POCKETBOOKS

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Energy, transport and environment indicators

Data 1991-2001

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Introduction

Energy, Transport and Environment Indicators.
Welcome to the second edition of our pocketbook, which brings together facts and figures from the energy, transport and environment sectors in a single volume. This is the first edition of the pocketbook following the accession of 10 new Member States and this is reflected in the tables and graphs. In most cases, national data for the 25 EU Member States, EFTA countries and the three remaining candidate countries are presented. Where aggregated data for the 15 old EU Member States and for the 25 EU Member States are available, these are presented for the period from 1991 to 2001 (for transport, mainly six-year period up to 2001).

The pocketbook is composed of three chapters of selected key indicators for Energy, Transport and Environment. The energy chapter covers energy supply and dependency, final energy consumption, energy efficiency, energy prices, renewable energy sources and the structure of the energy industry. The Transport indicators cover transport infrastructure and equipment, transport of passengers and freight and road safety. The environment chapter looks at emissions of greenhouse gases and air pollutants, which are particularly relevant for energy and transport. But other environmental indicators are included, covering water and waste. The main data sources for the indicators are the standard Energy and Transport Statistics collected by Eurostat, although other data sources have also been used. The bulk of data on emissions have been provided by the European Environment Agency.

For more detail, please see:
– free data available on the Eurostat web site at http://europa.eu.int/comm/eurostat/
– DG Energy and Transport web site, at http://europa.eu.int/comm/energy_transport/etif/ where the DG TREN pocketbook is updated and published on a regular basis
– EEA web site, http://www.eea.eu.int/

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Symbols and abbreviations

:	no data available
0	figure less than half of the unit used
-	nil (zero) not applicable
%	percentage
1234	*Estimates are printed in italic*

Units of measurement

ECU	European currency unit, data up to 31.12.1998
EUR	euro, data from 1.1.1999 on
GJ	Gigajoule
GWh	Gigawatt hour
kg	kilogramme
km	kilometre
km^2	square kilometre
m^3	cubic metre
mio	million (10^6)
pkm	passenger-kilometre
tkm	tonne-kilometre
t	tonne
toe	tonne of oil equivalent

Chemical and related symbols

CH_4	Methane
CO_2	Carbon dioxide
HFC	Hydrofluorocarbons
NH_3	Ammonia
N_2O	Nitrous oxide
NOx	Nitrogen oxides
PFC	Perfluorocarbons
SF_6	Sulphur hexafluoride
SO_2	Sulphur dioxide

Abbreviations of Countries

EU-25	The twenty five Member States of the EU
EU-15	The old fifteen Member States of the EU (before the enlargement of the EU on 1st May 2004)
EFTA	European Free Trade Association
BE	Belgium
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EL	Greece
ES	Spain
FR	France
IE	Ireland
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
IS	Iceland
LI	Liechtenstein
NO	Norway
CH	Switzerland
BG	Bulgaria
RO	Romania
TR	Turkey

Other abbreviations

EEA	European Environment Agency
ECMT	European Conference of Ministers of Transport
GDP	Gross Domestic Product
GDP in PPS	Gross Domestic Product in Purchasing Power Standard
IEA	International Energy Agency
NACE	Statistical Classification of economic activities in the European Community
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal of the European Union
OPEC	Organisation of the Petroleum Exporting Countries
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

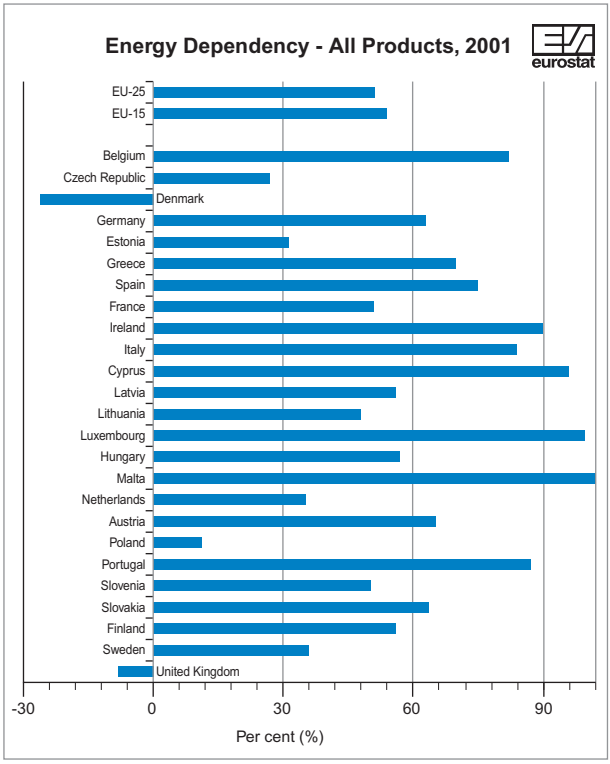
ENERGY INDICATORS

Energy Dependency - All Products

Per cent (%)

