93.1
EL	99.2	99.1	100.0	99.7	99.9	100.0
ES	96.5	99.1	100.9	98.9	99.4	101.4
FR	93.1	96.5	97.8	100.9	93.0	103.3
HR	29.6	9.2	16.6	8.1	18.1	19.5
IT	77.1	87.0	90.3	88.6	90.5	90.2
CY	–	–	–	–	–	–
LV	85.6	96.8	82.2	114.1	61.8	109.4
LT	99.9	102.9	96.3	100.4	99.7	100.3
LU	100.0	100.0	100.0	100.0	100.0	99.9
HU	72.7	79.9	88.1	85.6	78.7	65.6
MT	–	–	–	–	–	–
NL	– 56.2	– 63.5	– 72.7	– 61.2	– 61.6	– 68.6
AT	72.2	81.6	87.5	85.8	74.4	103.2
PL	69.2	66.0	72.6	67.3	69.3	75.1
PT	99.9	98.7	100.1	101.2	100.4	101.6
RO	17.5	29.8	28.4	15.1	16.8	22.2
SI	99.4	99.7	99.7	99.7	99.3	99.8
SK	91.9	97.9	96.3	108.6	99.9	104.8
FI	100.0	100.0	100.0	100.0	100.0	100.0
SE	100.0	100.0	100.0	100.0	100.0	100.0
UK	– 9.6	20.3	26.1	31.6	37.7	44.2
IS	–	:	:	:	:	:
NO	– 708.7	– 1 504.3	– 1 693.2	– 1 551.3	– 1 402.0	– 1 705.0
CH	100.0	100.0	99.9	99.9	99.8	:
MK	99.9	100.1	100.0	99.9	100.1	100.0
RS	73.7	89.9	89.3	90.4	84.5	73.1
TR	98.8	97.8	100.2	100.1	98.1	96.6

Source: Eurostat (online data code: nrg_103a)

Figure 2.1.4: Energy dependency — natural gas, 2011 (%)



Source: Eurostat (online data code: nrg_103a)

Table 2.1.4a: Energy dependency — natural gas (%)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	47.1	50.9	52.3	53.8	57.5	60.5	60.0	62.0	63.9	62.1	66.7

Source: Eurostat (online data code: nrg_103a)

Negative dependency rate indicates a net exporter country. Values over 100 % are possible due to changes in stocks.

Compared to hard coal and oil, the dependency of EU-28 to natural gas imports has presented the highest increase in the last decade. Between 2001 and 2011, it has grown from 47.1 % to 66.7 %, i.e. an increase of 19.6 %.

Among Member States, only Denmark and the Netherlands presented exporting activity. In 2011, their natural gas dependency rates were – 66.3 % and – 68.6 % respectively. The United Kingdom, a net exporter until 2003, became an importer with a dependency rate that reached 44.2 % in 2011. In 2011, the lowest dependency rates were recorded in Croatia (19.5 %) and Romania (22.2 %). From EFTA countries, Norway's natural gas exports reached – 1 705.0 % in 2011.

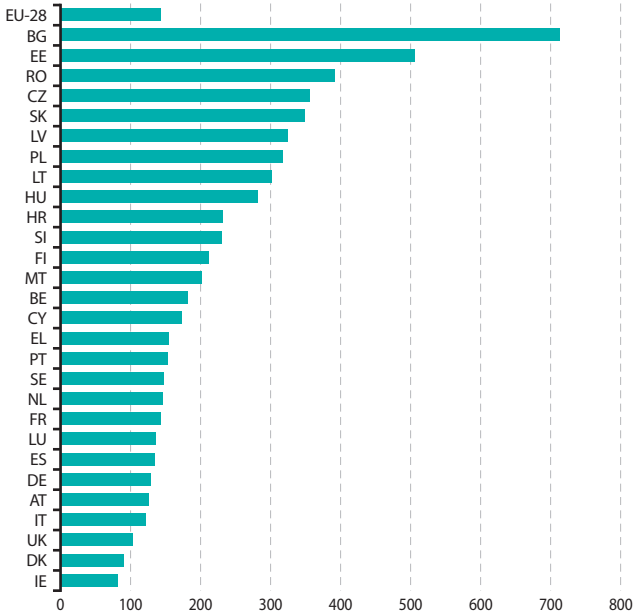
Table 2.2.1: Energy intensity

	(kgoe/1 000 EUR)			Index (2001 = 100)		
	2001	2006	2011	2001	2006	2011
EU-28	171	159	144	100.0	93.0	84.2
BE	208	187	182	100.0	90.3	87.6
BG	1 048	833	712	100.0	79.5	68.0
CZ	480	414	356	100.0	86.3	74.2
DK	104	99	91	100.0	95.1	87.5
DE	161	151	129	100.0	93.8	80.0
EE	616	441	505	100.0	71.6	82.1
IE	112	90	82	100.0	79.8	73.1
EL	176	155	155	100.0	87.9	88.0
ES	158	153	135	100.0	96.6	85.3
FR	165	155	143	100.0	94.1	87.0
HR	266	237	232	100.0	88.8	87.0
IT	127	127	121	100.0	100.7	96.0
CY	200	185	173	100.0	92.3	86.6
LV	439	322	324	100.0	73.4	73.9
LT	536	381	302	100.0	71.0	56.4
LU	148	149	136	100.0	100.6	91.8
HU	345	298	282	100.0	86.4	81.8
MT	190	180	202	100.0	94.7	106.3
NL	161	151	146	100.0	93.8	90.9
AT	135	136	126	100.0	100.8	93.4
PL	426	377	318	100.0	88.6	74.6
PT	167	164	153	100.0	98.1	91.5
RO	585	474	392	100.0	81.1	67.1
SI	273	241	230	100.0	88.4	84.5
SK	600	454	349	100.0	75.6	58.2
FI	239	233	212	100.0	97.4	88.7
SE	191	162	148	100.0	84.7	77.2
UK	141	120	104	100.0	85.2	73.5
IS	303	315	:	100.0	103.9	:
NO	122	111	112	100.0	90.6	91.2
CH	95	88	:	100.0	92.5	:
MK	610	578	530	100.0	94.7	86.9
TR	240	225	232	100.0	93.9	96.8

NB: Gross Domestic Product: millions of Euro, chain-linked volumes, reference year 2005 (at 2005 exchange rates).

Source: Eurostat (online data code: nrg_ind_332a)

Figure 2.2.1: Energy intensity, 2011 (kgoe/1 000 EUR)



Source: Eurostat (online data code: nrg_ind_332a)

Table 2.2.1a: Energy intensity (kgoe/1 000 EUR)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	171	168	169	167	164	159	152	151	150	151	144

Table 2.2.1b: Index of energy intensity (2001=100)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	100.0	98.4	99.2	97.9	96.0	93.0	89.2	88.5	87.6	88.7	84.2

Source: Eurostat (online data code: nrg_ind_332a)

In 2011, energy intensity in the EU-28 reached 144 kgoe/1 000 EUR, a 16 % decrease compared to 2001. In the last decade all Member States but Malta decreased their energy intensities. The highest decreases were observed in Lithuania (– 44 %), Slovakia (– 42 %), Romania (– 33 %) and Bulgaria (– 32 %). In spite of the decrease, in all four countries the amount of energy required to produce a unit of economic output remained among the highest in 2011; particularly Bulgaria remained the most energy intensive economy (712), five times above EU average. The lowest levels of energy intensity were observed in Ireland (82) and Denmark (91). In the last decade, Ireland recorded a 27 % decrease in its intensity.

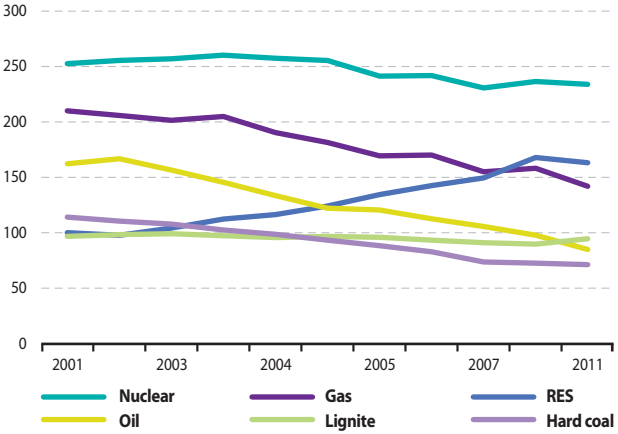
Table 2.3.1: Primary energy production, by fuel

	Total production (ktoe)			Share of each fuel to total production, 2011 (%)					
	2001	2006	2011	Hard coal	Lignite	Oil	Gas	Nuclear	RES
EU-28	944 586	882 075	804 976	9	12	11	18	29	20
BE	13 087	13 565	17 648	–	–	–	–	71	14
BG	10 307	10 987	12 256	0	51	0	3	35	12
CZ	31 329	33 519	31 956	22	43	1	0	23	9
DK	27 130	29 545	21 017	–	–	54	30	–	14
DE	134 682	138 480	124 411	7	31	3	9	22	25
EE	3 170	3 746	5 038	–	81	–	–	–	19
IE	1 775	1 644	1 789	–	42	–	16	–	41
EL	9 982	10 074	9 615	–	78	1	0	–	21
ES	33 309	31 178	31 624	8	–	0	0	47	44
FR	130 724	135 060	134 917	–	–	1	0	85	13
HR	3 758	4 146	3 787	–	–	19	53	–	28
IT	26 966	27 754	31 866	0	–	18	22	–	56
CY	44	52	96	–	–	–	–	–	100
LV	1 523	1 846	2 075	–	0	–	–	–	100
LT	4 182	3 435	1 290	–	1	9	–	–	90
LU	72	119	116	–	–	–	–	–	73
HU	11 285	10 282	10 719	–	15	9	20	38	17
MT	0	0	1	–	–	–	–	–	100
NL	61 450	61 089	64 535	–	–	3	89	2	5
AT	9 781	10 137	11 501	–	0	7	13	–	73
PL	79 904	77 185	68 083	63	18	1	6	–	11
PT	4 097	4 365	5 304	–	–	–	–	–	97
RO	27 921	28 252	27 783	0	24	16	31	11	18
SI	3 146	3 428	3 748	–	32	–	0	43	24
SK	6 467	6 378	6 171	–	10	0	2	65	22
FI	15 241	18 091	16 998	–	10	0	–	35	54
SE	33 345	32 369	32 082	–	1	–	–	49	49
UK	259 910	185 348	128 552	8	–	41	32	14	5
IS	1 886	2 632	:	:	:	:	:	:	:
NO	228 681	216 582	199 570	0	–	48	45	–	6
CH	12 507	12 199	:	:	:	:	:	:	:
ME	:	689	791	–	55	–	–	–	45
MK	1 575	1 617	1 744	–	81	–	–	–	19
RS	10 173	9 650	10 406	–	75	10	4	–	11
TR	24 458	26 386	32 133	6	49	7	2	–	35

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-28 (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-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	945	943	935	932	901	882	861	854	818	835	805	– 15
Oil	162	167	157	146	134	122	121	113	106	98	85	– 48
Gas	210	206	202	205	191	182	170	170	155	158	142	– 32
Nuclear	253	256	257	260	258	255	241	242	231	237	234	– 7
Hard coal	114	111	108	103	99	94	89	83	74	73	72	– 37
Lignite	97	99	99	98	96	97	96	94	91	90	95	– 2
RES	100	98	105	113	117	124	135	143	150	168	163	63

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

Total primary energy production in the EU-28 has declined continuously between 2001 and 2009 (– 13 %). From 2009 to 2010, it grew by 2 %, followed by a 4 % drop from 2010 to 2011. In the last decade, RES production grew by 63 %, while reductions were recorded in the production of all other fuels. The reduction in oil production reached – 48 %, followed by gas (– 32 %), solid fuels (– 21 %) and nuclear (– 7 %). In 2011, EU-28 primary energy production amounted to 805 Mtoe; 29 % of this amount was produced by nuclear energy, followed by solid fuels (21 %), renewables (20 %), gas (18 %) and oil (11 %). In 2001, the production mix in the EU-28 was significantly different. The main source of primary energy production was still nuclear energy (27 %), followed by solid fuels (22 %), gas (22 %) and oil (17 %), while renewables only made up 11 % of the total.

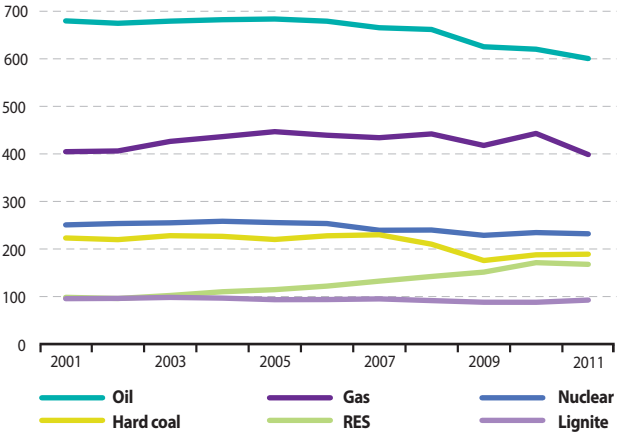
Among Member States, from 2001 to 2011, significant decreases were recorded in the energy production of Lithuania (– 69 %) and the United Kingdom (– 51 %).

Table 2.3.2: Gross inland consumption, by fuel

	Total consumption (ktoe)			Share of each fuel to total production, 2011 (%)					
	2001	2006	2011	Hard coal	Lignite	Oil	Gas	Nuclear	RES
EU-28	1 771 673	1 834 706	1 706 200	11	6	35	23	14	10
BE	58 647	58 353	59 687	5	0	39	25	21	5
BU	19 449	20 645	19 278	10	32	20	14	22	7
CZ	42 341	46 322	43 318	13	30	21	16	17	7
DK	20 346	21 142	18 993	17	0	39	20	–	21
DE	353 333	348 905	316 310	12	12	35	21	9	10
EE	5 178	5 426	6 163	0	65	17	8	–	13
IE	15 095	15 394	13 852	9	6	49	30	–	6
EL	29 103	31 566	27 920	1	27	48	14	–	8
ES	127 041	144 621	128 536	10	–	45	23	12	11
FR	266 401	273 042	259 325	4	0	32	14	44	7
HR	7 995	8 943	8 540	8	0	43	30	–	10
IT	176 257	186 917	172 940	9	0	39	37	–	12
CY	2 418	2 616	2 672	0	0	95	–	–	5
LV	4 100	4 624	4 243	3	0	29	30	–	34
LT	8 245	8 608	7 067	3	1	35	38	–	15
LU	3 856	4 734	4 586	1	0	64	23	–	3
HU	25 901	27 485	25 234	4	7	26	37	16	7
MT	879	910	1 127	–	–	100	–	–	0
NL	78 944	80 205	81 312	9	0	41	42	1	4
AT	30 672	34 546	33 951	10	0	37	23	–	26
PL	90 476	97 896	102 175	41	12	26	13	–	8
PT	25 255	25 692	23 900	9	–	49	19	–	22
RO	37 342	40 811	36 349	3	19	25	31	8	14
SI	6 747	7 330	7 267	3	17	36	10	22	13
SK	18 814	18 925	17 424	16	5	21	27	23	8
FI	33 786	38 245	35 745	10	6	29	9	17	25
SE	50 618	50 454	49 511	4	1	30	2	32	32
UK	232 435	230 349	198 777	15	–	36	35	9	4
IS	2 789	3 711	:	:	:	:	:	:	:
NO	27 381	27 755	28 701	3	–	37	17	–	42
CH	27 938	28 246	:	:	:	:	:	:	:
ME	:	1 131	1 188	–	36	25	–	–	28
MK	2 594	2 920	3 128	5	43	31	4	–	10
RS	13 749	16 253	15 371	4	53	24	12	–	7
TR	70 979	94 417	115 728	15	14	29	32	–	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-28 (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-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	1 772	1 766	1 808	1 829	1 834	1 835	1 818	1 810	1 711	1 768	1 706	– 4
Oil	681	676	680	683	685	680	666	663	626	621	602	– 12
Gas	406	408	428	438	448	441	436	443	419	445	400	– 2
Nuclear	253	256	257	260	258	255	241	242	231	237	234	– 7
Hard coal	225	222	230	229	222	230	232	212	178	190	191	– 15
Lignite	98	98	101	99	96	96	97	94	90	90	95	– 3
RES	101	98	105	112	117	124	135	144	154	173	170	69

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

Between 2001 and 2011, gross inland consumption (GIC) in the EU-28 fell by 4 %. In the last decade, RES consumption grew by 69 %, while the consumption of all other fuels declined. The highest decline was observed in oil consumption (– 12 %), followed by solid fuels (– 11 %), nuclear energy (– 7 %) and gas (– 2 %). Between 2010 and 2011, EU-28 GIC dropped for all fuels except for solid fuels. The highest drop was observed in gas consumption (– 10 %).

In 2011, EU-28 total GIC was 1 706 Mtoe, the lowest levels of the decade. The fuel mix of GIC has only presented slight changes over the past decade, contrary to the primary energy production fuel mix. Oil consumption has remained at high levels with a 35 % share of the total in 2011, followed by gas (23 %), solid fuels (17 %), nuclear (14 %) and renewables (10 %).

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)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Russia	4 437	4 575	4 916	4 962	5 143	5 140	4 896	5 148	4 566	4 032	4 102
Norway	2 104	2 644	2 758	2 802	3 064	3 307	3 566	3 927	4 058	3 912	3 715
Algeria	1 957	2 132	2 159	2 042	2 257	2 132	1 946	2 000	1 867	1 986	1 767
Qatar	27	88	80	160	196	233	275	316	724	1 375	1 486
Nigeria	216	218	336	410	436	564	588	540	316	576	589
Libya	33	26	30	48	209	321	384	398	380	382	93
Other countries	509	433	576	847	1 288	1 316	1 018	1 314	1 463	1 710	1 771
Total	9 284	10 116	10 855	11 271	12 593	13 014	12 673	13 644	13 374	13 972	13 522

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

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Russia	138	156	171	186	190	192	189	182	176	182	178
Norway	107	102	105	107	97	87	84	86	79	72	64
Saudi Arabia	57	53	62	64	61	51	40	39	30	31	41
Kazakhstan	9	13	15	19	26	26	26	27	28	29	29
Iran	31	26	35	36	35	35	35	30	25	30	29
Libya	44	39	46	50	50	52	54	56	47	53	14
Other countries	149	139	116	109	119	124	133	151	141	128	156
Total	536	528	549	572	577	567	561	571	526	524	511

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

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Russia	21	23	25	38	49	56	56	58	55	48	52
Colombia	23	22	23	25	24	26	29	28	32	36	48
USA	20	14	13	15	16	17	21	32	25	30	36
South Africa	49	54	57	54	52	53	46	37	29	18	16
Australia	29	29	31	31	27	27	30	26	14	19	18
Indonesia	10	12	13	13	13	19	17	14	12	10	10
Other countries	29	19	21	28	21	20	25	25	15	18	21
Total	182	173	182	203	202	220	224	220	183	179	202

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)

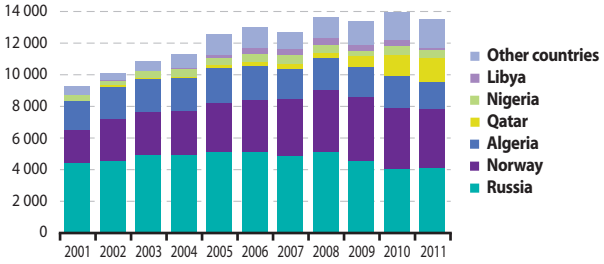


Figure 2.3.3b: Imports of crude oil, by country of origin (Mt)

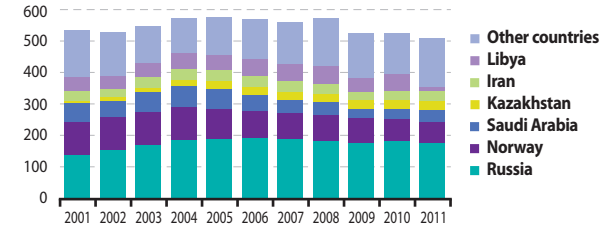
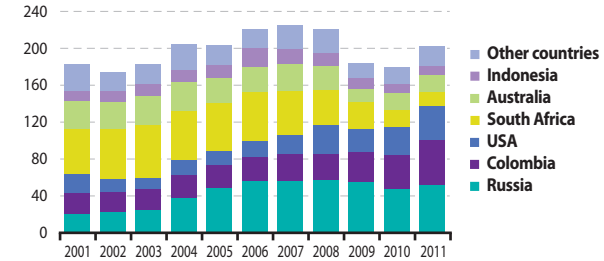


Figure 2.3.3c: Imports of hard coal, by country of origin (Mt)



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

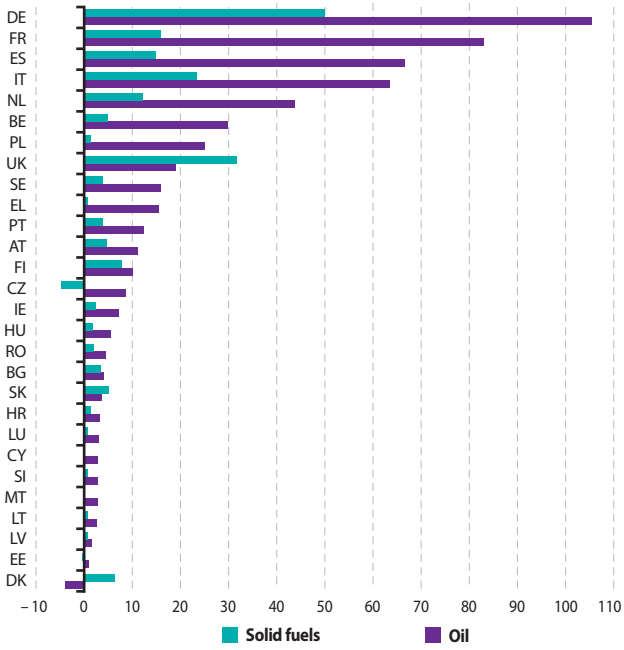
EU-28 imports of natural gas grew by 46 % between 2001 and 2011. Russia was the principal EU supplier with a 30 % share of total natural gas imports in 2011; Norway followed with a 27 % share. From 2001 to 2011, natural gas imports from Qatar presented a 54-fold increase. EU-28 imports of crude oil recorded a 5 % decline in the last decade. Over this period, imports from Kazakhstan presented a 3-fold increase. In 2011, imports from Russia accounted for 35 % of total imports compared to a 26 % share in 2001. Imports of hard coal in the EU-28 grew by 11 % between 2001 and 2011. Over this period, imports from Russia, Colombia and the USA presented a 2-fold increase. In 2011, imports from Russia made up a 26 % share of the total, followed by Colombia (24 %).

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

	Solid fuels			Oil		
	2001	2006	2011	2001	2006	2011
EU-28	172 959	213 186	190 423	553 771	605 417	544 530
BE	11 836	7 176	4 657	29 869	32 488	29 662
BG	4 048	4 068	3 237	4 250	5 148	3 795
CZ	– 7 996	– 6 097	– 4 602	8 121	9 559	8 494
DK	6 789	8 617	6 155	– 6 432	– 7 856	– 3 830
DE	41 592	44 772	49 849	129 315	118 856	105 147
EE	1 070	– 58	– 59	836	983	693
IE	3 040	2 647	2 280	8 856	8 584	6 898
EL	1 318	352	489	19 699	21 510	15 340
ES	18 436	22 812	14 769	72 804	79 185	66 298
FR	16 739	21 168	15 650	94 357	92 708	82 692
HR	744	1 188	1 206	2 759	3 585	2 976
IT	20 045	25 135	23 228	84 825	79 791	63 157
CY	59	64	1	2 498	2 989	2 651
LV	93	166	189	1 440	1 687	1 481
LT	112	433	444	2 037	2 733	2 352
LU	202	155	99	2 369	2 950	2 869
HU	1 558	1 740	1 518	4 746	5 990	5 239
MT	–	–	–	1 634	1 700	2 545
NL	13 659	12 729	12 067	41 605	46 943	43 525
AT	4 957	5 562	4 566	11 533	13 393	11 034
PL	– 25 060	– 17 990	1 186	18 649	23 495	24 785
PT	4 807	5 777	3 598	16 642	13 937	12 101
RO	3 641	4 616	1 795	5 437	4 822	4 297
SI	506	619	556	2 373	2 592	2 553
SK	5 698	5 917	4 827	2 816	3 435	3 382
FI	6 585	7 184	7 509	9 992	11 342	9 938
SE	3 718	3 510	3 624	16 249	15 731	15 607
UK	34 763	50 924	31 585	– 35 508	7 137	18 849
IS	140	134	:	871	1 028	:
NO	– 194	– 1 347	– 338	– 155 565	– 111 300	– 82 333
CH	194	260	:	13 134	12 669	:
ME	:	– 74	– 53	:	309	299
MK	138	302	269	821	973	948
RS	284	1 504	1 434	1 754	3 934	2 610
TR	8 562	20 769	23 987	26 463	30 147	30 633

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

Figure 2.3.4: Net imports of solid fuels and oil, 2011 (mio tonnes)



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

Table 2.3.4a: Net imports of solid fuels and oil, EU-28 (mio tonnes)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Solid fuels	173	168	184	199	198	213	218	219	179	176	190
Oil	554	542	563	578	598	605	587	596	555	556	545

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

Between 2001 and 2008, EU-28 net imports of solid fuels grew by 27 %, followed by an 18 % decrease between 2008 and 2009. From 2009 to 2010, they presented a further decline of 2 %; while in 2011 they marked an 8 % increase compared to 2010 and reached 190 million tonnes. Among Member States, in 2011 the only net exporters were the Czech Republic and Estonia. Poland exported solid fuels until 2010; however, in 2011 it imported 1 186 thousand tonnes. The main importers were Germany (26 % of the EU total in 2011) and the United Kingdom (17 %).

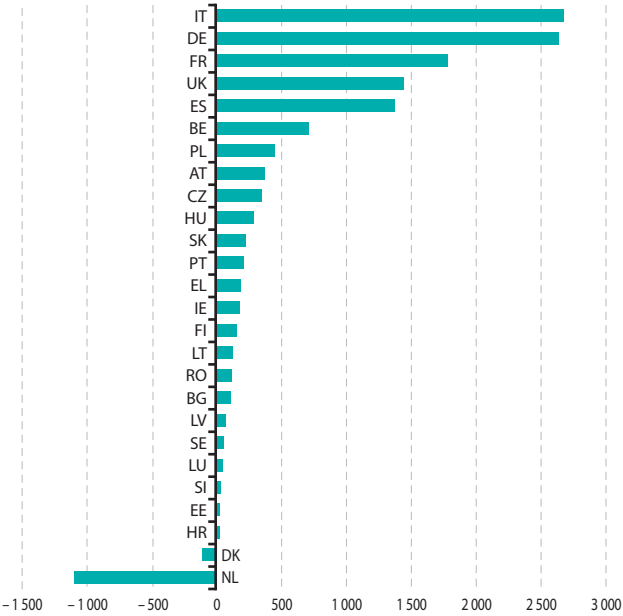
EU-28 net imports of oil grew by 8 % between 2001 and 2008; followed by a 9 % decline from 2008 to 2011. Overall, in 2011 net oil imports reached 545 million tonnes, a 2 % decline from 2001. Denmark was the only net exporting Member State in 2011; the main net importers were Germany (19 %) and France (15 %).

Table 2.3.5: Net imports of natural gas (PJ)

	2001	2007	2008	2009	2010	2011
EU-28	8 903	12 153	12 797	12 472	12 847	12 409
BE	611	693	693	696	781	708
BG	127	128	130	99	99	105
CZ	360	312	327	327	318	349
DK	– 142	– 188	– 229	– 167	– 141	– 115
DE	2 707	2 873	3 009	3 130	2 796	2 638
EE	33	37	36	24	26	23
IE	136	182	192	184	204	178
EL	78	155	163	138	150	185
ES	736	1 466	1 639	1 437	1 440	1 368
FR	1 626	1 727	1 814	1 805	1 840	1 780
HR	32	12	20	9	22	23
IT	2 085	2 815	2 921	2 634	2 866	2 676
CY	–	–	–	–	–	–
LV	51	61	51	65	42	66
LT	100	138	116	102	116	127
LU	35	53	51	52	56	48
HU	362	398	433	365	359	285
MT	–	–	–	–	–	–
NL	– 938	– 986	– 1 176	– 999	– 1 126	– 1 095
AT	232	274	311	298	284	372
PL	334	384	424	378	413	448
PT	105	175	193	198	210	211
RO	107	180	164	74	84	115
SI	39	42	41	39	40	34
SK	264	232	231	223	233	226
FI	172	173	179	162	179	156
SE	41	42	38	51	68	54
UK	– 388	774	1 024	1 147	1 487	1 443
IS	–	:	:	:	:	:
NO	– 2 031	– 3 406	– 3 827	– 3 963	– 4 063	– 3 954
CH	118	123	131	125	140	:
MK	3	4	5	3	4	5
RS	59	84	83	59	73	65
TR	615	1 385	1 407	1 346	1 432	1 653

Source: Eurostat (online data code: nrg_103a)

Figure 2.3.5: Net imports of natural gas, 2011 (PJ)



Source: Eurostat (online data code: nrg_103a)

Table 2.3.5a: Net imports of natural gas (PJ)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	8 903	9 662	10 406	10 955	11 995	12 410	12 153	12 797	12 472	12 847	12 409

Source: Eurostat (online data code: nrg_103a)

EU-28 net imports of natural gas presented a 39 % increase between 2001 and 2011. The growth was continuous between 2001 and 2006, followed by a period of fluctuations. In 2011, EU-28 natural gas imports were 12 409 PJ, approximately at 2006 levels.

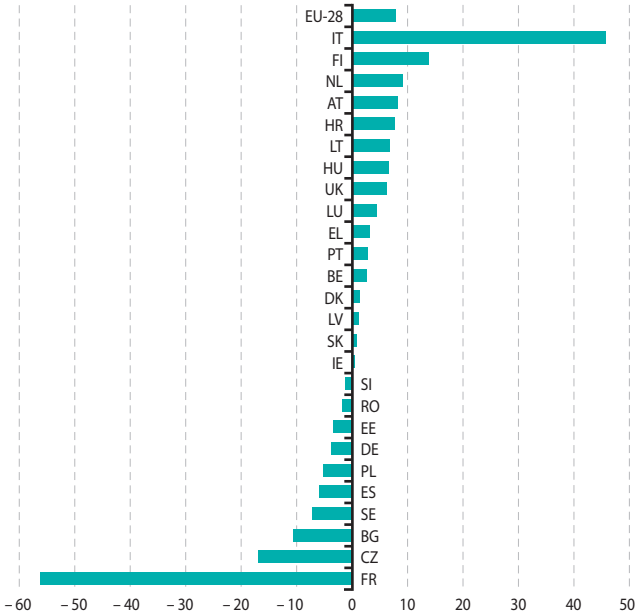
The Member States that exported natural gas in 2011 were the Netherlands (– 1 095 PJ) and Denmark (– 115 PJ). The main importers were Italy (22 % of the EU total) and Germany (21 %). In the last decade, Greece and Portugal presented a twofold increase in their natural gas imports. In contrast, the highest decreases were observed in Estonia (– 29 %) and Croatia (– 27 %), which also presented the lowest net imports in 2011.

Table 2.3.6: Net imports of electricity (GWh)

	2001	2007	2008	2009	2010	2011
EU-28	7 667	16 850	23 641	20 823	8 247	7 836
BE	9 106	6 779	10 597	– 1 835	551	2 537
BG	– 6 925	– 4 475	– 5 344	– 5 073	– 8 446	– 10 661
CZ	– 9 539	– 16 153	– 11 469	– 13 644	– 14 948	– 17 044
DK	– 575	– 950	1 455	334	– 1 135	1 320
DE	3 657	– 16 555	– 20 100	– 12 273	– 14 955	– 3 765
EE	– 622	– 2 420	– 941	82	– 3 254	– 3 562
IE	– 250	1 330	450	764	470	490
EL	2 500	4 355	5 613	4 367	5 706	3 232
ES	3 450	– 5 751	– 11 039	– 8 104	– 8 333	– 6 091
FR	– 68 390	– 56 813	– 47 988	– 25 934	– 30 749	– 56 413
HR	3 156	6 361	6 577	5 682	4 765	7 697
IT	48 377	46 283	40 035	44 959	44 160	45 732
CY	–	–	–	–	–	–
LV	1 883	3 000	2 520	1 654	873	1 245
LT	– 3 964	– 1 372	– 957	– 2 932	5 990	6 739
LU	5 316	3 960	4 346	3 418	4 064	4 482
HU	3 171	3 986	3 903	5 513	5 195	6 643
MT	–	–	–	–	–	–
NL	17 283	17 574	15 851	4 891	2 776	9 089
AT	215	6 619	4 863	780	2 331	8 195
PL	– 6 729	– 5 348	– 669	– 2 191	– 1 354	– 5 242
PT	239	7 488	9 431	4 776	2 623	2 813
RO	– 1 310	– 2 090	– 4 248	– 2 295	– 2 274	– 1 906
SI	– 1 772	229	– 1 599	– 3 059	– 2 092	– 1 262
SK	– 3 678	1 725	521	1 312	1 041	727
FI	9 959	12 557	12 772	12 085	10 501	13 852
SE	– 7 290	1 316	– 1 961	4 685	2 078	– 7 233
UK	10 399	5 215	11 022	2 861	2 663	6 222
NO	3 571	– 10 035	– 13 863	– 8 983	7 549	– 3 074
CH	– 10 444	– 2 062	– 1 135	– 2 157	520	:
ME	:	2 587	1 776	1 055	2	1 562
MK	431	2 491	2 733	1 438	1 420	2 676
RS	4 040	– 86	73	– 1 425	– 297	– 278
TR	4 146	– 1 558	– 333	– 734	– 774	911

Source: Eurostat (online data code: nrg_105a)

Figure 2.3.6: Net imports of electricity, 2011 (TWh)



Source: Eurostat (online data code: nrg_105a)

Table 2.3.6a: Net imports of electricity (TWh)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	7.7	16.0	0.7	– 3.7	16.4	9.1	16.9	23.6	20.8	8.2	7.8
Top-5 exporters	– 77.7	– 79.4	– 90.1	– 89.2	– 86.5	– 104.0	– 99.7	– 95.9	– 65.0	– 77.4	– 94.0
Top-5 importers	81.9	86.7	83.6	77.9	95.8	90.7	86.8	79.1	73.1	67.4	83.0

Source: Eurostat (online data code: nrg_105a)

Top 5 EU-28 exporters and importers are drawn according to average activity levels of the last three years. Top 5 exporting countries are France, the Czech Republic, Germany, Bulgaria and Spain. Top 5 importing countries are Italy, Finland, Croatia, Hungary and the Netherlands.

In the last decade, electricity imports in the EU-28 fluctuated between – 3 660 GWh in 2004 and 23 641 GWh in 2008. In 2011, EU-28 net imports of electricity amounted to 7 836 GWh.

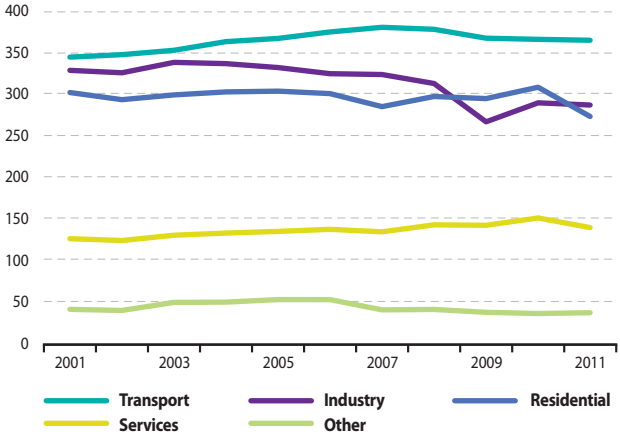
Among Member States, in the last decade Italy remained the top net importer of electricity. In 2011, its imports were 45 732 GWh, 3 times above the imports of the second top importer, Finland (13 852 GWh). In contrast, France was the main net exporting Member State in the last decade. In 2011, its exports reached – 56 143 GWh, 3 times above the exports of the second Czech Republic (– 17 044 GWh).

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

	Total		Industry		Transport		Residential		Services	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	1 150	1 109	330	288	346	366	303	275	128	141
BE	37.90	38.89	14.09	13.27	9.54	10.70	9.87	7.41	3.64	4.41
BG	8.94	9.29	3.83	2.71	2.07	2.94	2.00	2.38	0.76	1.05
CZ	25.15	24.63	9.75	8.57	4.65	6.33	6.56	5.89	3.24	3.02
DK	15.12	14.68	3.02	2.38	4.85	5.14	4.41	4.37	1.89	1.96
DE	222.69	207.09	56.54	59.99	64.45	62.33	69.67	52.93	26.62	29.86
EE	2.66	2.84	0.63	0.61	0.68	0.78	0.95	0.94	0.30	0.41
IE	11.10	10.80	2.46	2.18	4.29	4.31	2.62	2.73	1.41	1.32
EL	19.17	18.84	4.50	3.32	7.38	7.67	4.70	5.45	1.47	1.87
ES	83.50	86.53	27.13	21.18	34.32	36.04	12.61	16.22	7.05	9.54
FR	160.45	148.07	38.96	30.36	50.69	50.06	42.59	36.95	18.76	20.90
HR	5.48	6.18	1.44	1.29	1.55	2.02	1.67	1.87	0.55	0.75
IT	125.98	122.31	38.77	30.13	42.94	42.04	28.92	31.32	11.99	15.75
CY	1.69	1.90	0.43	0.19	0.92	1.04	0.17	0.31	0.12	0.22
LV	3.57	3.98	0.61	0.74	0.88	1.19	1.44	1.32	0.50	0.58
LT	3.92	4.70	0.77	0.94	1.16	1.53	1.42	1.53	0.47	0.59
LU	3.69	4.28	0.73	0.66	2.03	2.74	0.50	0.43	0.38	0.42
HU	16.88	16.28	3.62	2.84	3.41	4.27	6.01	5.52	3.20	3.15
MT	0.40	0.45	0.04	0.05	0.23	0.27	0.07	0.07	0.05	0.06
NL	51.33	50.66	14.66	14.18	14.30	15.31	10.66	9.75	7.93	8.17
AT	25.08	27.33	7.42	8.67	7.52	8.73	6.66	6.44	2.93	2.94
PL	56.01	64.69	17.50	16.16	9.74	17.77	18.80	19.01	5.38	8.10
PT	17.96	17.35	6.17	5.34	6.57	6.94	2.86	2.79	1.85	1.85
RO	23.30	22.58	9.95	7.11	4.12	5.16	7.28	7.86	1.12	1.77
SI	4.58	4.95	1.33	1.24	1.29	1.93	1.12	1.17	0.72	0.53
SK	10.95	10.80	3.95	4.25	2.03	2.66	3.08	2.12	1.71	1.60
FI	24.97	25.18	11.98	11.23	4.41	5.05	4.94	5.04	1.65	1.85
SE	34.34	32.17	13.20	11.11	8.07	9.10	7.51	6.96	4.78	4.53
UK	153.49	132.02	36.48	27.65	51.76	52.06	44.28	35.84	17.49	14.08
IS	1.43	:	0.36	:	0.33	:	0.43	:	0.04	:
NO	20.23	18.53	8.41	6.12	4.49	5.14	3.98	3.90	2.53	2.49
CH	20.95	:	4.02	:	7.22	:	5.85	:	3.44	:
ME	:	0.78	:	0.22	:	0.22	:	0.34	:	0.00
MK	1.44	1.91	0.48	0.65	0.35	0.48	0.44	0.54	0.12	0.19
RS	7.21	8.48	2.54	2.83	1.28	2.04	2.36	2.43	0.03	0.77
TR	53.66	78.50	19.80	26.43	11.96	16.02	16.30	24.06	2.67	6.51

Source: Eurostat (online data code: nrg_100a)

Figure 2.4.1: Final energy consumption, by sector, EU-28 (Mtoe)



Source: Eurostat (online data code: nrg_100a)

Table 2.4.1a: Final energy consumption, by sector, EU-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	1 150	1 138	1 178	1 193	1 198	1 198	1 172	1 180	1 116	1 159	1 109	– 4
Industry	330	327	340	338	333	326	325	314	268	291	288	– 13
Transport	346	349	354	364	368	376	382	379	369	367	366	6
Residential	303	295	301	304	305	302	286	299	296	310	275	– 9
Services	128	126	132	135	137	139	136	145	144	153	141	10
Other	43	42	51	52	55	55	43	43	40	38	39	– 9

Source: Eurostat (online data code: nrg_100a)

Final energy consumption in the EU-28 fell by 4 % between 2001 and 2011. In this period, decreases were recorded in the consumption by industry (– 13 %) and households (– 9 %); whereas increases were recorded in services (10 %) and the transport sector (6 %). The most noteworthy observations in the last decade include the decreased consumptions in all sectors in 2008-09; the industrial sector experienced the most significant decrease over this time (– 15 %). In 2009-10 an increase was recorded in total consumption, followed by a – 4 % decrease in 2010-11 with decreases in all major sectors. The highest decreases in 2010-11 were recorded in residential consumption (– 11 %) and services (– 8 %).

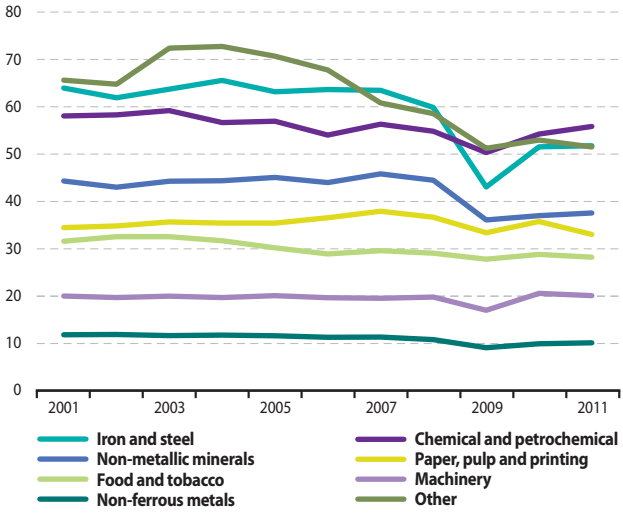
In 2011, EU-28 final energy consumption reached 1 109 Mtoe. A third of this amount was consumed by the transport sector (33 %), followed by the industrial sector (26 %), households (25 %) and services (13 %).

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

	Total industry		Iron and steel		Chemical and petrochemical		Non-metallic minerals		Food and tobacco		Paper, pulp and print	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	330	288	64	52	58	56	44	38	32	28	34	33
BE	14.09	13.27	4.81	1.99	3.03	6.12	1.32	1.25	0.71	1.21	0.51	0.80
BG	3.83	2.71	0.89	0.15	1.37	0.88	0.51	0.51	0.29	0.23	0.07	0.22
CZ	9.75	8.57	3.18	2.49	1.27	1.54	1.17	1.01	0.80	0.58	0.54	0.60
DK	3.02	2.38	0.13	0.03	0.27	0.22	0.62	0.44	0.76	0.69	0.15	0.15
DE	56.54	59.99	14.24	13.64	10.27	12.52	6.51	6.64	4.49	4.92	4.59	6.02
EE	0.63	0.61	0.00	0.00	0.09	0.04	0.15	0.15	0.09	0.06	0.04	0.06
IE	2.46	2.18	0.02	0.00	0.36	0.25	0.45	0.28	0.54	0.47	0.06	0.03
EL	4.50	3.32	0.21	0.18	0.25	0.17	1.37	0.73	0.62	0.60	0.16	0.09
ES	27.13	21.18	4.57	3.06	3.66	3.15	7.05	4.57	2.76	2.10	1.91	1.48
FR	38.96	30.36	6.28	5.20	7.35	6.10	4.23	4.12	5.18	4.38	3.40	2.00
HR	1.44	1.29	0.04	0.03	0.25	0.21	0.49	0.34	0.23	0.25	0.09	0.09
IT	38.77	30.13	7.07	6.25	5.31	4.02	7.62	5.80	3.58	2.73	2.68	2.25
CY	0.43	0.19	–	0.00	0.00	0.00	0.21	0.12	0.01	0.02	0.00	0.00
LV	0.61	0.74	0.14	0.05	0.02	0.02	0.07	0.15	0.14	0.09	0.01	0.01
LT	0.77	0.94	0.01	0.00	0.15	0.32	0.16	0.16	0.15	0.18	0.05	0.04
LU	0.73	0.66	0.34	0.35	0.05	0.08	0.18	0.11	0.03	0.02	0.03	0.01
HU	3.62	2.84	0.62	0.58	0.81	0.51	0.63	0.42	0.59	0.41	0.17	0.16
MT	0.04	0.05	–	–	–	–	–	–	–	–	–	–
NL	14.66	14.18	2.28	2.33	5.50	6.03	0.84	0.63	2.32	1.93	0.94	0.70
AT	7.42	8.67	2.09	2.31	0.80	0.88	0.76	1.09	0.46	0.53	1.55	1.43
PL	17.50	16.16	4.24	2.68	3.83	3.75	2.38	3.00	1.91	1.77	1.11	1.24
PT	6.17	5.34	0.15	0.16	0.63	0.60	2.08	1.48	0.49	0.55	1.20	1.30
RO	9.95	7.11	2.84	2.00	2.62	2.23	1.00	0.61	0.79	0.56	0.29	0.07
SI	1.33	1.24	0.15	0.14	0.11	0.16	0.22	0.19	0.09	0.07	0.20	0.17
SK	3.95	4.25	1.41	2.02	0.60	0.32	0.56	0.40	0.21	0.12	0.44	0.50
FI	11.98	11.23	1.47	1.49	0.75	0.95	0.38	0.32	0.26	0.40	6.19	6.14
SE	13.20	11.11	1.79	1.51	1.76	0.60	0.50	0.44	0.51	0.40	5.67	5.28
UK	36.48	27.65	4.97	3.13	6.93	4.16	2.86	2.63	3.60	2.98	2.44	2.23
IS	0.36	:	0.17	:	–	:	0.01	:	0.07	:	–	:
NO	8.41	6.12	1.17	0.81	2.48	1.40	0.30	0.29	0.39	0.36	1.05	0.78
CH	4.02	:	0.15	:	0.66	:	0.52	:	0.49	:	0.56	:
ME	:	0.22	:	0.02	:	0.01	:	0.00	:	0.01	:	0.00
MK	0.48	0.65	0.16	0.43	0.01	0.01	0.12	0.09	0.04	0.04	0.00	0.00
RS	2.54	2.83	0.14	0.49	0.14	0.43	–	0.47	–	0.00	–	0.06
TR	19.80	26.43	3.35	6.13	2.87	2.03	0.92	2.29	1.09	1.98	0.41	0.43

Source: Eurostat (online data code: nrg_100a)

Figure 2.4.2: Final energy consumption, by industrial sector, EU-28 (Mtoe)



Source: Eurostat (online data code: nrg_100a)

Table 2.4.2a: Final energy consumption, by industrial sector, EU-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	330	327	340	338	333	326	325	314	268	291	288	– 13
Iron and steel	64	62	64	66	63	64	63	60	43	52	52	– 19
Chemical and petrochemical	58	58	59	57	57	54	56	55	50	54	56	– 4
Non-metallic minerals	44	43	44	44	45	44	46	44	36	37	38	– 15
Food and tobacco	32	33	33	32	30	29	30	29	28	29	28	– 11
Paper, pulp and print	34	35	36	35	35	37	38	37	33	36	33	– 4
Machinery	20	20	20	20	20	20	20	20	17	21	20	0
Non-ferrous metals	12	12	12	12	12	11	11	11	9	10	10	– 14
Other	66	65	72	73	71	68	61	59	51	53	52	– 21

Source: Eurostat (online data code: nrg_100a)

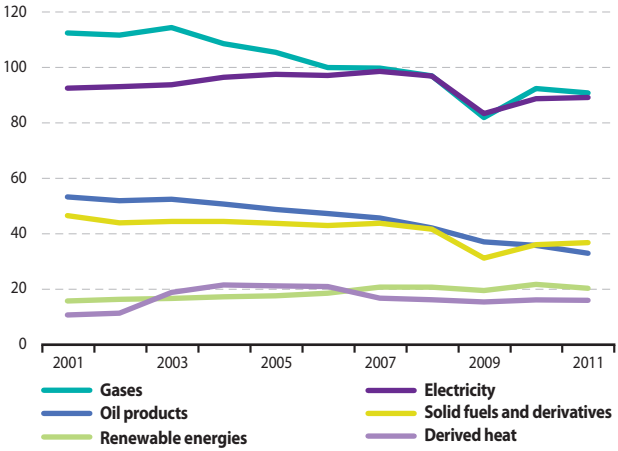
Final energy consumption by the industrial sector in the EU-28 amounted to 288 Mtoe in 2011, a 13 % decrease compared to 2001. In iron and steel, the decrease rate for 2001-11 reached – 19 %, followed by non-metallic minerals (– 15 %), non-ferrous metals (– 14 %) and food and tobacco (– 11 %). Chemical and petrochemical and pulp, print and paper presented smaller decreases (– 4 % each). A breakdown by sector shows that in 2011, the chemical and petrochemical industry accounted for a 19 % share of total energy consumption by the EU-28 industry. Iron and steal followed with 18 %, non-metallic minerals (13 %), paper, pulp and print (11 %) and food and tobacco (10 %). Compared to 2001, no major changes can be observed in the shares of each industrial sector over the total.

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	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	330	288	14	13	16	11	34	31	28	31	5	7	3	5
BE	14.09	13.27	23	8	13	3	34	41	24	24	2	4	3	4
BG	3.83	2.71	19	8	21	8	30	31	20	27	2	7	8	19
CZ	9.75	8.57	32	29	8	5	33	29	18	23	2	5	8	7
DK	3.02	2.38	8	5	26	22	28	30	29	31	4	7	6	5
DE	56.54	59.99	16	14	10	4	38	36	33	33	1	5	2	7
EE	0.63	0.61	17	18	15	10	23	19	25	29	14	18	6	6
IE	2.46	2.18	5	4	45	26	18	25	27	37	5	7	–	–
EL	4.50	3.32	20	6	43	31	7	17	26	38	5	8	–	–
ES	27.13	21.18	6	7	22	21	38	38	29	29	5	6	–	–
FR	38.96	30.36	12	13	19	16	36	31	30	33	4	6	–	–
HR	1.44	1.29	5	11	33	22	36	37	18	23	3	3	4	4
IT	38.77	30.13	10	11	15	12	43	31	32	37	1	1	–	8
CY	0.43	0.19	8	4	82	69	–	–	9	23	0	4	–	0
LV	0.61	0.74	2	7	18	8	41	23	22	19	14	35	2	1
LT	0.77	0.94	1	11	20	4	28	29	26	25	6	8	19	22
LU	0.73	0.66	16	9	7	2	41	41	35	42	–	4	–	0
HU	3.62	2.84	11	12	6	3	46	41	22	30	1	3	13	10
MT	0.04	0.05	–	–	–	2	–	–	100	98	–	–	–	–
NL	14.66	14.18	9	10	10	19	43	39	24	24	0	1	12	8
AT	7.42	8.67	14	12	11	9	35	31	25	27	10	14	2	3
PL	17.50	16.16	38	28	9	6	19	23	19	24	4	6	8	9
PT	6.17	5.34	3	0	38	17	14	22	23	27	20	27	2	6
RO	9.95	7.11	10	11	18	12	46	43	18	26	2	3	4	4
SI	1.33	1.24	6	4	16	9	34	34	37	41	5	5	2	5
SK	3.95	4.25	26	27	10	2	36	36	21	23	6	9	1	2
FI	11.98	11.23	9	7	14	13	9	8	30	30	26	27	11	14
SE	13.20	11.11	9	11	20	10	4	4	38	42	27	30	3	3
UK	36.48	27.65	12	11	18	16	41	36	26	32	1	1	3	3
IS	0.36	:	26	:	34	:	–	:	24	:	16	:	:	:
NO	8.41	6.12	10	10	32	15	2	5	50	62	5	7	0	1
CH	4.02	:	3	:	24	:	19	:	40	:	6	:	4	:
ME	:	0.22	:	2	:	14	:	–	:	85	:	–	:	–
MK	0.48	0.65	20	26	31	32	6	6	27	33	0	2	17	1
RS	2.54	2.83	24	19	25	17	27	24	24	23	–	5	–	13
TR	19.80	26.43	30	30	37	6	11	32	20	28	1	–	2	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-28 (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-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	330	327	340	338	333	326	325	314	268	291	288	– 13
Solid fuels and derivatives	46	43	44	44	43	43	43	41	31	36	36	– 21
Oil products	53	52	52	50	48	47	45	42	37	35	32	– 39
Gases	112	112	114	109	105	100	100	97	82	92	91	– 19
Electricity	92	93	94	96	97	97	99	97	83	89	89	– 4
Renewable energies	15	16	16	17	17	18	20	20	19	21	20	31
Derived heat	10	11	18	21	21	20	16	16	15	16	15	53

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

Between 2001 and 2011, the EU-28 industry recorded reductions in the consumption of oil products (– 39 %), solid fuels (– 21 %), gases (– 19 %) and electricity (– 4 %). In contrast, over the same period the consumption of derived heat and renewables grew by 53 % and 31 % correspondingly.

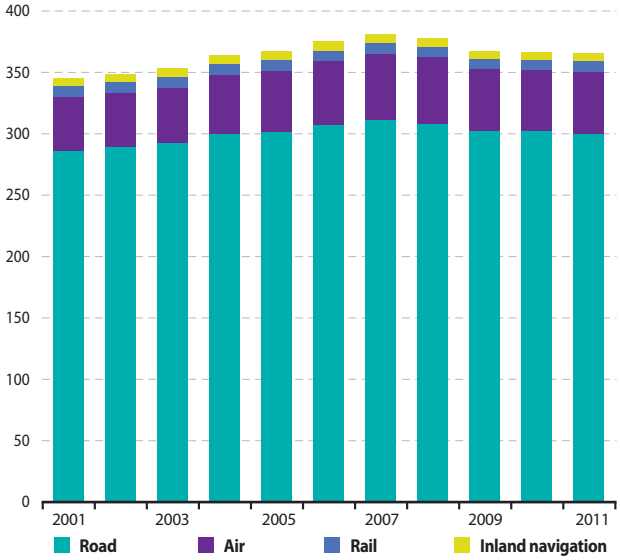
In 2011, gases and electricity each covered 31 % of the energy requirements of EU-28 industry; followed by solid fuels (13 %) and oil products (11 %). The contribution of renewable energies and derived heat were smaller with 7 % and 5 % correspondingly.