	1991	1996	2001
EU-25	**45.5**	**44.2**	**47.7**
EU-15	**48.3**	**46.8**	**50.1**
Belgium	77.4	80.5	80.1
Czech Republic	16.7	24.7	25.8
Denmark	35.7	23.1	-27.2
Germany	51.6	59.2	61.4
Estonia	42.8	33.2	31.0
Greece	63.1	66.0	68.9
Spain	64.9	70.1	74.3
France	52.9	49.4	50.0
Ireland	67.2	70.4	90.0
Italy	81.1	81.6	82.1
Cyprus	105.4	100.3	96.4
Latvia	95.1	100.0	56.3
Lithuania	72.6	56.8	47.6
Luxembourg	98.2	99.3	97.9
Hungary	47.7	53.6	55.3
Malta	108.9	100.0	100.0
Netherlands	17.9	16.0	34.1
Austria	66.5	69.6	65.0
Poland	3.7	5.0	10.4
Portugal	84.7	83.1	87.2
Slovenia	43.3	54.3	49.6
Slovakia	73.6	72.9	63.7
Finland	57.7	55.0	55.9
Sweden	35.1	40.0	35.9
United Kingdom	5.2	-14.4	-8.9
Iceland	33.2	34.4	27.7
Norway	-483.8	-759.7	-731.6
Bulgaria	60.2	56.0	44.9
Romania	29.4	29.6	25.6
Turkey	55.6	68.4	62.7

Data Source: Eurostat



Per cent (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	45.5	46.3	44.3	43.1	43.6	44.2	45.3	46.6	45.5	47.1	47.7
EU-15	48.3	49.6	47.4	46.1	46.6	46.8	47.8	48.9	47.7	49.3	50.1

Data Source: Eurostat

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

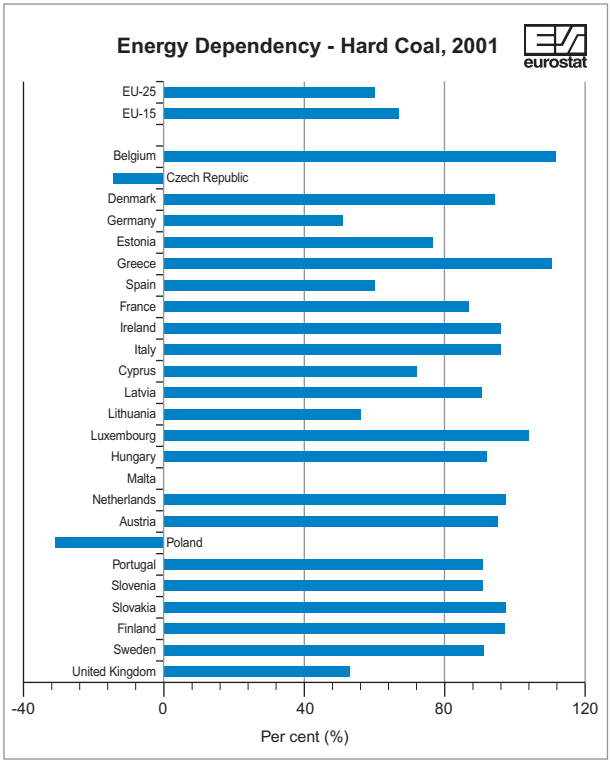
In 2001 the EU-25 energy dependency rate was 47.7%, an increase of about 2% since 1991. Overall, there were annual fluctuations in the energy dependency rate during the period 1991-2001, ranging from 43.1% in 1994 to the highest value of 47.7% in 2001. The trend was similar in the case of EU-15, but constantly 2 to 3 units higher.
Only three countries, Denmark, United Kingdom and Norway (an EFTA country) had a surplus of energy over their own requirements (i.e. negative energy dependency ratio), while seven Member States had an energy dependency ratio of over 75%.
As far as the new Member States are concerned, only Poland, Czech Republic and Estonia show an energy dependency rate lower than EU-25 mainly attributed to their significant production of lignite or hard coal. On the other hand, Cyprus and Malta have an energy dependency rate slightly over 100.