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

	Total transport		Road		Air		Rail		Inland navigation	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	345 847	366 098	285 476	299 390	43 755	50 631	9 382	8 479	5 945	5 964
BE	9 544	10 702	8 021	8 859	1 154	1 475	182	190	187	166
BG	2 069	2 942	1 704	2 498	149	191	71	47	–	–
CZ	4 654	6 328	4 127	5 622	213	355	279	282	8	3
DK	4 846	5 138	3 702	3 935	846	874	98	115	169	152
DE	64 451	62 328	55 103	51 767	7 021	8 381	1 990	1 809	271	305
EE	678	784	606	705	16	35	48	39	7	5
IE	4 288	4 314	3 488	3 565	737	684	42	45	20	20
EL	7 380	7 666	5 458	5 953	1 191	961	59	31	671	719
ES	34 320	36 040	27 485	28 616	4 538	5 754	917	790	1 380	822
FR	50 690	50 063	42 925	41 635	6 080	6 632	1 250	1 243	435	508
HR	1 548	2 016	1 372	1 814	74	116	47	47	29	38
IT	42 940	42 042	37 568	35 893	3 195	3 970	824	935	1 319	1 075
CY	916	1 043	591	741	322	302	2	–	–	–
LV	879	1 190	769	979	27	118	78	86	–	5
LT	1 157	1 526	1 039	1 375	35	56	67	66	3	5
LU	2 034	2 735	1 673	2 315	347	407	14	13	–	–
HU	3 413	4 274	3 023	3 898	220	233	169	143	1	–
MT	234	268	142	173	92	94	–	–	–	–
NL	14 303	15 307	10 519	11 350	3 292	3 595	177	181	315	181
AT	7 523	8 734	6 396	7 496	574	735	321	311	6	11
PL	9 735	17 769	8 813	16 674	273	466	532	373	6	3
PT	6 574	6 944	5 692	5 716	758	1 062	74	48	50	117
RO	4 116	5 155	3 573	4 548	116	227	298	316	100	52
SI	1 290	1 927	1 229	1 875	28	25	33	26	–	–
SK	2 030	2 661	1 379	2 102	31	43	66	46	–	–
FI	4 406	5 046	3 622	4 005	512	766	93	95	159	171
SE	8 070	9 098	6 694	7 841	950	912	271	228	155	116
UK	51 758	52 060	38 762	37 438	10 962	12 163	1 380	971	654	1 488
IS	329	:	200	:	122	:	:	:	7	:
NO	4 491	5 135	3 076	3 412	639	775	72	71	702	818
CH	7 221	:	5 406	:	1 561	:	243	:	10	:
ME	:	223	:	209	:	10	:	1	:	1
MK	346	476	319	466	23	4	5	6	–	–
RS	1 284	2 037	1 215	1 776	48	49	21	188	–	23
TR	11 963	16 018	10 173	13 460	1 241	1 486	245	192	264	703

Source: Eurostat (online data code: nrg_100a)

Figure 2.4.4: Final energy consumption, by mode of transport, EU-28 (Mtoe)



Source: Eurostat (online data code: nrg_100a)

Table 2.4.4a: Final energy consumption, by mode of transport, EU-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	346	349	354	364	368	376	382	379	369	367	366	6
Road	285	289	292	300	301	307	311	307	302	302	299	5
Air	44	43	45	48	50	52	53	54	50	50	51	16
Rail	9	9	9	9	9	9	9	9	8	9	8	– 10
Inland navigation	6	6	7	7	7	7	7	7	6	6	6	0

Source: Eurostat (online data code: nrg_100a)

Within the transport sector of the EU-28, road transport was the most energy consuming mode with an 82 % share of the total 366 Mtoe in 2011. Air transport followed with a 14 % share and 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, particularly in Slovenia (97 %), Poland (94 %) and Hungary (91 %). Malta displayed the largest share of energy consumption by air (35 %) due to its geography; Latvia presented the highest share of consumption by rail (7 %); while Greece displayed the highest share of energy consumption by inland navigation (9 %).

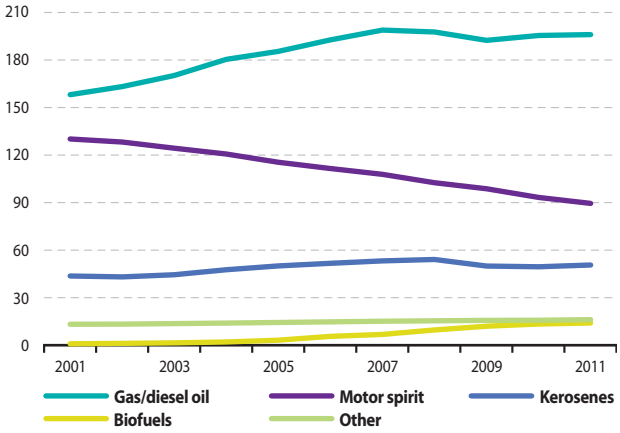
From 2001 to 2011, air transport was the fastest growing sector in the EU-28 (16 %), followed by road (5 %). Energy consumption by navigation remained stable and consumption by rail marked a 10 % decrease.

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	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	345 847	366 098	38	24	13	14	46	54	0	4
BE	9 544	10 702	24	12	12	14	60	69	–	3
BG	2 069	2 942	29	19	7	6	41	52	–	1
CZ	4 654	6 328	43	29	5	6	45	55	1	5
DK	4 846	5 138	41	29	18	18	39	50	–	3
DE	64 451	62 328	45	31	11	13	41	47	0	5
EE	678	784	52	35	2	4	45	60	–	–
IE	4 288	4 314	38	31	17	16	44	50	–	2
EL	7 380	7 666	48	46	16	13	31	31	–	1
ES	34 320	36 040	26	15	13	16	59	63	0	5
FR	50 690	50 063	28	15	12	13	57	64	1	5
HR	1 548	2 016	50	33	5	6	43	58	–	0
IT	42 940	42 042	40	24	7	9	45	55	–	3
CY	916	1 043	25	39	35	29	39	31	–	2
LV	879	1 190	41	22	3	10	51	61	–	3
LT	1 157	1 526	33	17	3	4	51	63	–	3
LU	2 034	2 735	29	14	17	15	53	69	–	2
HU	3 413	4 274	43	30	6	5	48	58	–	4
MT	234	268	31	29	39	35	30	36	–	–
NL	14 303	15 307	30	28	23	23	42	43	–	2
AT	7 523	8 734	28	20	8	8	57	60	0	5
PL	9 735	17 769	50	23	3	3	36	57	–	5
PT	6 574	6 944	32	19	11	15	56	59	–	4
RO	4 116	5 155	40	26	3	4	49	62	–	4
SI	1 290	1 927	65	31	2	1	31	65	–	2
SK	2 030	2 661	31	22	2	2	35	51	2	6
FI	4 406	5 046	41	30	12	15	45	48	–	4
SE	8 070	9 098	51	34	12	10	33	47	0	5
UK	51 758	52 060	43	28	21	23	35	44	–	2
IS	329	:	46	:	37	:	16	:	–	:
NO	4 491	5 135	39	22	14	15	46	57	–	2
CH	7 221	:	56	:	22	:	19	:	–	:
ME	:	223	:	19	:	5	:	75	:	–
MK	346	476	39	29	7	1	50	62	–	–
RS	1 284	2 037	29	22	4	2	66	58	–	–
TR	11 963	16 018	26	12	10	9	48	60	–	–

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

Figure 2.4.5: Final energy consumption in transport, by fuel, EU-28 (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-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	346	349	354	364	368	376	382	379	369	367	366	6
Motor spirit	130	128	124	121	115	111	108	103	99	93	89	– 31
Gas/diesel oil	158	163	170	180	185	193	199	198	192	195	196	24
Kerosenes	44	43	44	48	50	52	53	54	50	49	51	16
Biofuels	1	1	1	2	3	6	7	10	12	13	14	1 601
Other	13	13	14	14	14	15	15	15	16	16	16	22

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 transport sector in the EU-28. Gas/diesel oil accounted for 54 % of the total in 2011 compared to 46 % in 2001. In contrast, the share of motor spirits dropped to 24 % in 2011 from 38 % in 2001. Kerosenes maintained a share of approximately 14 % in 2011; while biofuels made up 4 % of total transport consumption. In absolute terms, from 2001 to 2011 the consumption of motor spirit in the EU-28 fell by 31 %; while the consumption of all other fuels grew. The growth for gas/diesel oil was 24 %, for kerosenes 16 % and for biofuels 17-fold.

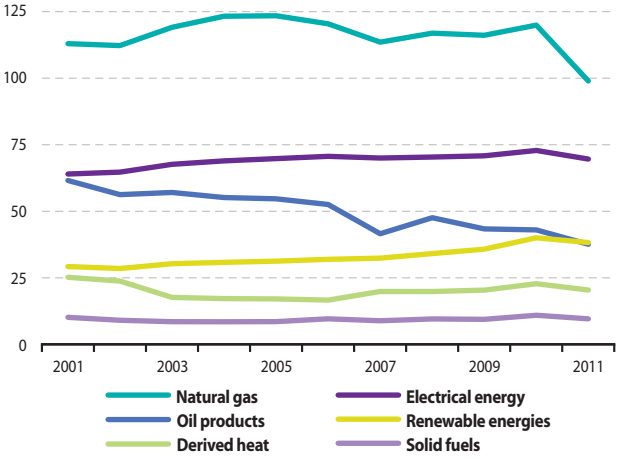
In 2011, gas/diesel oil was the main fuel consumed in transport in all Member States, except for Greece and Cyprus, where motor spirit made up the largest share of total consumption. The share of kerosenes in total consumption was high in Malta (35 %), Cyprus (29 %), the Netherlands (23 %) and the United Kingdom (23 %). In biofuels, the highest share was recorded in Slovakia (6 %).

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	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	303	275	3	4	20	14	37	36	21	25	10	14	8	7
BE	9.87	7.41	2	1	38	35	37	38	21	22	2	3	0	0
BG	2.00	2.38	9	10	1	1	0	2	42	39	24	32	24	15
CZ	6.56	5.89	11	9	1	0	36	34	19	21	12	19	20	18
DK	4.41	4.37	–	0	18	9	16	14	20	20	11	20	35	37
DE	69.67	52.93	1	2	32	23	35	32	17	22	6	13	9	7
EE	0.95	0.94	3	1	3	1	4	6	14	18	34	39	42	36
IE	2.62	2.73	20	17	38	35	18	21	22	26	1	1	–	–
EL	4.70	5.45	0	0	55	47	0	6	27	28	17	17	1	1
ES	12.61	16.22	1	1	31	18	18	26	34	39	16	16	–	–
FR	42.59	36.95	1	0	25	17	30	31	27	35	16	18	–	–
HR	1.67	1.87	0	0	19	12	28	29	29	30	15	21	9	8
IT	28.92	31.32	0	0	22	10	54	57	18	19	5	12	–	2
CY	0.17	0.31	–	–	48	32	–	–	52	48	–	20	–	–
LV	1.44	1.32	2	2	2	4	5	8	7	12	51	47	33	27
LT	1.42	1.53	2	5	5	3	8	9	11	15	38	37	36	32
LU	0.50	0.43	0	0	49	35	34	44	14	17	3	3	–	–
HU	6.01	5.52	3	3	5	3	55	54	14	18	10	13	12	10
MT	0.07	0.07	–	–	37	29	–	–	63	71	–	1	–	–
NL	10.66	9.75	0	0	1	1	78	72	18	21	2	3	2	3
AT	6.66	6.44	3	1	25	18	19	18	21	24	23	25	8	14
PL	18.80	19.01	25	30	5	3	17	17	10	13	13	15	29	22
PT	2.86	2.79	–	–	23	21	4	9	32	42	41	27	0	0
RO	7.28	7.86	0	0	5	3	27	30	9	13	24	40	34	14
SI	1.12	1.17	0	–	32	22	6	10	21	24	32	38	9	8
SK	3.08	2.12	2	2	0	0	54	55	15	18	1	2	28	22
FI	4.94	5.04	0	0	16	8	1	1	34	37	21	24	28	30
SE	7.51	6.96	–	–	11	1	1	1	48	45	7	17	31	36
UK	44.28	35.84	3	2	7	7	66	63	22	27	0	1	0	0
IS	0.43	:	–	:	2	:	–	:	–	:	98	:	–	:
NO	3.98	3.90	0	–	7	4	0	0	77	78	15	16	1	2
CH	5.85	:	0	:	52	:	15	:	24	:	7	:	2	:
ME	:	0.34	:	1	:	–	:	–	:	31	:	69	:	–
MK	0.44	0.54	1	0	8	8	–	–	51	53	32	31	9	7
RS	2.36	2.43	17	12	1	3	8	9	60	52	–	7	14	18
TR	16.30	24.06	8	26	18	5	18	30	12	16	43	23	–	–

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-28 (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-28 (Mtoe)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	303	295	301	304	305	302	286	299	296	310	275	– 9
Solid fuels	10	9	9	9	9	10	9	10	9	11	10	– 5
Oil products	62	56	57	55	55	53	42	48	43	43	38	– 39
Natural gas	113	112	119	123	123	120	114	117	116	120	99	– 12
Electrical energy	64	65	68	69	70	71	70	70	71	73	70	9
Renewable energies	29	29	30	31	31	32	32	34	36	40	38	31
Derived heat	25	24	18	17	17	17	20	20	20	23	20	– 19

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

Between 2001 and 2011 total energy consumption by EU-28 households dropped by 9 %. The fuel with the highest decrease over this period was oil (– 39 %), followed by derived heat (– 19 %), natural gas (– 12 %) and solid fuels (– 5 %). In contrast, increases were recorded in the consumption of renewable energies (31 %) and electrical energy (9 %). Between 2010 and 2011, energy consumption in the residential sector of the EU-28 fell by 11 %; decreases were recorded in the consumption of all fuels, particularly natural gas (– 17 %), oil products (– 13 %) and solid fuels (– 12 %).

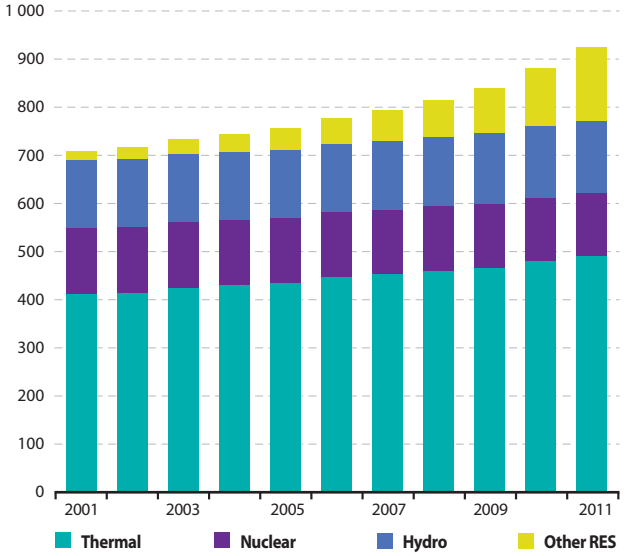
In 2011, natural gas made up 36 % of the total energy consumption by EU-28 households; followed by electrical energy (25 %), renewables (14 %), oil products (14 %), derived heat (7 %) and solid fuels (4 %).

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

	Total		Thermal		Nuclear		Hydro		Other	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	*707 432*	923 453	*412 008*	489 574	*137 395*	132 071	139 457	148 909	18 572	152 899
BE	15 533	20 098	8 348	10 285	5 738	5 927	1 421	1 426	26	2 460
BG	*12 715*	10 236	*7 458*	4 541	*3 552*	1 892	1 705	3 108	–	695
CZ	15 443	20 181	11 537	11 888	1 760	3 970	2 145	2 197	1	2 126
DK	12 487	13 580	9 977	9 603	–	–	11	9	2 499	3 968
DE	120 118	171 681	79 380	81 837	22 396	20 467	9 393	11 562	8 949	57 815
EE	2 444	2 825	2 442	2 640	–	–	2	5	–	180
IE	4 717	8 791	4 064	6 431	–	–	530	529	123	1 831
EL	10 992	16 521	7 645	11 048	–	–	3 076	3 224	271	2 249
ES	55 879	102 804	26 915	49 786	7 519	7 450	18 032	18 540	3 413	27 028
FR	115 908	131 353	27 246	31 928	63 183	63 130	25 149	25 332	330	10 963
HR	*3 754*	4 178	*1 675*	1 907	–	–	2 079	2 141	–	130
IT	76 093	118 443	54 310	75 977	–	–	20 434	21 737	1 349	20 729
CY	988	1 742	988	1 591	–	–	–	–	–	151
LV	2 100	2 576	575	964	–	–	1 523	1 576	2	36
LT	5 721	3 691	2 466	2 588	2 367	–	863	876	25	227
LU	1 238	1 740	90	520	–	–	1 134	1 134	14	86
HU	8 393	9 654	6 478	7 264	1 866	2 000	48	55	1	335
MT	*515*	571	*515*	571	–	–	–	–	–	–
NL	20 382	28 049	19 344	24 970	449	510	37	37	552	2 532
AT	18 109	22 787	6 395	8 178	–	–	11 640	13 211	74	1 398
PL	30 673	34 554	28 420	30 407	–	–	2 234	2 346	19	1 801
PT	10 991	19 938	6 291	9 936	–	–	4 560	5 551	140	4 451
RO	20 864	20 498	14 035	11 616	707	1 411	6 122	6 483	–	988
SI	2 899	3 268	1 337	1 270	656	688	906	1 253	–	57
SK	8 333	8 056	3 178	3 382	2 640	1 940	2 502	2 523	13	211
FI	16 506	16 692	10 898	10 630	2 640	2 700	2 926	3 156	42	206
SE	33 838	35 128	7 536	6 546	9 436	9 323	16 568	16 478	298	2 781
UK	79 799	93 818	62 465	71 270	12 486	10 663	4 417	4 420	431	7 465
NO	27 966	:	268	:	–	:	27 679	:	19	:
CH	17 316	:	808	:	3 200	:	13 285	:	23	:
MK	1 456	1 571	1 013	1 013	–	–	443	556	–	2
TR	28 332	52 911	16 622	33 931	–	–	11 673	17 137	37	1 843

Source: Eurostat (online data code: nrg_113a)

Figure 2.5.1: Installed capacity of electricity generation plants, by type, EU-28 (MW)



Source: Eurostat (online data code: nrg_113a)

Table 2.5.1a: Installed capacity of electricity generation plants by type, EU-28 (GW)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	*707*	*716*	*732*	*742*	*755*	*776*	*792*	*814*	*838*	*879*	*923*
Thermal	*412*	*414*	*425*	*430*	*436*	448	453	461	466	480	490
Nuclear	*137*	*138*	*137*	136	135	134	133	133	132	132	132
Hydro	139	140	139	140	141	142	144	145	146	147	149
Other	19	25	30	36	44	52	62	76	93	120	153

Source: Eurostat (online data code: nrg_113a)

From 2001 to 2011, installed capacity of electricity generation plants in the EU-28 grew continuously and reached an overall growth of 31 %. In 2011, electric capacity in the EU-28 amounted to 923 GW. Out of this amount, thermal capacity accounted for 53 %, followed by other renewable sources (17 %), hydro (16 %) and nuclear (14 %). In 2001 the share of thermal was 58 % of the total, followed by hydro (20 %) and nuclear (19 %); while other renewables made up only a 3 % share.

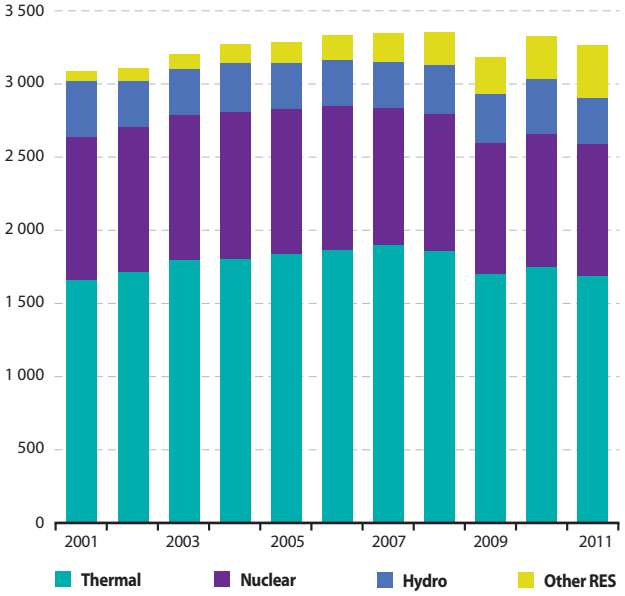
In the majority of Member States, thermal plants accounted for the largest share of their electric capacity in 2011. Most of the electric capacity in France came from nuclear plants (48 %), while it came from hydro in Luxembourg (65 %), Latvia (61 %), Austria (58 %), Croatia (51 %) and Sweden (47 %). The installed capacity of renewables was particularly high as a share of their total capacity in Germany (34 %), Denmark (29 %), Spain (26 %), Portugal (22 %) and Ireland (21 %).

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

	Total		Thermal		Nuclear		Hydro		Other RES	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	3 093 714	3 268 376	1 667 907	1 690 726	978 986	906 757	378 934	311 222	67 887	359 672
BE	78 618	88 942	31 194	32 466	46 349	48 234	441	196	634	8 046
BG	43 534	50 023	22 244	29 774	19 553	16 314	1 737	2 917	–	1 018
CZ	74 234	86 753	56 915	51 223	14 749	28 283	2 054	1 963	516	5 284
DK	37 730	35 171	31 884	21 007	–	–	28	17	5 818	14 147
DE	581 886	602 642	372 716	372 018	171 305	107 971	22 733	17 267	15 132	105 386
EE	8 493	12 893	8 475	11 714	–	–	7	30	11	1 149
IE	24 632	27 478	23 605	22 053	–	–	596	707	431	4 718
EL	53 076	59 172	50 144	51 029	–	–	2 097	4 011	835	4 132
ES	233 067	290 737	120 057	146 783	63 708	57 731	40 888	30 596	8 414	55 627
FR	545 168	556 372	46 472	49 734	421 076	442 383	74 634	44 819	2 986	19 436
HR	12 137	10 702	5 590	5 955	–	–	6 547	4 491	–	256
IT	276 401	306 290	222 053	227 081	–	–	46 811	45 823	7 537	33 386
CY	3 551	4 929	3 551	4 751	–	–	–	–	–	178
LV	4 280	6 095	1 441	3 017	–	–	2 833	2 887	6	191
LT	14 362	4 246	2 672	3 133	11 362	–	326	480	2	633
LU	868	2 645	700	2 403	–	–	118	58	50	184
HU	36 415	35 983	22 032	17 590	14 126	15 685	186	222	71	2 486
MT	1 943	2 181	1 943	2 181	–	–	–	–	–	–
NL	93 667	112 966	86 388	96 533	3 976	4 141	117	57	3 186	12 235
AT	61 067	62 161	18 835	21 360	–	–	40 455	34 180	1 777	6 621
PL	143 721	163 118	140 938	149 980	–	–	2 325	2 331	458	10 807
PT	46 273	52 094	30 532	27 983	–	–	14 034	11 540	1 707	12 571
RO	53 866	62 001	33 497	33 937	5 446	11 747	14 923	14 728	–	1 589
SI	14 466	15 912	5 341	5 820	5 257	6 215	3 796	3 559	72	318
SK	31 856	28 288	9 672	7 878	17 103	15 411	4 927	3 778	154	1 221
FI	74 440	73 433	30 126	26 096	22 773	23 187	13 205	12 445	8 336	11 705
SE	161 595	150 254	6 165	5 720	72 109	60 475	79 060	66 434	4 261	17 625
UK	382 368	364 895	282 725	261 507	90 094	68 980	4 056	5 686	5 493	28 722
IS	:	:	1 454	:	–	:	:	:	1 451	:
NO	121 327	126 886	582	4 408	–	–	120 463	120 818	282	1 660
CH	71 059	:	2 042	:	26 811	:	41 308	:	898	:
ME	:	2 656	:	1 452	:	–	:	1 204	:	–
MK	6 362	6 876	5 736	5 442	–	–	626	1 433	–	1
RS	35 130	38 024	22 680	29 357	–	–	12 450	8 667	–	–
TR	122 815	230 089	98 484	171 989	–	–	24 010	52 339	321	5 761

Source: Eurostat (online data code: nrg_105a)

Figure 2.5.2: Power station generation, by type, EU-28 (GWh)



Source: Eurostat (online data code: nrg_105a)

Table 2.5.2a: Power station generation, by type, EU-28 (TWh)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	3 094	3 114	3 205	3 272	3 293	3 337	3 351	3 357	3 190	3 335	3 268
Thermal	1 668	1 722	1 800	1 811	1 839	1 867	1 904	1 865	1 708	1 749	1 691
Nuclear	979	990	996	1 008	998	990	935	937	894	917	907
Hydro	379	319	310	330	312	315	314	332	335	375	311
Other RES	68	83	99	123	143	165	197	223	253	294	360

Source: Eurostat (online data code: nrg_105a)

In 2011, EU-28 electricity generation was 3 268 TWh, a 6 % increase since 2001. Over this period, generation from hydro and other renewables grew by 50 % and thermal generation by 1 %. In contrast, nuclear generation dropped by 7 %. As a result, in 2011 the share of hydro and other RES to the total EU-28 power generation reached 21 %, compared to 14 % in 2001; while thermal and nuclear presented decreased shares (52 % and 28 % respectively in 2011).

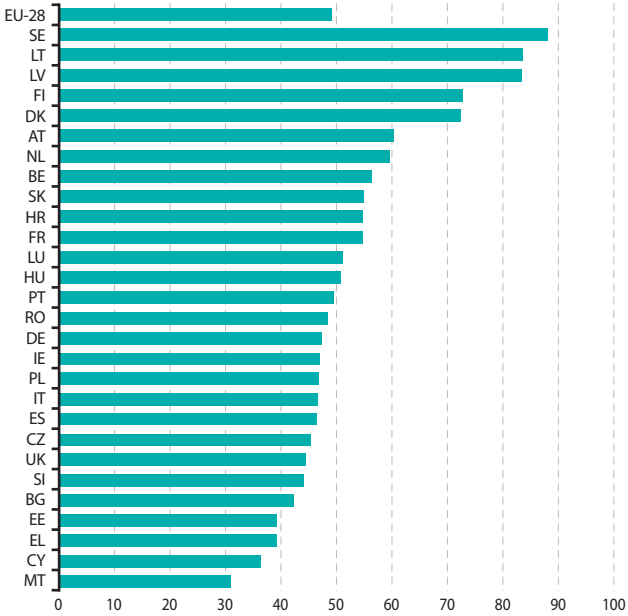
Among the majority of Member States, in 2011 electricity was generated primarily by thermal plants. The only exceptions, where nuclear plants accounted for most of the generated electricity were France (80 % of the total), Slovakia (54 %), Belgium (54 %) and Slovenia (39 %). Hydro and other RES made up the largest share in Austria (66 %), Sweden (56 %) and Latvia (51 %).

Table 2.5.3: Thermal efficiency of power stations (%)

	2001	2007	2008	2009	2010	2011
EU-28	47.0	48.1	48.9	49.2	49.6	49.3
BE	49.9	51.8	52.0	54.2	55.0	56.4
BG	41.5	40.2	43.3	43.8	42.6	42.3
CZ	47.0	45.3	45.6	45.9	45.6	45.4
DK	65.6	66.3	68.8	68.8	71.3	72.5
DE	43.9	45.9	47.1	47.0	46.5	47.5
EE	42.2	42.1	40.0	43.3	43.0	39.3
IE	39.7	45.1	47.8	47.2	46.8	47.0
EL	37.3	38.9	39.4	39.4	37.3	39.3
ES	41.7	45.4	48.5	48.9	48.8	46.5
FR	64.0	56.4	58.2	51.3	53.5	54.7
HR	48.1	47.8	50.1	51.3	55.5	54.8
IT	40.9	45.9	46.2	46.6	46.7	46.6
CY	35.5	36.2	36.2	36.7	38.5	36.4
LV	79.5	86.0	82.0	84.9	84.3	83.6
LT	72.0	82.2	83.5	84.0	77.3	83.7
LU	40.7	51.1	50.3	52.1	52.0	51.2
HU	50.4	49.9	50.2	51.7	51.3	50.8
MT	27.2	27.1	32.3	32.3	31.4	31.0
NL	58.5	58.8	57.5	57.6	58.2	59.6
AT	58.9	58.9	60.5	61.7	63.6	60.4
PL	47.2	47.2	47.1	47.5	47.9	46.9
PT	44.5	48.3	48.2	47.7	50.6	49.6
RO	57.1	48.4	46.3	49.0	51.7	48.5
SI	43.6	42.9	43.5	44.3	45.1	44.2
SK	53.2	56.1	53.5	54.2	55.2	54.9
FI	71.7	70.6	74.9	75.1	71.9	72.9
SE	86.6	85.7	87.0	83.4	83.3	88.3
UK	42.5	43.8	44.5	44.7	45.2	44.5
IS	10.0	:	:	:	:	:
NO	55.3	63.4	65.3	67.0	59.5	64.4
CH	47.0	45.8	46.5	49.1	52.3	:
ME	:	31.6	30.8	30.8	26.9	29.9
MK	35.6	34.5	34.6	37.1	35.2	34.8
RS	27.1	31.9	30.9	33.6	35.8	37.3
TR	42.3	46.7	46.2	45.0	45.5	46.3

Source: Eurostat (online data code: nrg_100a)

Figure 2.5.3: Thermal efficiency of power stations, 2011 (%)



Source: Eurostat (online data code: nrg_100a)

Table 2.5.3a: Thermal efficiency of power stations (%)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	47.0	47.2	48.9	49.6	50.3	49.8	48.1	48.9	49.2	49.6	49.3

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.

Thermal efficiency of power stations in the EU-28 grew between 2001 and 2005, followed by a decline between 2005 and 2007. From 2007 to 2010, it grew again and in the last year it recorded a decrease of 0.3 percentage points. Overall, in the last decade, EU-28 thermal efficiency grew by 2.3 percentage points and reached 49.3 % in 2011.

Among Member States, in 2011 the highest thermal efficiency was recorded in Sweden (88.3 %), followed by Lithuania (83.7 %) and Latvia (83.6 %). All three countries have maintained the highest efficiencies among Member States over the last decade. Lithuania has also presented the highest growth in its efficiency over this period (11.7 percentage points), followed by Luxembourg (51.2 % in 2011 compared to 40.7 % in 2001).

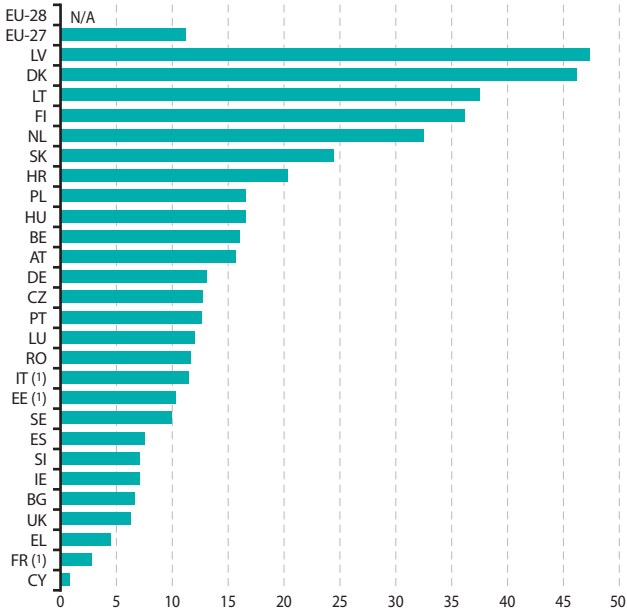
Table 2.5.4: Combined heat and power generation (% of gross electricity generation)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
EU-27	10.9	10.9	11.0	11.4	11.7	11.2
BE	8.7	12.5	:	14.5	16.0	16.0
BG	6.0	9.4	10.0	9.4	8.0	6.7
CZ	15.1	13.0	14.2	13.4	14.2	12.8
DK	40.7	42.8	46.1	45.3	49.2	46.2
DE	12.5	12.2	12.5	13.0	13.2	13.1
EE (1)	10.7	7.2	8.6	9.2	10.4	10.4
IE	5.6	6.3	6.2	6.3	6.7	7.1
EL	1.7	1.6	1.9	3.0	4.3	4.5
ES	7.2	7.1	7.0	7.5	7.4	7.6
FR (1)	3.2	3.2	3.1	4.3	2.8	2.8
HR	:	:	:	12.7	14.3	20.4
IT (1)	9.8	10.3	9.5	10.2	11.5	11.5
CY	0.3	0.3	0.3	0.4	1.0	0.9
LV	42.6	40.9	33.6	19.7	45.0	47.4
LT	14.3	13.2	12.7	13.9	34.6	37.5
LU	10.9	9.9	11.9	10.1	9.6	12.1
HU	22.4	21.4	21.1	20.5	19.6	16.6
MT	–	–	–	–	–	–
NL	29.9	30.1	33.6	32.1	33.2	32.5
AT	16.1	15.6	15.3	13.2	15.4	15.7
PL	16.0	17.3	16.9	17.2	17.6	16.6
PT	11.6	12.3	11.9	11.0	11.8	12.7
RO	18.0	10.7	9.6	10.8	10.8	11.7
SI	7.4	7.2	6.7	6.2	6.9	7.1
SK	27.6	25.6	24.0	19.2	15.9	24.5
FI	34.9	34.4	35.6	35.8	36.2	36.2
SE	8.0	8.2	9.6	10.5	12.5	10.0
UK	6.3	6.4	6.4	6.5	6.2	6.3
IS	14.4	14.4	:	:	:	:
NO	0.1	0.1	0.1	0.1	0.2	0.2
MK	:	:	:	:	:	1.3
TR	4.4	4.6	4.2	3.8	3.8	3.9

(1) 2010 data.

Source: Eurostat (online data code: tsdcc350)

Figure 2.5.4: Combined heat and power generation, 2011 (% of gross electricity generation)



(1) 2010 data.

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.

Combined heat and power generation in the EU-27 accounted for 11.2 % of gross electricity generation in 2011. The share of electricity produced by cogeneration processes varied between 0.9 % in Cyprus to 47.4 % in Latvia. The CHP share in Lithuania grew from 14.3 % in 2006 to 37.5 % in 2011. In contrast, the CHP share in Romania marked the highest decrease (from 18.0 % in 2006 to 11.7 % in 2011); followed by Hungary (from 22.4 % in 2006 to 16.6 % in 2011).

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

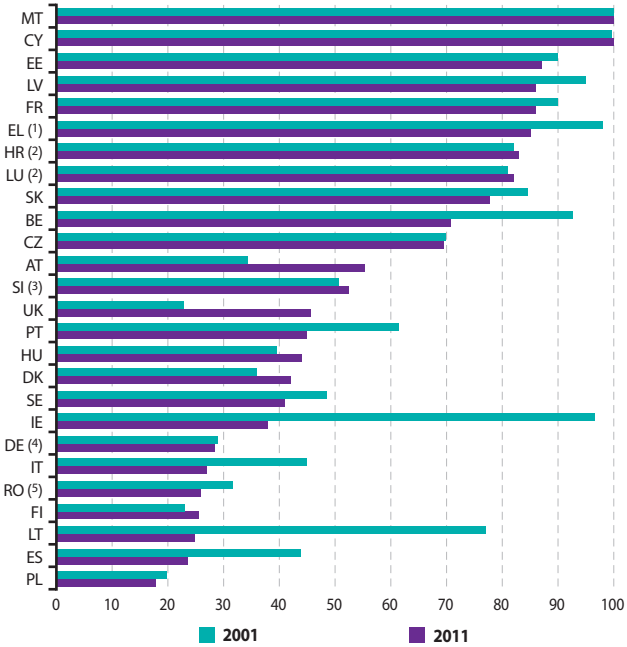
	2001	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	92.6	83.9	80.0	77.7	79.1	70.7
BG	:	:	:	:	:	:
CZ	69.9	74.2	72.9	73.7	73.0	69.4
DK	36.0	47.0	56.0	47.0	46.0	42.0
DE (1)	29.0	30.0	30.0	26.0	28.4	:
EE	90.0	94.0	96.5	90.0	89.0	87.0
IE	96.6	48.0	45.6	37.0	34.0	38.0
EL	98.0	91.6	91.6	91.8	85.1	:
ES	43.8	31.0	22.2	32.9	24.0	23.5
FR	90.0	88.0	87.3	87.3	86.5	86.0
HR	:	84.0	85.0	92.0	88.0	83.0
IT	45.0	31.3	31.3	29.8	28.0	27.0
CY	99.6	100.0	100.0	100.0	100.0	100.0
LV	95.0	86.0	87.0	87.0	88.0	86.0
LT	77.1	70.5	71.5	70.9	35.4	24.9
LU	:	:	:	:	85.4	82.0
HU	39.5	40.9	42.0	43.1	42.1	44.1
MT	100.0	100.0	100.0	100.0	100.0	100.0
NL	:	:	:	:	:	:
AT	34.4	:	:	:	:	55.3
PL	19.8	16.5	18.9	18.1	17.4	17.8
PT	61.5	55.6	48.5	52.4	47.2	44.9
RO	:	27.5	28.3	29.3	33.6	26.0
SI	:	82.0	53.0	55.0	56.3	52.4
SK	84.5	72.4	71.9	81.7	80.9	77.7
FI	23.0	26.0	24.0	24.5	26.6	25.6
SE	48.5	45.0	45.2	44.0	42.0	41.0
UK	22.9	18.5	15.3	24.5	21.0	45.6
NO	30.7	32.5	27.4	29.5	29.8	33.6
RS	:	:	:	:	:	56.0
TR	70.0	:	:	:	:	:

(1) Including contracted generation.

Source: Eurostat (online data code: nrg_ind_331a)

Due to statistical confidentiality, some countries do not provide individual market shares for individual electricity generators.

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



(1) No data for 2011; 2010 data instead.
(2) No data for 2001; 2003 data instead.
(3) No data for 2001; 2002 data instead.
(4) No data for 2011; 2010 data instead. Including contracted generation.
(5) No data for 2001; 2004 data instead.

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 2011, the market share of the largest electricity generator among the EU-28 Member States ranged between 17.8 % in Poland and 100 % in Malta and Cyprus. In the last decade, considerable changes were observed in the electricity market of Ireland (38.0 % in 2011 compared to 96.6 % in 2001) and Lithuania (24.9 % in 2011 compared to 77.1 % in 2001). In contrast, the share of the largest electricity generator grew by 23 percentage points in the United Kingdom; this change took place in the last year. Over the past ten years, a notable increase also took place in Austria, where the share grew from 34.4 % in 2001 to 55.3 % in 2011.

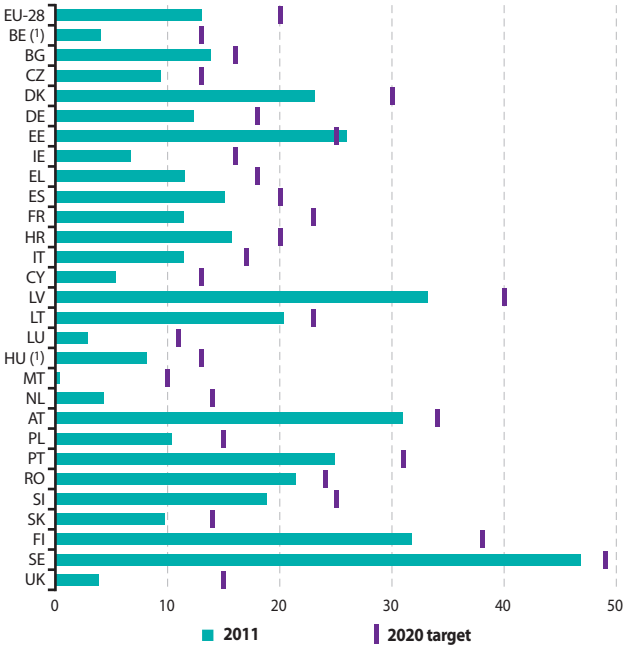
Table 2.6.1: Share of renewable energy in gross final energy consumption (%)

	2007	2008	2009	2010	2011	2020 target
EU-28	9.2	9.6	10.6	12.1	13.0	20.0
BE (1)	2.6	3.0	3.6	4.0	4.1	13.0
BG	9.0	9.5	11.7	13.4	13.8	16.0
CZ	7.3	7.2	7.8	8.4	9.4	13.0
DK	17.8	18.6	20.0	22.0	23.1	30.0
DE	7.1	7.3	8.0	10.7	12.3	18.0
EE	17.1	18.9	23.0	24.6	25.9	25.0
IE	3.4	3.6	4.5	5.6	6.7	16.0
EL	8.0	8.0	8.1	9.2	11.6	18.0
ES	9.3	10.1	11.8	13.8	15.1	20.0
FR	9.3	9.9	10.8	11.4	11.5	23.0
HR	12.4	12.2	13.2	14.6	15.7	20.0
IT	5.4	6.3	7.6	9.8	11.5	17.0
CY	3.4	3.7	4.2	4.6	5.4	13.0
LV	29.6	29.8	34.2	32.5	33.1	40.0
LT	15.7	16.9	19.0	19.8	20.3	23.0
LU	1.7	1.8	1.9	2.9	2.9	11.0
HU (1)	5.7	5.6	7.0	7.6	8.1	13.0
MT	0.0	0.0	0.0	0.2	0.4	10.0
NL	2.4	2.7	3.3	3.3	4.3	14.0
AT	26.1	26.9	28.4	30.4	30.9	34.0
PL	6.8	7.2	7.8	9.3	10.4	15.0
PT	21.3	22.3	23.4	22.7	24.9	31.0
RO	18.2	20.1	22.2	22.9	21.4	24.0
SI	15.4	14.6	18.4	19.6	18.8	25.0
SK	7.6	7.5	8.9	8.5	9.7	14.0
FI	29.4	30.5	29.9	31.0	31.8	38.0
SE	43.0	43.9	46.5	47.9	46.8	49.0
UK	1.6	1.9	2.3	3.3	3.8	15.0
NO	60.4	61.7	64.7	61.4	64.7	67.5

(1) Data are preliminary; Eurostat's estimates.

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) Data are preliminary; Eurostat's estimates.

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.

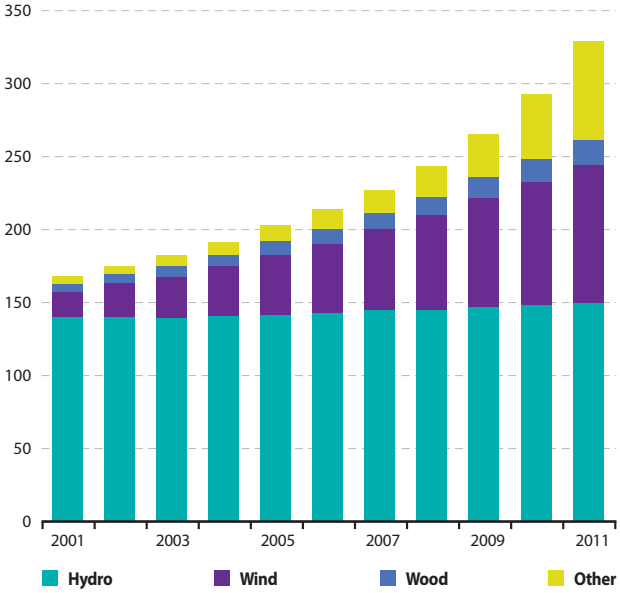
In 2011, the share of renewables in gross final energy consumption in the EU-28 stood at 13 %. Among Member States, the highest share of consumption from RES was recorded in Sweden (46.8 %), while more than 30 % of the final energy consumption was derived from RES in Latvia (33.1 %), Finland (31.8 %) and Austria (30.9 %). Compared to 2011, the indicative targets for France, the United Kingdom, the Netherlands and Malta require each of these Member States to increase their share of renewables in final energy consumption by at least 10 percentage points. In contrast, Estonia has already exceeded its target and Bulgaria and Sweden are very close to their targets.

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

	Total		Hydro		Wind		Wood		Other	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
EU-28	167 151	327 574	139 457	148 909	17 290	94 229	5 572	16 880	4 832	67 556
BE	1 638	5 037	1 421	1 426	26	1 069	62	701	129	1 841
BG	1 705	3 808	1 705	3 108	–	541	–	–	–	159
CZ	2 146	4 849	2 145	2 197	1	213	–	306	–	2 133
DK	2 931	5 269	11	9	2 498	3 951	133	920	289	389
DE	19 677	72 789	9 393	11 562	8 754	29 071	190	2 148	1 340	30 008
EE	2	252	2	5	–	180	–	63	–	4
IE	668	2 199	530	529	123	1 631	–	5	15	34
EL	3 369	5 521	3 076	3 224	270	1 640	–	–	23	657
ES	21 757	46 564	18 032	18 540	3 397	21 547	167	563	161	5 914
FR	25 479	36 492	25 149	25 332	83	6 691	–	324	247	4 145
HR	2 079	2 285	2 079	2 141	–	130	–	6	–	8
IT	22 430	44 787	20 434	21 737	664	6 918	221	421	1 111	15 711
CY	–	160	–	–	–	134	–	–	–	26
LV	1 526	1 642	1 523	1 576	2	36	1	5	–	25
LT	865	1 111	863	876	–	202	2	18	–	15
LU	1 158	1 249	1 134	1 134	14	45	–	–	10	70
HU	79	909	48	55	1	331	5	436	25	87
MT	–	17	–	–	–	–	–	–	–	17
NL	1 127	4 094	37	37	485	2 316	129	713	476	1 028
AT	12 492	18 094	11 640	13 211	67	1 080	766	2 394	19	1 409
PL	2 265	4 424	2 234	2 346	19	1 800	–	175	12	103
PT	4 979	10 600	4 560	5 551	125	4 256	214	478	80	315
RO	6 273	7 502	6 122	6 483	–	988	151	26	–	5
SI	924	1 364	906	1 253	–	–	15	33	3	78
SK	2 508	2 912	2 502	2 523	–	3	5	171	1	215
FI	4 568	5 272	2 926	3 156	39	199	1 600	1 910	3	7
SE	18 833	23 230	16 568	16 478	295	2 769	1 778	3 397	192	586
UK	5 673	15 142	4 417	4 420	427	6 488	133	1 667	696	2 567
NO	27 759	:	27 679	:	13	:	35	:	32	:
CH	13 602	:	13 285	:	5	:	0	:	312	:
MK	443	558	443	556	–	–	–	–	–	2
TR	11 786	19 079	11 673	17 137	19	1 729	72	10	22	203

Source: Eurostat (online data code: nrg_113a)

Figure 2.6.2: Installed capacity for electricity generation from renewables, EU-28 (GW)



Source: Eurostat (online data code: nrg_113a)

Table 2.6.2a: Installed capacity for electricity generation from renewables, EU-28 (GW)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Change (%)
Total	167	174	181	191	202	213	226	242	264	292	328	96
Hydro	139	140	139	140	141	142	144	145	146	147	149	7
Wind	17	23	28	34	40	48	56	64	75	85	94	445
Wood	6	6	7	8	9	10	11	12	14	15	17	203
Other	5	5	7	8	11	13	15	21	29	44	68	1 298

Source: Eurostat (online data code: nrg_113a)

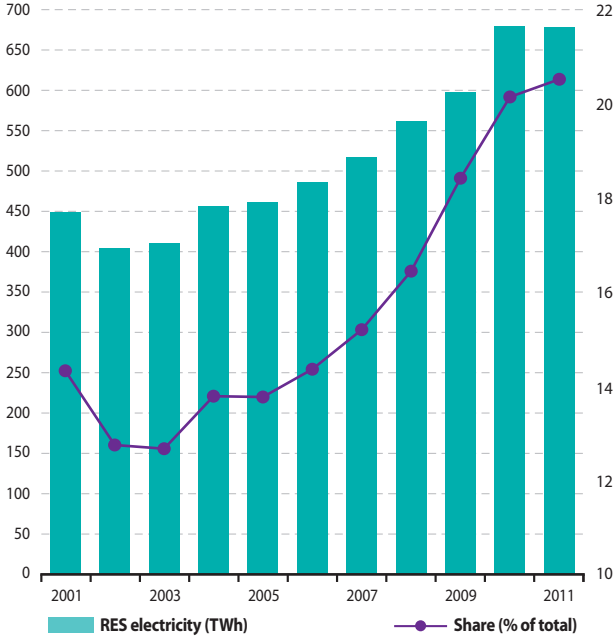
In 2011, the installed capacity for electricity generation from renewables in the EU-28 reached 328 GW. Compared to 2001, the capacity of electricity from renewables has recorded a twofold increase. The highest increase was recorded in the capacity of 'other renewables' (geothermal, photovoltaics, municipal solid waste and biogas) (14-fold), followed by wind (5-fold) and wood (3-fold). Regarding the contribution to the total, in 2011 hydro made up a 45 % share, followed by wind (29 %), other RES (21 %) and wood (5 %). In comparison to 2001, the share of hydro was 83 %, while wind made up 10 % and wood and other RES made up 3 % of the total each.

Table 2.6.3: Electricity from renewables in total electricity consumption

	RES electricity (GWh)			Share (% of total)		
	2001	2006	2011	2001	2006	2011
EU-28	447 394	484 251	675 804	14.3	14.3	20.5
BE	1 075	2 952	8 378	1.2	3.1	9.0
BG	1 737	4 258	3 935	4.7	11.2	9.8
CZ	2 570	3 520	7 247	3.9	4.9	10.3
DK	5 846	9 201	14 164	15.7	23.8	38.8
DE	37 895	70 487	123 113	6.4	11.4	20.3
EE	18	130	1 179	0.2	1.4	12.6
IE	1 027	2 475	5 425	4.2	8.5	19.4
EL	2 932	7 679	8 143	5.2	11.8	13.0
ES	49 302	52 149	86 223	20.6	17.6	30.2
FR	78 163	62 231	64 789	16.2	12.2	12.8
HR	6 547	6 030	4 747	42.7	33.4	25.6
IT	54 348	50 634	82 951	16.6	14.1	23.8
CY	–	1	178	–	0.0	3.6
LV	2 839	2 786	3 078	46.1	37.7	41.9
LT	328	435	1 113	3.0	3.6	9.6
LU	168	246	242	2.4	3.1	2.9
HU	257	1 493	2 708	0.6	3.5	6.4
MT	–	–	–	–	–	–
NL	3 303	8 048	12 316	3.0	6.7	10.1
AT	42 232	40 988	40 815	67.4	57.4	55.2
PL	2 783	4 291	13 138	2.0	2.8	8.3
PT	15 741	15 722	24 111	33.7	28.9	43.6
RO	14 923	18 360	16 317	28.4	31.4	27.1
SI	3 868	3 703	3 877	30.5	24.4	26.2
SK	5 081	4 803	4 999	17.9	16.5	17.0
FI	21 541	22 452	24 150	25.5	24.0	27.7
SE	83 321	71 071	84 059	54.0	47.6	58.7
UK	9 549	18 105	34 408	2.4	4.5	9.2
NO	120 745	120 393	122 478	96.2	98.3	97.9
CH	42 206	32 140	:	68.1	48.1	:
ME	:	1 750	1 204	:	36.3	28.5
MK	626	1 650	1 434	9.2	18.7	15.0
RS	12 450	10 965	8 667	31.8	30.7	22.6
TR	24 346	44 522	58 100	19.2	25.5	25.2

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

Figure 2.6.3: Electricity from renewables in total electricity consumption, EU-28



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

Table 2.6.3a: Electricity from renewables in total electricity consumption, EU-28

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
RES electricity (TWh)	447	402	409	454	459	484	516	560	595	678	676
Share (% of total)	14.3	12.7	12.7	13.8	13.8	14.3	15.2	16.4	18.4	20.1	20.5

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

EU-28 electricity generation from renewables grew by 51 % between 2001 and 2011; in 2011 it reached 676 TWh. The share of RES electricity in total electricity consumption was 20.5 % in 2011 compared to 14.3 % in 2001. Among Member States, in 2011 Germany presented the highest value in absolute terms (123 TWh); followed by Spain (86 TWh), Sweden (84 TWh) and Italy (83 TWh). The highest shares of electricity from RES were recorded in Sweden (58.7 %) and Austria (55.2 %). In the past decade, the share of RES in Austria recorded the second highest decrease (– 12 percentage points) behind Croatia (– 17 percentage points). In contrast, the highest increases were reported by Denmark (38.8 % in 2011 from 15.7 % in 2001), Ireland (19.4 % from 4.2 %) and Germany (20.3 % from 6.4 %).