Energy Dependency - Hard Coal

Per cent (%)

	1991	1996	2001
EU-25	**27.0**	**27.7**	**43.0**
EU-15	**44.3**	**51.4**	**71.3**
Belgium	92.2	97.7	106.6
Czech Republic	-14.5	-18.0	-19.9
Denmark	93.7	86.8	96.7
Germany	12.9	20.0	50.6
Estonia	88.4	82.1	76.1
Greece	91.6	120.0	107.0
Spain	49.4	51.9	64.7
France	69.1	67.9	88.7
Ireland	99.3	93.2	100.4
Italy	100.4	101.2	100.6
Cyprus	100.0	100.0	111.8
Latvia	100.0	87.4	68.6
Lithuania	100.0	120.7	92.8
Luxembourg	100.0	100.0	100.0
Hungary	76.2	83.5	94.4
Malta	-	-	-
Netherlands	102.5	96.9	101.0
Austria	92.7	98.4	98.9
Poland	-18.3	-25.9	-29.6
Portugal	93.3	97.8	93.2
Slovenia	20.9	44.1	93.3
Slovakia	95.4	113.2	100.9
Finland	92.9	89.6	101.0
Sweden	88.4	87.1	93.4
United Kingdom	18.4	26.0	56.0
Iceland	100.0	100.0	100.0
Norway	48.5	72.4	-80.2
Bulgaria	68.8	76.2	97.1
Romania	43.5	73.3	94.7
Turkey	73.5	79.7	75.3

Data Source: Eurostat



Per cent (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	27.0	28.2	24.7	24.7	26.5	27.7	30.9	32.9	34.9	38.6	43.0
EU-15	44.3	48.1	45.5	45.7	50.6	51.4	56.0	56.7	60.5	64.6	71.3

Data Source: Eurostat

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

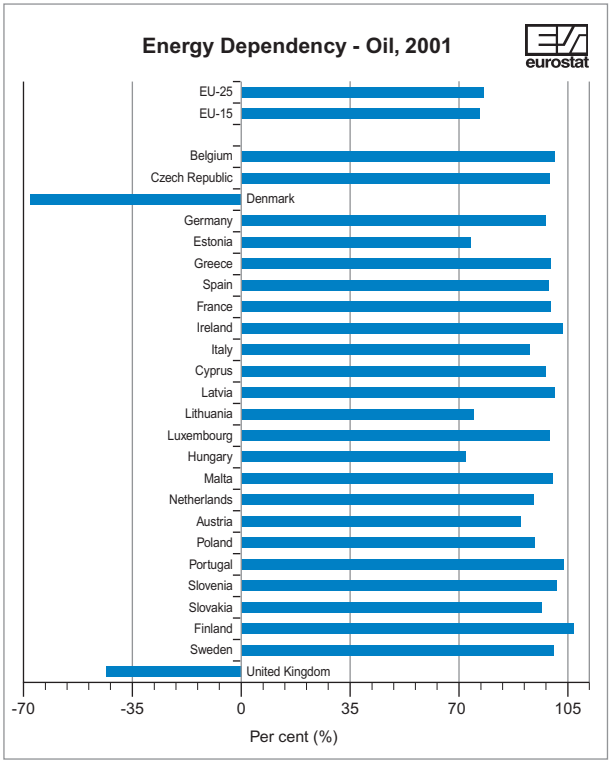
The hard coal energy dependency rate of EU-15 and EU-25 showed the largest increase during the period 1991-2001, reaching 71% and 43% respectively. Four of the 25 Member States have a hard coal energy dependency less than 60% (Czech Republic, Germany, Poland and the United Kingdom) while 16 Member States have a hard coal energy dependency greater than 90%.
The negative hard coal energy dependency of Czech Republic (-20%) and Poland (-30%) reflects their significant export activity.
The new European Union is now less dependent on coal due to the influence of the 10 new Member States.

Energy Dependency - Oil

Per cent (%)

	1991	1996	2001
EU-25	**80.7**	**76.0**	**78.0**
EU-15	**79.8**	**74.5**	**77.0**
Belgium	100.8	100.5	100.8
Czech Republic	97.5	98.3	99.8
Denmark	20.2	8.3	-66.8
Germany	96.5	97.8	97.4
Estonia	91.1	101.8	72.7
Greece	93.8	97.3	98.5
Spain	97.0	97.5	98.3
France	98.1	96.5	98.3
Ireland	100.2	101.2	102.9
Italy	92.6	94.6	94.0
Cyprus	105.1	100.3	97.6
Latvia	100.1	112.3	101.0
Lithuania	98.6	92.3	74.7
Luxembourg	98.8	100.9	98.8
Hungary	61.5	70.0	72.0
Malta	108.9	100.0	100.0
Netherlands	90.5	92.7	94.8
Austria	87.7	91.4	88.9
Poland	95.6	96.7	93.9
Portugal	101.2	98.8	102.7
Slovenia	98.1	99.4	100.5
Slovakia	93.4	103.2	96.4
Finland	94.1	100.0	107.1
Sweden	97.1	102.6	100.0
United Kingdom	-8.6	-55.0	-43.5
Iceland	98.7	96.7	99.6
Norway	-918.4	-1 639.2	-1 735.6
Bulgaria	97.2	101.0	98.4
Romania	50.4	47.9	45.2
Turkey	76.9	91.6	91.9

Data Source: Eurostat



Per cent (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	80.7	80.8	79.2	75.5	74.8	76.0	76.2	77.6	73.5	76.5	78.0
EU-15	79.8	79.9	77.8	74.1	73.2	74.5	74.7	76.1	71.9	75.0	77.0

Data Source: Eurostat

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

The oil energy dependency rate of EU-15 and EU-25 followed the same trend during the period 1991-2001 which led to the levels of 77% and 78% respectively.

Denmark and the United Kingdom are the only EU-25 oil exporting countries, while 19 of the Member States are over 90% dependent on imported oil.

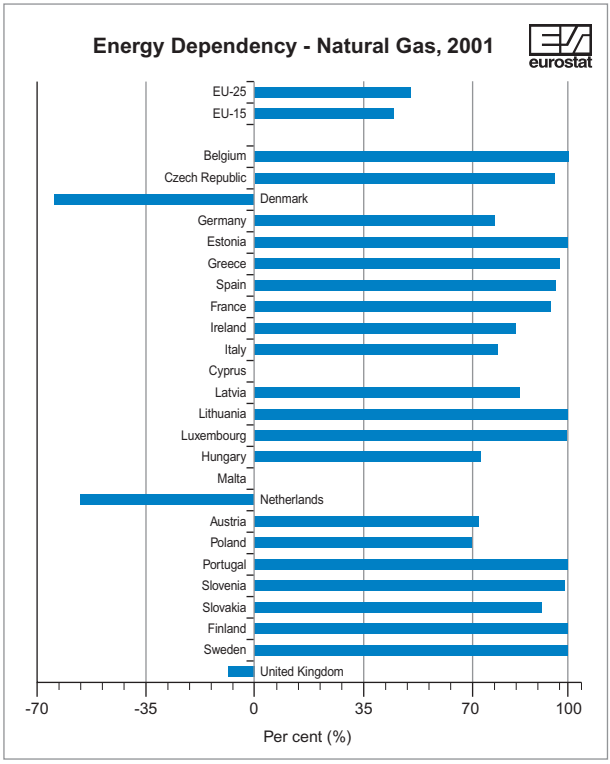
Norway, which had an oil energy dependency rate of -1 735% in 2001, is one of the main suppliers of oil to the EU-15 providing more than one hundred million tonnes of crude oil in 2001 representing 22% of EU-15 total crude oil imports.

Energy Dependency - Natural Gas

Per cent (%)

	1991	1996	2001
EU-25	**44.7**	**43.4**	**47.4**
EU-15	**39.4**	**38.8**	**43.3**
Belgium	99.2	100.5	99.7
Czech Republic	108.8	100.1	96.3
Denmark	-60.8	-45.7	-65.9
Germany	75.5	80.0	77.0
Estonia	100.0	100.0	100.0
Greece	-	16.3	99.2
Spain	78.5	96.2	96.5
France	91.0	90.6	93.1
Ireland	0.0	18.2	81.6
Italy	66.4	66.1	77.1
Cyprus	-	-	-
Latvia	100.0	100.0	85.6
Lithuania	100.0	100.0	100.0
Luxembourg	100.0	100.0	100.0
Hungary	56.2	71.0	72.7
Malta	-	-	-
Netherlands	-79.2	-82.5	-56.7
Austria	80.1	82.4	72.3
Poland	66.9	66.7	69.2
Portugal	-	-	99.9
Slovenia	96.4	98.4	99.3
Slovakia	94.5	92.1	91.9
Finland	100.0	100.0	100.0
Sweden	100.0	100.0	100.0
United Kingdom	11.0	0.5	-9.6
Iceland	-	-	-
Norway	-1 137.6	-1 132.0	-801.2
Bulgaria	97.4	101.2	99.7
Romania	15.7	29.1	17.4
Turkey	95.2	97.9	98.8

Data Source: Eurostat



Per cent (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	44.7	44.9	41.4	42.3	43.9	43.4	45.4	46.0	48.5	49.1	47.4
EU-15	39.4	40.1	37.6	38.4	39.7	38.8	41.0	41.7	44.7	45.2	43.3

Data Source: Eurostat

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

EU-15 and EU-25 are less dependant on imported natural gas than on oil but there is an increasing trend over the last decades. The EU-15 energy dependency rate for natural gas was 43% in 2001, while for the EU-25 energy dependency rate was 47%.