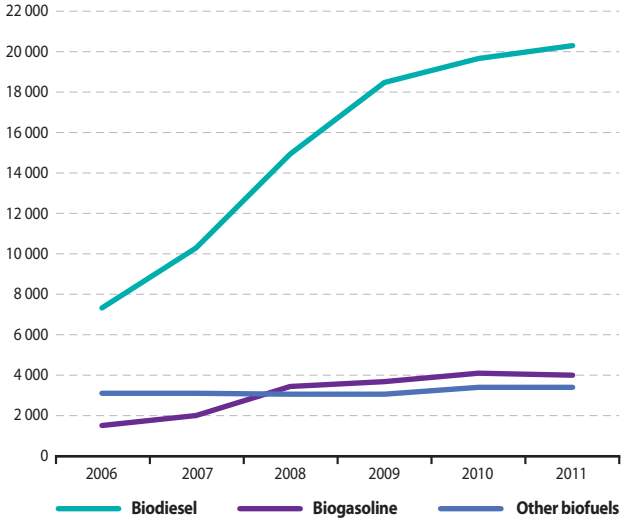
Table 2.6.4: Biofuels production capacity (thousand tonnes per year)

	Total			Biogasoline			Biodiesel		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
EU-28	25 015	26 958	27 495	3 620	4 037	3 938	18 395	19 580	20 217
BE	1 034	1 280	1 280	369	640	640	665	300	300
BG	192	193	94	–	–	–	192	193	94
CZ	580	580	580	160	160	160	420	420	420
DK	–	–	–	–	–	–	–	–	–
DE	8 780	8 988	8 742	880	1 026	930	4 900	4 962	4 812
EE	–	–	–	–	–	–	–	–	–
IE	–	–	–	–	–	–	–	–	–
EL	575	900	747	–	–	–	575	900	747
ES	4 776	4 895	4 791	464	464	464	4 312	4 431	4 327
FR	3 347	3 890	4 269	1 092	1 092	1 092	2 255	2 798	3 177
HR	61	64	64	–	–	–	61	64	64
IT	2 544	2 544	2 544	332	332	332	2 212	2 212	2 212
CY	14	14	14	–	–	–	14	14	14
LV	204	238	198	28	28	25	175	210	173
LT	210	210	210	60	60	60	150	150	150
LU	–	–	–	–	–	–	–	–	–
HU	329	329	329	140	140	140	189	189	189
MT	–	–	–	–	–	–	–	–	–
NL	1 323	1 306	2 030	–	–	–	1 323	1 306	2 030
AT	655	646	646	–	–	–	655	646	646
PL	–	–	–	–	–	–	–	–	–
PT	120	643	695	–	–	–	120	643	695
RO	–	–	–	–	–	–	–	–	–
SI	–	–	–	–	–	–	–	–	–
SK	271	238	263	95	95	95	176	143	168
FI	–	–	–	–	–	–	–	–	–
SE	–	–	–	–	–	–	–	–	–
UK	–	–	–	–	–	–	–	–	–
NO	–	–	–	–	–	–	–	–	–
CH	–	–	:	–	–	:	–	–	:
ME	–	–	–	–	–	–	–	–	–
MK	–	–	–	–	–	–	–	–	–
RS	:	–	–	:	–	–	:	–	–
TR	918	812	561	–	–	–	918	812	561

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-28 (thousand tonnes per year)



Source: Eurostat (online data code: nrg_1073a)

Table 2.6.4a: Biofuels production capacity, EU-28 (thousand tonnes per year)

	2006	2007	2008	2009	2010	2011
Total	11 756	15 216	21 245	25 015	26 958	27 495
Biogasoline	1 453	1 946	3 382	3 620	4 037	3 938
Biodiesel	7 258	10 224	14 863	18 395	19 580	20 217
Other biofuels	3 045	3 045	3 000	3 000	3 340	3 340

Source: Eurostat (online data code: nrg_1073a)

Biofuels production capacity in the EU-28 amounted to 27 495 thousand tonnes in 2011. Compared to 2006, total production capacity presented an increase of 134 %, while the production capacity of biogasoline and biodiesel reached a 171 % and a 179 % increase respectively. In 2011, biodiesel made up 74 % of total biofuel capacity, biogasoline 14 % and other biofuels 12 %.

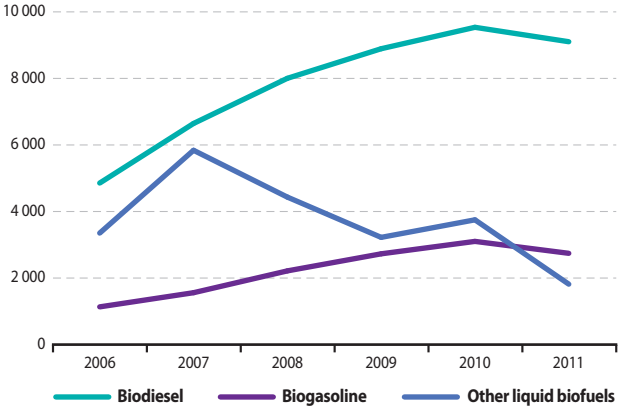
Among Member States, Germany accounted for 32 % of the total EU-28 biofuel production capacity in 2011, followed by Spain (17 %) and France (16 %). At biofuel level, biogasoline capacity in France made up 28 % of the total EU-28 capacity, followed by Germany (24 %). Biodiesel capacity in Germany and Spain made up 24 % and 21 % of the total EU-28 capacity respectively. From 2009 to 2011, Portugal presented the highest increase in its biofuel production capacity (sixfold).

Table 2.6.5: Primary production of biofuels

	Total (thousand tonnes)			Share of biogasoline and biodiesel to total biofuels, 2011 (%)	
	2009	2010	2011	Biogasoline	Biodiesel
EU-28	14 835	16 376	13 658	20.1	66.6
BE	408	440	517	38.4	53.0
BG	19	19	16	–	100.0
CZ	245	293	265	20.6	79.4
DK	87	77	79	–	99.7
DE	5 457	5 960	4 328	13.3	66.3
EE	–	–	–	–	–
IE	65	71	27	–	98.2
EL	78	124	108	–	100.0
ES	1 094	1 261	1 047	35.2	64.8
FR	2 804	2 740	2 487	26.9	73.1
HR	6	14	8	–	100.0
IT	1 251	1 653	1 318	9.1	44.8
CY	7	6	6	–	100.0
LV	59	58	62	3.2	93.3
LT	128	126	98	18.7	81.3
LU	–	–	–	–	–
HU	191	166	166	14.4	85.6
MT	–	1	1	–	100.0
NL	330	412	495	–	99.2
AT	386	374	319	25.7	43.0
PL	492	533	500	27.3	57.0
PT	260	323	370	–	98.7
RO	87	68	161	33.7	66.3
SI	7	19	0	–	100.0
SK	197	211	231	45.7	54.3
FI	236	301	207	–	94.1
SE	686	754	643	49.0	37.5
UK	256	376	200	11.6	88.4
NO	–	–	91	–	100.0
CH	6	7	:	:	:
ME	–	–	–	–	–
MK	1	2	5	–	100.0
RS	:	–	–	–	–
TR	10	7	20	40.6	59.4

Source: Eurostat (online data code: nrg_1073a)

Figure 2.6.5: Primary production of biofuels, EU-28 (thousand tonnes)



Source: Eurostat (online data code: nrg_1073a)

Table 2.6.5a: Primary production of biofuels, EU-28 (thousand tonnes)

	2006	2007	2008	2009	2010	2011	Change (%)
Total	9 346	14 039	14 644	14 835	16 376	13 658	46
Biogasoline	1 140	1 565	2 219	2 731	3 103	2 746	141
Biodiesel	4 853	6 639	7 993	8 880	9 522	9 090	87
Other liquid biofuels	3 352	5 835	4 432	3 224	3 750	1 821	– 46

Source: Eurostat (online data code: nrg_1073a)

Between 2006 and 2010, total primary production of biofuels in the EU-28 grew continuously by 46 %. However, from 2010 to 2011 it marked a 17 % decrease. In 2011, total EU-28 biofuel production reached 13 658 thousand tonnes. Out of this amount, biodiesel accounted for 67 %, while biogasoline for 20 %. Over the past five years, both biodiesel and biogasoline recorded increases (87 % and 141 % respectively).

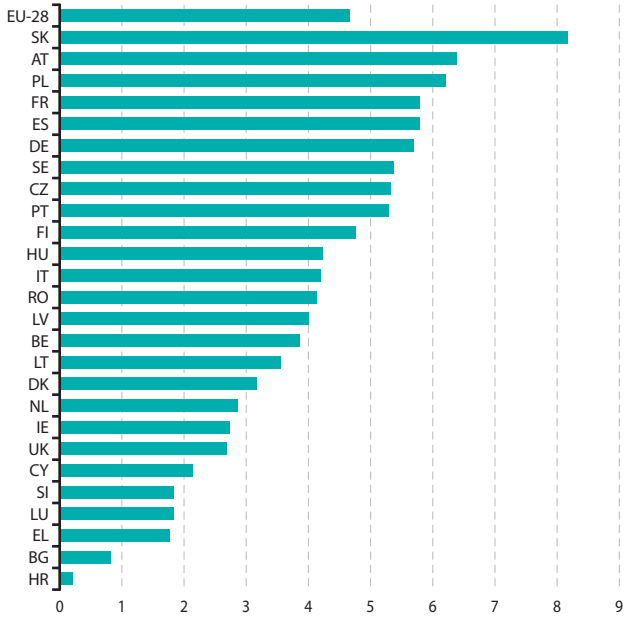
The Member States with the highest primary production of biofuels were Germany (32 % of total EU-28), France (18 %) and Italy (10 %). Between 2009 and 2011, the highest increases in biofuel production were observed in Romania (85 %), the Netherlands (50 %) and Portugal (42 %). On the contrary, the highest decreases were recorded in Slovenia (– 94 %) and Ireland (– 58 %).

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

	2001	2007	2008	2009	2010	2011
EU-28	0.28	2.15	3.09	3.93	4.41	4.66
BE	–	1.05	1.13	3.18	4.00	3.86
BG	–	0.18	0.19	0.18	0.64	0.82
CZ	1.10	0.50	1.83	3.30	4.12	5.33
DK	–	0.13	0.11	0.20	0.63	3.18
DE	0.56	5.50	5.09	5.32	5.81	5.69
EE	–	–	–	–	–	–
IE	–	0.47	1.23	1.90	2.39	2.74
EL	–	1.21	1.01	1.05	1.90	1.76
ES	0.25	1.08	1.82	3.35	4.58	5.78
FR	0.75	3.34	5.35	5.84	5.73	5.79
HR	–	0.13	0.18	0.41	0.14	0.22
IT	–	0.37	2.05	3.34	4.23	4.19
CY	–	0.12	1.89	2.00	1.97	2.15
LV	–	0.15	0.15	0.43	2.55	4.01
LT	–	3.54	4.02	4.13	3.48	3.55
LU	–	1.96	1.93	1.97	1.86	1.83
HU	–	0.67	3.71	3.82	4.32	4.23
MT	–	–	–	–	–	–
NL	–	2.41	2.47	3.37	2.06	2.86
AT	0.27	3.95	5.18	6.48	6.18	6.38
PL	–	0.87	3.33	4.78	6.00	6.21
PT	–	2.14	2.06	3.56	4.86	5.29
RO	–	0.94	2.18	3.32	2.51	4.13
SI	–	0.81	1.22	1.74	2.60	1.84
SK	2.25	4.71	6.07	8.95	7.58	8.16
FI	–	0.03	1.95	3.63	3.44	4.76
SE	0.22	3.73	4.58	4.91	5.13	5.37
UK	–	0.82	1.93	2.46	2.87	2.69
IS	–	:	:	:	:	:
NO	–	0.70	1.94	2.30	2.68	2.79
CH	–	0.20	0.20	0.15	0.18	:
ME	:	–	–	–	–	–
MK	–	–	0.25	0.46	0.22	–
RS	–	–	–	–	–	–
TR	–	0.11	0.14	0.06	0.06	0.14

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

Figure 2.6.6: Share of biofuels in fuel consumption of transport, 2011 (%)



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-28 was 4.66 % in 2011. Ten years ago, the share was 0.28 % and biofuels were used only in Slovakia, the Czech Republic, France, Germany Austria, Spain and Sweden. In the last decade, the use of biofuels in transport became gradually more widespread and its share has grown continuously.

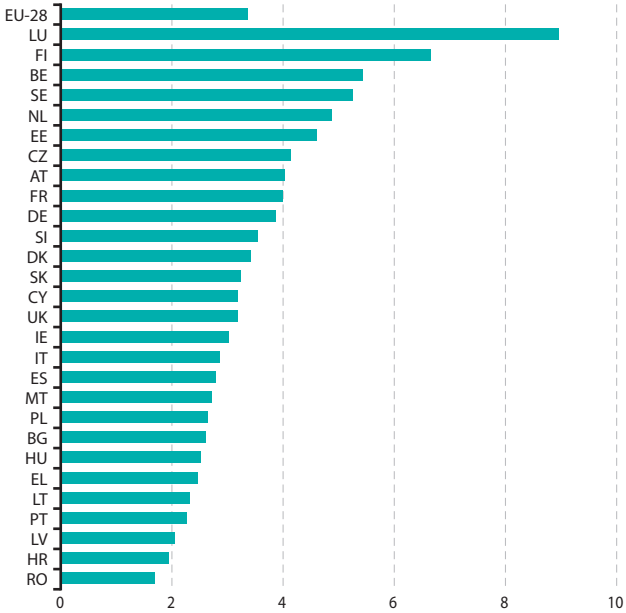
Among Member States, in 2011, the highest shares of biofuel consumption in transport were observed in Slovakia (8.16 %), Austria (6.38 %), Poland (6.21 %), France (5.79 %) and Spain (5.78 %). From 2007 to 2011, the highest growths in the shares of biofuel consumption in transport were recorded in Poland (5.3 percentage points), the Czech Republic (4.8), Finland (4.8) and Spain (4.7). Over this period, the only Member State with a slightly reduced share was Luxembourg.

Table 2.7.1: Gross inland consumption per capita

	(toe per capita)			Index (2000 = 100)		
	2001	2006	2011	2001	2006	2011
EU-28	3.63	3.69	3.37	102.0	103.7	94.7
BE	5.71	5.55	5.43	98.8	96.0	93.8
BG	2.39	2.67	2.62	104.5	117.1	114.5
CZ	4.12	4.52	4.13	102.7	112.5	102.9
DK	3.80	3.90	3.42	102.4	104.9	92.0
DE	4.30	4.23	3.87	102.7	101.2	92.5
EE	3.79	4.03	4.60	104.7	111.5	127.1
IE	3.94	3.66	3.03	104.7	97.3	80.6
EL	2.66	2.84	2.47	102.7	109.5	95.2
ES	3.14	3.30	2.79	101.5	106.9	90.1
FR	4.37	4.32	3.99	102.5	101.4	93.6
HR	1.80	2.01	1.94	103.2	115.4	110.9
IT	3.09	3.18	2.85	100.2	103.0	92.4
CY	3.47	3.41	3.18	100.0	98.5	91.8
LV	1.73	2.02	2.05	110.4	128.3	130.2
LT	2.36	2.53	2.32	116.1	124.2	113.7
LU	8.78	10.09	8.96	104.2	119.7	106.3
HU	2.54	2.73	2.53	102.6	110.2	102.1
MT	2.25	2.25	2.71	106.9	106.9	129.0
NL	4.94	4.91	4.88	102.3	101.7	101.1
AT	3.82	4.19	4.04	104.9	114.8	110.8
PL	2.37	2.57	2.65	101.8	110.4	114.1
PT	2.46	2.43	2.26	100.0	98.7	91.8
RO	1.66	1.89	1.70	101.5	115.1	103.5
SI	3.39	3.66	3.54	104.9	113.2	109.6
SK	3.50	3.51	3.23	105.0	105.5	97.0
FI	6.52	7.28	6.65	102.4	114.3	104.5
SE	5.70	5.58	5.26	106.0	103.7	97.8
UK	3.94	3.81	3.18	99.9	96.7	80.7
NO	6.08	5.98	5.83	103.6	101.9	99.4
CH	3.88	3.79	:	105.1	102.6	:
ME	:	1.81	1.92	:	:	:
MK	1.28	1.43	1.52	96.0	107.7	114.3
RS	1.83	2.19	2.11	110.0	131.4	126.9
TR	1.05	1.30	1.57	91.1	113.5	136.9

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

Figure 2.7.1: Gross inland consumption per capita, 2011 (toe per capita)



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

Table 2.7.1a: Gross inland consumption per capita, EU-28 (toe per capita)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	3.63	3.61	3.68	3.71	3.70	3.69	3.64	3.60	3.39	3.50	3.37

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

Gross inland consumption (GIC) per capita in the EU-28 fell by 7 % in the last ten years. From 2010 to 2011, the drop was – 4 %; while the consumption per capita in the EU-28 reached 3.37 toe.

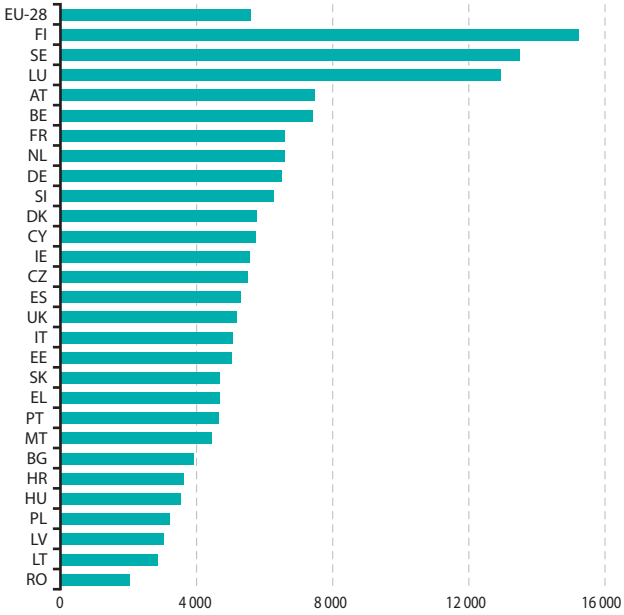
The Member States with the highest GIC per capita in 2011 are Luxembourg (8.96 toe) and Finland (6.65 toe). Their GICs exceeded the EU average by 2.7 times and 2 times respectively. In contrast, Romania and Croatia presented GICs per capita below 2 toe (1.70 and 1.94 toe respectively). In the last decade, high decreases were reported in Ireland (– 23 %) and the United Kingdom (– 19 %). Increases above 20 % were observed in Estonia (21 %) and Malta (21 %).

Table 2.7.2: Final electricity consumption per capita

	(kWh per capita)			Index (2000 = 100)		
	2001	2006	2011	2001	2006	2011
EU-28	5 316	5 695	5 492	102.3	109.6	105.7
BE	7 614	7 859	7 283	100.5	103.8	96.2
BG	3 018	3 483	3 857	101.9	117.7	130.3
CZ	4 956	5 562	5 402	103.2	115.8	112.4
DK	6 088	6 226	5 646	100.0	102.3	92.7
DE	6 021	6 378	6 379	102.3	108.4	108.4
EE	3 784	4 826	4 945	104.0	132.7	135.9
IE	5 485	6 150	5 443	102.1	114.5	101.3
EL	4 075	4 721	4 580	103.0	119.3	115.7
ES	4 965	5 625	5 199	105.5	119.5	110.5
FR	6 490	6 752	6 458	102.1	106.2	101.6
HR	2 704	3 394	3 566	102.8	129.0	135.6
IT	4 876	5 256	4 978	101.7	109.6	103.8
CY	4 458	5 438	5 622	102.8	125.3	129.6
LV	1 938	2 677	2 984	103.1	142.4	158.8
LT	1 849	2 478	2 811	104.8	140.4	159.3
LU	13 310	14 100	12 682	99.9	105.9	95.2
HU	2 995	3 299	3 459	104.0	114.5	120.1
MT	4 009	4 575	4 362	97.3	111.0	105.8
NL	6 203	6 489	6 452	100.6	105.3	104.7
AT	6 684	7 380	7 322	103.8	114.6	113.7
PL	2 582	2 911	3 165	101.2	114.1	124.0
PT	3 894	4 519	4 575	103.5	120.1	121.5
RO	1 618	1 896	1 995	107.1	125.4	132.0
SI	5 498	6 571	6 149	103.9	124.2	116.2
SK	4 360	4 389	4 601	106.9	107.7	112.9
FI	14 935	16 366	14 929	102.1	111.8	102.0
SE	14 893	14 457	13 236	102.5	99.5	91.1
UK	5 639	5 715	5 087	100.6	102.0	90.8
NO	24 911	23 145	21 421	101.9	94.6	87.6
CH	7 500	7 745	:	102.6	106.0	:
ME	:	6 184	5 508	:	:	:
MK	2 471	3 159	3 643	95.9	122.6	141.4
RS	3 836	3 536	3 847	105.8	97.5	106.1
TR	1 404	1 950	2 493	97.9	136.0	173.9

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

Figure 2.7.2: Final electricity consumption per capita, 2011 (kWh per capita)



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

Table 2.7.2a: Final electricity consumption per capita (kWh per capita)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EU-28	5 316	5 363	5 468	5 568	5 619	5 695	5 706	5 703	5 383	5 614	5 492

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

Final electricity consumption (FEC) per capita in the EU-28 grew continuously between 2001 and 2007 (from 5 316 kWh to 5 706 kWh). In 2009, a 6 % drop was recorded compared to 2007, followed by a 4 % increase in 2009-10 and a 2 % decline in 2010-11. Overall, from 2001 to 2011, FEC per capita grew by 3 % and reached 5 492 kWh.

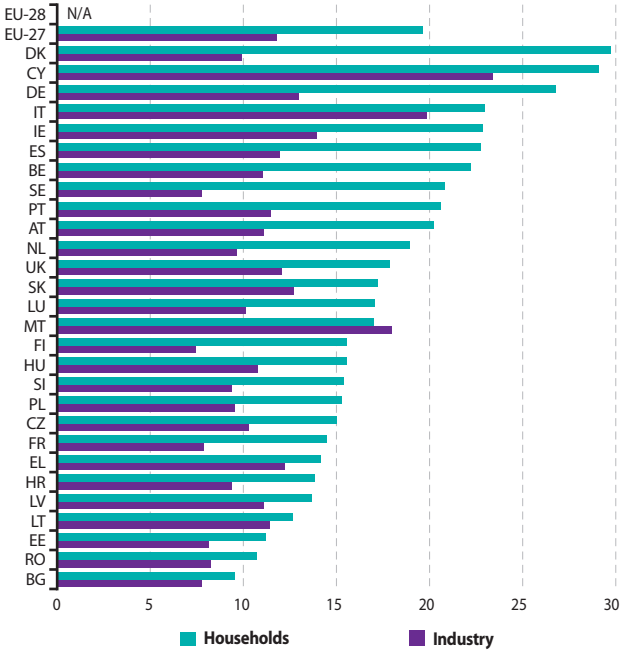
Among Member States, Finland, Sweden and Luxembourg have maintained high levels of electricity consumption per capita over the past decade. In 2011, their FECs were 2.7, 2.4 and 2.3 times above the EU average respectively. In contrast, the lowest consumption was reported by Romania (1 995 kWh). Among EFTA countries Norway presented a consumption of 21 421 kWh per capita in 2011, which was approximately 4 times above the EU average. Between 2001 and 2011, the highest increases in FEC per capita were recorded in Latvia (54 %) and Lithuania (52 %); despite these increases, their consumption remained among the lowest in 2011.

Table 2.8.1: Electricity prices in households and industry, 2nd semester 2012

	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-28	:	:	:	:	:
EU-27	19.7	2.8	3.0	11.8	2.2
BE	22.2	3.9	1.5	11.1	1.5
BG	9.6	1.6	–	7.8	0.1
CZ	15.0	2.5	0.1	10.3	0.1
DK	29.7	5.9	10.8	9.9	1.4
DE	26.8	4.3	8.2	13.0	4.2
EE	11.2	1.9	1.4	8.2	1.4
IE	22.9	2.7	0.6	14.0	0.3
EL	14.2	1.6	1.8	12.2	1.9
ES	22.8	4.0	0.9	12.0	0.6
FR	14.5	2.1	2.2	7.9	1.6
HR	13.8	2.8	0.1	9.4	0.1
IT	23.0	2.1	5.6	19.9	5.5
CY	29.1	4.2	0.8	23.4	0.8
LV	13.7	2.4	–	11.1	–
LT	12.7	2.2	–	11.4	0.0
LU	17.1	1.0	1.3	10.1	0.4
HU	15.6	3.3	–	10.8	0.6
MT	17.0	0.9	–	18.0	–
NL	19.0	3.2	2.0	9.7	1.1
AT	20.2	3.4	2.7	11.1	2.2
PL	15.3	2.9	0.5	9.6	0.5
PT	20.6	3.8	5.1	11.5	1.6
RO	10.8	2.6	–	8.3	–
SI	15.4	2.6	0.9	9.4	0.8
SK	17.2	2.9	0.3	12.7	0.4
FI	15.6	2.9	1.7	7.4	0.7
SE	20.8	4.2	3.2	7.8	0.1
UK	17.9	0.8	–	12.1	0.5
IS	11.6	2.4	0.1	:	:
NO	17.8	3.6	1.5	8.6	1.5
ME	10.1	1.8	–	7.1	–
MK	7.9	1.2	3.0	c	c
TR	14.7	2.3	0.8	9.6	0.3

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

Figure 2.8.1: Electricity prices in households and industry, 2nd semester 2012 (EUR/100 KWh)



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 the Directive 2008/92/EC of the European Parliament and of the Council. The collection of prices for household consumers is done on a voluntary agreement with the Member States.

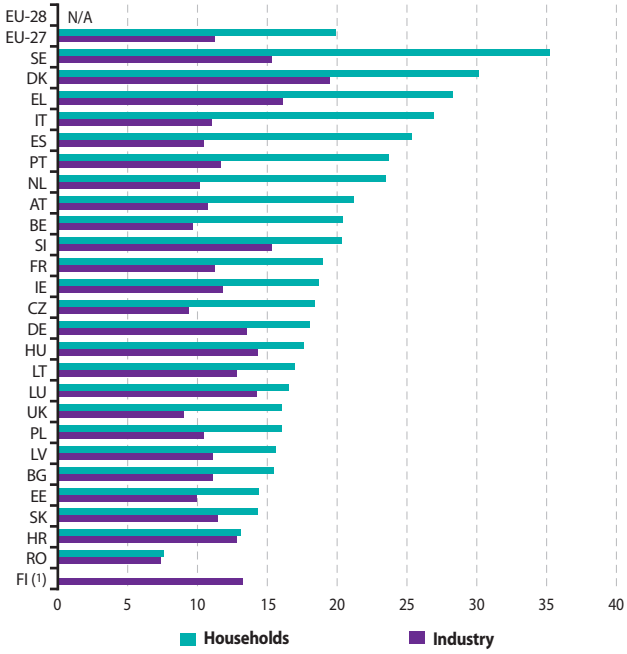
In the second semester of 2012 the average EU-27 electricity price for households was 19.7 EUR/100 kWh. The price ranged between 9.6 EUR/100 kWh in Bulgaria to 29.7 in Denmark. High prices were also reported by Cyprus (29.1), Germany (26.8) and Italy (23.0). In industry, the average EU-27 electricity price was 11.8 EUR/100 kWh. At Member State level, the lowest prices were recorded in Finland (7.4), Sweden (7.8), Bulgaria (7.8) and France (7.9). In contrast, the highest prices were recorded in Cyprus (23.4), Italy (19.9) and Malta (18.0).

Table 2.8.2: Natural gas prices in households and industry, 2nd semester 2012

	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-28	:	:	:	:	:
EU-27	19.9	2.8	1.7	11.2	0.8
BE	20.4	3.5	0.6	9.6	0.3
BG	15.4	2.6	–	11.1	0.0
CZ	18.4	3.1	–	9.4	0.3
DK	30.1	6.0	9.7	19.4	9.5
DE	18.0	2.9	1.7	13.5	1.1
EE	14.4	2.4	0.6	10.0	0.4
IE	18.7	2.2	0.9	11.8	1.0
EL	28.3	3.2	1.6	16.1	1.6
ES	25.3	4.1	–	10.4	–
FR	19.0	2.7	0.5	11.2	0.3
HR	13.1	2.6	–	12.8	–
IT	26.9	4.3	4.7	11.0	0.6
CY	:	:	:	:	:
LV	15.6	2.7	0.5	11.1	0.5
LT	17.0	2.9	–	12.8	–
LU	16.5	1.0	0.5	14.2	0.2
HU	17.6	3.7	–	14.3	0.3
MT	:	:	:	:	:
NL	23.5	4.0	4.7	10.2	1.5
AT	21.2	3.5	1.9	10.7	0.8
PL	16.0	3.0	–	10.4	–
PT	23.7	4.4	0.2	11.7	0.0
RO	7.6	1.5	2.1	7.3	1.9
SI	20.3	3.4	1.2	15.3	1.2
SK	14.3	2.4	–	11.5	0.4
FI	:	:	:	13.2	2.3
SE	35.2	7.0	9.6	15.3	2.9
UK	16.0	0.8	–	9.0	0.4
MK	:	:	:	15.3	0.6
TR	11.4	1.7	0.3	8.3	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 2012 (EUR/GJ)



(1) 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 the Directive 2008/92/EC of the European Parliament and of the Council. The collection of prices for household consumers is done on a voluntary agreement with the Member States.

In the second semester of 2012, the natural gas price in households averaged 19.9 EUR/GJ in the EU-27, while in industry it reached 11.2 EUR/GJ. Among Member States, natural gas prices in households varied between 7.6 EUR/GJ in Romania to 35.2 in Sweden. High prices were also observed in Denmark (30.1), Greece (28.3) and Italy (26.9). In industry, the lowest natural gas price was recorded in Romania (7.3), while the highest were recorded in Denmark (19.4) and Greece (16.1).

3

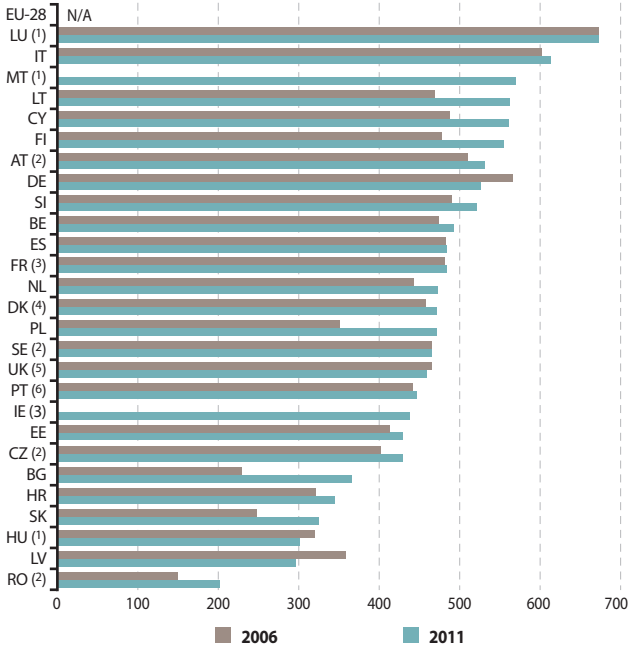
Transport indicators

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

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	473	477	481	483	487	492
BG	229	271	310	329	344	366
CZ	401	416	426	424	428	:
DK	457	469	471	:	:	:
DE	565	c	503	509	517	525
EE	412	390	412	407	412	428
IE	:	437	:	:	:	:
EL	:	:	:	:	:	:
ES	481	489	489	480	482	483
FR	481	482	:	:	:	:
HR	321	340	350	347	344	344
IT	601	603	606	606	609	612
CY	487	528	563	579	565	560
LV	358	397	411	400	283	295
LT	468	469	496	506	508	561
LU	672	676	678	672	:	:
HU	319	324	304	300	:	:
MT	:	:	c	568	:	:
NL	443	452	460	462	467	472
AT	509	513	515	522	530	:
PL	351	383	422	433	452	470
PT	:	:	:	:	441	446
RO	149	164	187	197	201	:
SI	489	504	520	521	519	520
SK	247	266	286	294	308	324
FI	477	487	509	521	538	554
SE	464	467	466	465	464	:
UK	c	c	464	459	458	:
LI	696	693	720	728	:	:
NO	449	460	464	468	475	483
CH	*523*	*527*	*525*	*521*	*524*	*529*
MK	119	122	129	138	151	152
TR	85	93	96	99	104	:

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) No data for 2011; 2009 data instead
(2) No data for 2011; 2010 data instead.
(3) No data for 2011; 2007 data instead.
(4) No data for 2011; 2008 data instead.
(5) No data for 2011; 2010 data instead. 2006 data confidential; 2008 data instead.
(6) No data for 2006; 2010 data instead.

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

The highest motorisation rates in the EU-28 were recorded in Luxembourg (672 passenger cars/1 000 inhabitants in 2009) and Italy (612 in 2011). In 2011, seven more Member States reported at least one car per two inhabitants — Malta (568, 2009 data), Lithuania (561), Cyprus (560), Finland (554), Austria (530, 2010 data), Germany (525) and Slovenia (520). On the contrary, the lowest rates were reported by Romania (201, 2010 data) and Latvia (295).

In the last 5 years (2006-11), the majority of Member States presented increased motorisation rates. The only exceptions were Latvia (– 18 %), Germany (– 7 %), Hungary (– 6 %) and the United Kingdom (– 1 %). The highest increases were recorded in Bulgaria (60 %), Romania (35 %), Poland (34 %) and Slovakia (31 %); mainly due to their low rates in 2006.

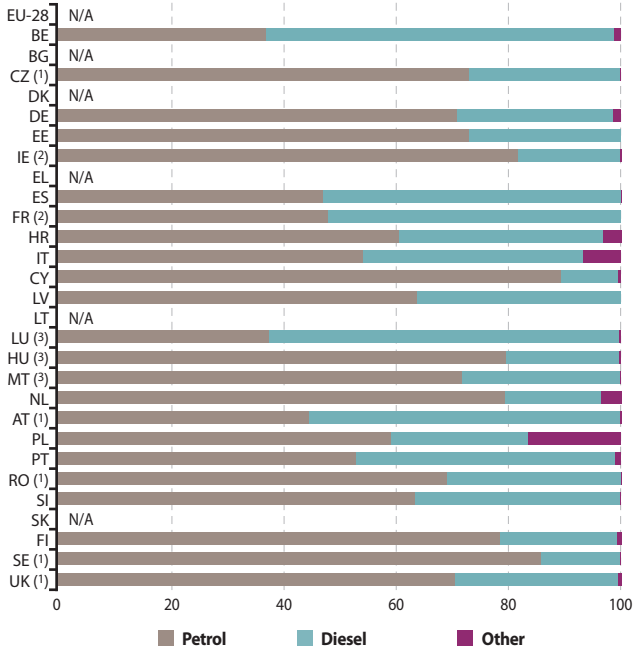
Table 3.1.2: Passenger cars, by fuel type (thousand passenger cars)

	Total		Petrol		Diesel		Other	
	2006	2011	2006	2011	2006	2011	2006	2011
EU-28	:	:	:	:	:	:	:	:
BE	4 976	5 407	2 330	2 005	2 571	3 341	75	61
BG	1 768	2 695	:	:	:	:	:	:
CZ (1)	4 109	4 496	3 298	3 285	805	1 206	6	5
DK (2)	2 479	2 580	:	:	:	:	:	:
DE	46 570	42 928	35 594	30 452	10 820	11 891	156	585
EE	554	574	451	420	103	154	–	–
IE (3)	1 582	1 883	1 361	1 542	222	338	–	3
EL (4)	3 840	:	:	:	:	:	:	:
ES	21 053	22 277	11 667	10 510	9 380	11 763	6	4
FR (5)	30 400	30 700	15 257	14 778	15 143	15 922	–	–
HR	1 426	1 518	970	923	456	547	–	48
IT	35 297	37 113	22 914	20 163	11 007	14 485	1 376	2 465
CY	373	470	341	420	32	48	–	2
LV	822	612	655	391	167	221	–	–
LT	1 592	1 713	:	:	:	:	:	:
LU (6)	315	332	146	125	169	205	–	1
HU (6)	3 214	3 014	2 708	2 404	498	604	8	5
MT (7)	202	235	150	169	52	66	–	–
NL	7 230	7 859	5 811	6 254	1 184	1 327	235	278
AT (1)	4 205	4 441	1 983	1 988	2 221	2 446	1	7
PL	13 384	18 125	9 565	10 735	1 640	4 416	2 179	2 974
PT (8)	5 788	4 712	:	2 497	:	2 169	:	46
RO (1)	3 221	4 320	:	2 991	:	1 328	:	1
SI	980	1 066	741	677	237	389	2	1
SK	1 334	1 749	:	:	:	:	:	:
FI	2 506	2 978	2 157	2 340	332	617	17	21
SE (1)	4 202	4 335	3 941	3 725	261	607	–	3
UK (9)	28 285	28 421	21 876	20 083	5 596	8 203	813	135
IS (10)	*187*	:	*163*	:	*24*	:	–	:
LI (6)	24	26	20	20	4	6	–	–
NO	2 084	2 376	1 693	1 448	389	924	2	4
CH	3 900	*4 163*	3 442	*3 302*	452	*827*	6	*34*
MK	242	313	187	217	46	86	10	11
TR (1)	6 141	7 545	3 838	3 192	584	1 382	1 719	2 971

(1) No data for 2011; 2010 data instead.
(2) No data for 2011; 2008 data instead.
(3) No data for 2006 and 2011; 2004 and 2007 data instead.
(4) No data for 2006; 2003 data instead.
(5) No data for 2011; 2007 data instead.
(6) No data for 2011; 2009 data instead.
(7) No data for 2006 and 2011; 2002 and 2009 data instead.
(8) No data for 2006; 2002 data instead.
(9) No data for 2011; 2010 data instead. 2006 data confidential; 2005 data instead.
(10) No data for 2006; 2005 data instead.

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, 2011 (%)



(1) No data for 2011; 2010 data instead.
(2) No data for 2011; 2007 data instead.
(3) No data for 2011; 2009 data instead.

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

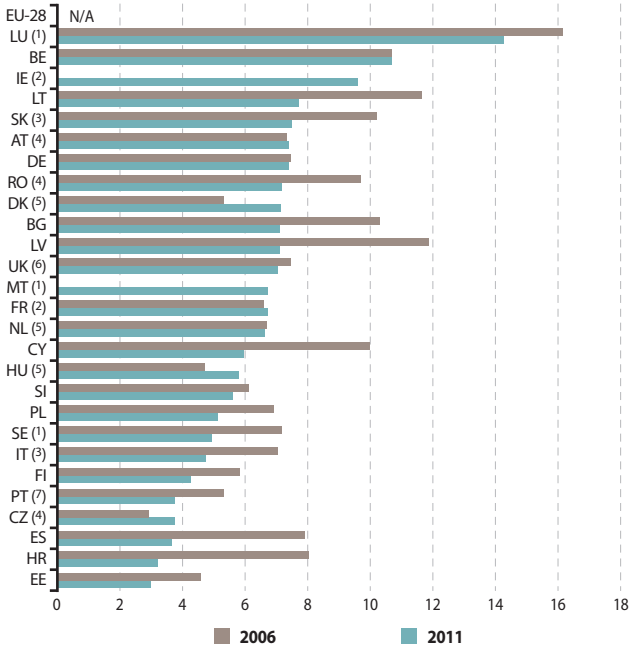
In 18 out of the 23 Member States for which data was available, over half of the passenger cars were petrol-driven. The highest share was recorded in Cyprus (89 %), followed by Sweden (86 %) and Ireland (82 %). In contrast, diesel-driven passenger cars accounted for over 50 % in Luxembourg (62 %), Belgium (62 %), Austria (55 %), Spain (53 %) and France (52 %). The contribution of alternative fuels was significant in Poland (16 %) and Italy (7 %). From 2006 to 2011, increased numbers of passenger cars were recorded in all Member States but Latvia (– 26 %), Portugal (– 19 %), Germany (– 8 %) and Hungary (– 6 %). The highest increases were reported by Bulgaria (52 %), Poland (35 %), Romania (34 %) and Slovakia (31 %). In this period, all Member States recorded increased numbers of diesel-driven passenger cars. In Poland and Sweden the increase was threefold and twofold respectively.

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

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	10.7	10.5	10.5	9.2	10.5	10.7
BG	10.3	16.8	14.9	8.0	7.2	7.1
CZ	2.9	3.0	3.2	3.6	3.7	:
DK	5.3	9.9	7.1	:	:	:
DE	7.4	c	7.5	9.1	6.9	7.4
EE	4.6	5.9	4.5	1.8	1.9	3.0
IE	:	9.6	:	:	:	:
EL	:	:	:	:	:	:
ES	7.9	7.5	5.4	4.4	4.5	3.7
FR	6.6	6.7	:	:	:	:
HR	8.0	7.2	6.2	3.5	3.1	3.2
IT	:	7.0	6.1	6.0	5.4	4.8
CY	10.0	12.4	11.6	8.1	7.1	5.9
LV	11.8	11.8	5.9	1.9	4.2	7.1
LT	11.6	13.9	11.5	8.1	9.5	7.7
LU	16.1	15.9	16.0	14.3	:	:
HU	4.7	4.2	5.8	c	:	:
MT	:	:	c	6.7	:	:
NL	6.7	6.8	6.6	:	:	:
AT	7.3	7.0	6.9	7.3	7.4	:
PL	6.9	7.7	8.0	5.2	5.1	5.1
PT	:	:	:	:	5.3	3.8
RO	9.7	12.3	14.6	7.7	7.2	:
SI	6.1	6.7	6.8	5.4	5.7	5.6
SK	:	10.2	9.8	9.3	7.6	7.5
FI	5.8	4.9	5.2	3.3	3.9	4.3
SE	7.2	7.6	6.0	4.9	:	:
UK	c	c	7.4	7.0	7.0	:
LI	7.8	8.2	7.9	6.3	:	:
NO	6.8	7.6	6.3	5.6	6.9	7.1
CH	*6.9*	*7.2*	*7.2*	*6.6*	*7.3*	*7.9*
MK	5.1	6.8	6.8	4.6	15.9	12.8
TR	6.5	5.5	5.2	5.0	6.4	:

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) No data for 2011; 2009 data instead.
(2) No data for 2011; 2007 data instead.
(3) No data for 2006; 2007 data instead.
(4) No data for 2011; 2010 data instead.
(5) No data for 2011; 2008 data instead.
(6) Data for 2006 confidential and no data for 2011; 2008 and 2010 data instead.
(7) No data for 2006; 2010 data instead.

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 2011, the renewal rate of passenger cars — that is the ratio of first registered to total passenger cars — ranged between 3 % in Estonia and 14.3 % in Luxembourg (2009 data). In the past three years (2009-11), the only Member States with at least one new car in every ten were Luxembourg and Belgium. Back in 2006, this ratio was recorded in six Member States (Luxembourg, Latvia, Lithuania, Belgium, Bulgaria and Cyprus). Between 2006 and 2011, the share of first registered passenger cars grew in only six Member States (Denmark, the Czech Republic, Hungary, France, Austria and Belgium). In contrast, the highest declines were recorded in Croatia (from 8.0 % in 2006 to 3.2 % in 2011), Spain (from 7.9 % to 3.7 %), Cyprus (from 10.0 % to 5.9 %) and Latvia (from 11.8 % to 7.1 %).

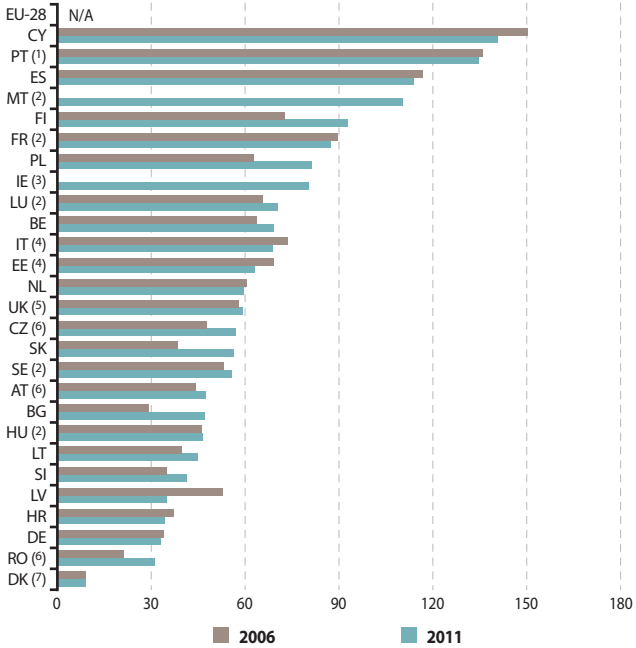
Table 3.1.4: Motorisation rate of lorries and road tractors (number of lorries and road tractors/1 000 inhabitants)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	64	65	67	67	68	69
BG	29	34	39	42	44	47
CZ	48	54	59	57	57	:
DK	9	9	9	:	:	:
DE	34	30	31	31	32	33
EE (1)	69	60	62	61	61	63
IE (2)	:	80	:	:	:	:
EL	:	:	:	:	:	:
ES	117	120	119	117	115	114
FR	90	92	87	87	:	:
HR	37	37	38	37	35	34
IT (3)	74	68	68	68	69	69
CY	151	151	154	156	147	141
LV	53	57	57	53	32	35
LT	40	44	45	44	40	45
LU	66	68	71	70	:	:
HU	46	47	45	47	:	:
MT	:	:	c	110	:	:
NL	61	62	63	62	61	59
AT	44	45	46	46	47	:
PL	63	66	71	73	78	81
PT	:	:	:	:	136	135
RO	21	23	30	31	31	:
SI	35	39	42	41	41	41
SK	39	44	50	53	55	56
FI	73	76	82	85	89	93
SE	53	55	56	56	:	:
UK (1)	58	60	61	59	59	:
LI	72	73	76	76	:	:
NO	105	110	110	109	108	108
CH	*42*	*43*	*43*	*43*	*43*	*44*
MK	8	8	8	9	9	16
TR	33	38	40	41	10	:

(1) Data for 2006 and 2007 only include lorries.
(2) Data only include lorries.
(3) Data for 2006 only include lorries.

Source: Eurostat (online data codes: road_eqs_lorroa 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) No data for 2006; 2010 data instead.
(2) No data for 2011; 2009 data instead.
(3) No data for 2011; 2007 data instead. Data only include lorries.
(4) Data for 2006 only include lorries.
(5) No data for 2011; 2010 data instead. Data for 2006 only include lorries.
(6) No data for 2011; 2010 data instead.
(7) No data for 2011; 2008 data instead.

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

In 2011, the motorisation rate of lorries and road tractors among the EU-28 varied between 9 lorries and road tractors per 1 000 inhabitants in Denmark and 141 in Cyprus. Rates above 100 lorries and road tractors per 1 000 inhabitants were also recorded in Portugal (135), Spain (114) and Malta (110 in 2009). In contrast, apart from Denmark low rates were also recorded in Romania (31 in 2010), Germany (33), Croatia (34) and Latvia (35). Between 2006 and 2011, the trend in the motorisation rates of lorries and road tractors was not uniform among Member States. The highest increases were observed among Eastern European countries, especially Bulgaria (61 %), Romania (47 %), Slovakia (46 %) and Poland (30 %). On the other hand, the highest decrease was recorded in Latvia (– 34 %).

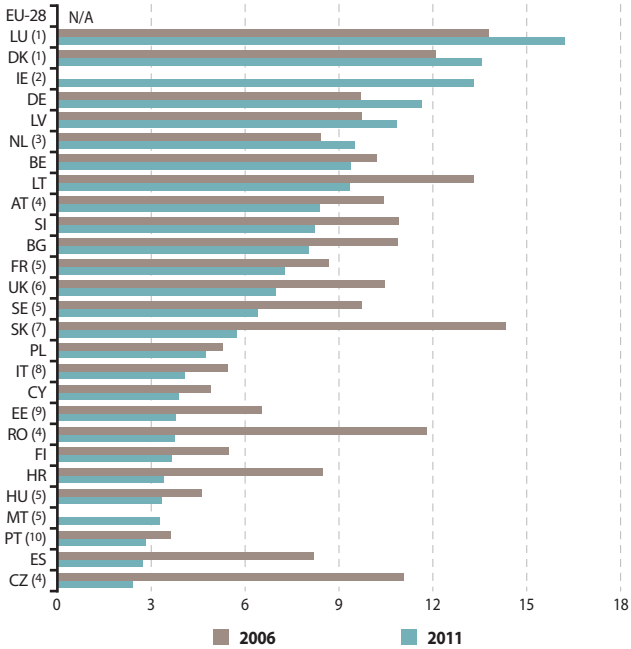
Table 3.1.5: Renewal rate of lorries and road tractors (lorries and road tractors first registration/total lorries and road tractors — %)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	10.2	11.2	10.8	8.2	8.2	9.4
BG	10.9	14.2	14.5	8.2	8.0	8.0
CZ	11.1	11.7	9.7	3.4	2.4	:
DK	12.1	15.9	13.6	:	:	:
DE	9.7	12.6	12.4	8.8	10.1	11.6
EE (1)	6.5	9.1	5.1	1.8	2.1	3.8
IE (2)	:	13.3	:	:	:	:
EL	:	:	:	:	:	:
ES	8.2	7.8	4.4	2.7	2.9	2.7
FR	8.7	8.8	9.3	7.3	:	:
HR	8.5	8.4	7.8	4.1	3.2	3.4
IT (3)	:	:	5.4	4.4	4.3	4.1
CY	4.9	6.1	7.1	5.6	5.5	3.9
LV	9.7	10.6	5.5	1.8	5.1	10.9
LT	13.3	15.6	10.7	7.9	12.0	9.3
LU	13.8	15.2	16.2	:	:	:
HU	4.6	5.0	8.0	3.4	:	:
MT	:	:	c	3.3	:	:
NL	8.4	9.5	:	:	:	:
AT	10.4	10.9	10.8	7.8	8.4	:
PL	5.3	6.8	6.6	5.9	7.2	4.7
PT	:	:	:	:	3.6	2.8
RO (3)	11.8	13.6	10.7	4.6	3.8	:
SI	10.9	11.8	11.3	5.9	6.3	8.2
SK	:	14.3	12.9	9.1	5.9	5.7
FI	5.5	5.5	5.0	2.7	3.0	3.7
SE	9.7	10.4	9.2	6.4	:	:
UK (1)	10.5	10.3	9.2	6.0	7.0	:
LI	8.5	6.5	9.9	6.7	:	:
NO	10.8	10.7	8.4	5.3	6.3	7.5
CH	*8.3*	*8.6*	*9.1*	*7.9*	*8.3*	*9.5*
MK	2.9	4.4	5.8	5.3	7.5	8.9
TR	11.4	9.1	7.7	6.1	3.6	:

(1) Data for 2006 and 2007 only include lorries.
(2) Data only include lorries.
(3) 2008 first registration data only include lorries.

Source: Eurostat (online data codes: road_eqr_lrstn and road_eqs_lorroa)/ 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) No data for 2011; 2008 data instead.
(2) No data for 2011; 2007 data instead. Data only include lorries.
(3) No data for 2011; 2007 data instead.
(4) No data for 2011; 2010 data instead.
(5) No data for 2011; 2009 data instead.
(6) No data for 2011; 2010 data instead. 2006 data only include lorries.
(7) No data for 2006; 2007 data instead.
(8) No data for 2006; 2008 data instead. 2008 first registration data only include lorries.
(9) 2006 data only include lorries.
(10) No data for 2006; 2010 data instead.

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

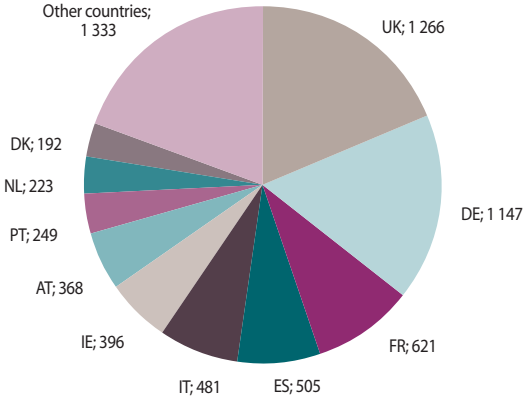
Depending on data availability, only two Member States recorded renewal rates of lorries and road tractors over 10 % in 2011; Germany (11.6 %) and Latvia (10.9 %). In 2009, none of the Member States presented a renewal rate over 10 %. Back in 2006, rates over 10 % were recorded in ten Member States (Luxembourg, Lithuania, Denmark, Romania, the Czech Republic, Slovenia, Bulgaria, the United Kingdom, Austria and Belgium). In the last six years, five Member States showed increased renewal rates of lorries and road tractors (Germany, Luxembourg, the Netherlands, Denmark and Latvia). In contrast, the highest decreases were recorded in the Czech Republic, Romania, Spain and Croatia.

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

	2006	2007	2008	2009	2010	2011
EU-28	:	6 391	6 655	6 666	6 770	6 781
BE	161	183	187	177	169	178
BG	128	102	62	59	64	64
CZ	78	87	95	90	79	70
DK	171	152	133	155	155	192
DE	991	1 061	1 114	1 122	1 125	1 147
EE	26	20	23	22	23	29
IE	223	267	286	331	367	396
EL	93	95	118	121	121	111
ES	567	618	571	529	519	505
FR	575	583	607	590	583	621
HR	:	17	24	25	28	19
IT	461	492	507	507	571	481
CY	20	16	17	14	12	13
LV	46	51	54	49	54	54
LT	26	41	40	35	32	40
LU	81	91	99	105	103	120
HU	69	67	82	81	81	77
MT	21	21	28	33	36	41
NL	229	230	245	234	228	223
AT	275	306	367	372	357	368
PL	90	98	94	103	96	100
PT	216	240	280	282	278	249
RO	50	58	67	67	69	68
SI	19	28	33	30	31	34
SK	22	25	37	22	23	25
FI	93	106	116	128	120	122
SE	169	160	167	158	170	168
UK	1 113	1 176	1 202	1 225	1 276	1 266
IS	141	137	140	41	37	40
NO	192	115	120	96	107	202
CH	266	288	316	336	354	347
TR	244	229	273	579	379	406

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

Figure 3.1.6: Airfleet by operator country, EU-28 2011 top ten countries (number of commercial aircrafts)



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

All military aircrafts excluded.

In 2011, there were 6 781 commercial aircrafts in the EU-28. The largest numbers of commercial aircrafts were reported by the five largest Member States. The largest airfleet was recorded in the United Kingdom (1 266 and a 19 % share of the EU total), followed by Germany (1 147 and a 17 % share), France (621 and a 9 % share), Spain (505 and a 7 % share) and Italy (481 and a 7 % share).

A comparison between airfleet of a country and its population shows that in 2011 Luxembourg had 234 aircrafts per million inhabitants, while Malta and Ireland followed with 99 and 87 respectively. The EU-28 average was 13. Among the Member States with the largest airfleet, the aircrafts per million inhabitants ratios reached 20 in the United Kingdom, 14 in Germany and 10 in France.