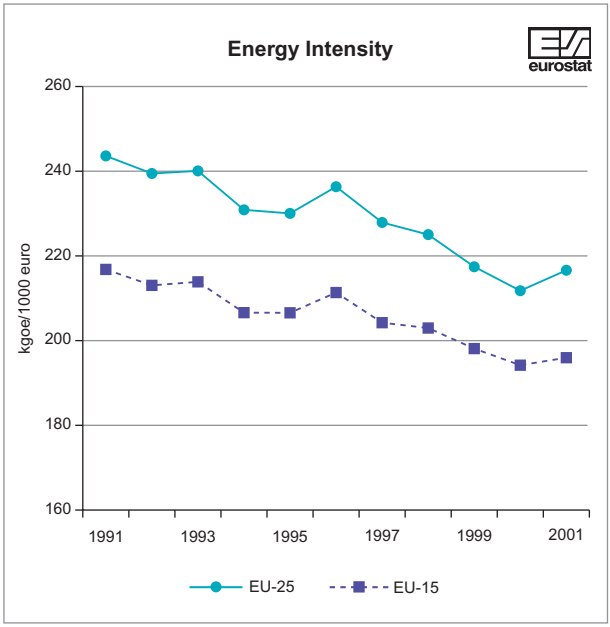
Denmark, Netherlands and the United Kingdom are the only EU-25 natural gas exporting countries, while 13 of the Member States are over ninety percent dependant on imported natural gas; Malta and Cyprus have not introduced natural gas into their energy system.

Norway is also a natural gas exporter with an energy dependency of -801% in 2001. Almost all of its exports were destined to EU-15 countries representing 24% of their total natural gas imports.

Energy Intensity

	(kgoe/1000 euro)			*Index (1991=100)*		
	1991	**1996**	**2001**	**1991**	**1996**	**2001**
EU-25	**244**	**235**	**212**	**100**	**96**	**87**
EU-15	**216**	**211**	**194**	**100**	**98**	**90**
Belgium	249	252	228	100	101	92
Czech Republic	1 154	1 004	940	100	87	81
Denmark	153	162	125	100	106	81
Germany	194	184	168	100	95	87
Estonia	3 447	*1 976*	*1 361*	100	*57*	*39*
Greece	257	276	261	100	107	102
Spain	221	220	227	100	99	103
France	207	207	189	100	100	92
Ireland	248	213	167	100	86	67
Italy	196	192	188	100	98	96
Cyprus	288	301	283	100	105	98
Latvia	1 089	1 021	905	100	94	83
Lithuania	2 245	1 788	1 321	100	80	59
Luxembourg	305	238	191	100	78	63
Hungary	801	746	582	100	93	73
Malta	298	340	269	100	114	90
Netherlands	239	233	201	100	98	84
Austria	156	154	146	100	99	93
Poland	1 075	1 040	643	100	97	60
Portugal	217	229	238	100	106	110
Slovenia	379	406	344	100	107	91
Slovakia	1 514	1 015	1 004	100	67	66
Finland	299	302	263	100	101	88
Sweden	269	268	230	100	100	85
United Kingdom	273	256	225	100	94	82
Iceland	383	427	453	100	112	118
Norway	227	195	195	100	86	86
Bulgaria	2 142	2 544	1 885	100	119	88
Romania	1 923	1 717	1 164	100	89	61
Turkey	407	430	503	100	106	124

Data Source: Eurostat



(kgoe/1000 euro)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	244	239	240	231	231	235	228	225	218	211	212
EU-15	216	212	213	207	207	211	205	203	198	193	194

Index (1991=100)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	100	98	98	95	94	96	93	92	89	86	87
EU-15	100	98	99	96	96	98	95	94	92	89	90

Data Source: Eurostat

Over the last decade energy intensity decreased in the EU-25 and this reduction has been particularly pronounced since 1996. Energy intensity fell by 10 percentage points since 1991 with decreases in the majority of the Member States except Spain, Greece and Portugal which all showed a higher increase than EU-25 average in their economic activity.
A comparison of the EU-15 countries and the new Member States shows that convergence is far even though the new Member States show a much higher decrease rate in energy intensity over the last decade. In 1991 the figures for energy intensity for the EU-15 countries and the new Member States were 216 and 1 068 kgoe/1000 Euro respectively, while in 2001 the relevant figures were 194 and 695 kgoe/1000 Euro.

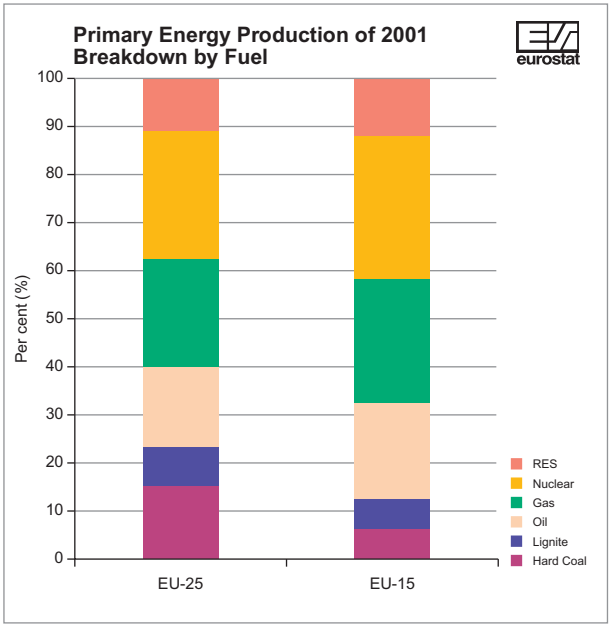
Primary Energy Production

	(ktoe)			Year 2001, share of each fuel to total					
	1991	1996	2001	Hard Coal	Lignite	Oil	Gas	Nuclear	RES
EU-25	**868 946**	**922 896**	**896 332**	**15**	**8**	**17**	**22**	**27**	**11**
EU-15	**707 616**	**761 754**	**757 690**	**6**	**7**	**20**	**25**	**30**	**12**
BE	11 753	11 275	12 637	–	–	–	–	95	5
CZ	36 071	31 849	30 090	84	0	1	0	13	2
DK	12 524	17 689	26 939	–	–	64	28	–	8
DE	164 933	138 219	131 481	15	29	3	12	34	7
EE	4 825	3 720	3 420	–	77	7	–	–	16
EL	9 060	10 136	9 942	–	85	2	0	–	13
ES	33 347	31 962	32 925	19	4	1	1	50	25
FR	114 387	125 632	131 732	1	0	1	1	83	14
IE	3 291	3 614	1 730	0	47	–	38	–	15
IT	27 780	31 574	30 150	0	–	14	41	–	45
CY	6	:	36	–	–	–	–	–	100
LV	341	238	1 718	–	1	–	–	–	99
LT	4 518	3 834	4 118	–	0	13	–	71	16
LU	46	40	50	–	–	–	–	–	100
HU	13 390	12 632	10 475	0	25	15	24	32	4
MT	:	:	:	:	:	:	:	:	:
NL	67 117	73 717	60 634	–	–	4	92	2	2
AT	8 150	8 370	9 383	–	3	10	16	–	71
PL	94 699	101 318	79 363	74	15	1	5	–	5
PT	2 774	3 157	3 368	–	–	–	–	–	100
SI	2 928	2 963	3 146	–	32	0	0	43	25
SK	4 552	4 587	6 319	–	16	1	2	70	11
FI	10 984	13 440	14 826	–	9	–	–	40	51
SE	31 476	31 637	33 836	–	1	–	–	55	44
UK	209 994	261 293	258 056	7	–	46	37	9	1
IS	1 359	1 616	2 451	–	–	–	–	–	100
NO	130 405	207 610	227 937	1	–	73	21	–	5
BG	8 746	10 613	10 288	1	43	0	0	49	7
RO	34 782	33 856	27 766	0	20	23	40	5	12
TR	18 294	19 417	27 005	5	47	9	1	–	38

(Mtoe)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	869	860	867	877	893	923	914	895	903	895	896
EU-15	708	702	709	722	736	762	755	751	765	760	758

Data Source: Eurostat



(Mtoe)

	EU-25	**EU-15**
Total	896	758
Hard Coal	130	46
Lignite	71	51
Oil	152	148
Gas	197	191
Nuclear	246	230
RES	101	92

Data Source: Eurostat

Primary energy commodities may be divided between fuels of fossil origin, nuclear energy and renewable energy commodities. Fossil fuels are taken from natural resources, which were formed from biomass in the geological past. Included in the definition of renewable energy sources (RES) is the energy generated from solar, wind, biomass, geothermal, hydropower and ocean resources.
EU-25 primary energy production recorded a slight increase of 3.2% over the last decade. This was due to an increase in the primary production of all except solid fuels, the primary production of which has shown a substantial fall (-38%) over recent years. In 2001 nuclear heat (used for the production of electricity) was the most important primary energy resource (accounting for 27% of the EU-25 primary production), followed by natural gas and solid fuels which accounted for 22% each. The contribution of renewables also increased but remains low compared with other energy sources (11% of the total).