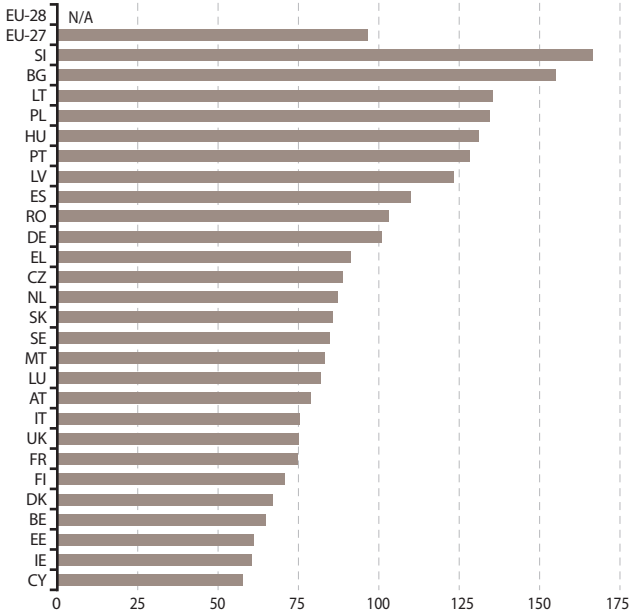
Table 3.2.1: Index of inland freight transport volume relative to GDP (Inland freight transport volume measured in tonne-km/GDP in chain-linked volumes at 2000 exchange rates, 2000 = 100)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
EU-27	105.0	105.4	103.3	95.6	98.0	96.5
BE	82.6	80.1	73.6	67.1	68.0	64.7
BG	117.0	115.1	118.9	144.6	156.2	154.8
CZ	92.2	85.0	84.8	77.3	85.7	88.7
DK	80.7	78.0	73.8	68.1	62.3	66.9
DE	109.1	110.2	108.7	100.9	101.9	100.8
EE	79.4	68.7	64.2	63.4	66.6	61.2
IE	102.8	105.7	98.7	70.2	66.3	60.5
EL	131.9	105.2	109.2	110.8	121.8	91.3
ES	129.3	133.2	124.2	111.7	111.7	109.9
FR	87.8	88.9	84.0	72.7	73.9	74.8
HR	:	:	:	:	:	:
IT	94.8	90.4	91.3	87.6	90.3	75.3
CY	77.6	76.2	80.1	60.1	66.9	57.6
LV	92.4	96.3	100.8	103.0	107.6	123.2
LT	118.5	120.6	118.9	117.7	128.4	135.2
LU	88.8	90.7	83.8	80.7	82.1	81.9
HU	118.9	134.1	132.4	133.1	131.5	131.0
MT	91.5	87.9	84.6	86.9	84.5	83.1
NL	95.2	91.1	89.0	80.7	85.1	87.1
AT	101.6	97.0	91.3	79.1	80.7	78.8
PL	115.9	122.3	123.1	125.1	134.8	134.3
PT	154.0	155.3	132.6	124.5	121.2	128.3
RO	171.4	165.6	148.5	113.0	105.2	103.0
SI	132.3	138.5	152.9	147.4	160.3	166.3
SK	87.0	92.2	91.5	86.3	85.7	85.7
FI	81.4	76.4	79.0	75.8	78.6	70.6
SE	94.8	94.1	96.9	86.6	87.6	84.6
UK	85.9	85.0	81.0	73.8	75.5	75.1
IS	*119.2*	:	:	:	:	:
NO	109.9	107.8	114.0	105.1	110.7	107.1
CH	105.4	106.9	90.2	83.4	82.9	84.0
MK	198.5	141.2	:	:	:	:
TR (1)	81.7	79.8	:	:	:	:

(1) 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 3.2.1: Index of inland freight transport volume relative to GDP, 2011 (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 reached 96.5 in 2011. The highest indices were observed in Slovenia (166.3), Bulgaria (154.8), Lithuania (135.2), Poland (134.3) and Hungary (131.0). In contrast, the lowest indices were recorded in Cyprus (57.6), Ireland (60.5) and Estonia (61.2).

From 2006 to 2011, the only Member States that presented increased indices were Bulgaria, Slovenia, Latvia, Poland, Lithuania and Hungary; whereas the highest decreases were reported by Romania (– 68 %), Ireland (– 42 %) and Greece (– 41 %).

Table 3.2.2: Modal split of inland freight transport — shares of road, rail and inland waterways in total freight transport (% of total inland freight tonne-km)

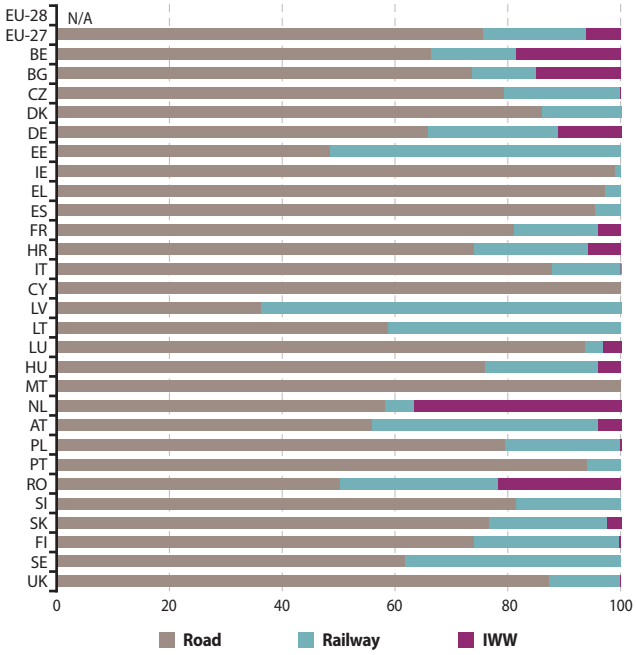
	2001			2010			2011		
	Road	Railway	IWW	Road	Railway	IWW	Road	Railway	IWW
EU-28	:	:	:	:	:	:	:	:	:
EU-27	75	19	6	76	17	7	76	18	6
BE	78	*10*	11	68	15	18	66	15	19
BG	*60*	*37*	3	68	11	21	74	11	15
CZ	70	*30*	0	79	21	0	79	21	0
DK	92	*8*	–	87	13	–	86	14	–
DE	67	*19*	15	65	22	13	66	23	11
EE	*31*	*69*	0	46	54	–	49	52	–
IE	96	*4*	–	99	1	–	99	1	–
EL	*98*	*2*	–	98	2	–	97	3	–
ES	93	*7*	–	96	4	–	96	5	–
FR	78	19	3	82	14	4	81	15	4
HR	76	23	1	71	21	8	74	20	6
IT	89	*11*	*0*	90	10	0	88	12	0
CY	*100*	–	–	100	–	–	100	–	–
LV	*27*	*73*	0	38	62	–	36	64	–
LT	*52*	*48*	*0*	59	41	0	59	41	0
LU	90	*7*	4	94	*3*	4	94	3	3
HU	68	*28*	4	75	20	5	76	20	4
MT	*100*	–	–	*100*	–	–	*100*	–	–
NL	63	*3*	34	62	5	*33*	58	5	37
AT	66	*30*	5	56	39	5	56	40	4
PL	62	*38*	0	81	19	0	79	21	0
PT	93	*7*	–	94	6	–	94	6	–
RO	*50*	*43*	7	49	24	27	50	28	22
SI	73	*27*	–	82	18	–	81	19	–
SK	*54*	*42*	*4*	75	22	3	77	21	2
FI	75	*24*	*0*	75	25	0	74	26	0
SE	64	36	–	61	39	–	62	38	–
UK	89	*11*	*0*	89	11	*0*	*87*	13	*0*
IS	100	–	–	:	–	–	:	:	:
LI	:	:	–	97	4	–	:	:	:
NO	84	*16*	–	85	15	–	84	16	–
CH	*56*	*44*	–	54	46	–	54	46	–
MK	87	13	–	:	:	:	:	:	:
TR (1)	95	5	–	:	:	:	:	:	:

(1) 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 3.2.2: Modal split of inland freight transport, 2011 (% 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).

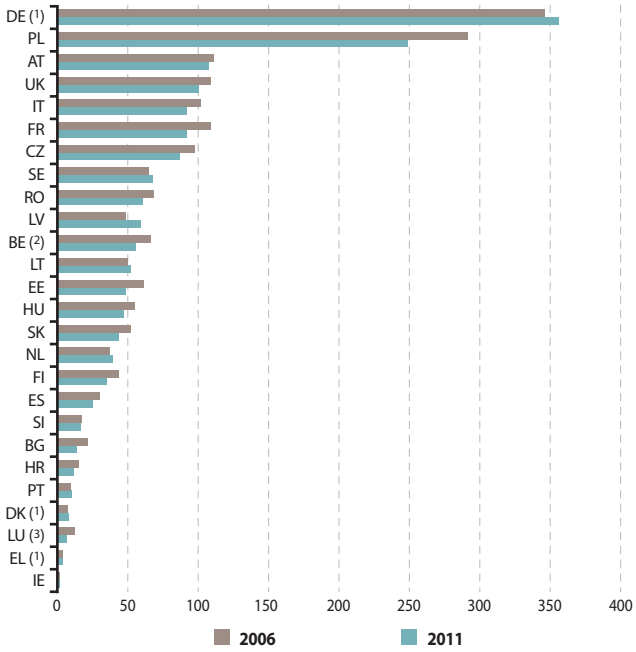
In the last decade, a shift towards road transport has been recorded, especially in newer Member States. The highest increases in the shares of road freight transport were observed in Slovakia (23 percentage points), Poland (18), Estonia (17) and Bulgaria (13). In contrast, eleven Member States presented a shift towards more environmentally friendly transport modes, most notably Belgium and Austria. In 2011, road transport made up over half of freight transport in all Member States, except for Latvia and Estonia, where railway transport accounted for the largest share (64 % and 52 % respectively). High shares of rail transport were also recorded in Lithuania (41 %), Austria (40 %) and Sweden (38 %). Considerable shares of inland waterways were recorded in the Netherlands (37 %), Romania (21 %) and Belgium (19 %).

Table 3.2.3: Goods freight transport by rail (thousand tonnes)

	2006	2007	2008	2009	2010	2011
EU-28	c	1 828 936	1 797 928	1 465 617	1 589 019	:
BE	c	66 248	64 648	45 718	54 476	55 876
BG	21 881	21 905	19 716	13 284	12 939	14 152
CZ	97 491	99 777	95 073	76 715	82 900	87 096
DK	7 477	6 901	7 198	6 163	8 121	:
DE	346 118	361 116	371 298	312 087	355 715	:
EE	61 284	68 538	52 752	45 954	46 705	48 378
IE	1 245	825	717	631	568	611
EL	3 884	4 943	4 253	3 377	3 982	:
ES	29 862	29 918	26 906	21 292	21 986	25 014
FR	109 222	111 236	109 509	86 127	85 045	91 789
HR	15 395	15 764	14 851	11 651	12 203	11 794
IT	102 169	105 314	95 810	76 336	84 435	91 811
CY	–	–	–	–	–	–
LV	48 731	52 164	56 061	53 679	49 164	59 385
LT	50 225	53 503	54 970	42 669	48 061	52 330
LU	12 133	16 532	8 548	6 446	:	:
HU	54 705	51 523	51 543	42 277	45 794	47 424
MT	–	–	–	–	–	–
NL	37 267	40 700	40 569	33 594	35 536	39 174
AT	110 779	115 526	121 579	98 887	107 670	107 587
PL	291 394	245 307	248 860	200 819	216 767	248 606
PT	9 775	10 556	10 426	8 947	10 094	9 975
RO	68 312	68 772	66 711	50 595	52 932	60 723
SI	17 052	17 575	17 271	13 774	16 234	17 024
SK	52 449	51 813	47 910	37 603	44 327	43 711
FI	43 560	40 288	41 937	32 860	35 795	34 827
SE	64 944	67 809	65 632	56 466	68 329	67 907
UK	109 194	104 383	103 180	87 666	89 241	100 364
LI	2 031	2 003	1 843	1 160	1 214	1 172
NO	24 802	25 131	24 787	22 961	27 229	28 305
CH	:	:	69 864	61 848	63 989	65 038
MK	:	:	:	:	3 097	2 770
TR	19 745	20 849	22 870	21 270	23 816	24 753

Source: Eurostat (online data code: rail_go_typeall)

Figure 3.2.3: Goods freight transport by rail (million tonnes)



(1) No data for 2011; 2010 data instead.
(2) Data for 2006 confidential; 2007 data instead.
(3) No data for 2011; 2009 data instead.

Source: Eurostat (online data code: rail_go_typeall)

In 2010, EU-28 goods freight transport by rail amounted to 1 589 million tonnes. From 2007 to 2010, the volume of freight transport by rail in the EU-28 fell by 13 %. Depending on data availability, in the last six years, the amount of goods transported by rail dropped in nineteen Member States. The highest decreases were observed in Ireland (– 51 %), Luxembourg (– 47 %) and Bulgaria (– 35 %). In contrast, increases were recorded in Latvia (22 %), Denmark (9 %), the Netherlands (5 %), Sweden (5 %), Lithuania (4 %), Germany (3 %), Greece (3 %) and Portugal (2 %).

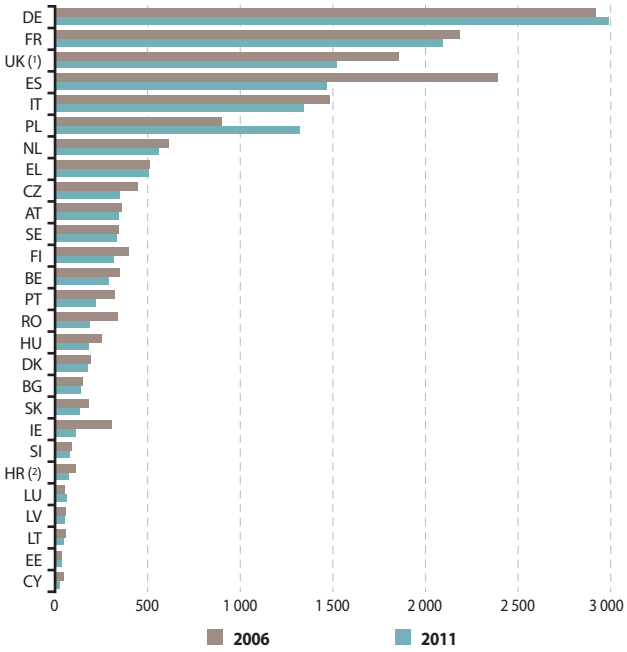
Among Member States the largest quantities of goods were transported by German railways (356 million tonnes in 2010), followed by Poland (249 in 2011), Austria (108) and the United Kingdom (100).

Table 3.2.4: Goods freight transport by road (thousand tonnes)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	17 148 891	15 215 995	14 952 606	14 933 030
EU-27	16 808 202	17 256 443	:	:	:	:
BE	348 527	352 202	317 637	297 879	296 189	289 203
BG	150 672	134 779	175 484	146 563	129 922	135 328
CZ	444 644	453 533	431 858	370 115	355 911	349 278
DK	193 021	197 922	193 559	149 344	165 708	178 006
DE	2 919 819	3 028 466	3 078 347	2 769 201	2 734 605	2 986 736
EE	33 780	39 988	42 312	30 088	27 315	32 913
IE	305 916	310 237	253 115	142 126	123 116	109 661
EL	510 741	484 775	628 560	644 528	577 442	505 986
ES	2 387 159	2 408 762	2 120 241	1 710 946	1 566 270	1 466 146
FR	2 181 675	2 258 028	2 203 204	1 939 431	2 015 493	2 090 616
HR	:	:	110 833	92 862	74 980	74 657
IT	1 483 800	1 496 878	1 520 415	1 468 954	1 527 763	1 339 672
CY	43 634	39 945	41 619	28 523	32 247	26 050
LV	54 640	62 152	54 460	37 819	46 808	53 936
LT	56 026	62 156	59 427	44 697	44 716	46 019
LU	53 016	57 874	58 529	52 649	60 725	60 687
HU	250 989	243 299	258 475	229 808	199 848	182 839
MT	:	:	:	:	:	:
NL	615 304	636 170	621 287	616 903	564 841	559 030
AT	358 843	354 330	369 454	336 691	331 034	344 737
PL	897 414	984 237	1 093 406	1 170 478	1 216 083	1 322 237
PT	321 203	324 019	294 402	258 968	222 142	217 186
RO	335 578	356 971	364 952	293 422	174 124	183 935
SI	86 896	89 036	91 239	75 287	81 025	75 615
SK	181 521	179 409	199 429	163 491	143 244	132 690
FI	396 800	422 161	423 613	350 588	397 813	317 740
SE	342 309	360 151	366 831	333 837	322 107	330 992
UK	1 854 275	1 918 963	1 776 203	1 460 797	1 521 135	*1 521 135*
LI	607	613	638	575	578	600
NO	250 858	268 613	288 645	257 629	266 814	256 418
CH	:	:	290 244	284 157	281 992	303 014

Source: Eurostat (online data code: road_go_ta_tott)

Figure 3.2.4: Goods freight transport by road (million tonnes)



(1) No data for 2011; 2010 data instead.
(2) No data for 2006; 2008 data instead.

Source: Eurostat (online data code: road_go_ta_tott)

In 2011, approximately 14 933 million tonnes of goods were transported by road in the EU-28. Out of this amount, 20 % was transported in the roads of Germany, followed by France (14 %), the United Kingdom (10 %) and Spain (10 %).

Between 2006 and 2011, the volume of goods transported by road fell in all Member States, except for Poland (47 % increase), Luxembourg (14 %) and Germany (2 %). Decreases that exceeded 30 % were observed in Ireland (64 %), Romania (45 %), Cyprus (40 %), Spain (39 %), Croatia (33 %) and Portugal (32 %).

A comparison between road and rail goods freight transport shows that in 2010 the quantities of goods transported by road in the EU-28 equaled 9 times the amount transported by rail.

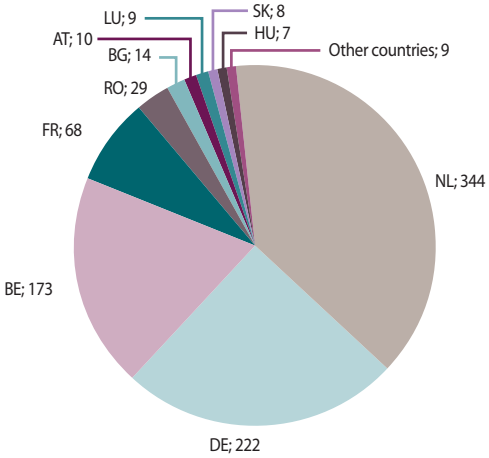
Table 3.2.5: Goods freight transport by inland waterways (thousand tonnes)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
EU-27	:	520 971	509 458	420 998	485 079	520 177
BE	165 855	134 647	130 350	108 243	161 594	172 906
BG	5 950	6 622	10 956	17 104	18 372	14 448
CZ	1 124	1 141	752	804	833	911
DK	–	–	–	–	–	–
DE	243 495	248 966	245 674	203 868	229 607	221 966
EE	–	–	–	–	–	–
IE	–	–	–	–	–	–
EL	–	–	–	–	–	–
ES	–	–	–	–	–	–
FR	71 448	76 004	72 753	67 889	72 632	68 434
HR	:	:	6 416	5 381	6 928	5 184
IT	:	:	:	:	:	:
CY	–	–	–	–	–	–
LV	–	–	–	–	–	–
LT	–	–	–	–	–	–
LU	11 395	9 999	10 984	8 172	10 467	8 956
HU	7 327	8 410	8 829	7 745	9 952	7 175
MT	–	–	–	–	–	–
NL	317 853	352 615	344 797	271 495	304 284	344 249
AT	9 183	12 107	11 209	9 322	11 052	9 943
PL	6 609	6 444	6 101	3 374	2 820	3 143
PT	–	–	–	–	–	–
RO	29 305	29 425	30 295	24 743	32 088	29 396
SI	–	–	–	–	–	–
SK	2 252	8 013	8 371	7 823	10 103	8 211
FI	:	:	:	:	:	:
SE	–	–	–	–	–	–
UK	:	:	:	:	:	:
IS	–	–	–	–	–	–
LI	–	–	–	–	–	–
NO	–	–	–	–	–	–
MK	–	–	–	–	–	–
TR	–	–	–	–	–	–

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 3.2.5: Goods freight transport by inland waterways, EU-28 2011 top ten countries (million tonnes)



Source: Eurostat (online data code: iww_go_atyve)

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

Approximately 520 million tonnes were carried through EU-27 inland waterways in 2011. The amount of goods transported by inland waterways has presented fluctuations over the past six years; most notably between 2008 and 2010.

Among Member States, a comparison between 2006 and 2011 shows that increases were reported by Slovakia (fourfold), Bulgaria (twofold), the Netherlands (8 %), Austria (8 %) and Belgium (4 %). In contrast, decreases were reported by Poland (– 52 %), Luxembourg (– 21 %), Croatia (– 19 %), the Czech Republic (– 19 %), Germany (– 9 %), France (– 4 %) and Hungary (– 2 %). In Romania the amount of goods transported by inland waterways remained stable.

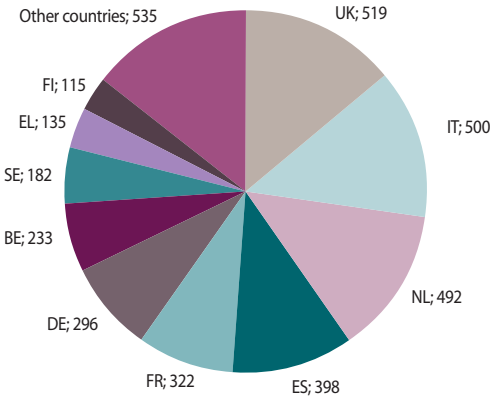
In 2011, the highest amount of goods carried through inland waterways was recorded in the Netherlands (344 million tonnes), followed by Germany (222) and Belgium (173).

Table 3.2.6: Goods freight transport by sea (gross weight of seaborne goods handled in all ports in thousand tonnes)

	2006	2007	2008	2009	2010	2011
EU-28	3 862 294	3 967 623	3 947 893	3 468 898	3 669 941	3 728 283
BE	218 941	236 320	243 819	203 368	228 228	232 789
BG	27 513	24 900	26 576	21 893	22 946	25 185
CZ	–	–	–	–	–	–
DK	107 674	109 660	106 096	90 636	87 068	92 613
DE	302 789	315 051	320 636	262 863	275 953	296 037
EE	49 998	44 964	36 191	38 505	46 026	48 479
IE	53 326	54 139	51 081	41 829	45 071	45 078
EL	159 425	164 300	152 498	135 430	129 059	135 314
ES	414 378	426 648	416 158	363 536	376 376	398 332
FR	350 334	346 825	351 976	315 534	313 593	322 251
HR	26 325	30 097	29 223	23 377	24 329	21 862
IT	520 183	537 327	526 219	469 879	494 091	499 885
CY	7 676	7 516	7 962	6 808	6 954	6 564
LV	56 861	61 083	61 430	60 088	58 691	67 016
LT	27 235	29 253	36 379	34 344	37 869	42 661
LU	–	–	–	–	–	–
HU	–	–	–	–	–	–
MT	5 452	5 254	5 501	5 507	6 004	5 578
NL	477 238	507 463	530 359	483 133	538 702	491 695
AT	–	–	–	–	–	–
PL	53 131	52 433	48 833	45 079	59 507	57 738
PT	66 861	68 229	65 275	61 714	65 981	67 507
RO	46 709	48 928	50 458	36 094	38 122	38 918
SI	15 483	15 853	16 554	13 356	14 591	16 198
SK	–	–	–	–	–	–
FI	110 536	114 819	114 725	93 239	109 326	115 452
SE	180 487	185 057	187 778	161 823	179 579	181 636
UK	583 739	581 504	562 166	500 863	511 875	519 495
IS	5 917	:	:	:	:	:
LI	–	–	–	–	–	–
NO	196 818	198 507	193 368	182 635	195 132	198 970
CH	–	–	–	–	–	–
MK	–	–	–	–	–	–
RS	–	–	–	–	–	–
TR	:	:	305 271	293 906	338 078	359 082

Source: Eurostat (online data code: mar_go_aa)

Figure 3.2.6: Goods freight transport by sea, EU-28 2011 top ten countries (million tonnes of goods handled in all ports)



Source: Eurostat (online data code: mar_go_aa)

Ports in the EU-28 handled 3 729 million tonnes of seaborne goods in 2011, a 3 % decrease compared to 2006. In the last six years, the transportation of seaborne goods in the EU-28 has fluctuated. The most noteworthy change was a 12 % decrease recorded from 2008 to 2009, followed by a 6 % increase from 2009 to 2010.

Between 2006 and 2011, thirteen Member States presented decreases in goods freight transport by sea. The highest decreases were recorded in Croatia (– 17 %) and Romania (– 17 %); in contrast the highest increases were observed in Lithuania (57 %) and Latvia (18 %).

Seaports in the United Kingdom handled 519 million tonnes of goods in 2011, while Italy, the Netherlands and Spain followed with 500, 492 and 398 million tonnes respectively. These four Member States collectively handled 51 % of total EU-28 seaborne freight.

Table 3.2.7: Goods freight transport by air (thousand tonnes)

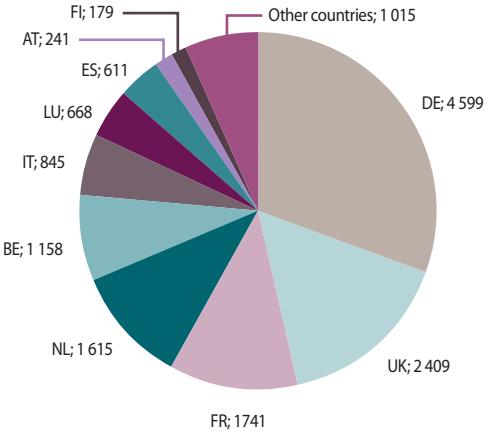
	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
EU-27	:	12 582	13 191	11 584	13 427	13 828
BE	1 125	1 368	1 250	953	1 118	1 158
BG	:	19	20	18	21	22
CZ	59	60	56	54	66	69
DK (1)	8	8	247	176	157	162
DE	3 387	3 582	3 814	3 614	4 395	4 599
EE	10	23	42	21	12	18
IE	128	130	122	107	116	111
EL	107	103	112	98	89	81
ES	485	513	540	501	592	611
FR	1 592	1 702	1 668	1 445	1 576	1 741
HR	:	:	8	9	7	7
IT	837	928	826	706	836	845
CY	44	41	42	38	37	29
LV	12	7	7	9	11	12
LT	13	13	9	6	10	10
LU	634	703	777	625	695	668
HU	65	68	63	54	65	69
MT	18	18	18	17	17	16
NL	1 621	1 550	1 658	1 371	1 600	1 615
AT	229	228	227	221	257	241
PL	39	45	58	53	61	68
PT	132	128	134	123	134	119
RO	21	19	24	23	24	26
SI	9	25	10	6	8	9
SK	5	2	7	12	18	21
FI	124	144	148	127	165	179
SE	:	:	206	162	187	165
UK	2 384	2 433	2 405	2 144	2 415	2 409
IS	62	54	55	39	35	38
NO	86	76	71	51	49	65
CH	335	369	363	326	385	405

(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 3.2.7: Goods freight transport by air, EU-28 2011 top ten countries (thousand tonnes)



Source: Eurostat (online data code: avia_gooc)

About 14 million tonnes of air freight were carried through airports of the EU-27 in 2011. Airports in Germany carried 4 599 thousand tonnes, an amount considerably higher compared to other Member States. The United Kingdom followed with 2 409 and France with 1 741 thousand tonnes. From the smaller Member States, air freight was relatively high in the Netherlands, Belgium and particularly Luxembourg, which ranked as the seventh largest air freight transporter among EU Member States.

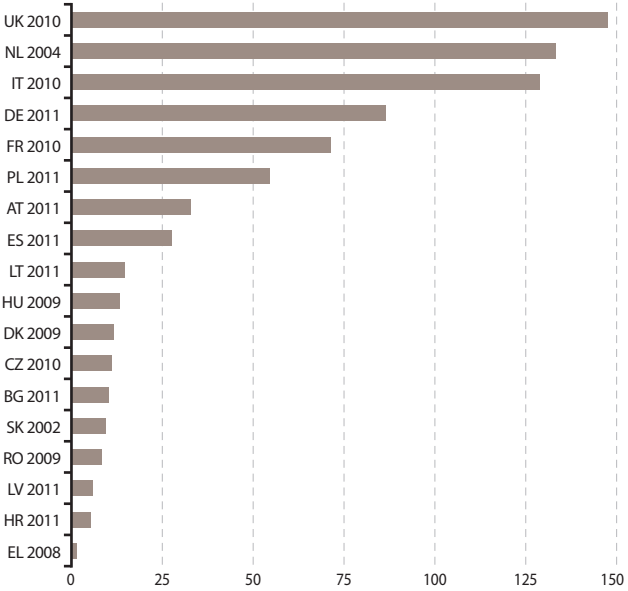
In the last six years nine Member States showed decreased freight transport by air, particularly Cyprus (– 34 %) and Greece (– 24 %). On the contrary, the increase in Slovakia was almost fourfold, followed by Estonia (82 %) and Poland (76 %).

Table 3.2.8: Goods freight transport by oil pipelines (thousand tonnes)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	:	:	:	:	:	:
BG	8 730	9 680	9 603	8 893	8 340	10 237
CZ	10 875	10 131	11 877	9 837	11 205	:
DK	14 765	14 021	12 757	11 804	:	:
DE	:	:	:	88 405	88 842	86 572
EE	–	–	–	–	–	–
IE	–	–	–	–	–	–
EL	1 575	1 608	1 584	:	:	:
ES	36 448	31 573	31 619	28 182	27 755	27 534
FR	81 209	77 799	82 176	67 525	71 254	:
HR	6 362	7 201	6 210	6 871	6 411	5 319
IT	133 869	132 583	134 075	127 371	128 854	:
CY	–	–	–	–	–	–
LV	14 543	6 497	5 033	3 771	5 635	5 845
LT	20 446	15 759	14 101	12 160	14 653	14 724
LU	–	–	–	–	–	–
HU	14 345	14 125	13 982	13 221	:	:
MT	–	–	–	–	–	–
NL	:	:	:	:	:	:
AT	34 611	32 381	33 619	33 146	32 393	32 876
PL	55 631	52 866	49 029	50 242	56 208	54 482
PT	:	:	:	:	:	:
RO	12 702	12 310	12 390	8 520	:	:
SI	–	–	–	–	–	–
SK	:	:	:	:	:	:
FI	–	–	–	–	–	–
SE	–	–	–	–	–	–
UK	158 775	146 431	147 052	147 653	147 577	:
IS	–	–	–	–	–	–
LI	–	–	–	–	–	–
NO	34 000	:	:	45 350	38 300	:
CH	6 109	5 116	5 799	5 552	5 143	5 180
MK	1 097	1 056	1 059	1 002	857	684
TR	9	12	25	30	27	:

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

Figure 3.2.8: 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

Depending on data availability, from 2006 to 2011, the volumes of freight transported by oil pipelines recorded declining trends in all but three Member States. The highest declines were recorded in Latvia (– 60 %), Romania (– 33 %) and Lithuania (– 28 %). On the contrary, a 17 % increase was observed in Bulgaria and slight increases in the Czech Republic (3 %) and Greece (1 %).

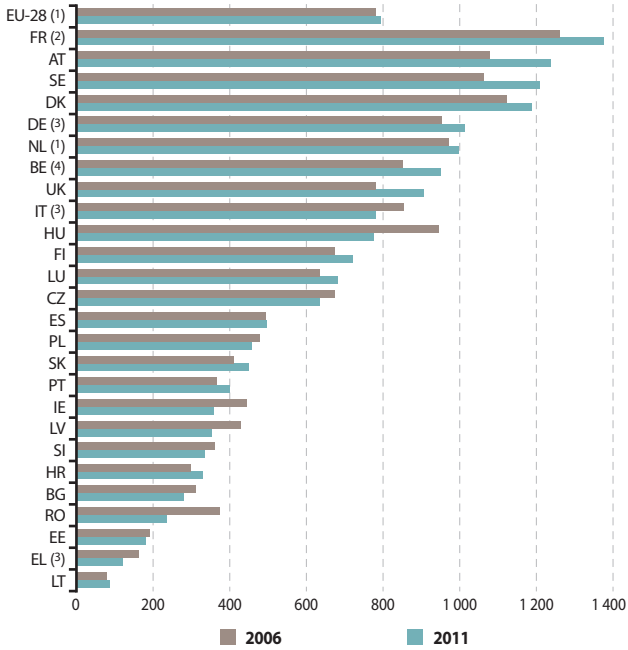
In absolute values, the highest volume of freight transport by oil pipelines was reported by the United Kingdom (148 million tonnes in 2010), followed by the Netherlands (133 in 2004) and Italy (129 in 2010). The lowest volumes were reported by Greece (2 in 2008), Croatia (5 in 2011) and Latvia (6 in 2011).

Table 3.3.1: Passenger transport by rail (million passenger-km)

	2006	2007	2008	2009	2010	2011
EU-28	389 476	397 039	c	c	c	c
BE	8 964	9 403	10 139	10 237	:	:
BG	2 411	2 404	2 317	2 138	2 090	2 059
CZ	6 922	6 898	6 773	6 472	6 559	6 669
DK	6 097	6 163	6 267	6 161	6 341	6 605
DE	78 735	79 098	82 428	81 206	82 837	:
EE	257	274	274	249	247	243
IE	1 872	2 007	1 976	1 683	1 678	1 638
EL	1 811	1 930	1 657	1 467	1 383	:
ES	21 620	21 362	23 453	23 055	22 348	22 937
FR	79 809	81 961	86 516	88 610	c	c
HR	1 322	1 573	1 769	1 802	1 711	1 457
IT	50 185	49 780	49 524	48 124	47 172	:
CY	–	–	–	–	–	–
LV	986	975	941	748	741	733
LT	268	246	258	231	244	269
LU	298	316	345	:	347	349
HU	9 524	8 752	8 291	8 004	:	7 763
MT	–	–	–	–	–	–
NL	15 889	16 325	c	c	c	c
AT	8 907	9 167	10 365	10 184	10 263	10 402
PL	18 240	19 524	19 762	18 128	17 485	17 633
PT	3 876	3 987	4 213	4 213	4 111	4 237
RO	8 092	7 476	6 958	6 128	5 437	5 063
SI	724	740	765	773	729	689
SK	2 213	2 165	2 296	2 264	2 309	2 431
FI	3 540	3 778	4 052	3 876	3 959	3 882
SE	9 617	10 261	11 146	11 321	11 155	11 379
UK	47 297	50 474	53 002	52 765	55 831	56 617
LI	1	1	1	1	1	1
NO	2 833	2 958	3 123	3 080	3 186	3 076
CH	:	:	17 699	18 497	19 093	19 387
TR	5 277	5 553	5 097	5 374	5 491	5 882

Source: Eurostat (online data code: rail_pa_total)

Figure 3.3.1: Passenger transport by rail (passenger-km per inhabitant)



(1) 2011 data confidential;; 2007 data instead.
(2) 2011 data confidential; 2009 data instead.
(3) No data for 2011; 2010 data instead.
(4) No data for 2011; 2009 data instead.

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

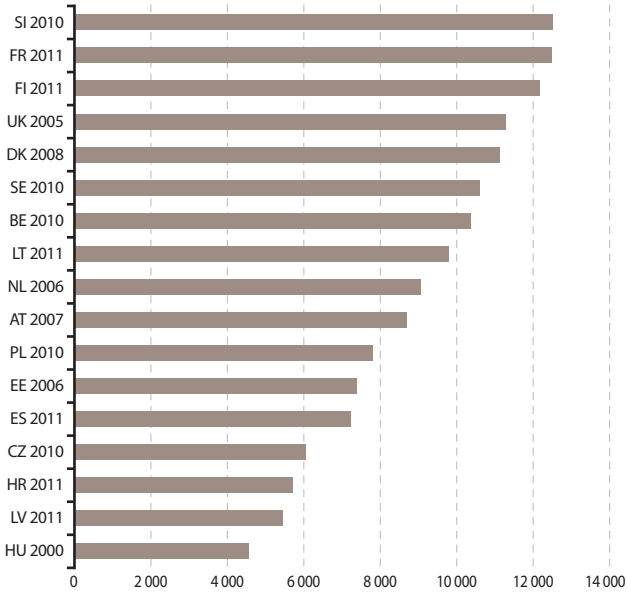
Passenger transport is measured by the number of passenger-kilometers traveled, which represents the transport of one passenger over one kilometer. EU-28 data from 2008 to 2011 are confidential. In 2007, the total passenger-km traveled by rail in the EU-28 reached 397 billion; while approximately 795 passenger-km were traveled per inhabitant. The Member States with the highest absolute values of passenger-km traveled by rail were France (89 billion in 2009) and Germany (83 billion in 2010). Between 2006 and 2011, the highest increases were reported by the United Kingdom (20 %), Sweden (18 %), Luxembourg (17 %) and Austria (17 %). On the contrary, the highest decreases were reported by Romania (– 37 %), Latvia (– 26 %) and Greece (– 24 % between 2006 and 2010). In 2011, the average distance traveled by rail per inhabitant was particularly high in France (1 377 passenger-km, 2009 data), Austria (1 238), Sweden (1 209) and Denmark (1 188). The lowest average distances were recorded in Lithuania (88) and Greece (122, 2010 data).

Table 3.3.2: Passenger transport by passenger cars (1 000 million passenger-km)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	109 800	112 080	110 900	111 470	112 640	:
BG	:	:	:	:	:	:
CZ	*69 630*	*71 540*	*72 380*	*72 290*	*63 570*	:
DK	61 948	60 957	61 037	:	:	:
DE	:	:	:	:	:	:
EE	9 946	:	:	:	:	:
IE	:	:	:	:	:	:
EL	:	:	:	:	:	:
ES	340 937	343 293	342 611	350 401	341 629	334 021
FR	723 794	727 816	:	802 887	810 793	812 656
HR	:	:	:	:	:	*25 242*
IT	:	:	:	:	:	:
CY	:	:	:	:	:	:
LV	c	c	*14 253*	12 704	12 312	11 350
LT	39 472	39 119	37 991	36 055	32 569	29 908
LU	:	:	:	:	:	:
HU	:	:	:	:	:	:
MT	:	:	:	:	:	:
NL	148 000	:	:	:	:	:
AT	70 888	72 023	:	:	:	:
PL	:	:	*273 503*	*285 028*	297 904	:
PT	:	:	:	:	:	:
RO	:	:	:	:	:	:
SI	23 018	24 355	24 878	25 775	25 636	:
SK	:	:	:	:	:	:
FI	62 455	63 785	63 400	64 330	64 745	65 490
SE	96 988	99 315	98 422	99 406	99 207	:
UK	:	:	:	:	:	:
LI	–	–	–	:	:	:
NO	54 938	56 674	57 743	58 296	58 831	59 903
CH	78 394	79 261	80 689	82 459	83 775	84 889
TR	:	:	:	124 038	137 857	:

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

Figure 3.3.2: 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

Transport by passenger cars accounted for a considerable share of total 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. In 2011, the highest volume of passenger-km by car was recorded in France (813 billion), followed by Spain (334 billion). The lowest volumes were reported by Estonia (10 billion in 2006) and Latvia (11 billion in 2011).

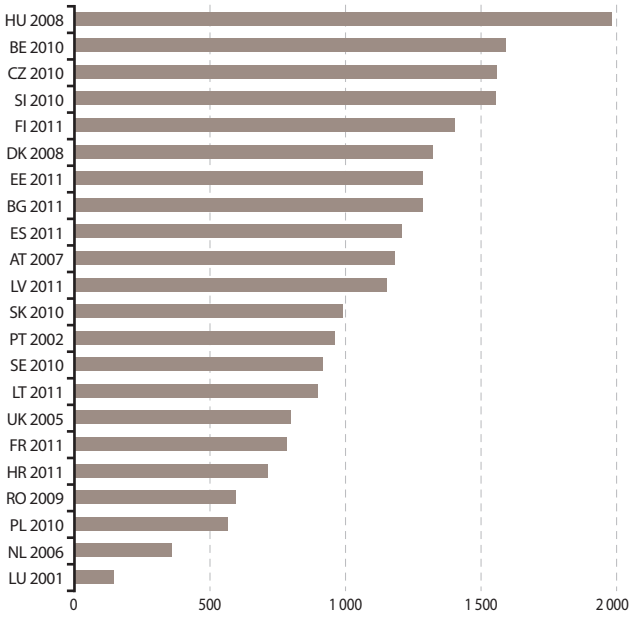
Regarding the average distance traveled by passenger cars per inhabitant, some of the smaller Member States presented particularly high values; most notably, Slovenia (12 524 passenger-km in 2010). Strong car reliance per inhabitant was also recorded in France (12 503 in 2011) and Finland (12 184 in 2011). The lowest car reliance was observed in Hungary (4 558 in 2000) and Latvia (5 471 in 2011).

Table 3.3.3: Passenger transport by buses and coaches (1 000 million passenger-km)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	18 080	20 220	20 370	18 670	17 260	:
BG	11 745	11 903	11 988	9 773	9 633	9 481
CZ	16 015	16 121	16 107	14 997	16 374	:
DK	7 498	7 250	7 250	:	:	:
DE	:	:	:	:	:	:
EE	2 543	2 322	2 123	1 891	1 734	1 725
IE	:	:	:	:	:	:
EL	:	:	:	:	:	:
ES	49 369	59 163	60 864	57 043	50 902	55 742
FR	44 909	47 103	:	48 780	49 853	51 070
HR	3 537	3 808	4 093	3 438	3 284	3 145
IT	:	:	:	:	:	:
CY	:	:	:	:	:	:
LV	3 298	3 153	2 916	2 167	2 364	2 389
LT	3 695	3 620	3 422	2 775	2 694	2 748
LU	:	:	:	:	:	:
HU	17 528	16 739	19 929	:	:	:
MT	:	:	:	:	:	:
NL	5 900	:	:	:	:	:
AT	9 234	9 799	:	:	:	:
PL	28 148	27 359	26 791	c	21 600	:
PT	:	:	:	:	:	:
RO	11 735	12 156	:	12 805	:	:
SI	3 062	3 235	3 146	3 196	3 183	:
SK	:	7 936	7 308	5 502	5 372	:
FI	7 540	7 540	7 540	7 540	7 540	7 540
SE	8 724	8 756	8 525	8 522	8 560	:
UK	:	:	:	:	:	:
LI	–	–	–	:	:	
NO	4 258	4 268	4 360	4 401	4 506	4 748
CH	5 602	5 673	5 344	5 435	5 525	5 624
MK	1 016	1 027	1 239	1 213	1 440	1 640
TR	:	:	:	88 426	89 056	:

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

Figure 3.3.3: 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 (56 billion passenger-km in 2011) and France (51 billion passenger-km in 2011). 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, Austria and Sweden. Among EFTA countries, passenger transport by rail in Switzerland equaled 3.5 times the value of passenger transport by buses and coaches. The largest volumes of passenger-km per inhabitant were recorded in Hungary (1 984 in 2008), Belgium (1 592 in 2010), the Czech Republic (1 558 in 2010) and Slovenia (1 555 in 2010). The lowest volumes were recorded in Luxembourg (146 in 2001), the Netherlands (361 in 2006), Poland (566 in 2010) and Romania (596 in 2009).

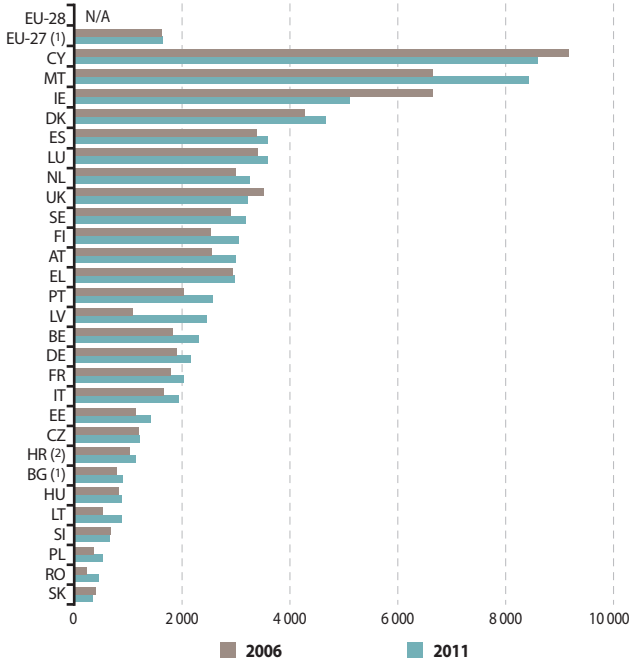
Table 3.3.4: Passenger transport by air (1 000 passengers)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
EU-27	:	800 499	803 963	757 541	786 630	827 068
BE	19 293	21 018	22 340	21 716	23 040	25 393
BG	:	6 077	6 448	5 869	6 213	6 679
CZ	12 329	13 267	13 644	12 571	12 427	12 825
DK	23 184	24 191	24 484	22 399	24 461	25 948
DE	156 382	165 919	167 764	160 615	168 804	177 123
EE	1 534	1 723	1 805	1 344	1 385	1 908
IE	28 053	30 084	30 166	26 382	23 165	23 366
EL	32 754	34 780	35 056	33 436	32 624	33 769
ES	147 962	162 985	162 237	148 989	153 916	165 668
FR	113 183	120 257	122 724	117 562	126 287	132 620
HR	:	:	4 587	4 411	4 738	5 047
IT	97 969	108 739	106 540	103 254	110 739	117 492
CY	7 035	7 323	7 575	7 001	7 231	7 221
LV	2 502	3 170	3 701	4 076	4 670	5 115
LT	1 805	2 198	2 563	1 872	2 331	2 701
LU	1 597	1 634	1 693	1 535	1 606	1 837
HU	8 284	8 580	8 429	8 081	8 175	8 885
MT	2 700	2 971	3 110	2 919	3 294	3 507
NL	48 902	50 763	50 670	46 726	48 904	54 199
AT	21 081	23 098	24 089	22 010	23 704	25 285
PL	13 546	17 155	18 730	17 092	18 434	20 676
PT	21 495	24 108	24 774	23 844	25 442	27 247
RO	4 936	6 988	8 061	8 027	8 923	9 768
SI	1 367	1 527	1 677	1 430	1 383	1 360
SK	2 153	2 265	2 600	1 952	1 888	1 814
FI	13 330	14 428	14 849	13 828	14 274	16 448
SE	26 215	27 265	28 064	25 444	26 865	29 950
UK	212 578	218 612	214 857	199 165	193 534	201 956
IS	2 278	2 462	2 241	1 932	2 076	2 477
NO	25 872	27 898	28 962	28 144	29 982	32 959
CH	32 301	34 773	36 809	36 118	37 739	41 556

Source: Eurostat (online data code: avia_paoc)

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

Figure 3.3.4: Passenger transport by air (passengers per thousand inhabitants)



(1) No data for 2006; 2007 data instead.
(2) No data for 2006; 2008 data instead.

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

In 2011, approximately 827 million passengers were carried by air in the EU-27, a 3 % increase since 2007; while the ratio of passengers per thousand inhabitants reached 1 646. Among Member States, the United Kingdom reported the highest number of air passengers in 2011 (202 million), followed by Germany (177) and Spain (166). From 2006 to 2011, increased use of air transport was recorded in all Member States, but Ireland (– 17 %), Slovakia (– 16 %), the United Kingdom (– 5 %) and Slovenia (– 1 %). Contrary, the increase in Latvia was twofold and in Romania 98 %. Relative to population size, in 2011 air travel was important in Cyprus (8 599 passengers per thousand inhabitants) and Malta (8 433). Compared to the EU average, both countries presented values 5 times above the average. The lowest ratios — with less than a passenger per inhabitant — were reported by Slovakia (336), Romania (456), Poland (537), Slovenia (663), Lithuania (885), Hungary (890) and Bulgaria (906, 2007 data).

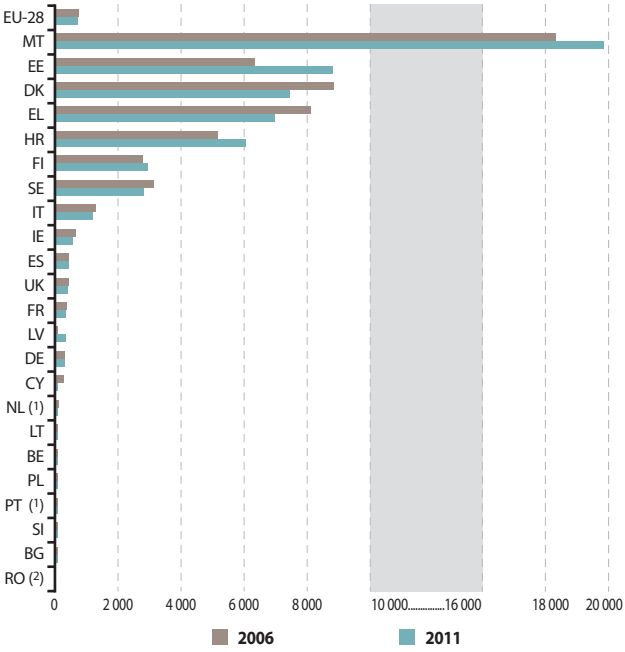
Table 3.3.5: Passenger transport by sea (number of seaborne passengers embarked and disembarked in all ports — 1 000 passengers)

	2006	2007	2008	2009	2010	2011
EU-28	429 622	438 844	438 924	429 789	424 590	412 348
BE	891	909	799	751	829	824
BG	15	10	8	0	1	1
CZ	–	–	–	–	–	–
DK	48 145	48 409	46 657	43 561	41 993	41 527
DE	29 256	30 200	28 945	29 573	28 780	29 233
EE	8 546	8 665	9 190	9 140	11 186	11 840
IE	3 207	3 225	3 108	2 878	3 089	2 906
EL	90 402	92 423	91 101	88 351	86 189	79 183
ES	22 167	23 134	22 478	21 458	21 215	21 868
FR	26 402	27 048	26 813	25 067	27 218	25 552
HR	23 061	24 611	26 044	26 037	25 124	26 947
IT	85 984	86 970	90 156	92 707	87 658	81 895
CY	228	174	150	96	107	92
LV	217	362	437	591	676	786
LT	190	212	212	205	251	281
LU	–	–	–	–	–	–
HU	–	–	–	–	–	–
MT	7 328	7 802	8 132	7 799	8 063	8 250
NL (1)	2 127	1 871	1 959	1 632	1 994	1 770
AT	–	–	–	–	–	–
PL	1 737	2 456	2 647	2 481	2 601	2 528
PT (1)	686	735	762	833	701	659
RO	:	0	1	0	0	0
SI	30	51	50	56	39	36
SK	–	–	–	–	–	–
FI	16 739	16 450	16 975	17 226	17 867	18 074
SE	32 334	32 662	32 745	31 066	30 185	30 094
UK	29 930	30 465	29 555	28 281	28 824	28 002
IS	433	:	:	:	:	:
LI	–	–	–	–	–	–
NO	6 280	6 447	6 208	5 728	5 876	6 130
CH	–	–	–	–	–	–
MK	–	–	–	–	–	–
RS	–	–	–	–	–	–
TR	:	:	1 498	1 386	1 577	1 842

(1) Data exclude cruise passengers.

Source: Eurostat (online data code: mar_pa_aa)

Figure 3.3.5: Passenger transport by sea (passengers per thousand inhabitants)



(1) Data exclude cruise passengers.
(2) No data for 2006; 2007 data instead.

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

Ports in the EU-28 handled 412 million passengers in 2011, a 4 % decline compared to 2006. Ports in Italy and Greece handled 20 % and 19 % of the EU-28 total respectively; followed by the ports in Denmark (10 %). From 2006 to 2011, the most remarkable increase in the number of seaborne passengers was reported by Latvia (approximately fourfold).

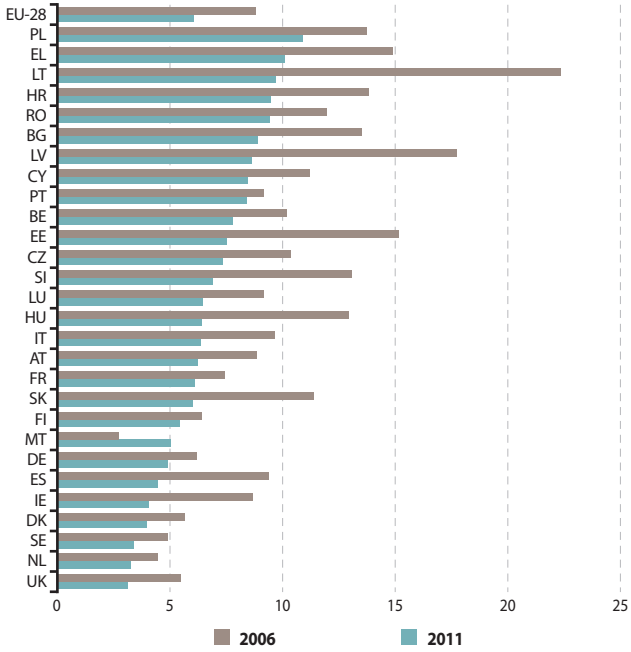
Relative to population, maritime passenger transport was high in Malta (19 840 passengers per thousand inhabitants, 24 times above the EU average). High values were also recorded in Estonia (8 835 and 11 times above average), Denmark (7 468 and 9 times above average) and Greece (7 001 and 9 times above average).

Table 3.4.1: Persons killed in road accidents (persons killed in road accidents/100 000 inhabitants)

	2006	2007	2008	2009	2010	2011
EU-28	9	9	8	7	6	6
BE	10	10	9	9	8	8
BG	14	13	14	12	10	9
CZ	10	12	10	9	8	7
DK	6	7	7	5	5	4
DE	6	6	5	5	4	5
EE	15	15	10	7	6	8
IE	9	8	6	5	5	4
EL	15	14	14	13	11	10
ES	9	9	7	6	5	4
FR	7	7	7	7	6	6
HR	14	14	15	12	10	9
IT	10	9	8	7	7	6
CY	11	11	10	9	7	8
LV	18	18	14	11	10	9
LT	22	22	15	11	9	10
LU	9	10	7	10	6	6
HU	13	12	10	8	7	6
MT	3	3	4	5	4	5
NL	4	4	4	4	3	3
AT	9	8	8	8	7	6
PL	14	15	14	12	10	11
PT	9	9	8	8	8	8
RO	12	13	14	13	11	9
SI	13	15	11	8	7	7
SK	11	12	12	7	7	6
FI	6	7	6	5	5	5
SE	5	5	4	4	3	3
UK	5	5	4	4	3	3
LI	0	0	3	3	0	6
NO	5	5	5	4	4	3
CH	5	5	5	5	4	4
MK	7	8	8	8	8	8
RS	12	13	12	11	9	:
TR	6	7	6	6	6	5

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 3.4.1: 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.