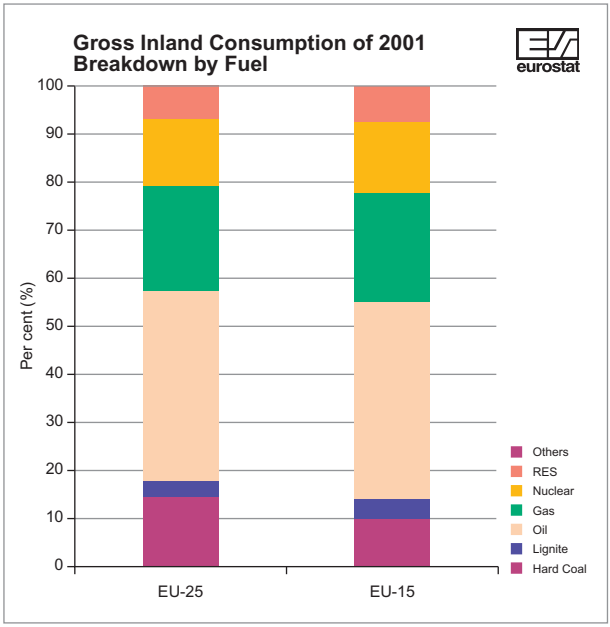
Gross Inland Consumption

	(ktoe)			Year 2001, share of each fuel to total						
	1991	1996	2001	Hard Coal	Lignite	Oil	Gases	Nuclear	RES	Others
EU-25	**1 572 147**	**1 631 672**	**1 687 896**	**14**	**4**	**38**	**23**	**15**	**6**	**0**
EU-15	**1 345 315**	**1 413 730**	**1 485 766**	**11**	**4**	**40**	**23**	**15**	**6**	**0**
BE	49 493	53 981	55 617	13	0	39	24	21	1	2
CZ	42 616	41 660	40 963	51	0	20	20	9	2	-2
DK	19 370	22 866	19 941	21	-	45	23	-	11	0
DE	347 163	348 812	348 836	13	11	38	22	13	3	0
EE	9 201	5 602	5 030	1	57	18	14	-	11	-1
EL	22 414	25 405	28 937	3	29	57	6	-	5	1
ES	94 160	100 825	126 253	14	1	52	13	13	7	0
FR	235 643	249 168	262 319	5	0	36	13	41	7	-2
IE	10 245	11 687	14 394	13	5	55	25	-	2	0
IT	156 742	162 492	176 612	8	0	49	33	-	8	2
CY	1 568	2 082	2 402	1	0	97	-	-	1	-
LV	6 702	3 575	4 268	2	1	28	30	-	35	4
LT	16 819	8 866	8 178	1	0	32	27	36	8	-4
LU	3 773	3 401	3 765	3	0	64	18	-	1	13
HU	26 903	25 800	25 101	4	11	27	43	13	2	1
MT	603	877	823	-	-	100	-	-	-	-
NL	69 936	76 254	77 587	11	0	38	46	1	2	2
AT	26 146	28 307	30 163	11	1	42	23	-	22	1
PL	98 407	107 114	90 225	48	14	22	12	-	5	0
PT	17 172	19 560	24 233	13	-	64	9	-	14	0
SI	5 376	6 382	6 625	4	17	36	12	20	12	-2
SK	18 639	15 984	18 516	17	7	17	33	24	4	-2
FI	29 007	31 147	33 226	13	6	27	11	18	23	3
SE	48 741	51 576	51 592	5	1	29	1	36	29	-1
UK	215 312	228 248	232 290	17	-	34	37	10	1	0
IS	2 033	2 468	3 349	3	-	24	-	-	73	-
NO	21 995	23 212	26 863	3	-	31	20	-	44	1
BG	22 426	23 091	18 881	14	24	21	13	27	4	-3
RO	50 508	48 356	36 877	6	15	30	36	4	9	0
TR	45 438	59 678	73 202	10	18	40	18	-	14	0

(Mtoe)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	1 572	1 550	1 547	1 540	1 572	1 632	1 621	1 645	1 640	1 652	1 688
EU-15	1 345	1 336	1 336	1 336	1 364	1 414	1 407	1 438	1 441	1 455	1 486

Data Source: Eurostat



(Mtoe)

	EU-25	**EU-15**
Total	1 688	1 486
Hard Coal	233	164
Lignite	73	52
Oil	647	599
Gas	384	344
Nuclear	246	230
RES	101	92
Others	4	5

Data Source: Eurostat

As with EU-25 primary energy production (which grew by 3.2% over the period 1991-2001), gross inland consumption also grew by 7.4% over the same period.
Oil is the most important fuel (38% of total gross inland consumption in 2001) and its contribution remained stable over the period. The share of natural gas in the total of fuels rose from 17% in 1991 to 23% in 2001, while that of solid fuels dwindled from 26% in 1991 to 18% in 2001. Nuclear power and renewable energy contributed 21% in 2001.