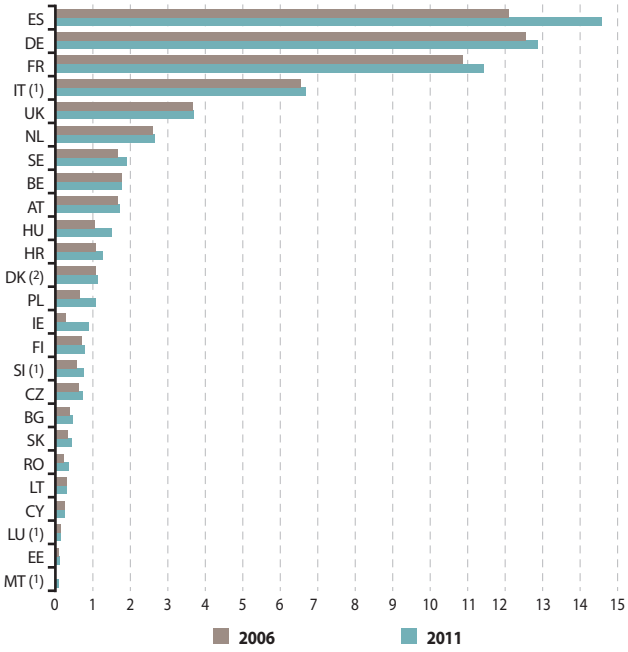
The road fatality rate in the EU-28 decreased between 2006 and 2011. In 2011, the number of persons killed in the EU-28 was 6 persons per 100 000 inhabitants compared to 9 persons in 2006. Differences can be observed among Member States, as the road fatality ratio in 2011 ranged between 3 persons per 100 000 inhabitants in the United Kingdom, the Netherlands and Sweden and 11 persons in Poland. High road fatality rates were also recorded in Greece (10), Lithuania (10), Croatia (9), Romania (9), Bulgaria (9) and Latvia (9). Between 2006 and 2011, all Member States but Malta recorded decreased ratios. The highest decreases were observed in Lithuania, Latvia, Estonia and Hungary, which more than halved the numbers of persons killed. Back in 2006, Lithuania presented the highest number of road fatalities (22).

Table 3.5.1: Motorways network (km per 1 000 km^2)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	58	58	58	58	58	58
BG	4	4	:	:	4	4
CZ	8	9	9	9	10	10
DK	25	26	26	:	:	:
DE	35	35	35	:	:	:
EE	2	2	2	2	3	3
IE	4	4	6	10	13	13
EL	:	:	:	:	:	:
ES	24	26	27	28	28	29
FR	17	17	17	:	:	:
HR	19	20	21	22	22	22
IT	22	22	22	23	:	:
CY	28	:	28	28	28	28
LV	–	–	–	–	–	:
LT	5	5	5	5	5	5
LU	57	57	57	59	59	:
HU	11	12	14	:	:	:
MT	–	–	–	–	289	:
NL	77	76	77	78	78	79
AT	20	20	21	21	21	21
PL	2	:	:	:	:	:
PT	:	:	:	:	:	:
RO	1	1	1	1	1	2
SI	29	29	35	37	38	:
SK	7	8	8	8	:	9
FI	2	2	2	3	3	3
SE	4	4	4	5	5	5
UK	15	15	15	15	15	15
IS	:	–	:	:	:	:
LI	–	–	–	–	–	–
NO	1	1	1	1	1	1
CH	:	35	35	35	35	35
TR	3	3	3	3	3	3

Source: Eurostat (online data code: tran_r_net)

Figure 3.5.1: Motorways network (1 000 km)



(1) No data for 2011; 2010 data instead.
(2) No data for 2011; 2008 data instead.

Source: Eurostat (online data code: tran_r_net)

The comparison between the length of the motorways and the area of the regions provides a clear idea of the motorway infrastructure within the EU. High motorway densities were reported by Malta (289 km/1 000 km^2), the Netherlands (79), Luxembourg (59) and Belgium (58). The high values in these regions can be attributed to their small size.

In 2011, the largest motorway networks were recorded in Spain (14 555 km), Germany (12 845 km) and France (11 412 km). From 2006 to 2011, all Member States presented increases in their motorways networks or their network size remained stable. In relative terms, the most significant motorway expansion between 2006 and 2011 took place in Ireland (threefold), followed by Poland (61 %) and Romania (54 %). These rates can be explained by the relatively small networks in these countries. In absolute terms, the largest change was recorded in Spain (+ 2 482 km).

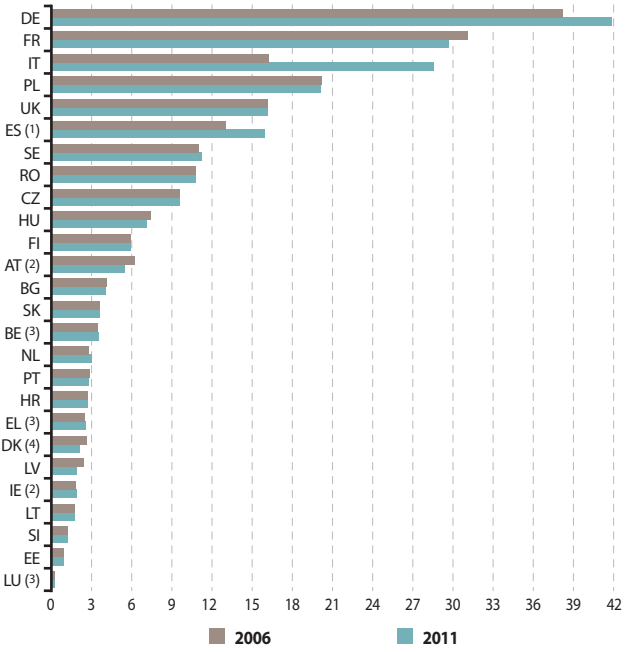
Table 3.5.2: Railways network (km per 1 000 km²)

	2006	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	115	111	118	118	118	:
BG	37	37	:	:	38	37
CZ	124	124	124	124	124	124
DK	61	49	49	:	:	:
DE	107	106	106	:	:	:
EE	22	19	21	21	21	21
IE	:	27	28	28	28	28
EL	19	19	20	20	20	:
ES (1)	26	27	31	30	32	32
FR	49	50	49	:	:	:
HR	48	48	48	48	48	48
IT	55	55	56	56	:	:
CY	–	:	–	:	:	:
LV	39	39	39	33	31	31
LT	28	28	28	28	28	28
LU	106	106	106	106	106	:
HU	80	80	83	:	:	:
MT	–	–	–	–	:	:
NL	83	83	86	86	89	89
AT	:	76	:	:	71	66
PL	65	:	:	:	:	:
PT	31	31	:	:	:	:
RO	47	47	47	47	47	47
SI	61	61	61	61	61	60
SK	75	74	74	74	:	74
FI	19	19	19	19	19	20
SE	27	27	27	27	27	27
UK	66	66	66	66	:	:
IS	–	–	–	:	:	:
LI	58	58	58	58	58	58
NO	13	14	13	14	14	14
CH	:	128	:	:	128	:
TR	11	11	11	12	12	13

(1) Break in series in 2008.

Source: Eurostat (online data code: tran_r_net)

Figure 3.5.2: Railways network (1 000 km)



(1) Break in series in 2008.
(2) No data for 2006; 2007 data instead.
(3) No data for 2011; 2010 data instead.
(4) No data for 2011; 2008 data instead.

Source: Eurostat (online data code: tran_r_net)

The density of railway lines in the EU is high in western and central parts of Europe and lower in the peripheral parts. The highest network densities are recorded in the Czech Republic (124 km/1 000 km^2), Belgium (118), Luxembourg (106) and Germany (106).

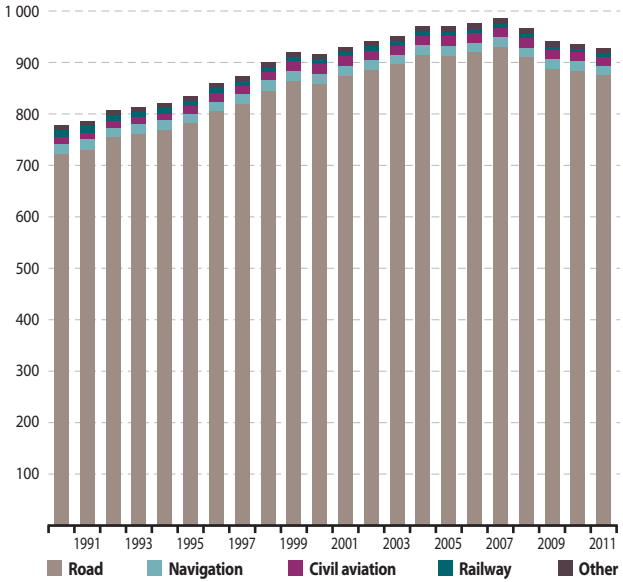
In 2011, the largest railways networks were recorded in Germany (41 846 km), France (29 655), Italy (28 567) and Poland (20 113). In relative terms, between 2006 and 2011 only nine Member States presented increases in their railways networks. The highest increase was recorded in Italy (76 %). In contrast, the highest decrease was recorded in the network of Latvia (– 21 %). In absolute terms, the highest increase was also recorded in the network of Italy (+ 12 330 km); while the highest decrease was observed in the network of France (– 1 419 km).

Table 3.6.1: Greenhouse gas emissions from transport, by mode of transport, 2011 (thousand tonnes of CO_2 equivalent)

	Total	Road	Railway	Civil Aviation	Navigation	Other
EU-28	926 442	874 506	7 359	16 253	19 208	9 117
BE	27 047	26 230	109	36	497	175
BG	8 129	7 521	63	65	10	470
CZ	17 255	16 808	288	5	10	145
DK	12 865	11 892	252	148	573	0
DE	157 179	149 354	1 069	1 858	773	4 125
EE	2 260	2 136	106	3	15	0
IE	11 290	10 805	137	19	174	155
EL	20 300	17 470	54	352	2 413	11
ES	87 385	79 754	281	3 371	3 847	133
FR	132 045	125 033	486	4 777	1 239	511
HR	5 889	5 599	83	90	117	0
IT	117 851	109 741	158	2 320	4 931	701
CY	2 250	2 250	0	0	0	0
LV	3 142	2 862	261	1	18	0
LT	4 482	4 055	194	2	16	215
LU	6 849	6 835	12	1	1	0
HU	11 392	11 247	142	0	3	0
MT	566	509	0	1	37	19
NL	35 218	34 422	103	23	671	0
AT	21 750	21 118	164	63	12	394
PL	48 687	47 696	369	88	12	523
PT	17 550	16 946	44	358	203	0
RO	14 578	13 489	596	298	158	37
SI	5 699	5 654	42	2	0	1
SK	6 380	6 278	96	6	0	0
FI	13 228	11 678	99	247	544	660
SE	20 000	18 568	68	534	487	343
UK	115 175	108 558	2 085	1 585	2 449	499
IS	864	824	0	20	19	0
NO	15 239	10 062	43	1 213	2 089	1 833
CH	16 206	15 868	39	134	119	46
TR	47 946	41 689	482	3 368	2 407	0

Source: European Environment Agency

Figure 3.6.1: Greenhouse gas emissions from transport, by mode of transport, EU-28 (million tonnes of CO_2 equivalent)



Source: European Environment Agency

In 2011, greenhouse gas emissions from transport amounted to 926 million tonnes of CO_2 equivalent. Between 1990 and 2011, EU-28 emissions from transport grew by 19 %. Emissions from the transport sector presented a continuous growth between 1990 and 2007; followed by a slight dip (– 6 %) between 2007 and 2011. Over the 1990-2011 period, emissions from road transport and civil aviation grew by 21 % and 17 % respectively; while emissions from navigation presented a 1 % growth. Contrary, emissions from railway transportation fell by 46 %. A breakdown by sector shows that the contribution of road transport has remained high throughout this period (95 % in 2011).

Among Member States, the highest total emissions from the transport sector were reported by Germany (17 % of the EU total), followed by France (14 %), Italy (13 %) and the United Kingdom (12 %).

4 Environment indicators

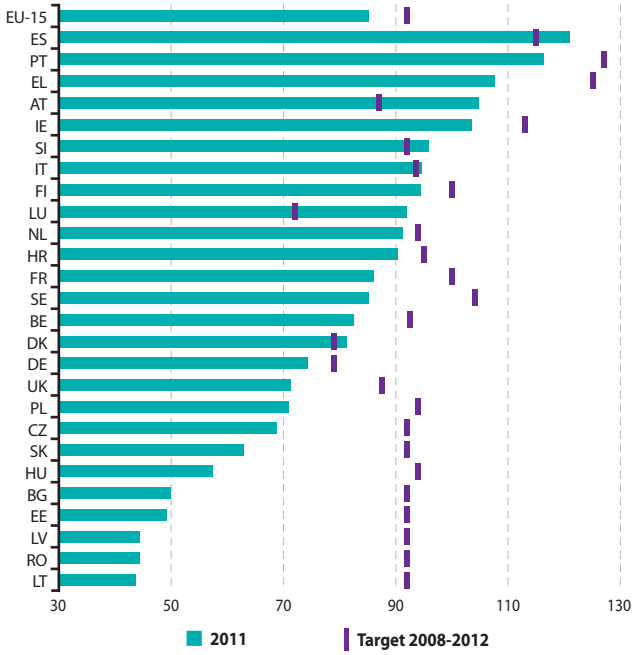
Table 4.1.1: Greenhouse gas emissions and agreed reduction targets (Kyoto base year emissions: Index = 100)

	1990	1995	2000	2008	2009	2010	2011	Target 2008-12
EU-28 (1)	100.0	93.1	90.8	88.9	82.5	84.4	81.7	:
EU-15	99.7	97.2	97.0	93.5	87.0	88.9	85.1	92.0
BE	98.2	103.2	100.2	93.8	85.4	90.4	82.5	92.5
BG	82.6	57.2	44.9	50.5	43.6	45.5	49.9	92.0
CZ	100.9	77.6	75.1	73.2	68.7	70.7	68.7	92.0
DK	99.1	109.8	98.4	92.0	87.8	88.3	81.1	79.0
DE	101.4	90.7	84.4	79.1	73.9	76.6	74.4	79.0
EE	95.1	47.0	40.2	46.0	38.2	46.9	49.2	92.0
IE	99.4	106.1	122.7	121.6	111.2	110.6	103.4	113.0
EL	97.8	102.2	118.0	121.8	115.6	109.6	107.5	125.0
ES	97.6	107.9	130.7	137.7	125.2	120.3	121.0	115.0
FR	98.7	97.8	99.1	94.2	90.1	91.2	86.1	100.0
HR	101.0	73.6	83.9	99.5	93.1	91.4	90.2	95.0
IT	100.4	102.6	106.7	104.7	95.0	96.8	94.6	93.5
CY (1)	100.0	122.6	140.8	165.3	161.0	155.0	150.3	:
LV	101.6	48.5	38.8	44.6	42.0	46.4	44.4	92.0
LT	98.7	44.6	39.8	50.4	41.3	42.7	43.7	92.0
LU	98.0	77.3	74.1	92.6	88.8	93.0	91.9	72.0
HU	85.8	69.6	68.0	63.8	58.4	58.9	57.3	94.0
MT (1)	100.0	118.5	126.6	152.5	148.5	149.4	150.6	:
NL	99.4	104.8	100.0	95.4	92.9	98.2	91.2	94.0
AT	98.9	100.9	101.5	110.0	101.1	107.5	104.8	87.0
PL	81.1	76.8	68.4	71.0	67.5	71.3	70.9	94.0
PT	101.3	119.0	140.2	130.5	125.1	118.7	116.4	127.0
RO	87.8	62.1	48.0	50.5	43.2	41.9	44.3	92.0
SI	90.6	91.0	93.0	105.2	95.4	95.7	95.9	92.0
SK	99.6	73.9	68.4	68.2	61.0	63.7	62.9	92.0
FI	99.2	99.8	97.6	98.9	93.0	105.0	94.4	100.0
SE	100.8	103.1	95.5	87.9	82.2	90.8	85.2	104.0
UK	98.8	91.3	86.8	81.2	74.3	76.5	71.2	87.5
IS	104.2	97.6	115.1	148.3	141.1	137.1	131.0	110.0
LI	101.5	101.2	108.9	109.5	104.3	109.5	107.5	101.0
CH	100.3	97.5	98.0	101.7	99.2	102.5	94.7	92.0

(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 2011 compared with Kyoto base year and agreed reduction targets for 2008-2012

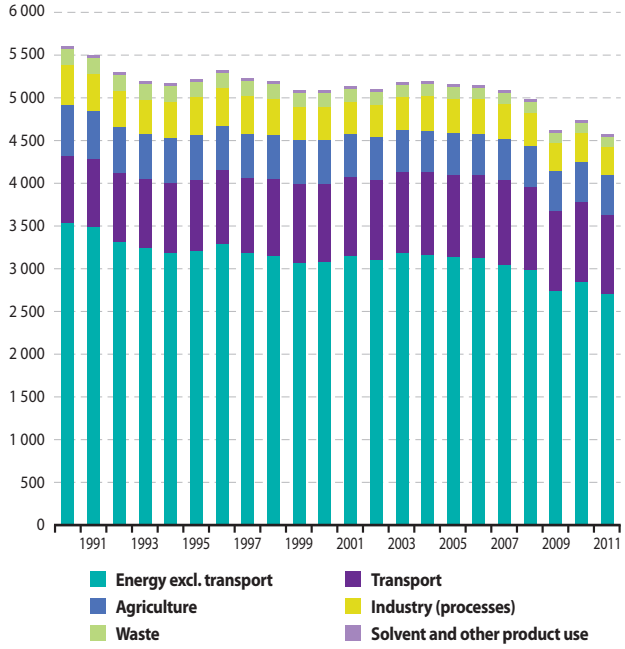


Source: European Environment Agency, also available at Eurostat (online data code: env_air_ind)

Under the Kyoto Protocol, industrialised countries aim to achieve an overall reduction of greenhouse gas (GHG) emissions of at least 5 % from the 1990 levels by the period 2008-12. The EU agreed to an 8 % reduction in its GHG emissions by 2008-12 compared to Kyoto base year and redistributed this target among its then 15 Member States under the burden sharing agreement (Council Decision 2002/358/EC). Under the agreement, four countries (Ireland, Spain, Greece and Portugal) may increase their emission levels.

Between the Kyoto base year and 2011, GHG emissions in the EU-15 fell by 15 %. In 2011, Eastern European countries reported some of the biggest decreases compared to Kyoto base year: Latvia (– 56 %), Lithuania (– 56 %), Romania (– 50 %), Estonia (– 48 %) and Bulgaria (– 40 %). However, as their share in the EU total was small, these reductions contributed little to the overall EU emissions. In contrast, the highest increases were reported by Spain (24 %), Portugal (15 %) and Greece (10 %). The countries that had no legal targets also presented significant increases; Malta (51 %) and Cyprus (50 %).

Figure 4.1.2: Greenhouse gas emissions, breakdown by inventory sector, EU-28 (million tonnes of CO_2 equivalent)



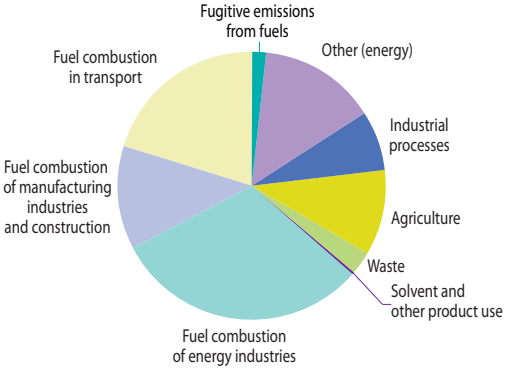
Source: European Environment Agency, also available at Eurostat (online data code: env_air_gge)

Table 4.1.2: Greenhouse gas emissions, breakdown by inventory sector, EU-28 (Global warming potential in million tonnes of CO_2 equivalent)

	1990	1995	2000	2008	2009	2010	2011
Total	5 606	5 218	5 093	4 984	4 623	4 734	4 578
Energy excl. transport	3 541	3 213	3 086	2 994	2 739	2 849	2 708
Transport	778	833	915	966	941	936	926
Agriculture	604	520	508	478	466	463	464
Industry (processes)	461	439	393	392	326	338	335
Waste	204	198	178	143	140	138	135
Solvent and other product use	17	14	13	11	10	10	10

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-28, 2011 (%)



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-28, 2011

Sector	% of total
Energy related	
Fuel combustion of energy industries	30.8
Fuel combustion of manufacturing industries and construction	12.4
Fuel combustion in transport	20.2
Fugitive emissions from fuels	1.8
Other (energy)	14.2
Non-energy related	
Industrial processes	7.3
Agriculture	10.1
Waste	2.9
Solvent and other product use	0.2

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

The most important source of GHG emissions in the EU-28 was fuel combustion of energy industries, transport, manufacturing and construction industrial activities. Fuel combustion and fugitive emissions from fuels made up 79.4 % of all GHG emissions in the EU-28 in 2011. This has remained the main source of emissions throughout 1990-2011.

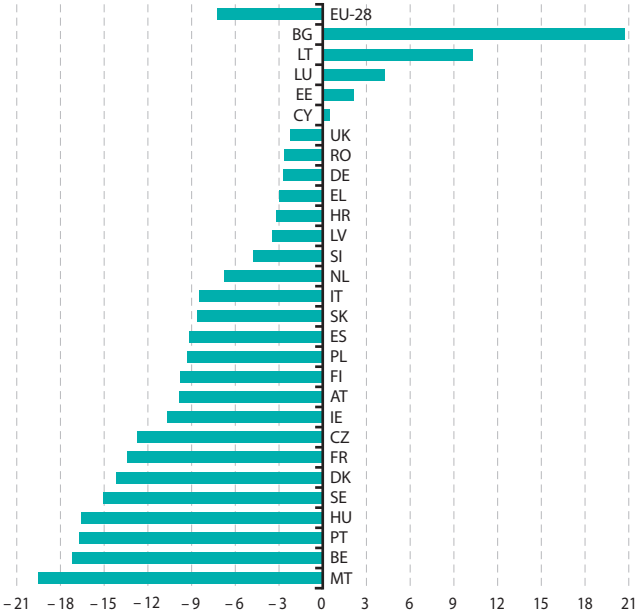
Transport was the only source that presented an increase between 1990 and 2011 (19 %) — under Kyoto reporting transport excludes international air and maritime transport. In contrast, decreases were recorded in all other sectors: solvent and other product use (– 39 %), waste (– 34 %), industrial processes (– 27 %), energy excluding transport (– 24 %) and agriculture (– 23 %).

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

	2001	2003	2005	2007	2010	2011
EU-28	99.9	99.5	97.5	96.9	93.3	92.8
BE	101.4	101.5	99.9	96.1	89.0	82.8
BG	105.4	108.0	103.8	113.5	116.6	120.7
CZ	98.0	92.2	91.8	89.8	87.5	87.3
DK	100.7	107.1	95.3	96.9	89.9	85.8
DE	99.8	99.1	96.4	95.9	95.1	97.3
EE	98.1	101.6	96.8	101.3	97.8	102.1
IE	98.8	97.5	101.4	95.5	90.6	89.3
EL	99.6	99.2	99.3	99.8	94.0	97.0
ES	98.9	99.7	103.1	100.6	88.0	90.8
FR	97.2	96.6	96.0	93.6	90.8	86.6
HR	102.6	104.7	102.0	103.6	97.3	96.8
IT	100.9	100.3	98.2	97.1	92.6	91.5
CY	97.2	96.4	104.5	103.5	103.2	100.5
LV	96.5	95.2	92.4	95.9	96.9	96.5
LT	92.0	83.7	97.2	94.6	122.8	110.3
LU	101.6	105.5	108.0	104.3	104.0	104.2
HU	100.9	101.8	92.4	90.6	84.0	83.4
MT	95.5	100.3	95.1	97.1	94.5	80.5
NL	100.8	100.1	96.4	90.5	94.7	93.3
AT	101.8	106.4	103.6	95.0	91.1	90.2
PL	98.8	97.6	96.4	95.6	92.4	90.7
PT	99.6	96.1	96.7	89.1	82.8	83.3
RO	102.1	102.3	98.7	97.4	90.7	97.4
SI	100.9	97.5	96.0	97.1	95.3	95.2
SK	102.6	98.0	94.5	92.7	89.9	91.4
FI	107.0	113.1	93.1	101.3	97.9	90.2
SE	95.8	98.8	90.2	90.2	88.7	84.9
UK	102.1	101.7	99.8	103.0	99.6	97.8
IS	94.6	:	:	:	:	:
NO	101.0	103.6	102.1	106.4	90.5	102.9
CH	96.8	100.4	102.9	97.7	100.2	:
TR	99.6	99.6	102.2	103.2	96.1	94.3

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, 2000-2011 (%)



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

Carbon intensity of energy use aims to show how CO_2-intensive energy use is in different countries. It reflects different mixes of energy between fossil fuels and renewable sources over time and between countries. Carbon intensity of energy use in the EU-28 steadily decreased between 2000 and 2011. The highest decreases were recorded from 2007 to 2008 (– 1.6 %) and from 2008 to 2009 (– 1.7 %). In 2011, the index of CO_2 intensity of energy use in the EU-28 reached 92.8, compared to 100 in 2000.

Among Member States, in 2011 the indices of carbon intensity of energy use ranged from 80.5 in Malta to 120.7 in Bulgaria. High indices were also observed in Lithuania (110.3), Luxembourg (104.2), Estonia (102.1) and Cyprus (100.5). In contrast, except for Malta low indices were recorded in Belgium (82.8), Portugal (83.3), Hungary (83.4) and Sweden (84.9).

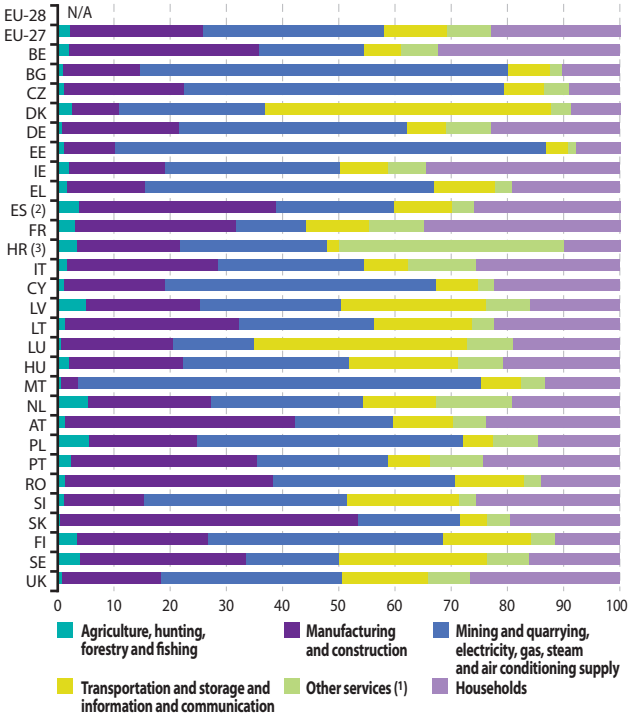
Table 4.1.4: CO_2 emissions by economic activity, by country, 2010 (thousand tonnes)

	Total	Agriculture, hunting, forestry and fishing	Manufacturing and construction	Mining and quarrying, electricity, gas, steam and air conditioning supply	Transportation, storage, information, communication	Other services (1)	Households
EU-28	:	:	:	:	:	:	:
EU-27	4 096 753	93 726	968 988	1 319 754	454 134	319 346	940 804
BE	*115 094*	*2 446*	*38 789*	*21 472*	*7 523*	*7 738*	*37 125*
BG	*52 383*	562	7 175	34 204	*3 953*	*1 105*	*5 384*
CZ	107 174	1 116	23 054	60 924	7 722	4 764	9 594
DK	90 217	2 399	7 543	23 299	45 904	3 167	7 906
DE	865 553	7 404	178 701	352 082	60 076	*68 986*	*198 304*
EE	*18 219*	*220*	*1 658*	*13 941*	*711*	*258*	*1 430*
IE	*41 268*	*870*	*7 001*	*12 817*	*3 580*	*2 793*	*14 208*
EL	97 489	1 701	13 511	50 076	10 588	2 977	18 637
ES (2)	c	11 093	98 856	59 360	29 512	10 783	73 600
FR	*382 507*	*11 749*	*109 836*	*47 325*	*42 953*	*37 346*	*133 297*
HR (3)	:	715	3 839	5 488	483	8 386	2 099
IT	427 785	7 407	114 810	110 664	33 800	51 588	109 516
CY	*8 055*	*95*	*1 442*	*3 893*	*592*	*232*	*1 802*
LV	9 483	491	1 924	2 378	2 428	752	1 510
LT	15 734	216	*4 870*	3 773	*2 733*	*627*	*3 514*
LU	9 107	64	1 798	1 326	3 443	745	1 732
HU	53 300	1 054	10 792	15 791	10 327	4 308	11 027
MT	*2 641*	*17*	*80*	*1 891*	*190*	*112*	*351*
NL	214 586	11 846	46 587	58 137	27 929	28 996	41 091
AT	70 277	871	28 832	12 201	7 509	4 136	16 728
PL	341 401	19 436	65 098	161 568	18 359	27 363	49 576
PT	53 059	1 295	17 559	12 283	4 044	4 955	12 924
RO	90 776	1 147	33 705	29 280	11 151	2 765	12 728
SI	17 645	207	2 503	6 381	3 491	563	4 501
SK	*38 025*	*169*	*20 132*	*6 880*	*1 882*	*1 564*	*7 397*
FI	66 112	2 298	15 360	27 609	*10 423*	*2 835*	7 587
SE	*65 864*	*2 596*	*19 505*	*10 868*	*17 362*	*4 896*	*10 638*
UK	558 565	4 958	97 868	179 332	85 952	41 759	148 697
NO	57 288	1 958	12 420	15 835	20 251	1 760	5 064
TR (4)	:	13 140	111 585	106 825	:	:	:

(1) Other services include: Water supply; sewerage, waste management and remediation activities; Wholesale and retail trade; repair of motor vehicles and motorcycles; Accommodation and food service activities; Financial and insurance activities; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities; Public administration and defence; compulsory social security; Education; Human health and social work activities; Arts, entertainment and recreation; Other service activities; Activities of households; Activities of extra-territorial organisations and bodies.
(2) In other services: Professional, scientific and technical activities and Administrative and support service activities data are confidential.
(3) Transportation and storage data are not available; Data only include Information and communication.
(4) Manufacturing and construction: only manufacturing data available; Mining and quarrying, electricity, gas, steam and air conditioning supply: only electricity, gas, steam and air conditioning supply data available.

Source: Eurostat (online data code: env_ac_ainah_r2)

Figure 4.1.4: CO_2 emissions by economic activity, 2010 (%)



(1) Other services include: Water supply; sewerage, waste management and remediation activities; Wholesale and retail trade; repair of motor vehicles and motorcycles; Accommodation and food service activities; Financial and insurance activities; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities; Public administration and defence; compulsory social security; Education; Human health and social work activities; Arts, entertainment and recreation; Other service activities; Activities of households; Activities of extra-territorial organisations and bodies.
(2) In other services: Professional, scientific and technical activities and Administrative and support service activities data are confidential.
(3) Transportation and storage data are not available; Data only include Information and communication.

Source: Eurostat (online data code: env_ac_ainah_r2)

Total CO_2 emissions by economic activity in the EU-27 reached 4 097 million tonnes in 2010. Out of the total emissions in the EU-27, mining, quarrying and electricity, gas, steam and air conditioning supply accounted for 32 %, followed by manufacturing and construction (24 %), households (23 %) and transportation and storage, information and communication (11 %). The trend was similar across Member States; the most emission intensive activities related to mining, quarrying and electricity, gas, steam and air conditioning supply or manufacturing and construction. The only exceptions were Denmark, Luxembourg, Latvia, France and Ireland.

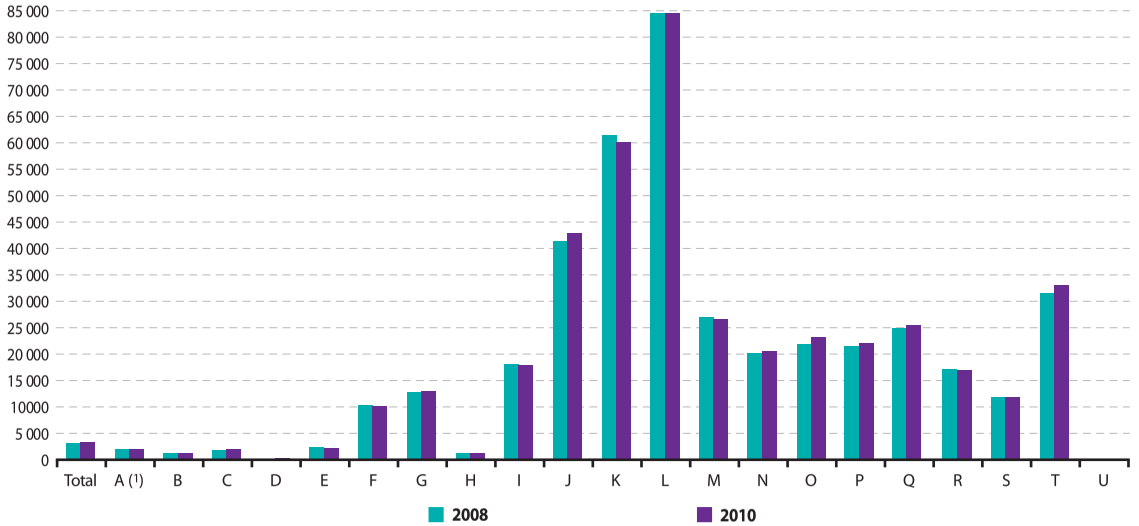
Table 4.1.5: Carbon (CO_2) productivity of the EU economy, by NACE section (Gross value added (GVA) in EUR/CO_2 emissions in tonnes)

	2008	2009	2010
Total - All NACE activities	3 135	3 319	3 290
Agriculture, forestry and fishing (A)	1 971	2 048	1 933
Mining and quarrying (B)	1 185	1 142	1 197
Manufacturing (C)	1 723	1 738	1 806
Electricity, gas, steam and air conditioning supply (D)	143	154	151
Water supply; sewerage, waste management and remediation activities (E)	2 218	2 202	2 125
Construction (F)	10 262	10 454	10 034
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	13 289	13 269	13 546
Transportation and storage (H)	1 140	1 124	1 140
Accommodation and food service activities (I)	18 999	19 339	18 771
Information and communication (J)	41 178	42 187	42 802
Financial and insurance activities (K)	61 368	61 342	60 063
Real estate activities (L)	84 565	86 818	84 399
Professional, scientific and technical activities (M)	26 886	26 153	26 527
Administrative and support service activities (N)	20 073	19 658	20 487
Public administration and defence; compulsory social security (O)	21 275	22 915	22 626
Education (P)	22 464	24 014	23 178
Human health and social work activities (Q)	24 907	25 671	25 398
Arts, entertainment and recreation (R)	17 903	17 959	17 796
Other service activities (S)	12 268	12 487	12 240
Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (T)	33 136	34 793	34 754
Activities of extraterritorial organisations and bodies (U)	0	0	0

Source: Eurostat (online data codes: env_ac_ainah_r2 and nama_nace64_k)

In 2010, total carbon productivity of the EU economy amounted to EUR 3 290 for every ton of CO_2 emissions. The NACE sections with the highest CO_2 productivity were real estate activities, followed by financial and insurance activities and information and communication. From 2008 to 2010, total carbon productivity of the EU economy grew by 5 %. Public administration and defence; compulsory social security presented the highest increase (6 %). In contrast, water supply; sewerage, waste management and remediation activities presented the highest decrease (– 4 %).

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.

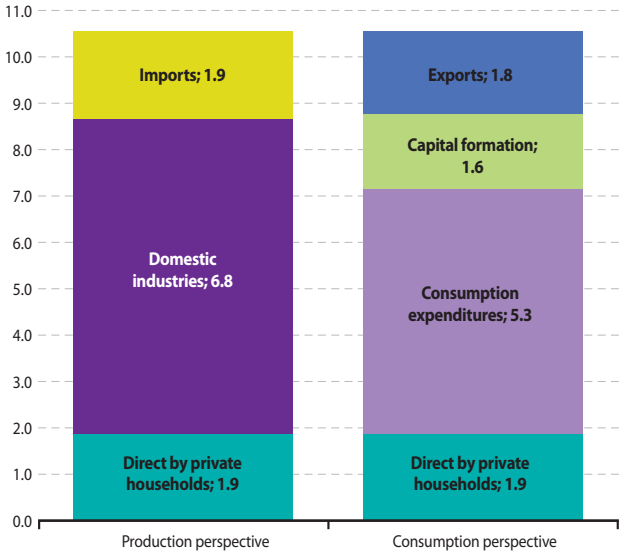
Source: Eurostat (online data codes: env_ac_ainah_r2 and nama_nace64_k)

Table 4.1.6: Domestic and global CO_2-emissions induced by EU-27 — production and consumption perspective (tonnes CO_2 per capita)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Domestic CO_2-emissions from domestic industries (residence approach)	7.0	7.0	7.0	7.1	7.1	7.1	7.1	7.1	6.8
Domestic CO_2-emissions directly by private households (heating, mobility, others)	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.9
Global CO_2-emissions embodied in imported products into EU-27	1.5	1.5	1.4	1.4	1.4	1.5	1.6	1.8	1.9
Global and domestic CO_2-emissions induced by EU's total final use of products	10.3	10.5	10.3	10.5	10.5	10.6	10.6	10.6	10.6
Global and domestic CO_2-emissions embodied in export of products out of EU-27	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.8	1.8
Global and domestic CO_2-emissions induced by EU's domestic demand for products	8.8	9.0	8.8	9.0	9.0	9.0	9.0	8.9	8.8
Global and domestic CO_2-emissions induced by EU's final consumption expenditures	:	:	:	:	:	:	:	:	5.3
Global and domestic CO_2-emissions induced by EU's gross capital formation	:	:	:	:	:	:	:	:	1.6

Source: Eurostat (online data codes: env_ac_ainah_r2 and env_ac_io_r2)

Figure 4.1.6: Domestic and global CO_2-emissions induced by EU-27 — production and consumption perspective, 2008 (tonnes per capita)



Source: Eurostat (online data codes: env_ac_ainah_r2 and env_ac_io_r2)

These figures are based on estimations on the amount of CO_2 emitted for the production of final products. In 2008, CO_2 emissions induced by products consumed in the EU-27 amounted to 8.8 tonnes CO_2 per capita. Out of this amount, 1.6 tonnes (19 %) were induced by gross capital formation, 5.3 tonnes (50 %) were induced by final consumption expenditures and 1.9 tonnes (18 %) were directly emitted by private households.

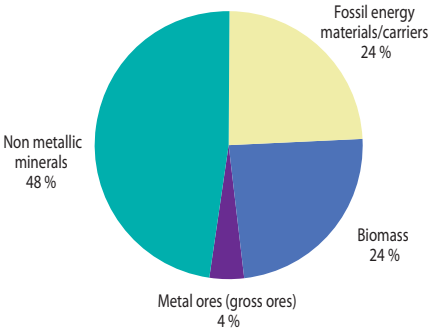
From a production perspective, 1.9 tonnes per capita were embodied in imported products (an 18 % share of total emissions from a production perspective), 6.8 tonnes (64 %) were emitted by domestic industries and 1.9 by private households (18 %).

Table 4.2.1: Domestic material consumption by material, 2011 (thousand tonnes)

	Total	Biomass	Metal (gross ores)	Non metallic minerals	Fossil energy materials /carriers	Other products	Waste for final treatment and disposal
EU-28	:	:	:	:	:	:	:
EU-27	*7 345 675*	*1 740 307*	*286 337*	*3 567 631*	*1 737 609*	*13 880*	*– 90*
BE	183 097	46 639	7 549	95 014	37 120	– 3 056	– 170
BG	132 756	18 158	29 139	42 810	44 524	– 1 876	1
CZ	177 017	23 434	5 403	77 430	70 093	660	– 3
DK	126 325	35 198	429	57 813	32 480	339	66
DE	1 349 367	294 884	42 459	592 652	422 669	– 5 555	2 258
EE	28 830	3 416	– 216	9 266	16 514	– 137	– 14
IE	98 725	37 112	6 057	38 705	16 417	435	–
EL	130 959	25 358	4 254	23 578	77 861	– 92	0
ES	524 387	130 356	23 438	268 716	102 479	– 661	59
FR	802 863	227 745	17 013	415 115	136 531	6 342	116
HR	45 378	12 489	304	24 119	7 970	506	– 9
IT	703 964	144 868	21 767	382 118	157 933	– 2 724	1
CY	18 555	2 163	633	13 176	2 379	187	17
LV	41 320	21 707	– 47	17 493	2 612	7	– 453
LT	41 723	16 086	– 92	20 685	5 528	– 480	– 4
LU	10 503	2 084	1 224	4 870	1 567	734	24
HU	99 227	33 079	1 542	39 570	25 389	– 355	3
MT	2 232	539	67	396	1 147	83	0
NL	191 818	50 441	6 031	62 545	72 984	1 965	– 2 148
AT	188 141	44 854	10 279	108 531	25 761	– 935	– 347
PL	797 515	186 417	30 970	417 572	165 021	– 2 489	25
PT	163 150	30 130	1 381	114 832	15 843	1 012	– 48
RO	444 255	61 414	3 363	321 277	57 832	370	– 1
SI	29 474	4 397	590	15 660	8 985	– 158	–
SK	74 319	20 534	2 934	33 698	14 909	2 245	0
FI	181 048	31 842	19 388	101 246	26 530	1 975	67
SE	207 430	53 710	42 410	86 463	18 271	6 116	460
UK	596 675	193 742	8 375	206 400	178 227	9 929	2

Source: Eurostat (online data code: env_ac_mfa)

Figure 4.2.1: Domestic material consumption, EU-27, 2011 (%)



Source: Eurostat (online data code: env_ac_mfa)

The use of resources is measured as domestic material consumption (DMC). DMC measures the total amount of materials directly used by an economy. It is defined as the annual quantity of materials extracted from the domestic territory, plus all physical imports minus all physical exports. In 2011, DMC in the EU-27 reached 7 346 million tonnes. Out of this amount, non metallic minerals accounted for 48 %; while fossil energy materials/carriers and biomass accounted for 24 % each and metal ores (gross ores) for 4 %.

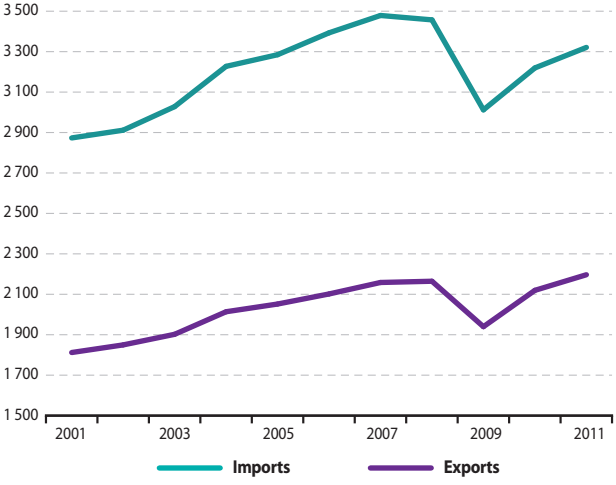
Among Member States, Germany presented the highest total DMC in 2011 (18 % share of EU-27 total), followed by France (11 %), Poland (11 %) and Italy (10 %). Non metallic minerals accounted for the largest share of DMC in most Member States. The only exceptions were Latvia, where biomass accounted for the largest share and Bulgaria, Estonia, Greece, Malta and the Netherlands, where the largest share was made up by fossil energy materials/carriers.

Table 4.2.2: Total imports and exports of materials in the EU-27 (million tonnes)

Imports	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	*2 874*	*2 913*	*3 029*	*3 228*	*3 286*	*3 394*	*3 480*	*3 458*	*3 013*	*3 221*	*3 322*
Biomass	*509*	*525*	*538*	*564*	*585*	*595*	*622*	*627*	*577*	*609*	*628*
Metal ores (gross ores)	*476*	*478*	*498*	*555*	*536*	*592*	*629*	*609*	*426*	*514*	*547*
Non metallic minerals	*324*	*323*	*324*	*338*	*345*	*355*	*379*	*365*	*295*	*323*	*348*
Fossil energy materials/carriers	*1 440*	*1 455*	*1 517*	*1 607*	*1 657*	*1 679*	*1 668*	*1 688*	*1 558*	*1 601*	*1 615*
Other products	*123*	*129*	*149*	*161*	*158*	*170*	*178*	*165*	*152*	*169*	*179*
Waste for final treatment and disposal	*2*	*2*	*2*	*4*	*4*	*3*	*5*	*5*	*5*	*5*	*5*
Exports											
Total	*1 813*	*1 851*	*1 903*	*2 015*	*2 053*	*2 103*	*2 159*	*2 165*	*1 941*	*2 120*	*2 198*
Biomass	*451*	*463*	*486*	*496*	*530*	*533*	*546*	*560*	*536*	*582*	*599*
Metal ores (gross ores)	*319*	*330*	*344*	*379*	*378*	*408*	*434*	*430*	*343*	*392*	*424*
Non metallic minerals	*302*	*300*	*299*	*309*	*321*	*331*	*341*	*335*	*282*	*302*	*320*
Fossil energy materials/carriers	*605*	*615*	*621*	*664*	*658*	*659*	*657*	*666*	*625*	*676*	*685*
Other products	*133*	*137*	*147*	*159*	*162*	*167*	*176*	*168*	*150*	*164*	*165*
Waste for final treatment and disposal	*4*	*5*	*5*	*6*	*5*	*6*	*6*	*6*	*4*	*5*	*5*

Source: Eurostat (online data code: env_ac_mfa)

Figure 4.2.2: Total imports and exports of materials in the EU-27 (million tonnes)



Source: Eurostat (online data code: env_ac_mfa)

In 2011, total imports and exports in the EU-27, expressed in tonnes, amounted to 3 322 and 2 198 million tonnes respectively. Between 2001 and 2011, both imports and exports presented similar trends; as there was a growth until 2008 followed by a decline of 13 % in imports and of 10 % in exports in 2008-09. Since 2009, increases were observed. Overall, from 2001 to 2011, total imports in the EU-27 grew by 16 %, while total exports grew by 21 %.

Over this period, increases were recorded in the imports of all materials in the EU-27: biomass (23 %), metal ores (gross ores) (15 %), non metallic minerals (8 %), fossil energy materials/carriers (12 %) and other products (45 %). Similarly, increases were recorded in the exports of all materials: biomass (33 %), metal ores (gross ores) (33 %), non metallic minerals (6 %), fossil energy materials/carriers (13 %) and other products (24 %).

In 2011, a breakdown of total EU-27 imports by material shows that fossil fuels accounted for 49 %, followed by biomass (19 %), metal ores (16 %), non metallic minerals (10 %) and other products (5 %). A breakdown of total EU-27 exports by material shows that fossil fuels accounted for 31 %, followed by biomass (27 %), metal ores (19 %), non metallic minerals (15 %) and other products (7 %).

Table 4.2.3: Total imports and exports, by stage of manufacturing, EU-27 (million tonnes)

Imports	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	*2 874*	*2 913*	*3 029*	*3 228*	*3 286*	*3 394*	*3 480*	*3 458*	*3 013*	*3 221*	*3 322*
Finished products	*651*	*663*	*709*	*779*	*776*	*828*	*856*	*868*	*733*	*796*	*820*
Semi-finished products	*754*	*748*	*772*	*828*	*852*	*896*	*910*	*885*	*781*	*852*	*871*
Raw products	*1 470*	*1 502*	*1 548*	*1 621*	*1 658*	*1 670*	*1 715*	*1 705*	*1 500*	*1 573*	*1 631*
Exports	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Total	*1 813*	*1 851*	*1 903*	*2 015*	*2 053*	*2 103*	*2 159*	*2 165*	*1 941*	*2 120*	*2 198*
Finished products	*670*	*700*	*741*	*789*	*810*	*843*	*879*	*886*	*768*	*900*	*885*
Semi-finished products	*590*	*608*	*646*	*729*	*714*	*716*	*740*	*746*	*673*	*689*	*762*
Raw products	*552*	*542*	*516*	*496*	*529*	*544*	*540*	*533*	*500*	*531*	*550*

Source: Eurostat (online data code: env_ac_mfa)

In 2011, EU-27 imports of raw products, expressed in tonnes, accounted for 49 % of total imports, semi-finished products for 26 % and finished products for the remaining 25 %. As far as exports were concerned, in 2011 finished products made up a 40 % share of total EU-27 exports, while semi-finished products and raw products made up 35 % and 25 % respectively.

From 2001 to 2011, EU-27 imports of finished products presented a 26 % growth; imports of semi-finished products grew by 16 % and imports of raw products by 11 %. Imports of finished products increased until 2008 and decreased by 16 % in 2008-09. Similarly, imports of semi-finished and raw products grew until 2007, followed by a slight decline in 2007-08 and a greater decline in 2008-09. Between 2001 and 2011, EU-27 exports of finished products grew by 32 %, exports of semi-finished products grew by 29 % and exports of raw products remained stable.

EU trade in finished and semi-finished products was relatively balanced. In 2011, the EU-27 imported 820 million tonnes of finished products and exported 885 million tonnes; while it imported 871 million tonnes of semi-finished products and exported 762 million tonnes. However, regarding raw products, the EU-27 imported approximately 3 times more raw products than it exported.

Figure 4.2.3a: Total imports by stage of manufacturing, EU-27 (million tonnes)

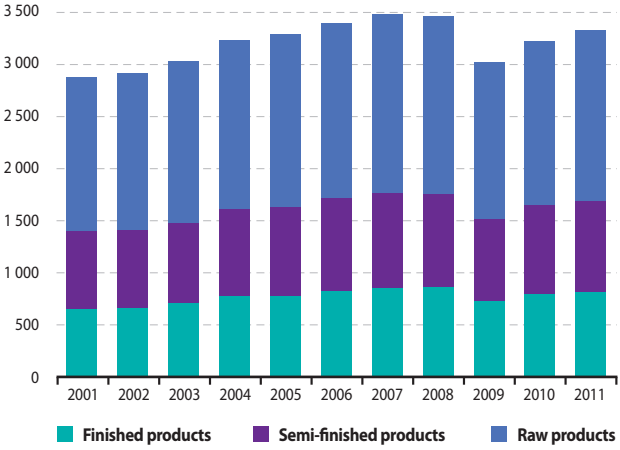
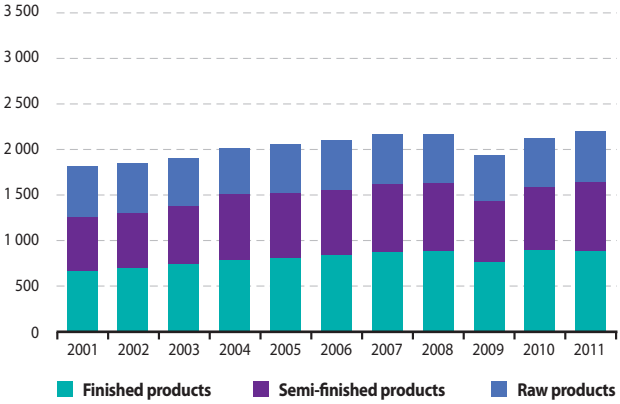


Figure 4.2.3b: Total exports by stage of manufacturing, EU-27 (million tonnes)



Source: Eurostat (online data code: env_ac_mfa)

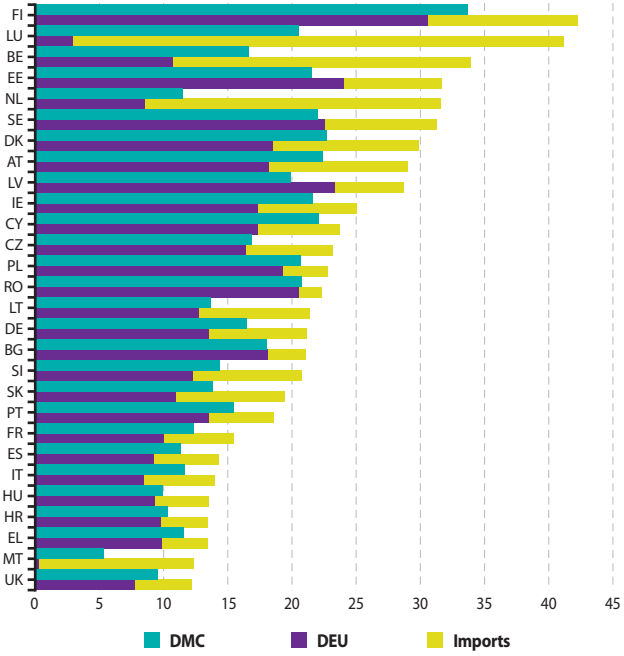
Table 4.2.4: Domestic material input and domestic material consumption per capita, 2011 (tonnes per capita)

	Domestic material input	of which:		Domestic material consumption
		Domestic extraction used	Imports	
EU-28	:	:	:	:
EU-27 (1)	*15.61*	*12.38*	*6.61*	*14.62*
BE	33.93	*10.74*	*23.19*	16.64
BG	21.05	18.12	2.93	18.01
CZ	23.12	16.41	6.71	16.88
DK	29.87	*18.55*	*11.32*	22.72
DE	21.14	13.56	*7.58*	16.51
EE	31.68	*24.08*	*7.60*	21.51
IE	25.04	*17.40*	7.64	21.60
EL	13.44	*9.86*	*3.58*	11.58
ES	14.34	*9.29*	*5.05*	11.36
FR	15.42	10.05	5.38	12.35
HR	13.48	9.84	3.64	10.28
IT	13.94	*8.46*	5.48	11.61
CY	23.68	*17.37*	*6.31*	22.10
LV	28.74	23.37	5.37	19.92
LT	21.38	12.76	8.62	13.67
LU	41.17	2.95	38.22	20.52
HU	13.54	9.36	4.17	9.94
MT	12.33	0.29	12.04	5.37
NL	31.59	8.58	23.01	11.52
AT	29.06	18.24	10.82	22.39
PL	22.81	19.35	3.46	20.70
PT	18.59	13.57	5.01	15.43
RO	22.31	20.53	1.78	20.75
SI	20.76	12.29	8.47	14.38
SK	19.45	11.03	8.42	13.78
FI	42.22	*30.57*	*11.65*	33.68
SE	31.24	22.55	8.68	22.03
UK	12.17	*7.74*	*4.43*	9.54
TR	:	4.24	2.14	:

(1) For EU-27 domestic material input the intra-EU foreign trade flows must be substracted from DMIs of Member States.

Source: Eurostat (online data codes: env_ac_mfa and demo_gind)

Figure 4.2.4: Domestic material input and domestic material consumption per capita, 2011 (tonnes per capita)



Source: Eurostat (online data codes: env_ac_mfa and demo_gind)

Direct material input (DMI) measures the direct input of materials for use into the economy and it equals domestic used extraction plus imports. The relation of DMC and DMI indicates to which extent material resource inputs are used for own domestic consumption or are exported for consumption in other economies. The difference between DMC and DMI is exports.

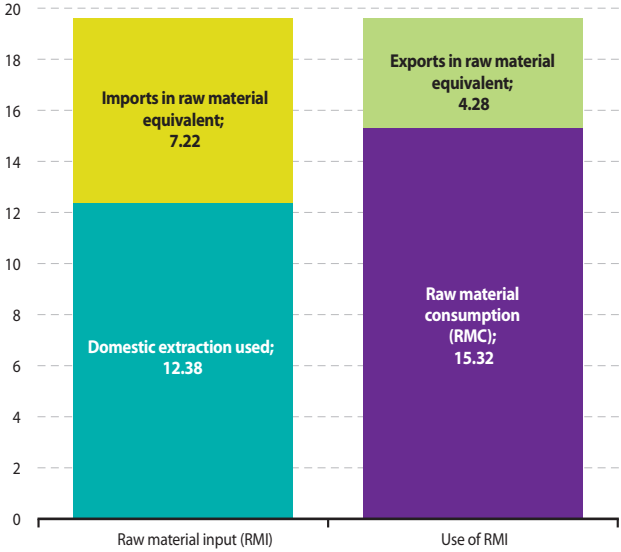
DMI ranged between 12 tonnes per capita in the United Kingdom and 42 tonnes per capita in Finland. High DMIs were also observed in Luxembourg (41) and Belgium (34). The highest DMC was recorded in Finland (34) and Denmark (23). As far as the share of DMC in DMI is concerned, the highest shares were recorded in Cyprus (93 %), Romania (93 %) and Poland (91 %). The lowest shares were observed in the Netherlands (36 %), Malta (44 %) and Belgium (49 %). The Netherlands and Belgium are economies with high DMI but lower DMC due to a high level of imports which are again exported.

Table 4.2.5: Raw material input and raw material consumption per capita, EU-27, 2011 (tonnes per capita)

	Raw material input	of which:		Raw material consumption	Exports
		Domestic extraction	Imports		
Total	19.60	12.38	7.22	15.32	4.28
Biomass	3.89	3.41	0.48	3.35	0.54
Metal ores (gross ores)	2.99	0.32	2.66	1.46	1.53
Non metallic minerals	7.82	7.05	0.77	6.98	0.84
Fossil energy resources	4.91	1.61	3.30	3.53	1.38

Source: Eurostat

Figure 4.2.5: Raw material input and how it is used, EU-27, 2011 (tonnes per capita)



Source: Eurostat

DMI and DMC (see previous section 4.2.4) consider imports and exports in their simple product weight as crossing the borders. This makes comparisons 'asymmetric'. A country with almost no domestic extraction and importing all necessary resources (e.g. Malta) will have a much lower DMC compared to a resource rich country (e.g. Norway). The Raw Material Input (RMI) and the Raw Material Consumption (RMC) measure the imports and exports in their raw material equivalents (RMEs), i.e. the equivalent amount of domestic extraction used necessary to produce and deliver the respective product to the border. Eurostat estimates the imports and exports in raw material equivalents for the aggregated EU-27 economy employing an extended Input-Output model.

In 2011, RMI per capita in the EU-27 equaled 19.60 tonnes; out of this amount 12.38 tonnes were domestically extracted and 7.22 tonnes were imported. A breakdown by material shows that in 2011, non metallic minerals accounted for 40 % of total EU-27 RMI, followed by fossil energy resources (25 %), biomass (20 %) and metal ores (15 %).

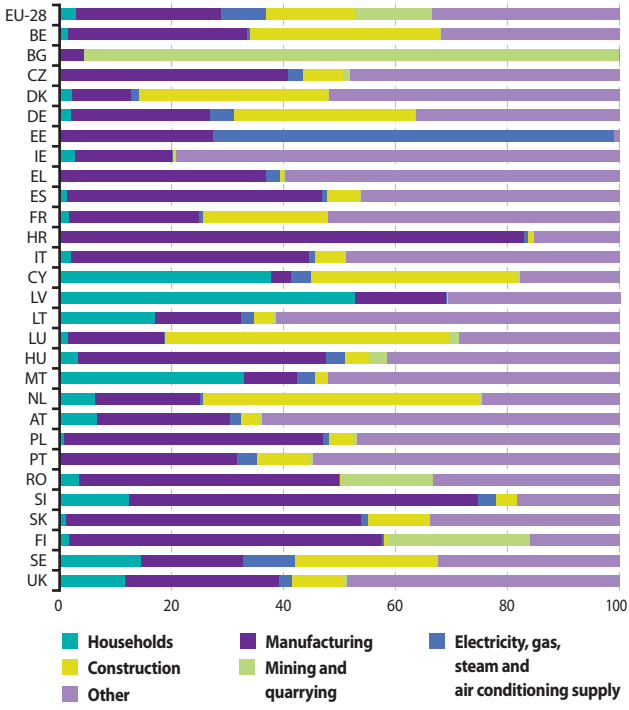
In 2011, EU-27 RMC per capita was 15.32 tonnes, of which non metallic minerals accounted for 46 %, fossil energy resources for 23 %, biomass for 22 % and metal ores for 10 %. EU-27 exports per capita reached 4.28 tonnes in 2011. RMC made up 78 % of EU-27 RMI per capita in 2011 and exports made up 22 %.

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

	Hazardous waste		Non-hazardous waste	
	2008	2010	2008	2010
EU-28	97 640	101 370	2 401 960	2 404 030
BE	5 919	4 479	42 703	58 058
BG	13 043	13 542	154 604	153 660
CZ	1 510	1 363	23 909	22 395
DK	420	1 784	14 736	19 181
DE	22 323	19 931	350 473	343 614
EE	7 538	8 962	12 046	10 038
IE	743	1 972	22 997	17 835
EL	253	292	68 391	70 141
ES	3 649	2 991	145 606	134 528
FR	10 893	11 538	334 109	343 543
HR	221	73	3 951	3 085
IT	6 655	8 543	172 379	150 084
CY	24	37	1 819	2 335
LV	67	68	1 428	1 430
LT	116	110	6 218	5 473
LU	199	379	9 393	10 061
HU	*671*	541	*16 279*	15 195
MT	*55*	17	2 344	1 271
NL	4 454	4 421	98 195	114 834
AT	1 330	1 473	54 979	33 410
PL	1 468	1 492	137 273	157 966
PT	3 368	1 625	33 112	36 723
RO	531	666	188 608	218 643
SI	153	120	4 886	5 039
SK	527	415	10 945	8 969
FI	2 163	2 559	79 630	101 778
SE	2 063	2 528	84 105	115 117
UK	7 285	9 447	326 842	249 621
IS	90	:	682	:
LI	7	8	376	304
NO	1 448	1 763	8 839	7 670
MK	6	150	1 356	2 178
RS	:	11 145	:	22 478
TR	1 018	3 226	63 746	780 197

Source: Eurostat (online data code: env_wasgen)

Figure 4.3.1: Hazardous waste generation by activity, 2010 (% of total hazardous waste)



Source: Eurostat (online data code: env_wasgen)

In 2010, the EU-28 generated 2 404 million tonnes of non-hazardous waste and 101 million tonnes of hazardous waste — harmful for health or the environment. Compared to 2008, non-hazardous waste generation remained stable, while hazardous waste generation presented a 4 % increase. In 2010, the share of hazardous waste in total waste generation was below 10 % in all Member States but Estonia, where hazardous waste made up a 47 % share of the total. This very high share was due to energy production from oil shale.

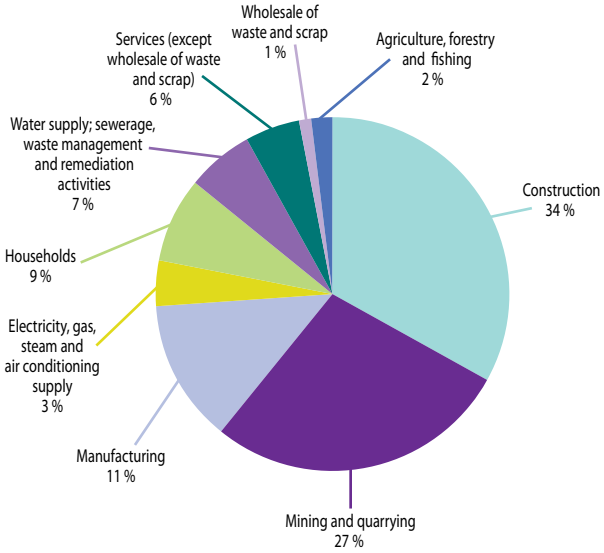
An analysis of hazardous waste broken down by economic activity, shows that in 2010, 26 % of hazardous waste in the EU-28 was generated by manufacturing, followed by construction (16 %), mining and quarrying (14 %) and electricity, gas, steam and air conditioning supply (8 %). Households made up a 3 % share. Among Member States, the activities that generated hazardous waste varied significantly.

Table 4.3.2: Waste generation by economic activity and households, 2010 (thousand tonnes)

	Total waste	Mining and quarrying	Construction	Manufacturing	Electricity, gas, steam and air conditioning supply	Waste from households	Other
EU-28	2 505 400	671 780	859 740	275 580	86 040	218 590	393 670
BE	62 537	1 701	18 165	14 543	1 210	4 679	22 239
BG	167 203	150 214	79	3 306	8 032	2 396	3 175
CZ	23 758	115	9 354	4 202	1 540	3 334	5 212
DK	20 965	41	3 176	1 919	517	2 436	12 877
DE	363 545	24 493	190 990	48 981	9 087	36 312	53 682
EE	19 000	6 453	436	3 716	6 534	430	1 430
IE	19 808	2 196	1 610	3 259	334	1 730	10 679
EL	70 433	44 793	2 086	4 941	11 029	5 198	2 387
ES	137 519	31 732	37 947	16 480	2 339	23 198	25 823
FR	355 081	1 053	260 226	20 382	993	29 307	43 121
HR	3 158	29	8	634	108	0	2 379
IT	158 628	706	59 340	35 928	2 660	32 479	27 515
CY	2 373	382	1 068	132	3	461	327
LV	1 498	1	22	375	25	694	382
LT	5 583	7	357	2 653	68	1 261	1 238
LU	10 440	18	8 731	498	2	385	805
HU	15 735	87	3 072	3 134	2 718	2 865	3 859
MT	1 288	0	989	9	1	138	152
NL	119 255	184	78 064	14 094	1 156	9 072	16 685
AT	34 883	269	9 010	2 958	453	4 623	17 569
PL	159 458	61 547	20 818	28 618	20 291	8 890	19 294
PT	38 347	1 206	11 071	9 766	456	5 464	10 386
RO	219 310	177 404	238	7 862	5 888	6 127	21 791
SI	5 159	12	1 509	1 517	558	728	835
SK	9 384	166	1 786	2 669	878	1 719	2 167
FI	104 337	54 851	24 645	15 211	1 445	1 681	6 504
SE	117 645	89 026	9 381	7 823	1 479	4 038	5 898
UK	259 068	23 092	105 560	19 970	6 239	28 949	75 258
LI	312	12	0	32	0	0	268
NO	9 433	366	1 543	2 687	28	2 229	2 580
MK	2 328	855	0	1 017	4	451	0
RS	33 623	26 458	0	1 146	6 019	0	0
TR	783 423	723 791	0	11 406	18 578	29 587	60

Source: Eurostat (online data code: env_wasgen)

Figure 4.3.2: Waste generation by economic activity and households, EU-28, 2010 (%)



Source: Eurostat (online data code: env_wasgen)

In 2010, the EU-28 generated 2 505 million tonnes of waste. The activities that generated particularly high levels of waste were construction, which accounted for 860 million tonnes (34 % share of the total) and mining and quarrying with 672 million tonnes (27 %). Manufacturing accounted for 276 million tonnes and an 11 % share; while households made up 9 % of the total and contributed 219 million tonnes.

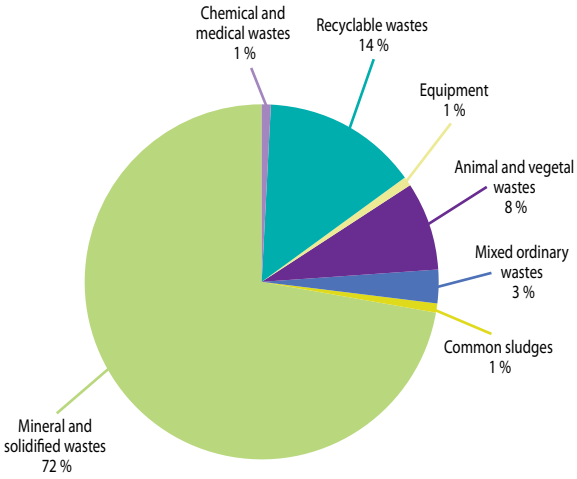
There were considerable variations among Member States, both in the amount of waste generated in 2010 and the activities that contributed considerably to waste generation. The total amount of waste generated ranged between 1 288 thousand tonnes in Malta and 363 545 thousand tonnes in Germany. Germany, France and the United Kingdom made up a 39 % share of total EU-28 waste generation. Regarding waste generation by activity, in fourteen Member States, construction accounted for the largest share of generated waste. The manufacturing industry accounted for the largest share of generated waste in Lithuania (48 %), Slovenia (29 %), Slovakia (28 %), Croatia (20 %), Hungary (20 %) and Ireland (16 %). Mining and quarrying accounted for the largest share in Bulgaria (90 %), Romania (81 %), Sweden (76 %), Greece (64 %), Finland (53 %) and Poland (39 %). In Estonia, electricity, gas, steam and air conditioning supply made up the largest share (34 %); while in Latvia households (46 %).

Table 4.3.3: Waste management, 2010 (thousand tonnes)

	Recovery	Energy recovery	Incineration	Disposal
EU-28	1 145 110	89 650	42 280	1 061 680
BE	20 414	4 797	1 975	3 172
BG	1 819	144	2	157 886
CZ	13 220	767	55	4 204
DK	6 767	2 749	0	1 828
DE	241 563	28 423	12 646	66 932
EE	5 956	336	0	11 661
IE	3 356	168	43	5 854
EL	11 722	126	21	58 520
ES	80 289	2 523	412	49 464
FR	200 677	14 241	7 809	113 294
HR	403	110	24	2 048
IT	93 037	2 373	6 092	25 655
CY	1 381	7	7	976
LV	312	63	0	630
LT	1 062	111	2	3 371
LU	6 286	32	124	6 105
HU	5 125	859	82	7 357
MT	129	0	7	1 065
NL	57 563	5 835	3 552	46 691
AT	14 982	1 364	1 649	11 756
PL	109 695	3 804	369	32 712
PT	7 583	2 343	419	9 771
RO	16 561	1 507	75	194 716
SI	3 885	282	35	1 436
SK	3 559	255	66	3 812
FI	31 999	9 847	389	63 395
SE	16 587	6 261	87	87 541
UK	189 183	316	6 343	89 832
IS	340	19	0	167
NO	2 566	1 280	276	2 170
MK	331	0	1	1 775
RS	565	26	1	32 466
TR	197 216	126	27	580 102

Source: Eurostat (online data code: env_wastrt)

Figure 4.3.3: Waste recovery (other than energy recovery) by waste category, EU-28, 2010 (%)



Source: Eurostat (online data code: env_wastrt)

In 2011, almost half (49 %) of the waste treated in the EU-28 was subject to recovery (other than energy recovery) and 45 % was subject to disposal operations other than incineration (mostly landifilling, but also mining waste disposed in and around mining sites and waste discharges into water bodies). The remaining waste treated in the EU-28 was incinerated with energy recovery (4 %) and without energy recovery (2 %). Out of the 1 145 million tonnes of waste that were recovered (other than energy recovery) in the EU-28 in 2010, 72 % was mineral and solidified wastes, 14 % recyclable wastes, 8 % animal and vegetal wastes, 3 % mixed ordinary wastes, while chemical and medical wastes, equipment and common sludges made up 1 % of the total each.

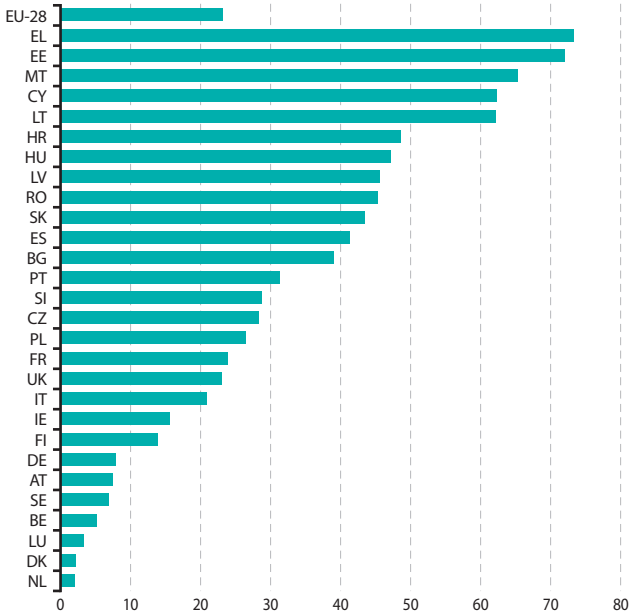
Important differences can be observed among Member States in 2010. Bulgaria, Romania and Malta deposited 99 %, 91 % and 89 % of their waste. In contrast, Poland, Italy and the Czech Republic recovered 75 %, 73 % and 72 % respectively. In comparison to the EU average, energy recovery was considerably higher in Denmark (24 %), Belgium (16 %) and Portugal (12 %). Regarding incineration, the highest shares were recorded in Belgium (7 %) and Austria (6 %).

Table 4.3.4: Waste (excluding major mineral wastes), 2010

	Waste generated		Waste landfilled	
	(1 000 tonnes)	(kg per inhabitant)	(1 000 tonnes)	(kg per inhabitant)
EU-28	929 540	1 839	215 770	427
BE	46 881	4 325	2 425	224
BG	14 616	1 932	5 713	755
CZ	12 380	1 178	3 504	334
DK	13 203	2 386	293	53
DE	140 094	1 713	11 048	135
EE	11 467	8 557	8 269	6 170
IE	12 329	2 759	1 923	430
EL	22 425	1 984	16 457	1 456
ES	62 059	1 349	25 619	557
FR	97 525	1 508	23 273	360
HR	2 896	654	1 408	318
IT	99 245	1 645	20 748	344
CY	864	1 055	539	657
LV	1 316	585	601	267
LT	5 092	1 530	3 166	951
LU	1 534	3 055	51	102
HU	11 557	1 154	5 456	545
MT	329	794	215	519
NL	41 750	2 519	879	53
AT	15 914	1 900	1 201	143
PL	67 523	1 769	17 933	470
PT	25 657	2 412	8 049	757
RO	41 515	1 934	18 827	877
SI	2 991	1 461	861	421
SK	6 633	1 223	2 883	531
FI	24 228	4 527	3 370	630
SE	18 469	1 977	1 277	137
UK	129 049	2 081	29 783	480
IS	:	:	132	416
NO	8 252	1 699	1 946	401
MK	1 466	714	910	444
RS	7 073	968	6 047	828
TR	783 404	10 796	579 441	7 986

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

Figure 4.3.4: Share of landfilled waste (excluding major mineral wastes) by country, 2010 (%)



Source: Eurostat (online data codes: env_wastrt and env_wasgen)

In 2010, 930 million tonnes of waste excluding major mineral wastes were generated in the EU-28. Relatively to population, each inhabitant in the EU-28 generated on average 1 839 kg of waste excluding major mineral wastes. Across Member States, the generation of waste excluding major mineral waste ranged between 585 kg per inhabitant in Latvia and 8 557 kg per inhabitant in Estonia.

Out of the total generation of waste excluding major mineral wastes in the EU-28 a 23 % share was landfilled in 2010. The highest shares of landfilled waste excluding major minerals waste were recorded in Greece (73 %), Estonia (72 %), Malta (65 %), Cyprus (62 %) and Lithuania (62 %). On the contrary, the lowest shares were recorded in the Netherlands (2 %), Denmark (2 %), Luxembourg (3 %) and Belgium (5 %). The amount of landfilled waste excluding major mineral wastes per inhabitant reached 427 kg for the EU-28 in 2010. In Member States, the lowest values were reported by the Netherlands and Denmark (53 kg each), while the highest values were reported by Estonia (6 170 kg) and Greece (1 456 kg), 14 and 3 times above EU average respectively.

Table 4.3.5: Municipal waste generated per inhabitant (kg)

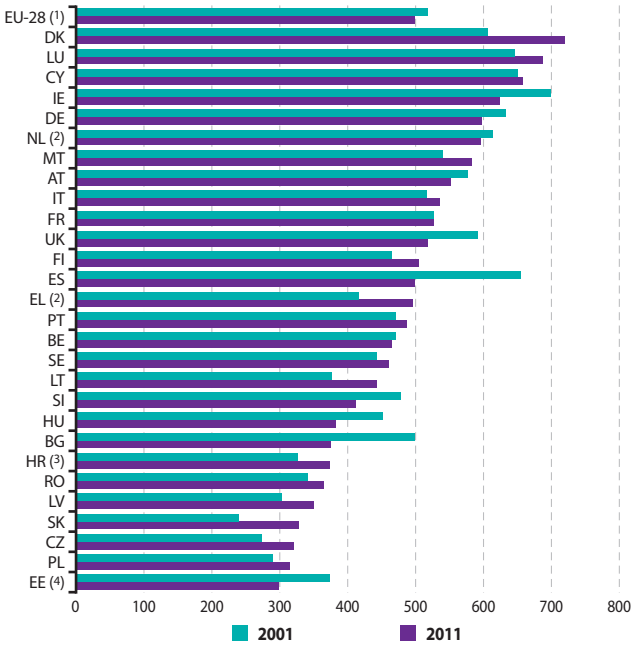
	2001	2005	2008	2009	2010	2011	Change 2001-2011 (%)
EU-28 (1)	:	:	518	508	504	499	– 3.7
BE	470	479	489	489	465	464	– 1.3
BG	499	475	474	470	410	375	– 24.8
CZ	273	289	305	316	317	320	17.2
DK	606	662	741	693	*673*	719	18.6
DE	*632*	565	589	592	602	*597*	– 5.5
EE (2)	373	436	391	337	303	298	– 20.1
IE	699	731	729	662	636	*623*	– 10.9
EL (3)	416	437	452	457	521	496	19.2
ES	654	592	*556*	547	*516*	*498*	– 23.9
FR	526	530	541	535	*533*	*527*	0.2
HR (4)	:	*326*	403	393	369	373	14.4
IT	516	540	543	533	*537*	*535*	3.7
CY	650	670	722	736	689	*658*	1.2
LV	*303*	311	332	334	304	350	15.5
LT	*377*	377	408	361	381	*442*	17.2
LU	646	672	697	679	679	*687*	6.3
HU	452	461	454	430	403	382	– 15.5
MT	540	623	670	647	598	583	8.0
NL (3)	613	624	624	612	593	596	– 2.8
AT	576	616	599	588	558	552	– 4.2
PL	290	*319*	*320*	*316*	*315*	*315*	8.6
PT	471	450	515	517	513	*487*	3.4
RO	*341*	*378*	*392*	*362*	*365*	*365*	7.0
SI	478	494	542	524	490	411	– 14.0
SK	239	289	328	322	333	327	36.8
FI	465	478	521	480	470	505	8.6
SE	442	481	513	482	465	460	4.1
UK	591	583	544	526	*521*	*518*	– 12.4
IS	467	516	*551*	*556*	*572*	*571*	22.3
NO (5)	361	426	487	470	469	483	33.8
CH	660	661	736	702	708	689	4.4
MK (1)	:	:	*349*	*354*	*351*	*357*	2.3
RS (1)	:	:	350	360	360	361	3.1
TR	454	*435*	400	*419*	407	*395*	– 13.0

(1) No data for 2001; Change 2008-2011.
(2) Break in series in 2001 and 2010.
(3) Break in series in 2010.
(4) No data for 2001; Change 2005-2011.
(5) Break in series in 2001.

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. Municipal waste consists to a large extent of waste generated by households, but may also include similar wastes generated by small businesses and public institutions and collected by the municipality; this part of municipal waste may vary from municipality to municipality and from country to country, depending on the local waste management system. For areas not covered by a municipal waste collection scheme the amount of waste generated is estimated.The quantity of waste generated is expressed in kg per person per year (per inhabitant).

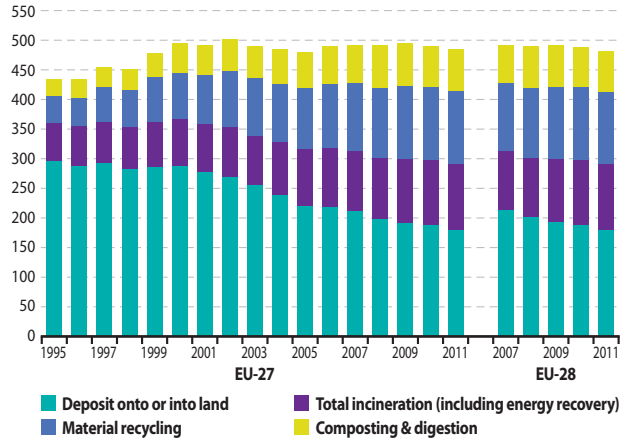
Figure 4.3.5a: Municipal waste generated per inhabitant (kg)



(1) No data for 2001; 2008 data instead.
(2) Break in series in 2010.
(3) No data for 2001; 2005 data instead.
(4) Break in series in 2001 and 2010.

Source: Eurostat (online data code: env_wasmun)

Figure 4.3.5b: Municipal waste treatment per inhabitant, EU-27 & EU-28 (kg)



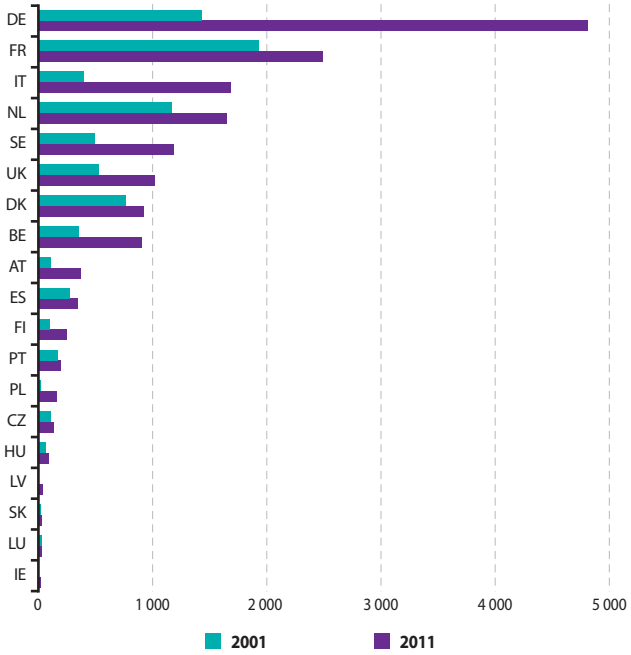
Source: Eurostat (online data code: env_wasmun)

Table 4.3.6: Energy production from municipal waste incineration (thousand tonnes oil equivalent)

	2001	2007	2008	2009	2010	2011
EU-28	7 973	14 254	14 776	14 533	15 339	16 354
BE	355	368	562	626	737	910
BG	–	–	–	–	–	–
CZ	105	96	100	89	105	133
DK	770	949	991	940	911	921
DE	1 433	4 933	4 923	4 091	4 542	4 809
EE	–	–	–	–	–	–
IE	–	–	–	18	15	25
EL	–	–	–	–	–	–
ES	279	618	656	638	348	349
FR	1 931	2 027	2 127	2 275	2 377	2 486
HR	–	–	–	–	–	–
IT	397	1 400	1 278	1 372	1 557	1 686
CY	–	–	–	–	–	–
LV	–	–	–	1	26	41
LT	–	–	–	–	–	–
LU	28	32	32	29	27	29
HU	62	108	92	92	106	96
MT	–	–	–	–	–	–
NL	1 173	1 386	1 489	1 519	1 542	1 653
AT	111	261	269	323	332	369
PL	1	43	19	115	119	162
PT	175	188	183	198	192	197
RO	–	–	–	–	–	–
SI	–	–	–	–	–	–
SK	25	38	46	45	38	34
FI	102	172	210	233	249	249
SE	495	923	1 059	1 076	1 237	1 189
UK	532	711	740	851	878	1 016
IS	1	:	:	:	:	:
NO	149	209	224	231	282	342
CH	858	1 067	1 044	1 037	1 065	:
ME	:	–	–	–	–	–
MK	–	–	–	–	–	–
RS	:	:	:	:	–	–
TR	–	–	–	–	–	–

Source: Eurostat (online data code: nrg_1071a)

Figure 4.3.6: 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-28 more than doubled over the last ten years. In 2011, it reached 16 354 thousand tonnes of oil equivalent. At an annual basis, EU-28 energy production from waste incineration has continuously grown with the exception of 2008-09, when it declined by 2 %. However, between 2009 and 2011 it recorded a 13 % growth.

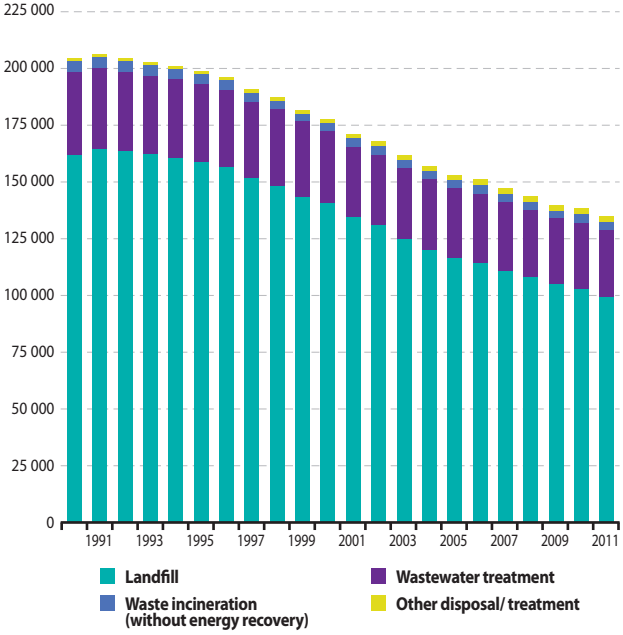
In 2011, Germany accounted for 29 % of total EU-28 production, followed by France (15 %), Italy and the Netherlands (10 % each). In the last decade, all Member States recorded increases in their energy production from municipal waste incineration. Among the main producers, Italy and Germany presented a fourfold and a threefold increase respectively.

Table 4.3.7: Greenhouse gas emissions from waste treatment, 2011 (thousand tonnes of CO_2 equivalent)

	Total	Landfill	Wastewater treatment	Waste incineration (without energy recovery)	Other disposal/ treatment
EU-28	134 511	99 372	29 389	3 350	2 400
BE	1 613	661	402	525	26
BG	3 762	2 900	834	13	15
CZ	3 656	2 745	721	191	–
DK	1 002	699	156	0	147
DE	14 381	11 046	2 476	–	859
EE	391	254	40	–	96
IE	1 043	831	158	54	–
EL	4 704	3 265	1 430	4	5
ES	13 901	11 900	1 957	12	32
FR	12 785	8 749	1 976	1 459	601
HR	1 078	771	307	0	–
IT	17 521	12 533	4 671	312	5
CY	590	541	49	–	–
LV	553	439	109	0	4
LT	990	808	175	7	–
LU	58	29	14	–	15
HU	3 521	2 791	601	97	32
MT	127	109	17	1	–
NL	3 879	3 166	656	–	56
AT	1 708	1 253	289	2	164
PL	9 745	7 290	2 219	236	–
PT	8 280	5 122	3 135	24	0
RO	5 366	2 476	2 880	11	–
SI	562	366	191	5	–
SK	2 227	1 573	430	12	212
FI	2 112	1 769	213	–	130
SE	1 713	1 193	455	65	–
UK	17 242	14 095	2 828	320	–
IS	198	176	12	9	3
NO	1 221	1 072	149	0	–
CH	587	181	221	55	130
TR	36 127	32 173	3 893	60	–

Source: European Environment Agency

Figure 4.3.7: Greenhouse gas emissions from waste treatment, by treatment type, EU-28 (thousand tonnes of CO_2 equivalent)



Source: European Environment Agency

In 2011, GHG emissions from waste treatment in the EU-28 amounted to 134 511 thousand tonnes of CO_2 equivalent, a 34 % decrease compared to 1990. Decreases were observed in emissions from landfilling (– 39 %), waste incineration (– 34 %) and wastewater treatment (– 20 %), while emissions from other disposal/treatment presented a fourfold increase. In 2011, landfilling accounted for 74 % of total EU-28 emissions from waste, while wastewater treatment contributed 22 %, waste incineration (without energy recovery) 2 % and other disposal 2 %.

Among Member States, in 2011 the largest contributions to total EU-28 emissions from waste were recorded in Italy (13 %), the United Kingdom (13 %), Germany (11 %), Spain (10 %) and France (10 %). Landfilling was the treatment type with the highest contribution to emissions in all Member States but Romania, where wastewater treatment made the largest contribution. High shares of emissions from waste incineration were recorded in Belgium (33 %) and France (11 %) and from other disposal in Luxembourg (26 %), Estonia (25 %) and Denmark (15 %).

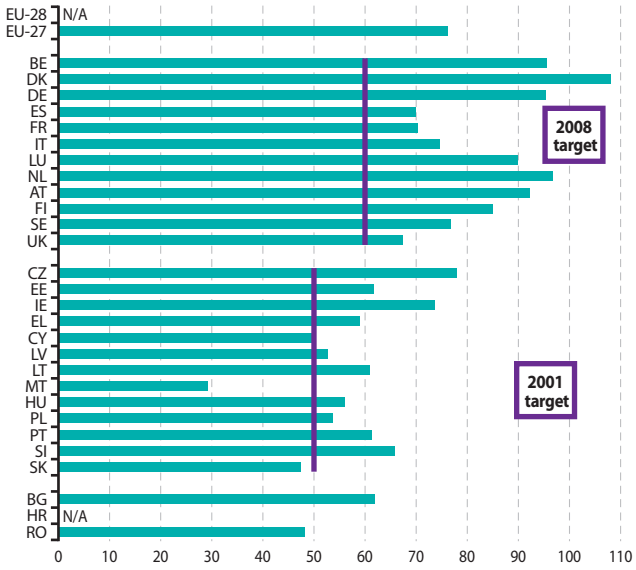
Table 4.3.8: Recovery and recycling rate for packaging waste, 2010 (%)

	Recovery rate	Recycling rate
EU-28	:	:
EU-27	*76.2*	*63.3*
BE	95.5	79.8
BG	62.0	61.6
CZ	77.9	70.0
DK	*108.1*	*84.0*
DE	95.7	72.7
EE	61.6	56.1
IE	73.7	66.2
EL	58.8	58.7
ES	70.0	61.9
FR	70.3	61.1
HR	:	:
IT	74.7	64.4
CY	50.1	50.0
LV	52.7	48.9
LT	60.9	60.4
LU	90.3	66.0
HU	56.0	51.7
MT	29.2	28.5
NL	96.8	73.9
AT	92.2	66.6
PL	53.7	38.9
PT	61.3	55.5
RO	48.3	43.4
SI	65.8	61.0
SK	47.5	45.7
FI	85.0	55.4
SE	76.7	54.3
UK	67.3	60.7
LI	91.4	45.9
NO	87.2	56.7

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

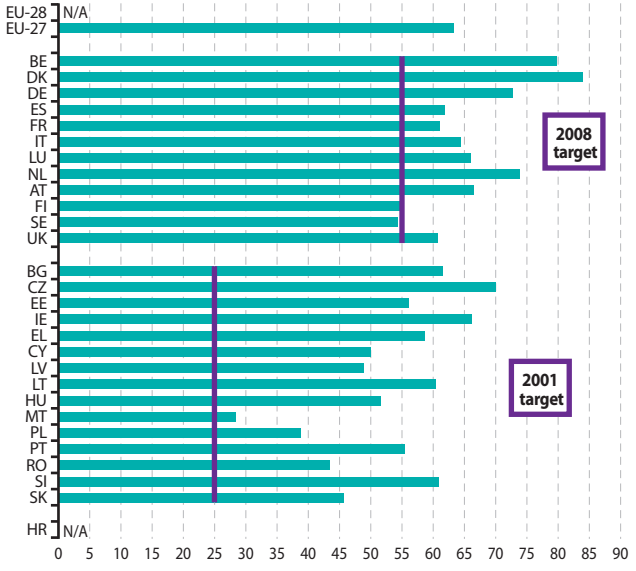
For recovery of packaging waste, the first stage target (2001 target) was 50 % and the second stage target (2008 target) was 60 %. In 2010, all Member States but Slovakia and Malta exceeded the 50 % target; while all Member States with a 2008 target met the target. Regarding recycling, the first stage target (2001 target) was 25 % and the second stage target (2008 target) was 55 %. All Member States have met the first target, while all Member States but Sweden have managed to achieve the 55 % target.

Figure 4.3.8a: Recovery rate for packaging waste, 2010 (%)



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

Figure 4.3.8b: Recycling rate of packaging waste, 2010 (%)



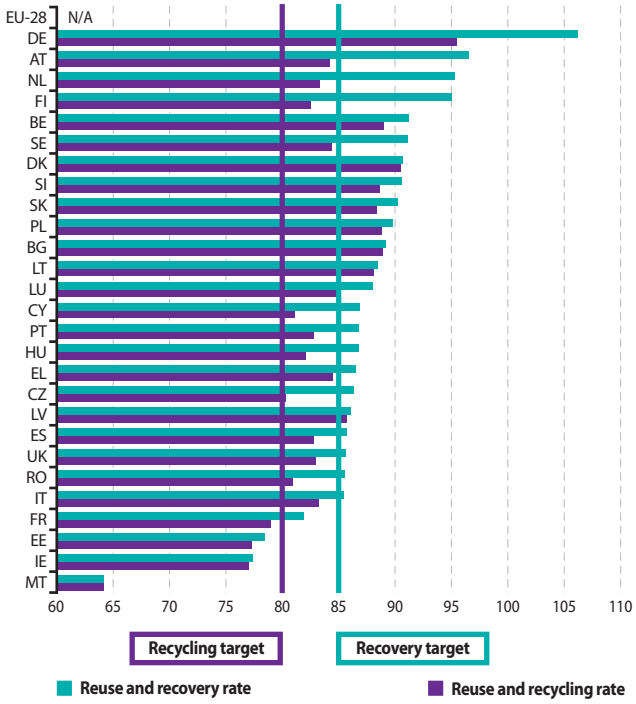
Source: Eurostat, Environmental Data Centre on Waste (online data code: env_waspac)

Table 4.3.9: Recovery and recycling rate for end-of-life vehicles, 2010 (%)

	Reuse and recovery rate	Reuse and recycling rate
EU-28	:	:
BE	91.2	89.0
BG	89.2	88.9
CZ	86.3	80.3
DK	90.7	90.5
DE	106.2	95.5
EE	78.4	77.3
IE	77.4	77.0
EL	86.5	84.5
ES	85.7	82.8
FR	81.9	79.0
HR	:	:
IT	85.4	83.2
CY	86.9	81.1
LV	86.1	85.7
LT	88.5	88.1
LU	88.0	85.0
HU	86.8	82.1
MT	64.2	64.2
NL	95.3	83.3
AT	96.5	84.2
PL	89.8	88.8
PT	86.8	82.8
RO	85.5	80.9
SI	90.6	88.6
SK	90.2	88.4
FI	95.0	82.5
SE	91.1	84.4
UK	85.6	83.0
LI	92.3	76.0
NO	94.7	83.9

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

Figure 4.3.9: Recovery and recycling rate for end-of-life vehicles, 2010 (%)



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

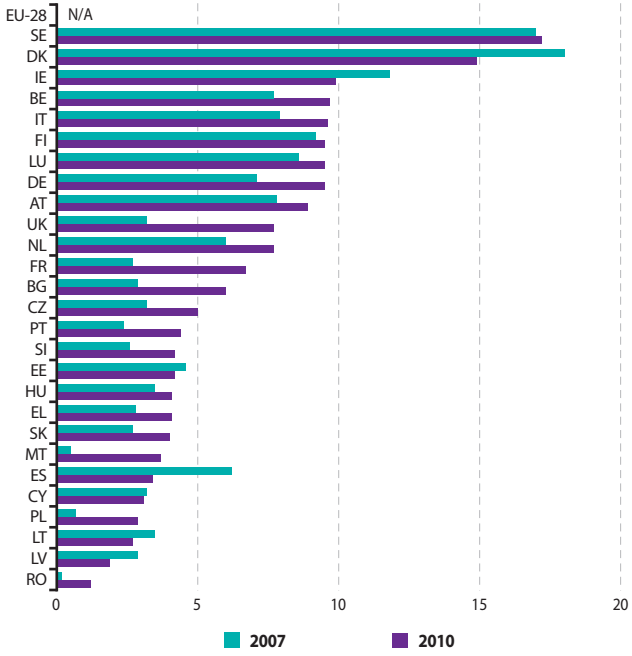
The EU has set targets for the re-use, recycling and recovery of end-of-life vehicles. Member States should ensure a minimum of 85 % of reuse and recovery and a minimum of 80 % of reuse and recycling by the 1st January 2006. The Member States will also have to reach targets of 95 % reuse and recovery and 85 % reuse and recycling by the 1st January 2015. In 2010, four Member States already met the 2015 target for reuse and recovery: Germany (106.2 %), Austria (96.5 %), the Netherlands (95.3 %) and Finland (95.0 %); while ten Member States met their 2015 target of 85 % for reuse and recycling: Germany (95.5 %), Denmark (90.5 %), Belgium (89.0 %), Bulgaria (88.9 %), Poland (88.8 %), Slovenia (88.6 %), Slovakia (88.4 %), Lithuania (88.1 %), Latvia (85.7 %) and Luxembourg (85.0 %).

Table 4.3.10: Waste electrical and electronic equipment (WEEE) collected, by EEE category, 2010 (tonnes)

	Total Waste	Large household appliances	Small household appliances	IT and telecommu-nications equipment	Consumer equipment	Other
EU-28	:	:	:	:	:	:
BE	*105 556*	47 441	9 749	18 626	22 725	7 017
BG	45 056	32 833	3 118	2 850	3 152	3 104
CZ	52 989	22 726	4 210	11 785	11 931	2 337
DK	82 931	35 404	3 561	18 325	23 182	2 459
DE	777 035	249 149	72 364	217 917	191 280	46 325
EE	5 630	2 380	416	1 132	1 448	254
IE	44 431	25 263	3 152	4 319	7 641	4 056
EL	46 527	29 102	1 592	7 242	7 518	1 074
ES	158 099	92 626	4 572	25 924	26 323	8 654
FR	433 959	241 137	22 499	63 407	93 794	13 122
HR	:	:	:	:	:	:
IT	582 482	:	:	:	:	:
CY	*2 609*	1 826	186	547	0	50
LV	4 287	2 025	299	562	552	850
LT	8 928	5 055	579	1 147	791	1 355
LU	4 823	2 052	451	911	1 049	361
HU	40 521	21 337	2 742	5 025	9 928	1 490
MT	1 535	810	323	104	275	23
NL	128 119	63 951	7 048	20 620	28 244	8 256
AT	74 256	32 225	6 170	16 332	15 303	4 226
PL	112 246	54 228	8 745	18 082	14 874	16 317
PT	46 673	28 772	4 057	7 272	4 444	2 128
RO	26 247	14 120	914	6 460	3 567	1 186
SI	8 674	3 895	499	2 839	1 066	375
SK	21 916	12 325	1 745	3 244	2 545	2 057
FI	50 867	27 698	1 320	8 034	12 117	1 697
SE	161 444	75 341	8 959	31 756	37 809	7 579
UK	479 356	244 646	23 134	165 626	27 412	18 538
NO	107 767	44 031	*7 592*	16 496	*18 479*	21 169

Source: Eurostat (online data code: env_waselee)

Figure 4.3.10: Waste electrical and electronic equipment (WEEE) collected (kg per inhabitant)



Source: Eurostat (online data code: env_waselee)

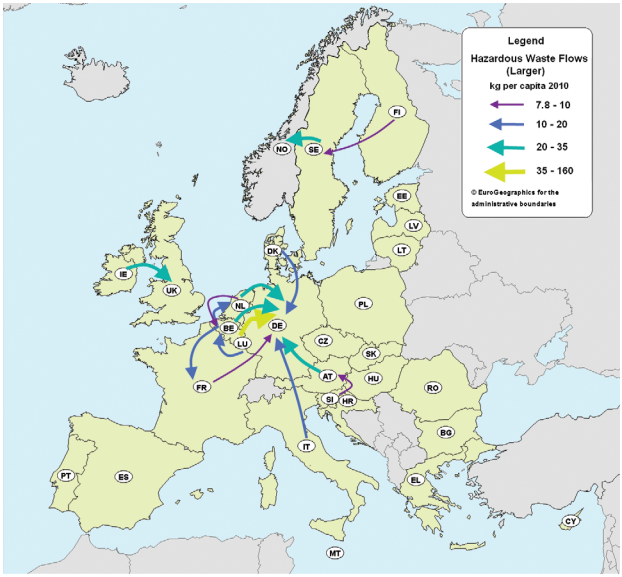
Waste electrical and electronic equipment (WEEE) is one of the fastest growing waste streams in the EU. WEEE contains substances that pose environmental and health risks if treated inadequately; while their recycling offers opportunities of making secondary raw materials available on the market. EU legislation promoting the collection and recycling of such equipment had been in force since February 2003 and provides for the return of used waste equipment free of charge by consumers. WEEE data are grouped in ten product categories. In 2010, the tonnes of WEEE collected by Member States ranged between 1 535 in Malta and 777 035 in Germany. In all Member States, large household appliances made up the largest share of WEEE collected. The largest amount of WEEE collected per inhabitant in 2010 was recorded in Sweden (17.2 kg), followed by Denmark (14.9). The lowest amounts were recorded in Romania (1.2) and Latvia (1.9). Between 2007 and 2010, the amount of WEEE collected per inhabitant grew in twenty Member States. The highest growths were reported by Malta (7-fold) and Romania (6-fold). On the contrary, the decreases in Spain and Latvia reached – 45 % and – 34 % respectively.

Table 4.3.11: Waste shipment — hazardous waste (thousand tonnes)

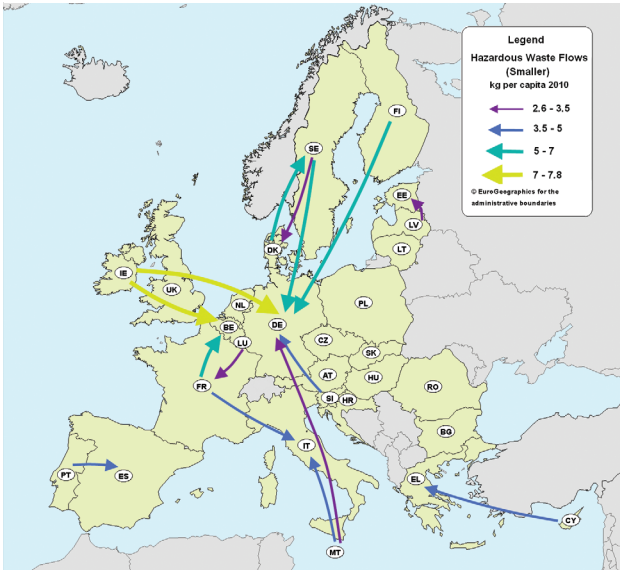
	2001	2003	2005	2006	2007	2008	2009	2010
EU-28	:	:	:	:	:	:	:	:
EU-27	3 164	4 445	6 639	6 752	8 052	7 970	7 430	6 338
BE	721	792	829	798	1 029	861	673	689
BG	:	:	:	:	0	1	0	9
CZ	2	1	2	1	4	6	7	15
DK	177	136	86	79	118	167	177	134
DE	270	186	230	263	249	249	164	313
EE	3	1	0	1	3	1	5	1
IE	282	389	257	138	323	576	191	201
EL	1	3	3	4	9	25	23	39
ES	61	49	44	41	60	52	54	52
FR	149	710	551	465	864	761	972	1 451
HR	:	:	:	:	:	:	:	:
IT	183	243	672	857	1 245	1 238	1 407	1 459
CY	2	2	3	3	4	2	2	5
LV	17	16	1	6	7	2	11	17
LT	:	84	2	3	4	6	17	18
LU	89	86	46	44	73	44	114	89
HU	18	31	76	88	72	77	69	49
MT	5	:	1	1	2	2	2	5
NL	808	1 177	3 221	3 212	3 121	3 031	2 743	738
AT	106	150	191	170	285	199	173	284
PL	18	37	10	65	66	13	26	20
PT	63	92	108	118	8	6	61	54
RO	:	:	:	1	37	2	23	4
SI	8	15	22	24	70	103	58	35
SK	0	2	3	4	2	3	3	4
FI	39	60	68	83	74	114	107	121
SE	105	119	95	164	176	256	184	310
UK	36	60	120	118	149	172	164	221

Source: Eurostat

Map 4.3.11a: Hazardous waste shipments between EU Member States (larger), 2010 (kg per inhabitant)



Map 4.3.11b: Hazardous waste shipments between EU Member States (smaller), 2010 (kg per inhabitant)



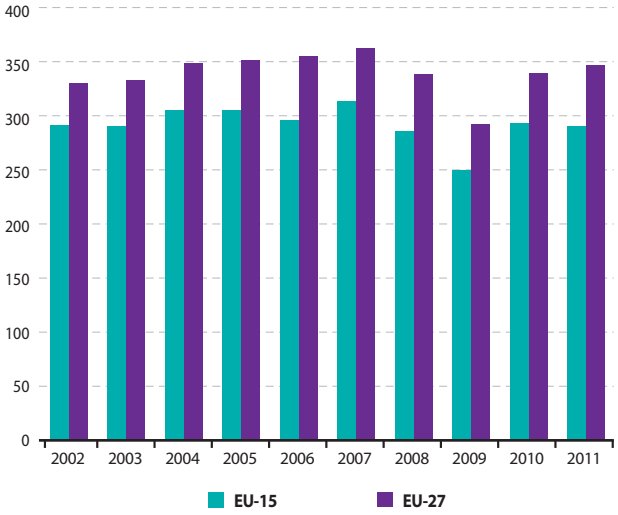
Source: Eurostat

Table 4.4.1: Production of environmentally harmful chemicals (million tonnes)

	Impact on the environment	EU-15												EU-27									
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Harmful	Severe chronic	29	28	28	29	31	33	32	33	29	28	32	32	30	31	34	35	36	36	32	30	34	35
	Significant chronic	12	11	12	11	12	12	12	12	13	12	16	19	12	12	12	13	13	13	17	15	18	21
	Moderate chronic	8	8	8	8	8	8	8	7	8	6	7	7	9	9	9	9	9	8	9	7	8	8
	Chronic	54	53	53	55	59	57	53	59	51	44	49	50	60	62	66	64	66	68	59	51	57	58
	Significant acute	57	53	55	53	58	58	52	56	50	48	56	53	65	66	70	72	68	70	65	59	67	66
	Environmentally harmful chemicals, total production	160	153	156	157	167	168	157	167	151	138	160	161	176	179	191	193	192	194	182	162	184	188
	Chemicals with no env. impact, total	138	131	135	133	138	137	139	146	135	112	133	129	154	154	158	158	163	168	156	130	155	159
	Chemicals, total production	298	284	291	290	305	305	296	313	286	250	293	290	330	333	349	351	355	362	338	292	339	347

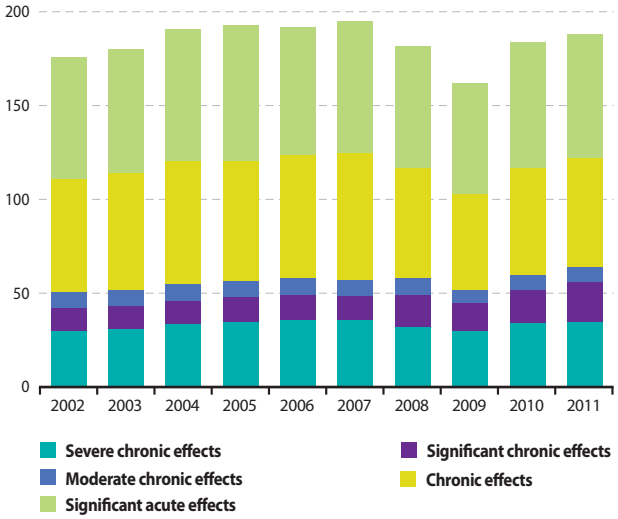
Source: Eurostat (online data code: ten00011)

Figure 4.4.1a: Production of industrial chemicals, EU-15 and EU-27 (million tonnes)



Source: Eurostat (online data code: ten00011)

Figure 4.4.1b: Production of environmentally harmful chemicals, by environmental impact class, EU-27 (million tonnes)



Source: Eurostat (online data code: ten00011)

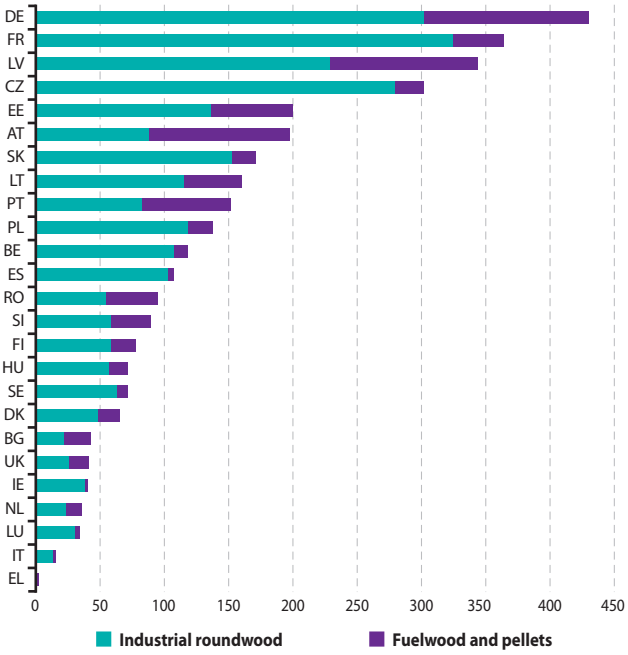
Table 4.5.1: Trade in roundwood, fuelwood and pellets, 2011 (million EUR)

	Imports			Exports		
	Industrial roundwood	Fuelwood including wood for charcoal	Pellets	Industrial roundwood	Fuelwood including wood for charcoal	Pellets
EU-28	:	:	:	:	:	:
EU-27 (1)	835	*96*	413	400	*34*	14
BE	202	9	67	107	3	8
BG	2	0	0	23	18	2
CZ	132	3	3	279	5	17
DK	35	*25*	305	49	*2*	14
DE	518	31	34	302	5	123
EE	24	1	1	137	18	45
IE	26	4	2	38	0	0
EL	9	10	0	1	0	0
ES	112	0	3	103	3	1
FR	138	6	10	325	28	12
HR	:	:	:	:	:	:
IT	333	67	183	14	0	2
CY	0	0	0	0	0	0
LV	23	0	2	229	37	78
LT	13	0	6	115	14	31
LU	35	1	1	31	3	1
HU	15	2	1	57	12	3
MT	0	0	:	0	0	:
NL	22	1	156	24	3	9
AT	584	56	51	89	4	105
PL	153	1	17	119	11	8
PT	102	0	3	83	0	68
RO	36	2	0	55	6	34
SI	24	12	7	59	23	8
SK	24	7	1	153	6	12
FI	338	3	2	59	2	17
SE	421	26	10	63	5	3
UK	68	3	152	26	12	3
IS	0	0	:	0	0	:
NO	82	24	*0*	58	1	*0*
CH	21	2	0	80	1	0

(1) The numbers for the EU-27 are for total trade with third countries only, showing the EU as a single market.

Source: Eurostat (online data code: for_basic)

Figure 4.5.1: Exports of industrial roundwood, fuelwood and pellets (million EUR)



Source: Eurostat (online data code: for_basic)

There are two categories of roundwood: industrial roundwood and fuelwood. Industrial roundwood includes logs, pulpwood and other industrial wood (e.g roundwood used for poles, fencing, tanning or distillation). Fuelwood is wood of low quality used for heating or energy production, including wood used to produce charcoal. Pellets are a wood fuel made from sawdust and other production residues. In 2011, the value of imports to the EU-27 from third countries was EUR 835 million for industrial roundwood, EUR 413 million for pellets and EUR 96 million for fuelwood; while the value of EU-27 exports was EUR 400 million for industrial roundwood, EUR 34 million for fuelwood and EUR 14 million for pellets. The value of imports was 2.1 times as high as the value of exports for industrial roundwood, 2.8 times for fuelwood and 29.5 times for pellets. At Member States' level, the highest values of imports were recorded in Austria (EUR 691 million in total), followed by Italy and Germany (EUR 583 million total imports each) in 2011. For total exports, Germany had the highest value (EUR 430 million), followed by France (EUR 364 million) and Latvia (EUR 344 million).

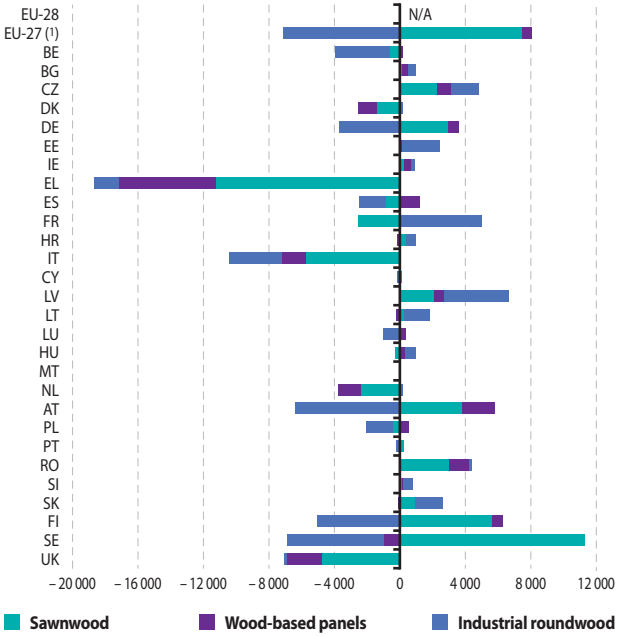
Table 4.5.2: Imports of major wood products by species, 2011 (1 000 m^3)

	Industrial roundwood		Sawnwood		Wood-based panels
	Coniferous	Non-coniferous	Coniferous	Non-coniferous	
EU-28	:	:	:	:	:
EU-27 (1)	*5 652*	*6 588*	*7 472*	*3 329*	7 912
BE	*2 165*	2 161	*1 835*	*786*	1 925
BG	7	47	8	239	249
CZ	1 670	114	741	289	810
DK	150	*369*	*1 667*	*341*	*1 316*
DE	6 709	512	3 924	478	5 005
EE	201	134	653	64	193
IE	89	14	169	32	195
EL	1 193	*595*	*8 574*	3 154	6 919
ES	2 372	1 189	879	224	958
FR	*1 097*	*357*	*3 057*	*342*	*2 385*
HR	5	2	187	37	262
IT	1 512	1 816	5 002	979	2 621
CY	0	0	48	8	91
LV	311	130	167	11	188
LT	74	184	240	83	465
LU	*955*	162	*121*	*13*	227
HU	137	114	371	125	462
MT	0	0	7	7	22
NL	226	118	*2 350*	*360*	1 680
AT	5 996	1 431	1 729	213	792
PL	1 660	1 758	654	244	1 583
PT	*80*	1 130	*41*	*128*	629
RO	555	50	14	39	524
SI	104	142	727	94	237
SK	*71*	*806*	*143*	*38*	440
FI	2 333	3 403	462	31	422
SE	3 675	3 049	337	64	1 213
UK	474	128	4 514	410	2 827
IS	0	0	43	7	14
NO	1 131	223	904	98	362
CH	197	50	409	65	526
ME	*1*	*1*	*3*	*1*	27
MK	*4*	*3*	*12*	*1*	22
TR	*1 034*	*140*	*581*	*83*	1 078

(1) The numbers for the EU-27 are for imports with third countries only, showing the EU as a single market.

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

Figure 4.5.2: Net trade balance of major wood products, 2011 (1 000 m³)



(1) The numbers for the EU-27 are for trade with third countries only, showing the EU as a single market.

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

Roundwood comes in two main botanical types, namely coniferous (mostly, but not exclusively, softwood) and non-coniferous (broadleaved; mostly, but not exclusively, hardwood) species. In 2011, 5 652 thousand m³ of industrial roundwood imports from third countries to the EU-27 were from coniferous species, while 6 588 thousand m³ were from non-coniferous species. Imports of coniferous sawnwood amounted to 7 472 thousand m³ and those of non-coniferous sawnwood to 3 329 thousand m³. Imports of wood-based panels stood at 7 912 thousand m³. The net trade balance (exports minus imports) of major wood products for the EU-27 in 2011 shows a trade surplus of sawnwood and wood-based panels and a deficit in industrial roundwood. Among the EU Member States, Sweden was the largest exporter of sawnwood (11.3 million m³), Austria the leading exporter of wood-based panels (2.0 million m³), and France the biggest exporter of industrial roundwood (4.9 million m³). In contrast, the largest importer of sawnwood and wood-based panels was Greece (11.2 and 6.0 million m³ respectively) and the largest importer of industrial roundwood was Austria (6.4 million m³).

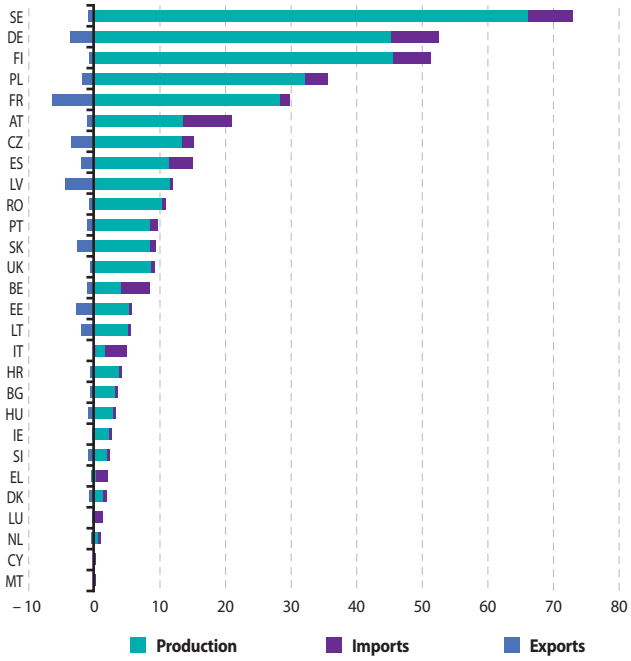
Table 4.5.3: Production and apparent consumption of industrial roundwood by species, 2011 (1 000 m³)

	Production		Imports		Exports		Apparent consumption	
	Coniferous	Non-coniferous	Coniferous	Non-coniferous	Coniferous	Non-coniferous	Coniferous	Non-coniferous
EU-28	262 777	75 462	:	:	:	:	:	:
EU-27 (1)	262 099	72 304	*5 652*	*6 588*	*2 916*	*2 231*	:	:
BE	3 231	1 004	*2 165*	2 161	*595*	*418*	4 801	2 746
BG	2 005	1 359	7	*47*	*164*	*344*	1 848	1 062
CZ	12 291	1 176	1 670	114	3 100	387	10 861	903
DK	1 118	350	150	*369*	*564*	113	703	606
DE	36 443	8 915	6 709	512	2 440	1 112	40 711	8 315
EE	3 699	1 755	201	134	1 469	1 141	2 431	748
IE	2 431	1	89	14	298	13	2 221	2
EL	241	98	1 193	*595*	*307*	1	1 127	692
ES	4 616	6 912	2 372	1 189	448	1 519	6 540	6 582
FR	19 585	8 802	*1 097*	*357*	*4 766*	*1 614*	15 917	7 545
HR	678	3 158	5	2	16	580	667	2 580
IT	1 253	409	1 512	1 816	59	46	2 706	2 179
CY	5	0	0	0	0	0	5	1
LV	8 445	3 204	311	130	2 218	2 182	6 538	1 151
LT	3 332	2 014	*74*	184	1 172	672	2 234	1 526
LU	107	137	*955*	162	*149*	*3*	913	296
HU	649	2 273	137	114	264	613	522	1 775
MT	0	0	0	0	0	0	0	0
NL	471	217	226	118	296	110	401	225
AT	12 784	847	5 996	1 431	920	98	17 860	2 180
PL	24 969	7 231	1 660	1 758	1 607	196	25 022	8 794
PT	3 258	5 282	*80*	1 130	*16*	*1 017*	3 322	5 396
RO	5 108	5 237	555	50	403	294	5 260	4 992
SI	1 582	469	104	142	513	295	1 173	316
SK	5 124	3 446	*71*	*806*	*1 988*	*545*	3 208	3 707
FI	38 355	7 171	2 333	3 403	654	23	40 033	10 552
SE	62 333	3 870	3 675	3 049	826	20	65 183	6 899
UK	8 665	123	474	128	575	4	8 564	248
IS	:	:	0	0	0	0	:	:
LI	7	1	:	:	4	0	:	:
NO	8 468	39	1 131	223	925	14	8 674	248
CH	2 840	482	197	50	675	251	2 362	281
ME	177	31	*1*	*1*	*14*	*14*	163	17
MK	40	61	*4*	*3*	*1*	*0*	43	64
TR	10 147	6 276	*1 034*	*140*	*6*	*2*	11 175	6 414

(1) The numbers for the EU-27 are for imports with third countries only and exports to third countries only, showing the EU as a single market.

Source: Eurostat (online data code: for_basic)

Figure 4.5.3: Total production and consumption of industrial roundwood, 2011 (million m^3)



Source: Eurostat (online data code: for_basic)

In 2011, the production of coniferous industrial roundwood in the EU-27 was 262 million m^3; imports amounted to 5.7 million m^3 and exports to 2.9 million m^3. For non-coniferous industrial roundwood, production was 72 million m^3, while imports and exports were 6.6 and 2.2 million m^3 respectively.

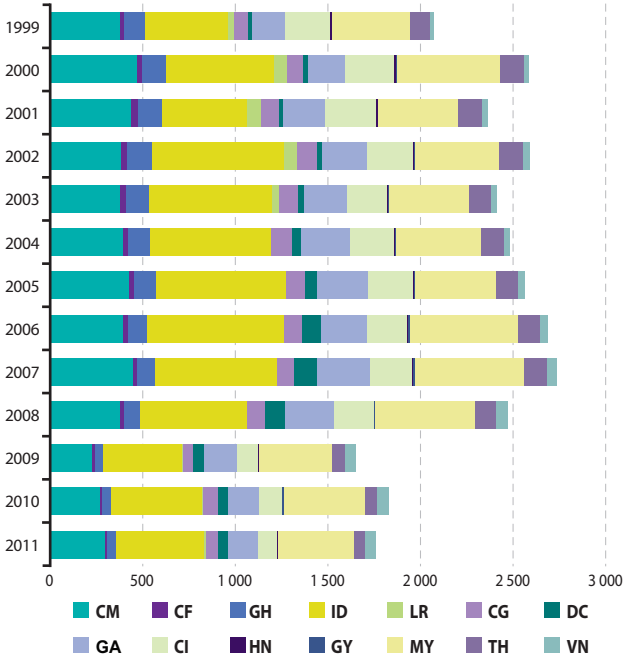
Among Member States, in 2011 apparent consumption — production plus imports minus exports — of coniferous species reached 65.2 million m^3 in Sweden, followed by Germany (40.7) and Finland (40.0); while for non-coniferous species it reached 10.6 million m^3 in Finland, 8.8 in Poland and 8.3 in Germany. Total production of industrial roundwood amounted to 66.2 million m^3 in Sweden, followed by Finland (45.5) and Germany (45.4). The highest imports were recorded in Austria (7.4) and Germany (7.2), while the highest exports came from France (6.4) and Latvia (4.4).

Table 4.5.4: Tropical wood imports to the EU from Chapter 44 of the Harmonised System

Total imports of wood and articles of wood, Chapter 44 of the Harmonised System								
	1999		2004		2008		2011	
	Quantity (tonnes)	Value (thousand EUR)	Quantity (tonnes)	Value (thousand EUR)	Quantity (tonnes)	Value (thousand EUR)	Quantity (tonnes)	Value (thousand EUR)
	VPAs signed or agreed							
CM	958 036	377 745	642 665	394 735	490 826	377 889	406 429	298 214
CF	55 287	21 241	56 386	28 763	35 763	21 408	21 274	10 686
GH	150 488	116 364	131 199	119 658	79 867	85 984	56 678	50 315
ID	401 968	445 770	697 352	649 872	432 237	580 191	334 605	469 890
LR	123 461	30 570	67	36	1 477	315	230 729	16 168
CG	391 469	77 748	247 721	112 855	223 885	94 628	128 725	60 797
	VPAs under negotiation							
DC	47 347	20 364	92 818	47 854	276 149	110 371	107 046	56 447
GA	579 443	180 367	572 956	262 897	427 174	265 868	179 800	161 754
CI	328 284	242 141	291 395	241 535	231 035	210 697	108 354	101 956
HN	15 439	10 738	7 557	5 605	3 876	2 673	2 757	2 402
GY	4 736	1 419	15 533	5 741	16 247	6 116	12 141	4 736
MY	483 339	419 970	532 441	459 943	535 656	539 414	354 563	407 436
TH	43 868	109 778	54 481	124 300	46 576	110 984	24 575	57 419
VN	7 851	18 656	13 852	28 187	34 068	60 439	34 781	58 388
Imports from FLEGT countries	3 591 016	2 072 869	3 356 421	2 481 981	2 834 833	2 466 977	2 002 457	1 756 608
Total imports	28 168 631	7 067 280	38 223 953	9 928 368	34 626 526	11 585 743	31 942 803	10 071 746
Imports of identified tropical articles, Chapter 44 of the Harmonised System								
	1999		2004		2008		2011	
	Quantity (tonnes)	Value (thousand EUR)	Quantity (tonnes)	Value (thousand EUR)	Quantity (tonnes)	Value (thousand EUR)	Quantity (tonnes)	Value (thousand EUR)
	VPAs signed or agreed							
CM	873 978	349 642	566 759	339 797	450 980	340 314	374 449	277 567
CF	55 242	21 209	50 997	25 142	33 064	19 699	20 746	10 343
GH	138 127	104 555	95 036	85 825	63 119	64 151	43 715	33 224
ID	81 209	92 950	75 046	80 657	120 704	132 765	84 714	103 333
LR	107 773	26 217	39	21	1 454	310	20 609	5 556
CG	156 007	65 134	230 235	104 083	113 289	78 050	83 264	54 182
	VPAs under negotiation							
CD	44 493	17 675	78 218	36 632	140 404	85 520	95 385	51 072
GA	513 133	158 466	490 746	220 881	388 960	249 160	174 462	158 146
CI	291 738	205 143	236 665	187 573	197 880	178 113	96 374	87 643
HN	80	74	131	109	225	214	161	196
GY	1 726	517	1 962	657	10 736	3 734	2 848	1 203
MY	354 289	280 828	296 148	255 108	265 798	295 450	181 362	213 262
TH	3 081	17 381	3 919	16 920	3 457	17 045	664	4 060
VN	34	130	199	494	551	1 393	356	738
Imports from FLEGT countries	2 620 910	1 339 921	2 126 100	1 353 899	1 790 619	1 465 917	1 179 107	1 000 526
Total imports	2 952 327	1 558 376	2 814 600	1 727 346	2 403 088	1 960 423	1 480 796	1 267 342

Source: Eurostat (online data code: for_trop)

Figure 4.5.4: Imports of FLEGT-licensed wood products to the EU, all Chapter 44 products (million EUR)



Source: Eurostat (online data code: for_trop)

The graph shows totals and shares of imports from selected producer countries of wood to the EU. It also illustrates how hard the financial crisis hit these high-value imports.

The European Union's policy to fight illegal logging and associated trade was defined in 2003 with the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan. The key regions and countries targeted in the FLEGT Action Plan, which together host nearly 60 % of the world's forests and supply a large proportion of internationally traded timber, are tropical Africa, Russia, tropical South America and southeastern Asia. The FLEGT Action Plan, endorsed by the EU Council of Ministers in November 2003, covers both supply-side and demand-side measures to address illegal logging.

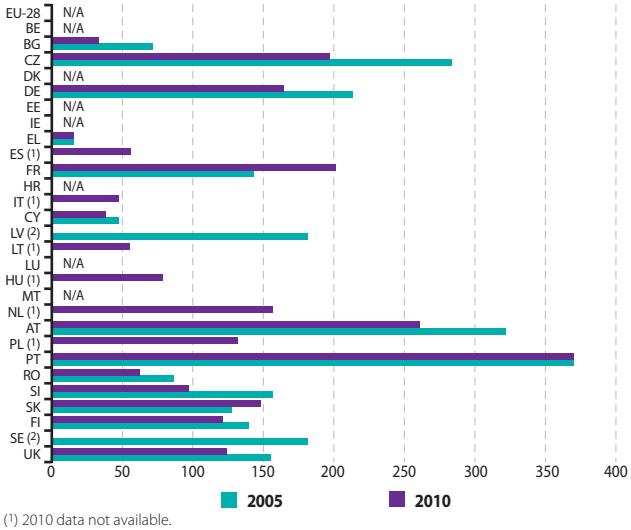
A key element of the FLEGT Action Plan is a voluntary scheme to ensure that only legally harvested timber is imported to the EU from countries participating in the scheme. The EU's legal framework is a Regulation adopted in December 2005 and a 2008 Implementing Regulation. They allow for the control of timber imported to the EU from countries that have entered into bilateral FLEGT Voluntary Partnership Agreements (VPA) with the EU.

Table 4.5.5: Economic indicators for forestry and logging in current basic prices (million EUR)

	Gross output		Gross value added		Gross fixed capital formation		Factor income	
	2005	2010	2005	2010	2005	2010	2005	2010
EU-28	:	:	:	:	:	:	:	:
BE	:	:	:	:	:	:	:	:
BG	266	525	84	205	11	15	77	196
CZ	1 424	2 081	496	660	63	101	445	585
DK	:	:	:	:	:	:	:	:
DE	4 141	*5 722*	1 738	*2 250*	168	*172*	:	*2 010*
EE	:	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:	:
EL	71	76	54	55	4	21	54	28
ES	1 582	:	787	:	:	:	998	:
FR	5 531	5 325	2 968	2 162	472	183	2 356	1 855
HR	:	:	:	:	:	:	:	:
IT	456	:	365	:	83	:	403	:
CY	2	3	2	2	2	1	0	:
LV	:	1 229	:	568	:	0	:	483
LT	172	:	102	:	10	:	113	:
LU	:	:	:	:	:	:	:	:
HU	339	:	132	:	24	:	115	:
MT	:	:	:	:	:	:	:	:
NL	133	:	46	:	10	:	49	:
AT	1 786	2 233	872	1 076	155	169	693	874
PL	*1 991*	:	1 110	:	137	:	:	:
PT	895	932	666	674	98	86	567	574
RO	531	898	314	446	:	43	:	379
SI	182	287	113	184	:	:	100	166
SK	624	664	259	226	33	32	184	183
FI	3 235	4 035	2 422	2 764	388	430	:	:
SE	:	8 378	:	3 726	:	808	:	3 043
UK	741	849	295	373	18	43	200	234
NO	:	1 186	:	573	:	75	:	483
CH	505	*706*	187	*281*	83	*102*	153	*204*

Source: Eurostat (online data code: for_ieeaf_cp)

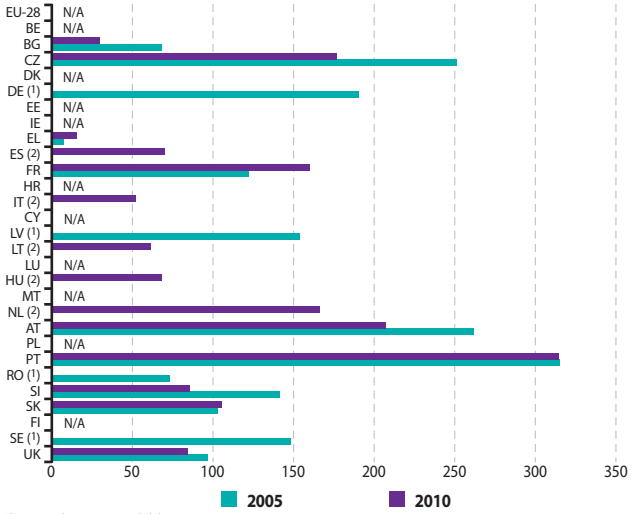
Figure 4.5.5a: Forestry and logging value added in current basic prices/ forest area available for wood supply (EUR/ha)



(1) 2010 data not available.
(2) 2005 data not available.

Source: Eurostat (online data codes: for_ieeaf_cp and for_area)

Figure 4.5.5b: Forestry and logging factor income in current basic prices/forest area available for wood supply (EUR/ha)



(1) 2005 data not available.
(2) 2010 data not available.

Source: Eurostat (online data codes: for_ieeaf_cp and for_area)

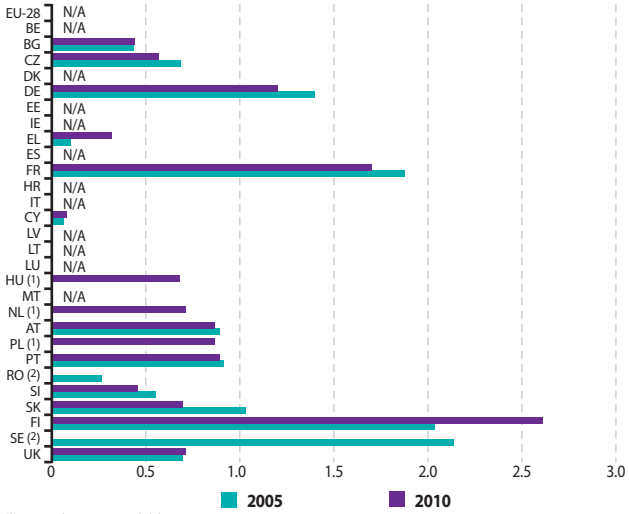
Table 4.5.6: Employment in forestry and logging

	Employment		Employment/ forest area available for wood supply		Apparent labour productivity			
	2005	2010	2005	2010	2005	2010	2005	2010
	(1 000 AWU) (1)		(AWU/1 000 ha)		(1 000 m^3 removals/AWU)		(EUR 1 000 gross value added in current basic prices/AWU)	
EU-28	:	:	:	:	:	:	:	:
BE	:	:	:	:	:	:	:	:
BG	13.3	13.0	5.2	4.5	0.4	0.4	6.3	15.8
CZ	27.4	24.4	10.9	10.5	0.6	0.7	18.1	27.1
DK	:	:	:	:	:	:	:	:
DE	47.4	*38.9*	4.5	*3.7*	1.2	1.4	36.6	*57.8*
EE	:	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:	:
EL	4.7	10.3	1.4	2.9	0.3	0.1	11.4	5.3
ES	:	:	:	:	:	:	:	:
FR	30.8	29.7	2.1	2.0	1.7	1.9	96.4	72.8
HR	:	:	:	:	:	:	:	:
IT	:	:	:	:	:	:	:	:
CY	0.1	0.1	2.9	3.4	0.1	0.1	13.1	14.0
LV	:	:	:	:	:	:	:	:
LT	:	:	:	:	:	:	:	:
LU	:	:	:	:	:	:	:	:
HU	8.7	:	5.2	:	0.7	:	15.2	:
MT	:	:	:	:	:	:	:	:
NL	1.6	:	5.3	:	0.7	:	29.5	:
AT	19.0	19.9	5.7	6.0	0.9	0.9	46.0	54.0
PL	36.8	:	4.4	:	0.9	:	30.2	:
PT	12.0	10.5	6.7	5.8	0.9	0.9	55.3	64.0
RO	:	49.2	:	9.5	:	0.3	:	9.1
SI	6.0	5.4	5.1	4.6	0.5	0.6	18.8	34.4
SK	13.4	9.3	7.7	5.2	0.7	1.0	19.4	24.3
FI	20.0	25.0	1.0	1.3	2.6	2.0	121.1	110.6
SE	:	33.8	:	1.6	:	2.1	:	110.2
UK	12.0	14.0	5.1	5.8	0.7	0.7	24.6	26.6
NO	7.1	11.8	1.1	1.8	1.4	0.9	:	48.7
CH	7.2	*6.6*	6.1	*5.5*	0.7	0.7	25.9	*42.6*

(1) Annual work units.

Source: Eurostat (online data codes: for_ieeaf_cp, for_awu, for_remov and for_area)

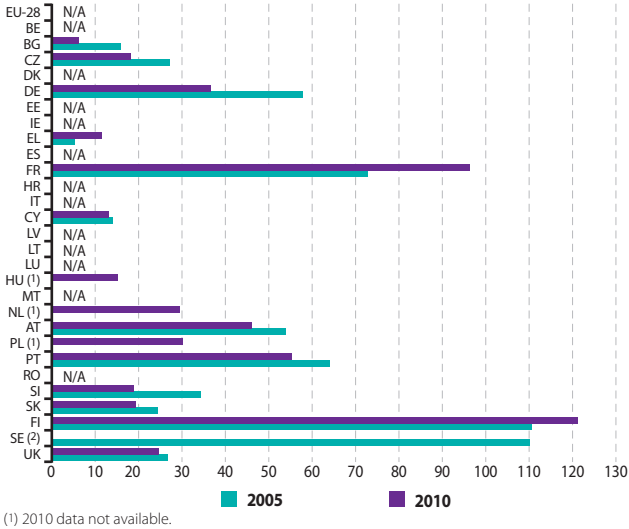
Figure 4.5.6a: Apparent labour productivity in forestry and logging (1 000 m^3 removals/AWU)



(1) 2010 data not available.
(2) 2005 data not available.

Source: Eurostat (online data codes: for_awu and for_remov)

Figure 4.5.6b: Apparent labour productivity in forestry and logging in current basic prices (EUR 1 000 gross value added/AWU)



(1) 2010 data not available.
(2) 2005 data not available.

Source: Eurostat (online data codes: for_awu and for_ieeaf_cp)

Table 4.5.7: EU (1) common bird indicators, 1990-2010

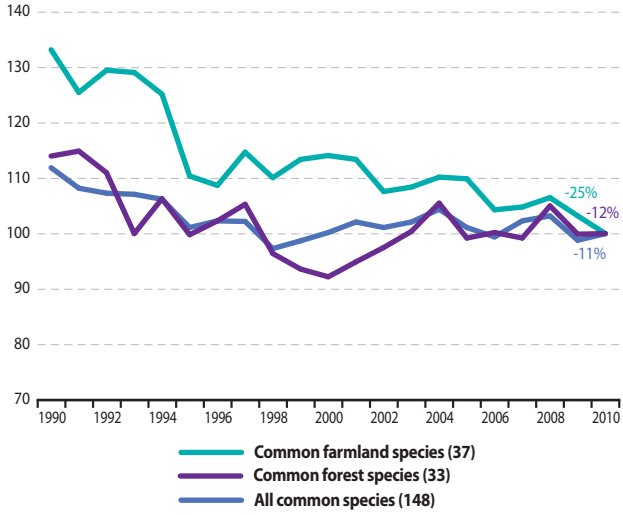
	All common species	Common farmland species	Common forest species	All common species	Common farmland species	Common forest species
	(1990 = 100)			(2000 = 100)		
1990	100.0	100.0	100.0	111.7	116.7	123.6
1991	96.7	94.3	100.8	107.9	110.0	124.5
1992	95.9	97.2	97.4	107.0	113.5	120.3
1993	95.7	96.9	87.8	106.8	113.2	108.5
1994	94.9	94.0	93.2	105.9	109.7	115.2
1995	90.3	82.9	87.5	100.9	96.8	108.2
1996	91.4	81.6	89.8	102.1	95.3	110.9
1997	91.3	86.1	92.4	102.0	100.5	114.1
1998	87.0	82.6	84.6	97.1	96.5	104.5
1999	88.2	85.2	82.1	98.5	99.4	101.4
2000	89.6	85.7	80.9	100.0	100.0	100.0
2001	91.2	85.2	83.2	101.9	99.4	102.9
2002	90.4	80.8	85.6	100.9	94.3	105.7
2003	91.3	81.4	88.1	101.9	95.0	108.9
2004	93.3	82.8	92.6	104.2	96.6	114.4
2005	90.3	82.5	87.0	100.9	96.3	107.5
2006	88.9	78.3	87.9	99.2	91.4	108.6
2007	91.4	78.7	87.0	102.1	91.8	107.5
2008	92.3	79.9	92.1	103.0	93.3	113.8
2009	88.3	77.5	87.7	98.6	90.4	108.3
2010	89.4	75.1	87.7	99.8	87.7	108.4

(1) Data are for the EU, an aggregate that changes according to countries joining the Pan-European Common Birds Monitoring Scheme. This aggregate has nothing to do with the same countries' accession to the EU. Norway and Switzerland are not included in the EU estimates.

Source: EBCC/RSPB/BirdLife/Statistics Netherlands, also available at Eurostat (online data code: env_bio2)

Data are presented with different base years. Eurostat considers the data to be sufficiently representative for the EU as of 1990. The base year 2000 is used for the suite of sustainable development indicators. Using the latest year available as the base makes it possible to show when national data became available, as in figure 4.5.7 and table 4.5.8.

Figure 4.5.7: EU common bird indicators for farmland, forests and other habitats (2010 = 100)



Source: EBCC/RSPB/BirdLife/Statistics Netherlands, also available at Eurostat (online data code: env_bio2)

'All common species' include the farmland and forest species, plus widespread species that are typical for many different habitats, including towns and other built-up areas. The wide-spread species are also called generalists.

These indicators are indices of population trend estimates of bird species. Farmland birds depend on agricultural land for nesting or feeding; the indicator covers 37 species. Likewise, forest birds depend on forest ecosystems; the indicator covers 33 species. The index of all common birds covers 148 species, including both the farmland and the forest birds.

Between 1990 and 2010 there have been reductions in bird populations. Overall, for all common species the reduction was – 11 %, while for common farmland species it reached – 25 % and for common forest species – 12 %. Over this period, the index of farmland species presented a significant decrease between 1994 and 1995, followed by relative stability until 2001, another decline in 2001-02 and a further flattening out until 2010. The index of forest birds has presented several fluctuations over the same period. A first significant drop was recorded between 1992 and 1993, followed by a significant increase in the following year and another drop. From 1997 to 2000, annual reductions were observed, followed by increases from 2000 to 2004. From 2004 to 2010, the forest species index fluctuated from year to year. More information can be found on http://www.ebcc.info/.

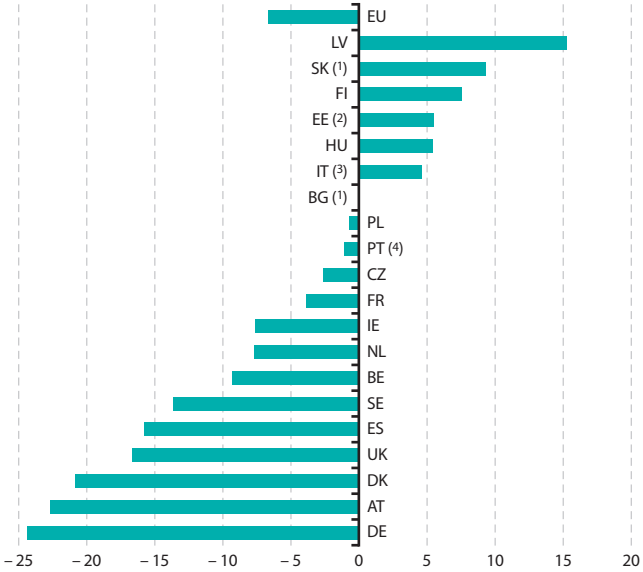
Table 4.5.8: National and EU farmland bird indicators (latest year = 100)

	1980	1985	1990	1995	2000	2005	2008	2009	2010
EU (1)	:	:	133.2	110.4	114.1	109.9	106.5	103.2	100.0
BE	:	:	163.5	137.6	110.2	104.0	100.0	:	:
BG	:	:	:	:	:	100.0	100.0	:	:
CZ	:	132.2	134.6	153.7	102.7	91.6	100.0	:	:
DK	138.2	128.3	157.1	131.9	126.3	96.4	100.0	:	:
DE	:	:	:	143.3	132.1	119.8	100.0	:	:
EE	:	100.3	108.8	71.4	94.8	96.2	:	:	:
IE	:	:	:	:	108.2	99.2	100.0	:	:
EL	:	:	:	:	:	:	:	:	:
ES	:	:	:	:	118.7	106.3	100.0	:	:
FR	:	:	127.0	105.0	104.0	102.7	100.0	:	:
HR	:	:	:	:	:	:	:	:	:
IT	:	:	:	:	95.6	82.0	:	:	:
CY	:	:	:	:	:	:	:	:	:
LV	:	:	:	86.4	86.8	88.3	100.0	:	:
LT	:	:	:	:	:	:	:	:	:
LU	:	:	:	:	:	:	:	:	:
HU	:	:	:	:	94.9	108.9	100.0	:	:
MT	:	:	:	:	:	:	:	:	:
NL	:	113.9	133.1	111.1	108.3	102.5	100.0	:	:
AT	:	:	:	:	129.2	122.8	100.0	:	:
PL	:	:	:	:	100.7	88.4	100.0	:	:
PT	:	:	:	:	:	95.3	100.0	:	:
RO	:	:	:	:	:	:	:	:	:
SI	:	:	:	:	:	:	:	:	:
SK	:	:	:	:	:	91.5	100.0	:	:
FI	185.4	153.9	127.1	112.1	93.0	100.5	100.0	:	:
SE	152.9	117.3	147.4	133.0	115.7	93.7	100.0	:	:
UK	303.6	175.0	152.7	129.0	119.9	110.7	100.0	:	:
NO	:	:	:	151.5	137.5	105.4	100.0	:	:
CH	:	:	:	:	112.6	112.1	100.0	:	:

(1) Data are for the EU, an aggregate that changes according to countries joining the Pan-European Common Birds Monitoring Scheme. This aggregate has nothing to do with the same countries' accession to the EU. Norway and Switzerland are not included in the EU estimates.

Source: EBCC/RSPB/BirdLife/Statistics Netherlands, also available at Eurostat (online data code: env_bio2)

Figure 4.5.8: Change in national and EU farmland bird indicators, 2000-2008 (%)



(1) No data for 2000; 2005 data instead.
(2) No data for 2008; 2006 data instead.
(3) No data for 2008; 2007 data instead.
(4) No data for 2000; 2004 data instead.

Source: EBCC/RSPB/BirdLife/Statistics Netherlands, also available at Eurostat (online data code: env_bio2)

The data are based on the single European classification of farmland birds used by the European Bird Census Council (EBCC). Several of the countries presented publish 'National farmland bird indicators' that are based on slightly different lists of species.

Accessing the national and EU common farmland indices on Eurostat's database allows the reader to see when each country joined the scheme. The forest bird index changes most between one data delivery and another, by up to 7 %; this index is still being developed by the EBCC. For all three indicators, there have been changes in the species covered and the time series for several countries. The fluctuations between model runs show that small rises or falls in the index should not be regarded as anything real and that it is best to look only at the change between 1990 and the latest available year. The index of EU farmland birds has declined between 1990 and 2010. Back in 1990, it was 133.2, while in 2010, the latest year available, it was 100.0.

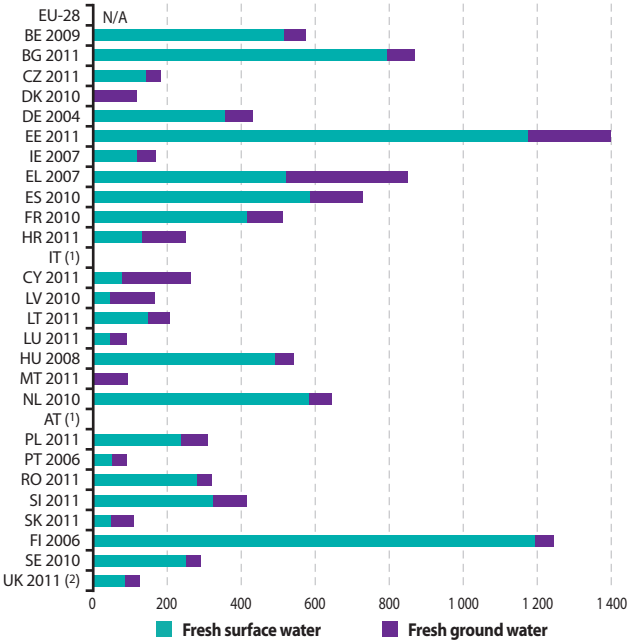
Table 4.6.1: Total abstraction of fresh water (million m^3)

	2001	2007	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	6 995	6 217	6 177	6 176	:	:
BG	5 833	6 202	6 425	6 121	5 960	6 385
CZ	1 839	1 969	1 988	1 947	1 951	1 887
DK	707	571	696	660	654	:
DE	38 006	:	:	:	:	:
EE	1 471	1 834	1 605	1 388	:	1 874
IE	:	730	:	:	:	:
EL	9 774	9 539	:	:	:	:
ES	36 108	33 593	32 913	33 952	33 544	:
FR	33 544	31 533	34 138	33 791	33 110	:
HR	:	:	1 305	1 201	1 056	1 106
IT	:	:	:	:	:	:
CY	202	216	161	184	201	221
LV	258	211	319	467	375	:
LT	2 768	2 269	2 265	2 412	761	631
LU	:	:	:	47	48	46
HU	:	5 279	5 432	:	:	:
MT	36	37	36	32	41	38
NL	8 915	10 883	10 606	11 635	10 668	:
AT	:	:	:	:	:	:
PL	11 599	12 027	11 365	11 517	11 645	11 911
PT	:	:	:	:	:	:
RO	7 343	6 884	7 220	6 876	6 219	6 592
SI	:	935	1 040	943	926	850
SK	1 139	688	:	628	787	:
FI	:	:	:	:	:	:
SE	2 676	2 630	:	:	2 689	:
UK (1)	10 238	8 576	8 347	8 281	8 264	7 682
IS	164	:	:	:	:	:
MK	668	551	716	1 047	:	:
RS	2 581	3 905	3 942	4 075	3 843	4 182
TR	44 450	39 678	42 008	45 130	46 956	:

(1) Data only include England and Wales.

Source: Eurostat (online data code: env_wat_abs)

Figure 4.6.1: 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_wat_abs)

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

Total abstraction of fresh water ranged between 38 million m^3 in Malta (2011 data) and 38 006 million m^3 in Germany (2001 data). From 2001 to 2011, total abstraction of fresh water recorded the highest increases in Latvia (45 %) and Estonia (27 %); while the highest decreases were recorded in Lithuania (– 77 %) and Slovakia (– 31 %).

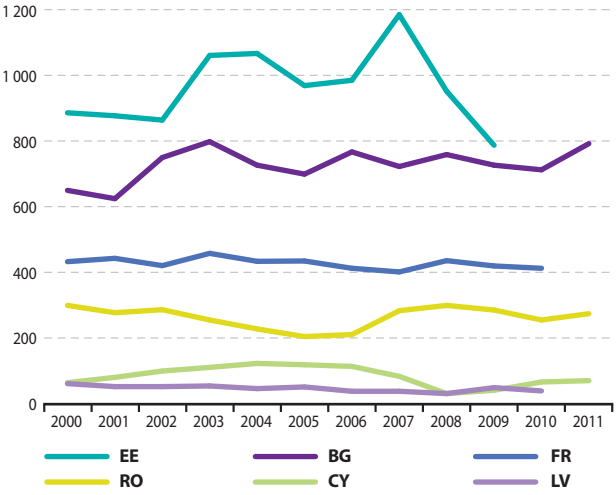
Table 4.6.2: Total abstraction of fresh water per capita, by source, last year available (m^3)

	Fresh surface water	Fresh ground water	Total fresh water abstraction
EU-28	:	:	:
BE 2009	517	57	574
BG 2011	793	74	866
CZ 2011	144	36	180
DK 2010	1	117	118
DE 2004	358	73	431
EE 2011	1 175	223	1 398
IE 2007	120	49	169
EL 2007	521	327	854
ES 2010	586	143	729
FR 2010	417	95	512
HR 2011	133	118	251
IT (1)	:	:	:
CY 2011	78	185	263
LV 2010	47	120	167
LT 2011	150	57	207
LU 2011	47	44	91
HU 2008	490	50	541
MT 2011	0	92	92
NL 2010	583	61	644
AT (1)	:	:	:
PL 2011	238	71	309
PT 2006	52	35	87
RO 2011	280	28	308
SI 2011	325	90	415
SK 2011	48	62	110
FI 2006	1 198	50	1 249
SE 2010	251	37	288
UK 2011 (2)	88	35	123
IS 2005	17	545	562
CH 2006	129	168	297
MK 2009	432	79	511
RS 2011	506	69	575
TR 2010	466	181	647

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

Source: Eurostat (online data code: env_wat_abs)

Figure 4.6.2: Total abstraction of fresh surface water per capita (m^3) (1)



(1) In the cases where lines within the graph do not extend to the entire time series (1999-2009) data are not available.

Source: Eurostat (online data code: env_wat_abs)

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 (1 398 m^3 in 2011) and Finland (1 249 m^3 in 2006). On the contrary, the lowest volumes were recorded in Portugal (87 m^3 in 2006), Luxembourg (91 m^3 in 2011) and Malta (92 m^3 in 2011). In most Member States, per capita abstraction of fresh surface water was significantly higher than abstraction of fresh ground water. The only exceptions were Denmark, Cyprus, Latvia and Slovakia. Regarding the abstraction of fresh surface water per capita, the highest volumes were observed in Finland (1 198 m^3 in 2006) and Estonia (1 175 m^3 in 2011); while the lowest were recorded in Malta (0 m^3 in 2011) and Denmark (1 m^3 in 2010). The Member State with the highest fresh ground water abstraction per capita was Greece (327 m^3 in 2007), followed by Estonia (223 m^3 in 2011), while the countries with the lowest were Romania (28 m^3 in 2011), Portugal (35 m^3 in 2006) and the United Kingdom (35 m^3 in 2011). Between 2000 and 2011, the highest increase in total abstraction of fresh surface water per capita were recorded in Estonia (33 %), Bulgaria (22 %) and the Netherlands (17 % in 2001-10), while the highest decreases were recorded in Lithuania (– 85 %), Slovakia (– 64 %) and the United Kingdom (– 41 %).

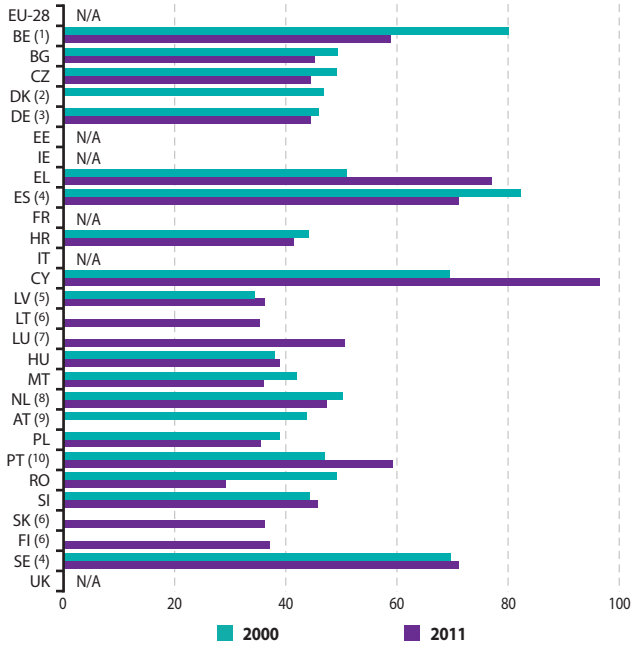
Table 4.6.3: Use of water from all supply by the domestic sector (households and services) per capita (m^3)

	2001	2003	2005	2007	2009	2011
EU-28	:	:	:	:	:	:
BE	85	87	64	61	59	:
BG	46	44	43	46	45	45
CZ	48	46	45	47	46	44
DK (1)	47	53	54	:	:	:
DE (2)	46	:	45	46	:	45
EE	:	:	:	:	:	:
IE	:	:	:	:	:	:
EL	49	55	58	:	:	77
ES (3)	83	83	80	82	76	71
FR	:	:	:	:	:	:
HR	47	51	49	54	29	41
IT	:	:	:	:	:	:
CY	83	92	97	95	88	96
LV	33	30	34	37	:	:
LT	:	:	:	25	26	35
LU	:	:	:	:	51	:
HU	36	39	47	43	41	39
MT	36	33	25	34	31	36
NL (3)	:	50	49	48	48	47
AT (4)	44	44	:	:	:	:
PL	37	38	36	36	36	36
PT	:	:	47	53	59	:
RO	44	33	25	37	30	29
SI	44	49	47	49	47	46
SK	:	:	:	:	37	36
FI	:	:	:	:	:	37
SE (3)	70	69	65	65	:	71
UK	:	:	:	:	:	:
IS	106	104	102	:	:	:
NO	66	66	100	102	104	:
CH	103	109	100	93	84	80
MK	37	43	41	42	48	:
RS	:	48	57	56	53	53
TR (5)	:	:	:	31	38	41

(1) No data for 2005; 2004 data instead.
(2) No data for 2005 and 2011; 2004 and 2010 data instead.
(3) No data for 2011; 2010 data instead.
(4) No data for 2003; 2002 data instead.
(5) No data for 2007, 2009 and 2011; 2006, 2008 and 2010 data instead.

Source: Eurostat (online data code: env_wat_cat)

Figure 4.6.3: Use of water from all supply by the domestic sector (households and services) per capita, 2000 & 2011 (m^3)



(1) No data for 2011; 2009 data instead.
(2) No data for 2000; 2001 data instead. No data for 2011.
(3) No data for 2000 and 2011; 2001 and 2010 data instead.
(4) No data for 2011; 2010 data instead.
(5) No data for 2011; 2006 data instead.
(6) No data for 2000.
(7) No data for 2011; 2009 data instead. No data for 2000.
(8) No data for 2000 and 2011; 2003 and 2010 data instead.
(9) No data for 2011.
(10) No data for 2000 and 2011; 2005 and 2009 data instead.

Source: Eurostat (online data code: env_wat_cat)

Per capita use of water from all supply by the domestic sector varied among the EU-28 Member States. However, as data availability was limited, conclusions should be drawn with caution. Per capita water use by the domestic sector was particularly high among the Mediterranean countries (highest value in Cyprus, 96 m^3 in 2011), with the exception of Malta (36 m^3 in 2011). Depending on data availability, from 2001 to 2011, the trends in the evolution of domestic water use per capita have also varied. The highest increases were recorded in Greece (51 %) and Cyprus (39 %), while the highest decreases were observed in Romania (– 41 %) and Belgium (– 26 % in 2000-09).

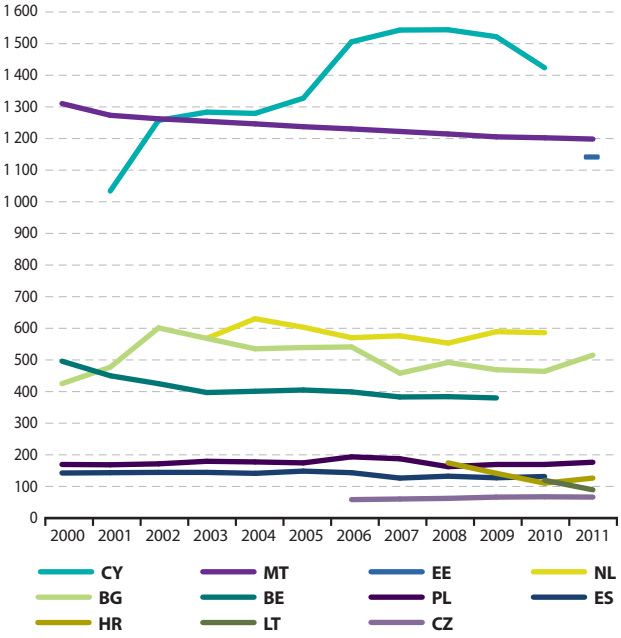
Table 4.6.4: Self and other supply water use for energy production (cooling water only)

	Water use for energy production (cooling water) per capita (m^3)						Water use for energy production (cooling purposes) — share of total water use in the country (%)					
	2000	2005	2007	2009	2010	2011	2000	2005	2007	2009	2010	2011
EU-28	:	:	:	:	:	:	:	:	:	:	:	:
BE	494	403	381	378	:	:	68	66	65	67	:	:
BG	423	537	456	467	462	513	72	78	71	72	72	73
CZ (1)	:	57	59	65	66	65	:	34	35	38	39	39
DK	:	:	:	:	:	:	:	:	:	:	:	:
DE	:	:	:	:	:	:	:	:	:	:	:	:
EE	:	:	:	:	:	1 140	:	:	:	:	:	94
IE	:	:	:	:	:	:	:	:	:	:	:	:
EL	:	:	:	:	:	:	:	:	:	:	:	:
ES	141	147	125	126	130	:	19	22	20	21	22	:
FR	:	:	:	:	:	:	:	:	:	:	:	:
HR (2)	:	:	173	140	109	125	:	:	2	1	1	2
IT	:	:	:	:	:	:	:	:	:	:	:	:
CY (3)	1 031	1 324	1 539	1 518	1 420	:	:	:	:	:	:	:
LV	:	:	:	:	:	:	27	25	25	:	:	:
LT	:	:	:	:	118	88	:	:	:	:	56	47
LU	:	:	:	:	:	:	:	:	:	:	:	:
HU	:	:	:	:	:	:	:	:	:	:	:	:
MT	1 307	1 234	1 219	1 202	1 199	1 195	:	:	:	:	:	:
NL (3)	662	601	574	587	584	:	72	66	65	64	65	:
AT	:	:	:	:	:	:	:	:	:	:	:	:
PL	168	173	186	168	168	175	62	64	65	62	62	63
PT	:	:	:	:	:	:	:	:	:	:	:	:
RO	:	:	:	:	:	:	:	:	:	:	:	:
SI	:	:	:	:	:	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:	:	:	:	:	:
FI	:	:	:	:	:	:	:	:	:	:	:	:
SE	:	:	:	:	:	:	:	:	:	:	:	:
UK	:	:	:	:	:	:	:	:	:	:	:	:
CH (4)	:	:	220	:	:	:	:	:	:	:	:	:
RS	262	367	524	439	409	457	89	80	86	85	85	86
TR (5)	28	36	37	64	58	:	5	6	7	11	9	:

(1) No data for 2005; 2006 data instead.
(2) No data for 2007; 2008 data instead.
(3) No data for 2000; 2001 data instead.
(4) No data for 2007; 2006 data instead.
(5) No data for 2005, 2007 and 2009; 2004, 2006 and 2008 data instead.

Source: Eurostat (online data code: env_wat_cat)

Figure 4.6.4: Self supply water use for energy production (cooling water only) per capita (m^3) (1)



(1) In the cases where lines within the graph do not extend to the entire time series (2000-2011) data are not available.

Source: Eurostat (online data code: env_wat_cat)

Data availability on water use for energy production was limited. Significant differences can be observed among countries. In 2011, Cyprus presented high self supply water use for cooling water in energy production with 1 420 m^3 per capita (2010 data), followed by Malta (1 195 m^3), Estonia (1 140 m^3), the Netherlands (584 m^3, 2010 data) and Bulgaria (513 m^3). The lowest per capita values were reported by the Czech Republic (65 m^3), Lithuania (88 m^3), Croatia (125 m^3) and Spain (130 m^3, 2010 data).

The share of water use for energy production over total water use also varied considerably. In 2011, the share in Estonia was 94 %, followed by Bulgaria (73 %), Belgium (67 %, 2010 data), the Netherlands (65 %, 2010 data) and Poland (63 %). In contrast, the lowest share was reported by Croatia (2 %).

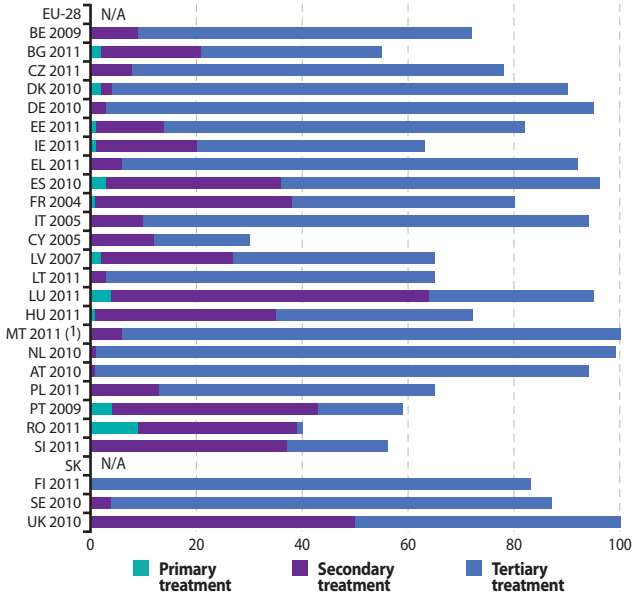
Table 4.6.5: Population connected to at least secondary wastewater treatment (% of national resident population)

	2000	2005	2007	2009	2010	2011
EU-28	:	:	:	:	:	:
BE	41	54	69	73	:	:
BG	36	38	40	43	45	54
CZ (1)	70	73	73	76	77	78
DK	87	:	:	89	88	:
DE (2)	93	97	92	:	95	:
EE	68	73	74	80	:	81
IE (2)	29	82	:	72	:	62
EL	:	:	85	87	87	92
ES (3)	:	:	88	88	93	:
FR (4)	77	79	:	:	:	:
HR	4	9	22	:	:	:
IT	:	94	:	:	:	:
CY	14	30	:	:	:	:
LV (1)	63	64	63	:	:	:
LT (1)	25	57	61	67	64	65
LU (5)	:	88	:	:	91	91
HU	30	42	50	52	69	71
MT (6)	14	16	10	23	13	100
NL (3)	98	99	99	99	99	:
AT (7)	:	89	92	93	94	:
PL	50	58	62	64	65	66
PT (1)	27	43	51	56	:	:
RO (8)	17	17	20	21	22	31
SI	12	32	49	53	54	55
SK	:	:	:	:	:	:
FI (9)	80	81	:	:	83	83
SE (10)	86	86	86	:	87	:
UK (11)	:	:	97	97	100	:
IS (1)	1	2	:	:	:	:
NO	52	58	58	59	59	61
CH	96	97	:	:	97	:
RS	:	6	7	9	9	10
TR	18	29	31	35	38	:

(1) No data for 2000; 2002 data instead.
(2) No data for 2000; 2001 data instead.
(3) No data for 2007 and 2009; 2006 and 2008 data instead.
(4) No data for 2005; 2004 data instead.
(5) No data for 2005; 2003 data instead.
(6) In 2011, Malta has all its wastewater generated treated.
(7) No data for 2005, 2007 and 2009; 2004, 2006 and 2008 data instead.
(8) No data for 2000; 2004 data instead.
(9) No data for 2005; 2002 data instead.
(10) No data for 2007; 2006 data instead.
(11) No data for 2007; 2008 data instead.

Source: Eurostat (online data code: env_ww_con)

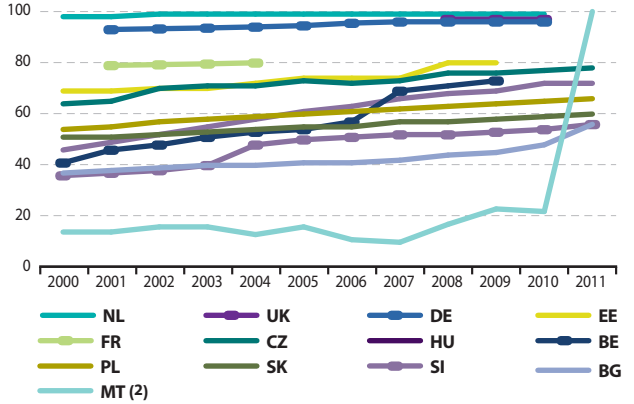
Figure 4.6.5a: Population connected to urban wastewater treatment, last year available (% of resident population)



(1) In 2011, Malta has all its wastewater generated treated.

Source: Eurostat (online data code: env_ww_con)

Figure 4.6.5b: Population connected to urban wastewater treatment (% of resident population) (1)



(1) In the cases where lines within the graph do not extend to the entire time series (2000-2011) data are not available.
(2) In 2011, Malta has all its wastewater generated treated.

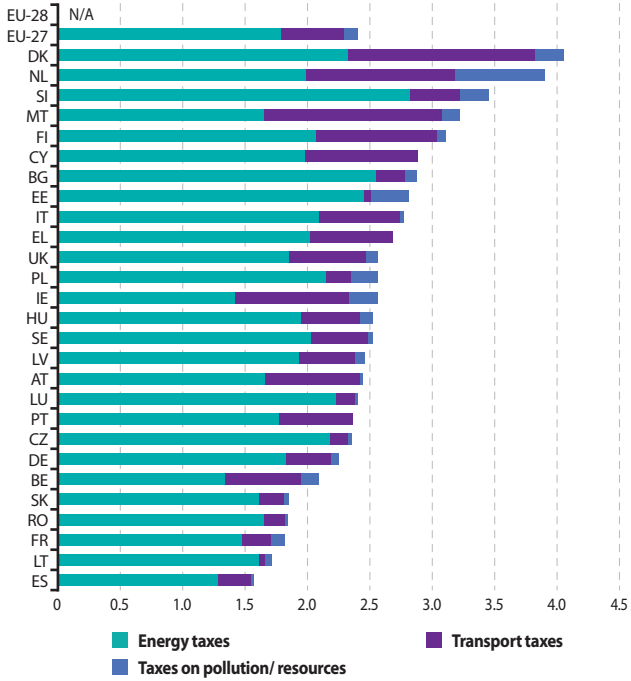
Source: Eurostat (online data code: env_ww_con)

Table 4.7.1: Environmental tax revenue by type as % of GDP, 2011

	Total environmental taxes	Energy taxes	Transport taxes	Taxes on pollution / resources	Total environmental taxes	Energy taxes	Transport taxes	Taxes on pollution / resources
	(million EUR)				(% of GDP)			
EU-28	:	:	:	:	:	:	:	:
EU-27	302 728	226 100	63 312	13 316	2.39	1.79	0.50	0.11
BE	7 726	4 945	2 265	516	2.09	1.34	0.61	0.14
BG	1 108	983	90	35	2.88	2.55	0.23	0.09
CZ	3 664	3 404	215	46	2.35	2.18	0.14	0.03
DK	9 739	5 610	3 575	554	4.05	2.33	1.49	0.23
DE	58 375	47 556	9 389	1 430	2.25	1.83	0.36	0.06
EE	449	391	10	49	2.82	2.45	0.06	0.30
IE	4 070	2 259	1 447	364	2.56	1.42	0.91	0.23
EL	5 595	4 216	1 379	–	2.68	2.02	0.66	–
ES	16 694	13 638	2 821	235	1.57	1.28	0.27	0.02
FR	36 368	29 336	4 754	2 278	1.82	1.47	0.24	0.11
HR	:	:	:	:	:	:	:	:
IT	43 881	33 065	10 330	486	2.78	2.09	0.65	0.03
CY	519	356	163	–	2.89	1.98	0.90	–
LV	498	391	91	16	2.46	1.93	0.45	0.08
LT	528	497	14	16	1.71	1.61	0.05	0.05
LU	1 019	951	64	4	2.39	2.23	0.15	0.01
HU	2 517	1 949	472	95	2.52	1.95	0.47	0.10
MT	209	107	93	9	3.22	1.65	1.43	0.14
NL	23 439	11 953	7 158	4 328	3.89	1.99	1.19	0.72
AT	7 359	5 004	2 292	63	2.45	1.66	0.76	0.02
PL	9 459	7 963	721	775	2.56	2.15	0.20	0.21
PT	4 031	3 019	1 005	7	2.36	1.77	0.59	0.00
RO	2 488	2 248	228	12	1.82	1.65	0.17	0.01
SI	1 246	1 019	145	83	3.45	2.82	0.40	0.23
SK	1 275	1 114	136	24	1.84	1.61	0.20	0.04
FI	5 904	3 928	1 845	131	3.12	2.07	0.97	0.07
SE	9 740	7 855	1 741	144	2.51	2.03	0.45	0.04
UK	44 829	32 343	10 870	1 615	2.56	1.85	0.62	0.09
IS	196	126	28	42	1.94	1.25	0.27	0.41

Source: Eurostat (online data code: env_ac_tax)

Figure 4.7.1: Environmental tax revenue by type, 2011 (% of GDP)



Source: Eurostat (online data code: env_ac_tax)

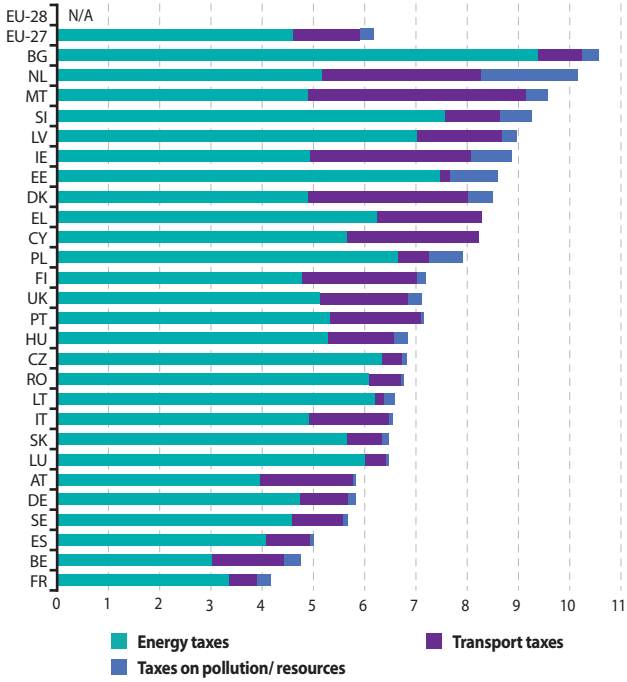
Total environmental taxes in the EU-27 amounted to EUR 303 billion in 2011. Energy taxes accounted for 75 % of this amount, followed by transport taxes (21 %) and taxes on pollution/resources (4 %). In 2011, the share of energy taxes in the total ranged between 51 % for the Netherlands and Malta and 94 % for Lithuania. The share of transport taxes varied across Member States from 2 % in Estonia to 44 % in Malta. Resource and pollution taxes represented low shares in most countries. The only exceptions were the Netherlands (18 %), Estonia (11 %), Ireland (9 %) and Poland (8 %). In 2011, the revenue from environmental taxes in the EU-27 accounted for 2.39 % of GDP; in most Member States taxes were equivalent to 2 to 3 % of GDP. There were five Member States with revenues less than 2 % of GDP (Spain, Lithuania, France, Romania and Slovakia) and five Member States with revenues over 3 % (Denmark, the Netherlands, Slovenia, Malta and Finland).

Table 4.7.2: Environmental tax revenue by type as % of taxes and social contributions, 2011

	Total environmental taxes	Energy taxes	Transport taxes	Taxes on pollution / resources	Total environmental taxes	Energy taxes	Transport taxes	Taxes on pollution / resources
	(million EUR)				(% of taxes and social contributions)			
EU-28	:	:	:	:	:	:	:	:
EU-27	302 728	226 100	63 312	13 316	6.17	4.60	1.29	0.27
BE	7 726	4 945	2 265	516	4.74	3.03	1.39	0.32
BG	1 108	983	90	35	10.56	9.37	0.86	0.33
CZ	3 664	3 404	215	46	6.81	6.33	0.40	0.08
DK	9 739	5 610	3 575	554	8.50	4.89	3.12	0.48
DE	58 375	47 556	9 389	1 430	5.82	4.74	0.94	0.14
EE	449	391	10	49	8.58	7.46	0.19	0.93
IE	4 070	2 259	1 447	364	8.86	4.92	3.15	0.79
EL	5 595	4 216	1 379	–	8.29	6.24	2.04	–
ES	16 694	13 638	2 821	235	5.00	4.08	0.84	0.07
FR	36 368	29 336	4 754	2 278	4.15	3.35	0.54	0.26
HR	:	:	:	:	:	:	:	:
IT	43 881	33 065	10 330	486	6.53	4.92	1.54	0.07
CY	519	356	163	–	8.21	5.64	2.57	–
LV	498	391	91	16	8.94	7.02	1.64	0.28
LT	528	497	14	16	6.58	6.20	0.18	0.20
LU	1 019	951	64	4	6.42	6.00	0.40	0.02
HU	2 517	1 949	472	95	6.81	5.28	1.28	0.26
MT	209	107	93	9	9.55	4.89	4.24	0.42
NL	23 439	11 953	7 158	4 328	10.15	5.17	3.10	1.87
AT	7 359	5 004	2 292	63	5.82	3.96	1.81	0.05
PL	9 459	7 963	721	775	7.89	6.64	0.60	0.65
PT	4 031	3 019	1 005	7	7.10	5.32	1.77	0.01
RO	2 488	2 248	228	12	6.71	6.07	0.62	0.03
SI	1 246	1 019	145	83	9.25	7.56	1.08	0.61
SK	1 275	1 114	136	24	6.46	5.65	0.69	0.12
FI	5 904	3 928	1 845	131	7.18	4.78	2.24	0.16
SE	9 740	7 855	1 741	144	5.66	4.57	1.01	0.08
UK	44 829	32 343	10 870	1 615	7.10	5.12	1.72	0.26
IS	196	126	28	42	5.40	3.49	0.76	1.15

Source: Eurostat (online data code: env_ac_tax)

Figure 4.7.2: Environmental tax revenue by type, 2011 (% of taxes and social contributions)



Source: Eurostat (online data code: env_ac_tax)

In 2011, environmental taxes in the EU-27 made up 6.17 % of total revenues from taxes and social contributions (TSC). Energy taxes as percentage of TSC accounted for 4.60 %, transport taxes for 1.29 % and pollution/resource taxes for 0.27 %. The share of total environmental taxes in TSC ranged from 5 % to 9 % among most Member States. There were two Member States with revenues less than 5 % of TSC (France and Belgium) and four Member States with revenues over 9 % (Bulgaria, the Netherlands, Malta and Slovenia). The share of energy taxes as % of TSC was between 3.03 % in Belgium and 9.37 % in Bulgaria. Low shares of energy taxes were also reported by France (3.35 %) and Austria (3.96 %); while high shares were reported also by Slovenia (7.56 %), Estonia (7.46 %) and Latvia (7.02 %). Regarding transport taxes, only Malta presented a share above 4 % in 2011, followed by Ireland (3.15 %), Denmark (3.12 %) and the Netherlands (3.10 %). The only Member States that presented shares of pollution and resource taxes as % of TSC above 0.60 % were the Netherlands (1.87 %), Estonia (0.93 %), Ireland (0.79 %), Poland (0.65 %) and Slovenia (0.61 %).

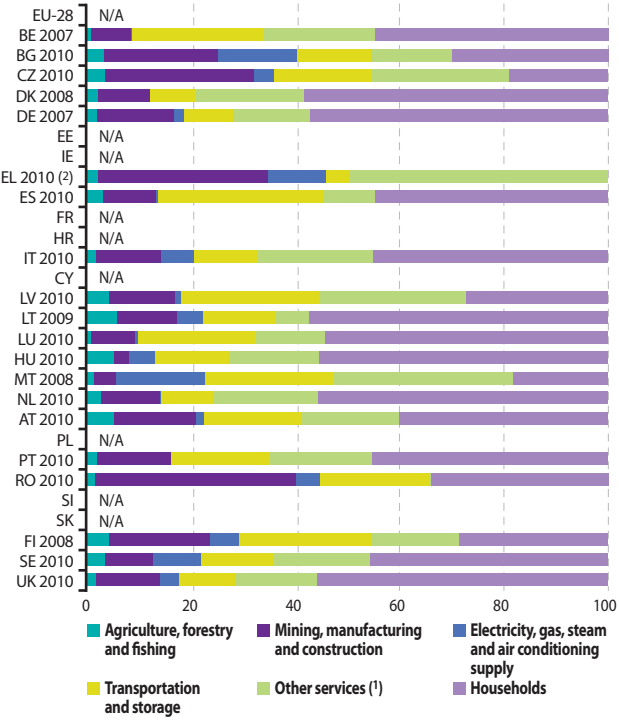
Table 4.7.3: Energy taxes by economic activity, latest year available (million EUR)

	Agriculture, forestry and fishing	Mining manufacturing and construction	Electricity, gas and water supply	Transportation and storage	Other services (1)	Households	Not allocated
EU-28	:	:	:	:	:	:	:
BE 2007	45	341	5	1 132	940	1 989	:
BG 2010	32	203	140	132	143	277	:
CZ 2010	119	928	119	607	854	612	9
DK 2008	130	513	13	460	1 091	2 867	:
DE 2007	970	6 511	873	4 179	6 518	25 313	:
EE	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:
EL 2010	93	1 338	456	184	2 023	:	:
ES 2010	416	1 339	35	4 089	1 302	5 782	1 163
FR	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:
IT 2010	516	3 287	1 631	3 277	5 816	11 833	19
CY	:	:	:	:	:	:	:
LV 2010	16	46	4	95	101	97	:
LT 2009	30	60	25	72	33	293	:
LU 2010	5	46	4	125	74	301	–
HU 2010	109	57	101	284	346	1 111	:
MT 2010	:	:	:	:	:	23	19
NL 2010	336	1 289	27	1 139	2 300	6 353	100
AT 2010	248	715	76	851	859	1 831	:
PL	:	:	:	:	:	:	:
PT 2010	64	461	2	604	633	1 450	17
RO 2010	36	864	100	471	6	758	:
SI	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:
FI 2008	140	626	180	813	546	916	0
SE 2010	277	707	716	1 081	1 417	3 509	:
UK 2010	651	3 976	1 224	3 481	5 192	18 219	:
NO 2010	113	710	63	612	642	1 807	295

(1) Data include services (except transportation and storage) and water collection, treatment and supply; sewerage; remediation activities and other waste management services.

Source: Eurostat (online data codes: env_ac_taxind and env_ac_taxind2)

Figure 4.7.3: Energy taxes by economic activity, latest year available (%)



(1) Data include services (except transportation and storage) and water collection, treatment and supply; sewerage; remediation activities and other waste management services.
(2) Data for households are not available.

Source: Eurostat (online data codes: env_ac_taxind and env_ac_taxind2)

Households paid the largest shares in energy taxes (for fuels for their private cars, heating, etc.) in all Member States for which data were available, except for the Czech Republic, Latvia, Malta and Romania. The share of households in total energy taxes ranged between 18 % in Malta and 57 % in Lithuania and Germany. The transportation and storage sector contributed from 4 % of total energy taxes in Greece to 32 % in Spain; while the shares of mining, manufacturing and construction were between 3 % in Hungary and 39 % in Romania. The highest contribution to energy taxes from the electricity, gas, steam and air conditioning supply sector was observed in Malta (17 %) and from agriculture, forestry and fishing in Lithuania (6 %).

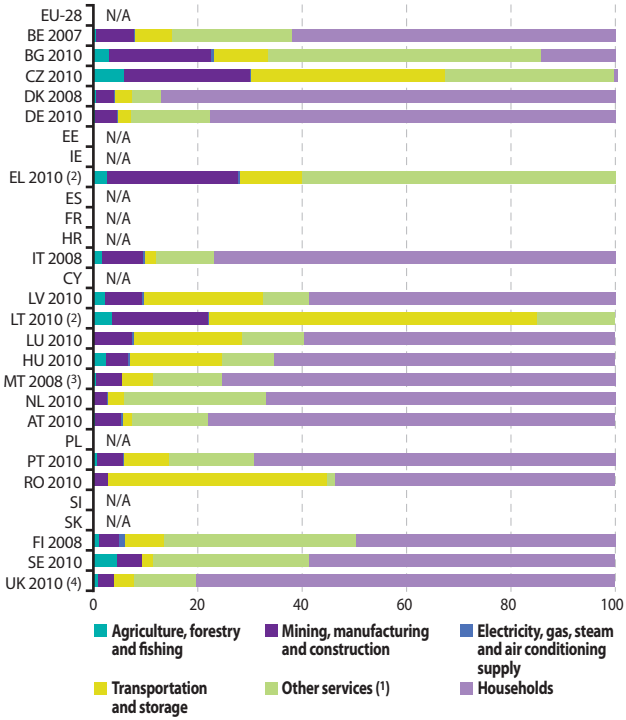
Table 4.7.4: Transport taxes by economic activity, latest year available (million EUR)

	Agriculture, forestry and fishing	Mining manufacturing and construction	Electricity, gas and water supply	Transportation and storage	Other services (1)	Households	Not allocated
EU-28	:	:	:	:	:	:	:
BE 2007	12	143	7	142	458	1 243	19
BG 2010	3	19	1	10	50	14	:
CZ 2010	12	49	1	76	66	0	0
DK 2008	18	115	2	112	175	2 828	1 048
DE 2010	22	372	13	209	1 278	6 595	:
EE	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:
EL 2010	41	371	5	177	890	:	:
ES 2010	0	:	:	0	:	2 523	453
FR	:	:	:	:	:	:	:
HR	:	:	:	:	:	:	:
IT 2010	0	:	:	:	:	4 501	4 460
CY	:	:	:	:	:	:	:
LV 2010	1	4	0	14	5	36	:
LT 2010	0	2	0	8	2	:	:
LU 2010	0	5	0	13	8	39	0
HU 2010	11	20	2	81	46	301	:
MT 2010	:	:	:	:	:	55	0
NL 2010	11	189	2	229	1 981	4 872	:
AT 2010	10	113	5	40	329	1 762	:
PL	:	:	:	:	:	:	:
PT 2010	7	59	2	98	187	796	:
RO 2010	1	7	0	106	4	135	0
SI	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:
FI 2008	16	66	18	123	607	819	:
SE 2010	73	75	2	33	476	930	132
UK 2010 (2)	82	289	4	346	1 103	7 399	0
NO 2010 (2)	29	288	18	225	895	2 374	6

(1) Data include services (except transportation and storage) and water collection, treatment and supply; sewerage; remediation activities and other waste management services.
(2) The communication sector is under Transport and storage.

Source: Eurostat (online data codes: env_ac_taxind and env_ac_taxind2)

Figure 4.7.4: Transport taxes by economic activity, latest year available (%)



(1) Data include services (except transportation and storage) and water collection, treatment and supply; sewerage; remediation activities and other waste management services.
(2) Data for households are not available.
(3) The data for households in MT is for 2007.
(4) The communication sector is under Transport and storage.

Source: Eurostat (online data codes: env_ac_taxind and env_ac_taxind2)

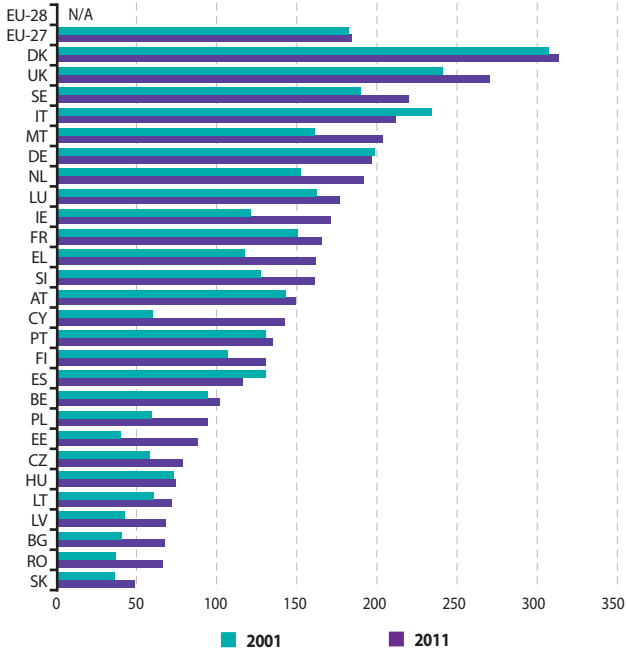
Similarly to energy taxes, households also made significant contributions to transport taxes in most of the Member States for which data were available. Households paid 87 % of total transport taxes in Denmark, followed by the United Kingdom (80 %), Austria (78 %) and Germany (78 %). The only Member States where the contribution of households to transport taxes was low were the Czech Republic (close to zero in 2010) and Bulgaria (14 %). Transportation and storage paid 63 % of transport taxes in Lithuania, 42 % in Romania and 37 % in the Czech Republic. Mining, manufacturing and construction paid large shares of transport taxes in Greece (25 %), the Czech Republic (24 %), Bulgaria (20 %) and Lithuania (18 %).

Table 4.7.5: Implicit tax rate on energy (EUR per TOE)

	2001	2002	2008	2009	2010	2011
EU-28	:	:	:	:	:	:
EU-27	181.6	186.8	168.7	179.7	175.1	183.8
BE	94.1	98.4	95.6	105.3	106.7	101.6
BG	40.5	36.4	73.9	73.3	68.8	67.2
CZ	57.6	59.3	76.6	80.6	76.4	78.3
DK	306.8	310.8	276.5	283.5	289.4	312.6
DE	197.8	205.3	181.9	192.0	183.9	196.5
EE	39.5	40.5	70.3	87.0	85.7	87.6
IE	121.0	134.6	131.8	157.0	154.8	170.8
EL	117.0	107.7	98.8	105.6	160.1	161.4
ES	130.2	134.2	116.5	123.4	121.9	115.9
FR	150.0	165.3	147.0	152.6	148.6	164.9
HR	:	:	:	:	:	:
IT	233.7	223.3	189.5	211.0	201.2	211.0
CY	59.7	61.4	110.3	112.9	130.7	142.0
LV	42.3	48.4	67.9	67.3	60.7	67.4
LT	60.3	68.0	72.8	79.4	72.4	71.2
LU	161.9	167.0	177.6	176.2	169.6	176.0
HU	72.6	74.9	77.4	77.1	76.9	74.2
MT	160.6	163.8	158.6	171.8	174.1	203.0
NL	151.9	151.1	188.4	195.5	184.7	191.5
AT	142.5	146.7	141.9	144.9	134.9	149.0
PL	58.7	69.2	91.4	92.1	89.1	93.8
PT	130.0	148.0	138.0	142.5	143.8	134.5
RO	36.5	35.2	53.7	64.4	68.8	65.6
SI	126.8	130.7	131.5	174.9	171.2	160.6
SK	35.6	40.6	53.7	51.7	45.4	48.5
FI	106.5	106.4	109.4	112.4	104.0	129.9
SE	189.3	199.7	221.9	228.4	214.6	219.3
UK	240.8	250.5	245.3	271.2	260.6	269.8

Source: Eurostat (online data code: tsdcc360)

Figure 4.7.5: Implicit tax rate on energy (EUR per TOE)



Source: Eurostat (online data code: tsdcc360)

The implicit tax rate on energy is the ratio between energy tax revenues and final energy consumption (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. The ITR for the EU-27 was 183.8 EUR per TOE in 2011, a 1 % increase compared to 2001.

Among Member States, in 2011 ITR varied between 48.5 EUR per TOE in Slovakia and 312.6 EUR per TOE in Denmark. High rates were also displayed in the United Kingdom (269.8), Sweden (219.3), Italy (211.0) and Malta (203.0). In contrast, apart from Slovakia, low rates were also recorded in other Eastern European countries: Romania (65.6), Bulgaria (67.2) and Latvia (67.4). In the period 2001-11, the ITR generally increased in the countries where it was low in 2001 and decreased in Member States where it was initially high. Decreases were recorded in Spain (– 11 %), Italy (– 10 %) and Germany (– 1 %). The highest increases took place in Cyprus, Estonia and Romania (approximately twofold in all three countries).

Table 4.8.1: Environmental protection expenditure in the European Union

Table 4.8.1a: Total environmental protection expenditure by sector, EU-27 (million EUR)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Industry	50 043	45 593	43 665	45 011	45 875	49 569	52 923	53 210	49 125	51 126	52 318
Specialised producers	94 281	95 974	100 654	107 164	111 220	122 388	125 954	144 516	139 326	144 661	150 998
General government	63 147	62 892	62 445	65 682	72 177	74 431	76 886	81 316	86 409	85 910	83 408

Table 4.8.1b: Total environmental protection expenditure by sector and by environmental domain, EU-27 (million EUR)

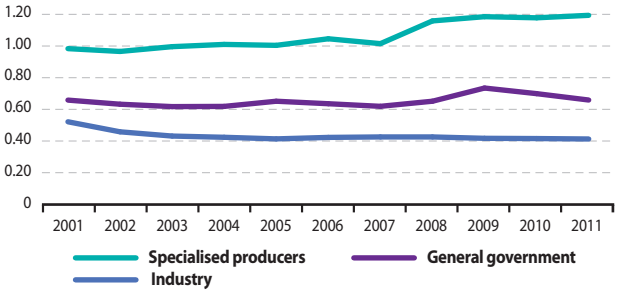
	Industry		Specialised producers		General government	
	2001	2011	2001	2011	2001	2011
Total environmental protection	50 043	52 318	94 281	150 998	63 147	83 408
Protection of air and climate	12 391	14 102	–	–	1 785	2 740
Wastewater management	14 250	13 052	33 862	43 819	13 954	16 782
Waste management	14 521	13 870	53 740	91 191	23 126	28 731
Other domains	8 880	11 294	6 679	15 988	24 282	35 155

Table 4.8.1c: Environmental protection investments and current expenditure by sector and by environmental domain, EU-27, 2011 (million EUR)

	Industry		Specialised producers		General government	
	Investment	Current expenditure	Investment	Current expenditure	Investment	Current expenditure
Total environmental protection	13 200	39 118	26 337	124 662	16 756	54 551
Protection of air and climate	6 870	7 233	–	–	253	1 003
Wastewater management	2 349	10 703	15 760	28 059	6 621	7 282
Waste management	1 257	12 613	7 964	83 227	1 902	25 401
Other domains	2 724	8 570	2 613	13 375	7 980	20 864

Source: Eurostat (online data code: env_ac_exp1r2)

Figure 4.8.1a: Total environmental protection expenditure by sector, EU-27 (1) (% of GDP)



(1) Estimates.

Figure 4.8.1b: Total environmental protection expenditure by sector and by environmental domain, EU-27, 2011 (% of GDP)

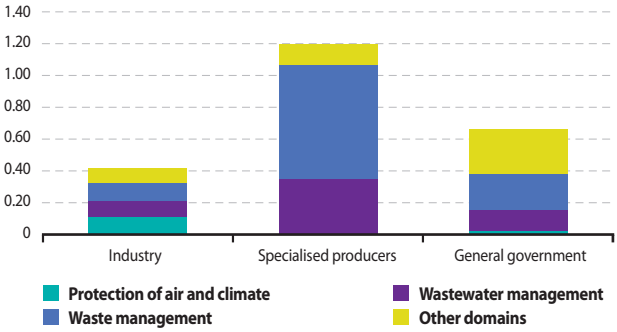
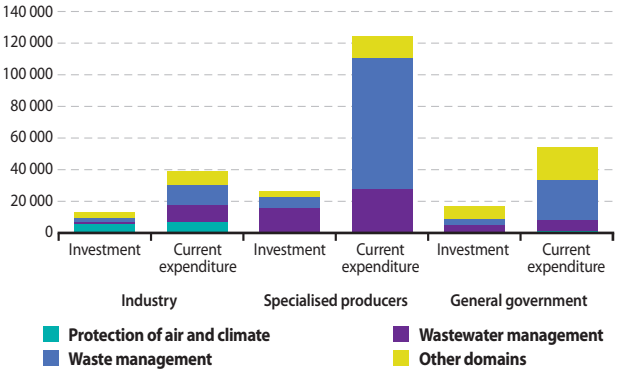


Figure 4.8.1c: Total environmental protection expenditure by sector and by environmental domain, EU-27, 2011 (million EUR)



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

Table 4.8.2: Environmental protection expenditure by environmental domain, latest year available (million EUR)

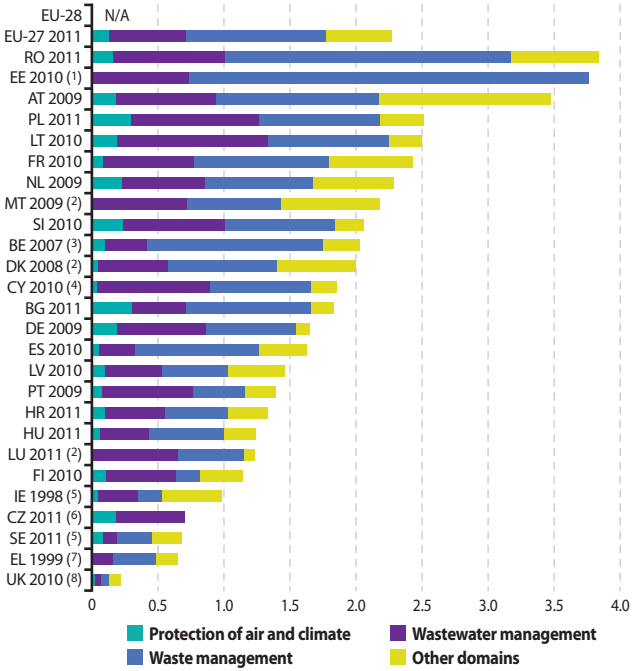
	Protection of air and climate	Wastewater management	Waste management	Other domains	Total	% of GDP
EU-28	:	:	:	:	:	:
EU-27 2011	*16 842*	*73 653*	*133 792*	*62 437*	*286 725*	*2.26*
BE 2007 (1)	344	1 077	4 448	930	6 800	2.03
BG 2011	117	157	363	66	703	1.83
CZ 2011	285	806	c	c	3 303	2.13
DK 2008	111	1 239	1 934	1 401	4 684	1.99
DE 2009	4 660	15 810	16 120	2 430	39 040	1.65
EE 2010 (3)	c	105	432	c	563	3.93
IE 1998 (4)	36	241	145	353	775	0.98
EL 1999 (5)	1	216	430	215	861	0.65
ES 2010	576	2 894	9 791	3 781	17 042	1.62
FR 2010	1 708	13 270	19 778	12 228	46 985	2.42
HR 2011	45	201	211	131	588	1.32
IT 2011	:	:	:	:	48 177	3.05
CY 2010 (6)	7	150	132	33	321	1.85
LV 2010	18	77	90	77	263	1.46
LT 2010	52	317	251	67	687	2.49
LU 2011 (2)	– 50	279	210	35	475	1.12
HU 2011	66	366	568	237	1 363	1.37
MT 2009 (2)	0	43	42	44	130	2.18
NL 2009	1 311	3 574	4 718	3 504	13 107	2.28
AT 2009	508	2 088	3 408	3 572	9 576	3.46
PL 2011	1 089	3 593	3 379	1 206	9 266	2.50
PT 2009	132	1 157	668	394	2 350	1.39
RO 2011	214	1 105	2 838	872	5 029	3.83
SI 2010	84	273	298	78	733	2.05
SK 2011	c	c	c	c	716	1.04
FI 2010	200	941	331	572	2 044	1.14
SE 2011 (4)	345	389	1 020	868	2 621	0.68
UK 2010 (7)	439	713	1 091	1 530	3 773	0.22
IS 2002 (5)	0	6	28	0	34	0.36
NO 2010 (8)	360	1 225	1 125	697	3 407	1.07
CH 2003	209	1 457	1 555	595	3 846	1.30
TR 2010	c	1 091	c	c	4 199	0.76

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

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

Source: Eurostat (online data codes: env_ac_exp1r2, env_ac_exp2 and nama_gdp_c)

Figure 4.8.2: Environmental protection by environmental domain, latest year available (% of GDP)



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

Source: Eurostat (online data codes: env_ac_exp1r2, env_ac_exp2 and nama_gdp_c)

In 2011, total environmental protection expenditure in the EU-27 reached EUR 287 billion, or 2.26 % of GDP. The domain which accounted for the largest share of expenditure was waste management (47 %), followed by wastewater management (26 %), other domains (22 %) and protection of air and climate (6 %). Among Member States, environmental protection expenditure for waste management made up the largest share in the majority of Member States and wastewater management made up the largest share in six Member States. As a % of GDP, in most Member States the environmental protection expenditure ranged between 1 % and 3 %.

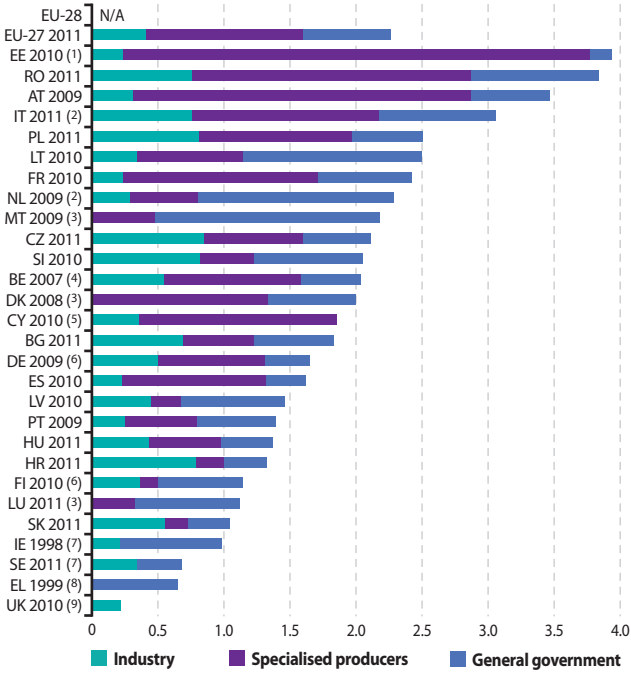
Table 4.8.3: Environmental protection expenditure by sector, latest year available

	Industry	Specialised producers	General government	Industry	Specialised producers	General government
	(million EUR)			(% of GDP)		
EU-28	:	:	:	:	:	:
EU-27 2011	*52 318*	*150 998*	*83 408*	*0.41*	*1.19*	*0.66*
BE 2007 (1)	1 842	3 449	1 509	0.55	1.03	0.45
BG 2011	265	207	231	0.69	0.54	0.60
CZ 2011	1 331	1 176	795	0.85	0.75	0.51
DK 2008	:	3 132	1 552	:	1.33	0.66
DE 2009 (2)	11 760	19 170	8 110	0.50	0.81	0.34
EE 2010 (3)	35	505	23	0.24	3.53	0.16
IE 1998 (4)	166	:	609	0.21	:	0.77
EL 1999	:	:	861	:	:	0.65
ES 2010	2 385	11 467	3 191	0.23	1.09	0.30
FR 2010	4 624	28 531	13 829	0.24	1.47	0.71
HR 2011	352	94	143	0.79	0.21	0.32
IT 2011 (5)	11 985	22 331	13 860	0.76	1.41	0.88
CY 2010	62	259	:	0.36	1.49	:
LV 2010	81	41	140	0.45	0.23	0.78
LT 2010	95	220	372	0.34	0.80	1.35
LU 2011	:	139	335	:	0.33	0.79
HU 2011	425	548	390	0.43	0.55	0.39
MT 2009	:	28	102	:	0.48	1.70
NL 2009 (5)	1 685	2 917	8 505	0.29	0.51	1.48
AT 2009	851	7 083	1 643	0.31	2.56	0.59
PL 2011	2 996	4 304	1 967	0.81	1.16	0.53
PT 2009	420	929	1 001	0.25	0.55	0.59
RO 2011	999	2 775	1 255	0.76	2.11	0.96
SI 2010	293	146	293	0.82	0.41	0.82
SK 2011	379	123	214	0.55	0.18	0.31
FI 2010 (2)	666	232	1 146	0.37	0.13	0.64
SE 2011 (4)	1 314	:	1 307	0.34	:	0.34
UK 2010	3 773	:	:	0.22	:	:
IS 2002	:	:	34	:	:	0.36
NO 2010	1 220	:	2 187	0.38	:	0.69
CH 2003	835	566	2 445	0.28	0.19	0.83
TR 2010	518	1 190	2 491	0.09	0.22	0.45

(1) Industry: only manufacturing included.
(2) Specialised producers: only public specialised producers included.
(3) Industry: only mining and quarrying and manufacturing included. General government: only local governments included.
(4) Industry: only manufacturing and electricity, gas, water supply included.
(5) Specialised producers: only private specialised producers. Public specialised producers are included in general government.

Source: Eurostat (online data codes: env_ac_exp1r2, env_ac_exp2 and nama_gdp_c)

Figure 4.8.3: Environmental protection expenditure as % of GDP by sector, latest year available (%)



(1) Industry: only mining and quarrying and manufacturing included. General government: only local governments included.
(2) Specialised producers: only private specialised producers. Public specialised producers are included in general government.
(3) Industry data not available.
(4) Industry: only manufacturing included.
(5) General government data not available.
(6) Specialised producers: only public specialised producers included.
(7) Industry: only manufacturing and electricity, gas, water supply included. Specialised producers data not available.
(8) Industry and specialised producers data not available.
(9) Specialised producers and general government data not available.

Source: Eurostat (online data codes: env_ac_exp1r2, env_ac_exp2 and nama_gdp_c)

Specialised producers accounted for the highest level of environmental protection expenditure in the EU-27, EUR 151 billion or 1.19 % of GDP in 2011. Expenditure from general government accounted for EUR 83 billion or 0.66 % of GDP and from industry for EUR 52 billion or 0.41 % of GDP. In about half of the Member States expenditure by specialised producers as % of GDP ranged from 0.5 % to 1.5 %. Expenditure by general government as a share of GDP ranged between 0.5 % and 1 % in the majority of Member States; while expenditure by industry varied between 0.2 % and 0.8 % in most Member States.

Table 4.8.4: Environmental protection investment and current expenditure by sector, latest year available (million EUR)

	Industry		Specialised producers		General government	
	Investment	Current expenditure	Investment	Current expenditure	investment	Current expenditure
EU-28	:	:	:	:	:	:
EU-27 2011	*13 200*	*39 118*	*26 337*	*124 662*	*16 756*	*54 551*
BE 2007 (1)	222	1 620	764	2 685	317	1 319
BG 2011	125	140	61	147	73	158
CZ 2011	423	908	100	1 077	425	370
DK 2008	:	:	721	2 411	170	1 080
DE 2009 (2)	3 070	8 690	4 080	15 090	2 040	6 070
EE 2010 (3)	8	33	71	434	11	12
IE 1998 (4)	104	62	:	:	142	271
EL 1999	:	:	:	:	208	555
ES 2010	765	1 620	1 668	9 799	1 226	1 965
FR 2010	1 285	3 339	6 424	22 108	1 465	8 752
HR 2011	214	138	35	59	115	27
IT 2011 (5)	1 926	10 060	2 731	19 600	2 848	10 334
CY 2010	40	22	100	160	:	:
LV 2010	42	39	14	27	13	85
LT 2010	46	49	115	106	265	107
LU 2011	:	:	13	127	113	290
HU 2011	142	284	87	461	135	128
MT 2009	:	:	2	27	13	58
NL 2009 (5)	493	1 192	574	2 343	1 675	6 190
AT 2009	249	602	941	6 142	239	917
PL 2011	1 070	1 926	341	3 963	1 393	592
PT 2009	175	245	535	395	147	853
RO 2011	266	733	352	2 424	595	402
SI 2010	104	189	15	132	238	47
SK 2011	174	206	17	106	46	168
FI 2010 (2)	178	488	91	141	185	570
SE 2011 (6)	488	847	:	:	53	970
UK 2010	989	2 784	:	:	:	:
IS 2002	:	:	:	:	6	21
NO 2010	527	692	:	:	522	1 434
CH 2003	290	545	75	490	628	1 295
TR 2010	57	461	514	676	427	2 064

(1) Industry: only manufacturing included.
(2) Specialised producers: only public specialised producers included.
(3) Industry: for investment only mining and quarrying and manufacturing included.
(4) Industry: only manufacturing and electricity, gas, water supply included. General government: only local governments included.
(5) Specialised producers: only private specialised producers. Public specialised producers are included in general government.
(6) Industry: for investments only manufacturing and electricity, gas, water supply included.

Source: Eurostat (online data code: env_ac_exp1r2)

Figure 4.8.4: Environmental protection investment and current expenditure, latest year available (%)

(1) General government data not available.
(2) Industry: only manufacturing and electricity, gas, water supply included. General government: only local governments included. Specialised producers data not available.
(3) Specialised producers: only public specialised producers included.
(4) Industry and specialised producers data not available.
(5) Specialised producers and general government data not available.
(6) Industry data not available.
(7) Industry: for investments only manufacturing and electricity, gas, water supply included. Specialised producers data not available.
(8) Specialised producers: only private specialised producers. Public specialised producers are included in general government.
(9) Industry: only manufacturing included.
(10) Industry: for investment only mining and quarrying and manufacturing included.

Source: Eurostat (online data code: env_ac_exp1r2)

A breakdown of environmental protection expenditure in investment and current expenditure shows that in 2011 current expenditure accounted for 80 % of total expenditure in the EU-27 (EUR 218 billion), while investment accounted for 20 % (EUR 56 billion). In most Member States more than two-thirds of environmental protection expenditure was current expenditure.

Table 4.8.5: Environmental protection expenditure by industry sub-sector (million EUR)

	Mining and quarrying		Manufacturing		Electricity, gas and water supply	
	2001	2011	2001	2011	2001	2011
EU-28	:	:	:	:	:	:
EU-27	*1 649*	*3 251*	*38 460*	*36 042*	*9 934*	*13 024*
BE (1)	c	c	1 650	1 842	162	c
BG	23	19	112	131	103	115
CZ (2)	80	208	373	647	192	475
DK	:	:	:	:	:	:
DE (3)	260	230	8 680	8 260	2 360	3 270
EE (4)	1	3	28	31	10	c
IE (5)	:	:	152	:	15	:
EL (6)	15	12	17	48	:	:
ES (4)	41	50	1 307	2 133	103	202
FR (7)	42	33	1 505	2 923	400	1 668
HR	2	4	15	204	31	143
IT	327	1 005	11 865	8 114	3 322	2 867
CY (4)	3	3	16	58	0	2
LV	0	0	11	23	5	40
LT	0	0	45	57	20	85
LU	:	:	:	:	:	:
HU	2	1	267	381	42	43
MT	:	:	:	:	:	:
NL (3)	142	112	1 541	1 249	131	324
AT (8)	13	43	716	711	141	96
PL	159	417	1 280	1 232	699	1 347
PT	16	7	352	304	30	84
RO	10	192	269	641	82	166
SI (4)	9	6	134	152	55	136
SK	1	3	102	207	172	170
FI (4)	9	90	557	460	47	116
SE	29	c	930	980	194	335
UK (4)	370	595	4 576	2 377	1 048	801
NO (9)	12	715	469	501	:	4
CH (2)	6	:	761	:	68	:
TR (10)	15	15	363	451	60	52

(1) No data for 2011; 2007 data instead.
(2) No data for 2001; 2003 data instead.
(3) No data for 2011; 2009 data instead.
(4) No data for 2011; 2010 data instead.
(5) No data for 2001; 1998 data instead.
(6) No data for 2001; 2002 data instead. No data for 2011; 2003 data instead.
(7) No data for 2001; 2004 data instead. No data for 2011; 2010 data instead.
(8) No data for 2001; 2002 data instead. No data for 2011; 2009 data instead.
(9) No data for 2001; 2002 data instead. No data for 2011; 2010 data instead.
(10) No data for 2001; 2007 data instead. No data for 2011; 2010 data instead.

Source: Eurostat (online data code: env_ac_exp1r2)

Figure 4.8.5: Environmental protection expenditure by industry sub-sector, 2011 (% of total)

(1) No data for 2011; 2009 data instead.
(2) No data for 2011; 2010 data instead.
(3) No data for 2011; 2003 data instead. Data for electricity, gas and water supply not available.
(4) Mining and quarrying data confidential.

Source: Eurostat (online data code: env_ac_exp1r2)

In 2011, 69 % of the environmental protection expenditure made by industry in the EU-27 was attributed to manufacturing. This can be explained by the fact that the sector is larger compared to mining and quarrying and electricity, gas and water supply, which made up 6 % and 25 % of the total respectively. From 2001 to 2011, environmental expenditure by manufacturing in the EU-27 fell by 6 %, while expenditure by mining and quarrying and electricity, gas and water supply grew by 97 % and 31 % respectively. In 2011, manufacturing accounted for the largest share of industrial expenditure in all Member States except for Latvia, Lithuania and Poland, where electricity, gas and water supply made up the largest share. The higher levels of expenditure for mining and quarrying in Romania, the United Kingdom, the Czech Republic, Poland and Finland can be largely explained by the significance of mining activities in these countries.

Annex A: Glossary of terms used in the energy section

These are the main definitions. More can be found in the glossary of Statistics Explained http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Category:Energy _glossary

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-12-001/EN/KS-EN-12-001-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'.

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 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://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/metadata/concepts_definitions_link. 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://ec.europa.eu/eurostat/ramon/other_documents/transport_glossary_4_ed/index.cfm?TargetUrl=DSP_TRANSPORT_GLOSSARY_4_ED and in the glossary of Statistics Explained http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Category:Transport_glossary.

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: Regulation (EC) No 91/2003 of the European Parliament and of the Council of 16 December 2002 on rail transport statistics **(O.J. L 14 of 21.1.2003)**
   - Road: Regulation (EU) No 70/2012 of the European Parliament and of the Council on statistical returns in respect of the carriage of goods by road (recast) **(O.J. L 32 of 3.2.2012)**
   - Inland waterways: Regulation (EC) 1365/2006 of the European Parliament and of the Council of 6 September 2006 on statistics of goods transport by inland waterways and repealing Council Directive 80/1119/EEC **(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 on statistical returns in respect of the carriage of passengers, freight and mail by air **(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 *'Statistics in Focus'*. http://epp.eurostat.ec.europa.eu/portal/page/portal/transport/publications

Annex C: Glossary of terms used in the environment section

These are the main definitions. More can be found in the glossary of Statistics Explained http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Category:Environment_glossary

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.

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 nine environmental domains: protection of ambient air and climate (CEPA 1); wastewater management (CEPA 2); waste management (CEPA 3); protection and remediation of soil, groundwater and surface water (CEPA 4); noise and vibration abatement (CEPA 5); protection of biodiversity and landscape (CEPA 6); protection against radiation (CEPA 7); research and development (CEPA 8) and other environmental protection activities (CEPA 9).

For the purpose of this publication the domains CEPA 4-9 are published under 'Other domains (protection of soil, groundwater; noise abatement; protection of biodiversity, landscape and other)'.

Environmental protection expenditure

Environmental protection expenditure (EPE) is the money spent on activities directly aimed at the prevention, reduction and elimination of pollution or any other degradation of the environment.
Total EPE is made up of current expenditure and investment. For the public sector the total EPE includes also subsidies and other transfers given to other sectors.
Main environmental protection sectors are:

— **Public sector** includes central, regional and local governments, authorities, communities and government agencies, meaning mainly NACE Rev. 1.1 division 75 (NACE Rev. 2 division 84). Data reported are net of any transfers between these government bodies.
— **Specialized producers of environmental services** — These are mainly activities within NACE Rev. 1.1 division 90 (NACE Rev. 2 divisions and groups 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.
— **Industry** includes all activities in NACE Rev. 1.1 sections C, D (excluding NACE division 37 — Recycling) and E (NACE Rev. 2 sections B, C, D and division E36). Expenditure of the water supply industry (NACE Rev. 1.1 division 41, NACE Rev. 2 division 36) only relate to production of drinking water and do not include expenditure for the treatment of wastewater generated by other companies.

Environmental protection investments

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

— End-of-pipe (pollution treatment) investments. These are investments to collect and remove pollutants (e.g. air emissions, effluents or solid waste) after their creation, prevent the spread of and measure the level of the pollution, and treat and dispose of pollutants generated by the operating activity of the company.

— Investments in integrated technologies (pollution prevention investments). These are investments which lead to a modified or adapted production process.

Environmental taxes by economic activities

Environmental taxes are taxes whose tax base is a physical unit (or a proxy of it) of something that has a proven, specific negative impact on the environment. Environmental taxes comprise four types: energy, transport, pollution and resource taxes. Carbon dioxide taxes are included under energy as they are often an integral part of general energy taxes. General Value Added Tax (VAT) is excluded.

Environmental taxes are broken down by economic activities from the perspective of the entities paying the taxes:
— producers, in a breakdown by the classification of economic activities, NACE Rev.2 (A*64 aggregation level as set out in ESA 95),
— households,
— non-residents.

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 revenue in relation to final energy consumption calculated for a calendar year. Energy tax revenues are measured in euro (deflated) and the final energy consumption in TOE (tonnes of oil equivalent). The indicator measures the taxes levied on the use of energy which contributes to foster energy efficiency.

Energy tax revenue is the sum of taxes on energy products used for both mobile and stationary purposes.

Final energy consumption includes energy consumed in the transport, industrial, commercial, agricultural, public and households sectors but excludes 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.

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 (RMC = RMI – EXPRME).

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).

Stage of manufacturing

Traded goods are classified according to their stage of manufacturing. The following three stages of manufacturing are defined:

- **raw products:** raw materials alike products produced by primary industries such as agriculture, forestry, fishing, and mining;
- **semi-manufactured products:** products which are further processed raw products but do not yet constitute finished products; they obviously need to be further processed;
- **finished products:** products which are finalised, i.e. are not processed or transformed anymore; note that finished products potentially are used for final consumption by households, governments etc. but also as intermediate input to industries.

In operational terms the stage of manufacturing is defined by a correspondence list between CN (Combined Nomenclature) and the three groupings above — developed by Eurostat and the European Statistical System.

Current expenditure for environmental protection

Current expenditure includes the use of energy, material, maintenance and personnel for producing environmental services in-house. Current expenditure also comprises the money spent to buy environmental services from specialised producers.

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	>20 000	>0.478
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
Lignite	1 kg	<20 000	<0.478
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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