Imports of Energy Products, by Country of Origin

EU-15 Imports of Hard Coal, by Country of Origin

(1000 tonnes)

	1991	2001
South Africa	25 575	48 389
Australia	20 895	29 117
Colombia	11 616	22 341
USA	53 689	19 728
Poland	12 617	18 424
Other countries	19 586	54 040
Total	143 978	192 039

EU-15 Imports of Crude Oil, by Country of Origin

(1000 tonnes)

	1991	2001
Norway	63 864	108 121
former USSR	29 794	102 686
Saudi Arabia	85 822	57 496
Libya	53 964	43 163
Iran	55 550	31 412
Other countries	145 603	145 865
Total	434 597	488 743

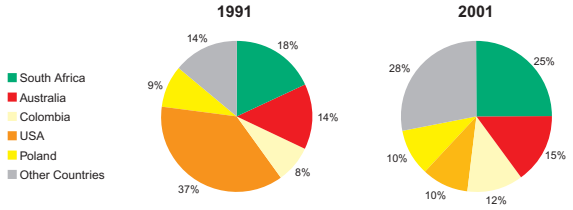
EU-15 Imports of Natural Gas, by Country of Origin

(TJ)

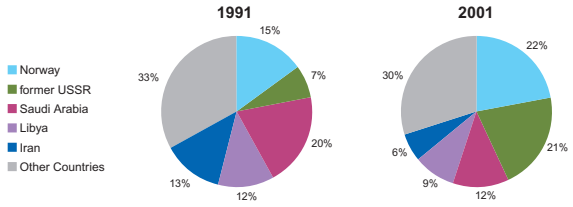
	1991	2001
former USSR	2 187 299	2 784 415
Norway	99 6089	1 987 054
Algeria	1 165 291	1 901 242
Nigeria	0	216 120
Libya	73 942	33 216
Other countries	57 428	890 228
Total	4 480 049	7 812 275

Data Source: Eurostat

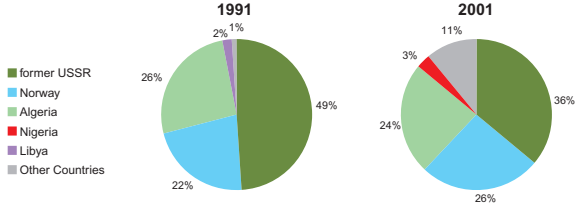
EU-15 Imports of Hard Coal, by Country of Origin



EU-15 Imports of Crude Oil, by Country of Origin



EU-15 Imports of Natural Gas, by Country of Origin



South Africa, with a share of 25% of the total hard coal supply to the EU-15 in 2001, was the main supplier while Poland, USA, Colombia and Australia had shares ranging from 10% to 15%. Total hard coal imports to the EU-15 grew by 33% in the period 1991-2001.

The origin of crude oil imports to the EU-15 has changed over the last decade. Norway and countries of the former USSR covered 43% of the oil imports in 2001 (doubled from 1991) and the percentage of imports from Libya, Iran and Saudi Arabia was reduced from 45% in 1991 to 27% in 2001. Crude oil imports to the EU-15 grew by 12% over the last decade.

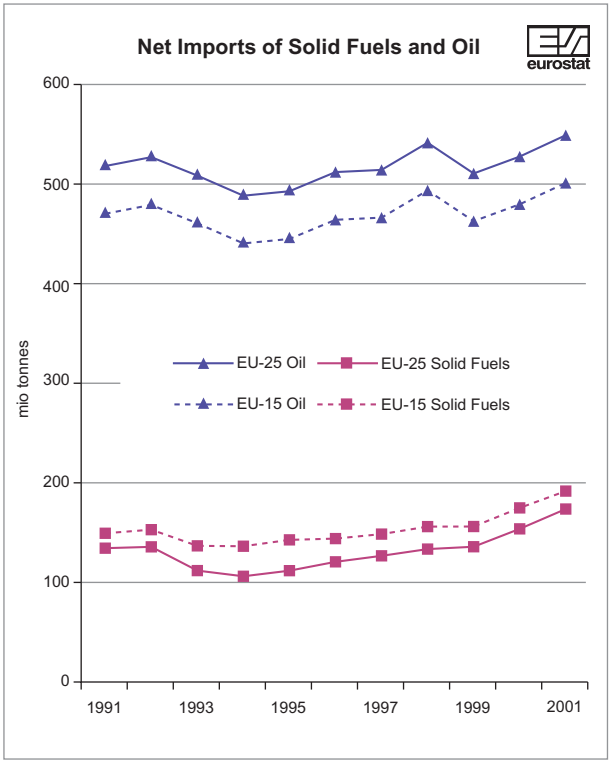
EU-15 imports of natural gas rose by 74% from 1991 to 2001. Imports from most supplying countries increased significantly. However, in 2001 the relative share of the former USSR dropped to 36% while the shares of Norway and Algeria were 26% and 24% respectively.

Net Imports of Solid Fuels and Oil

(1000 tonnes)

	Solid Fuels		Oil	
	1991	2001	1991	2001
EU-25	**133 097**	**163 855**	**521 455**	**540 807**
EU-15	**148 532**	**187 804**	**475 134**	**495 805**
Belgium	13 861	11 836	24 762	29 335
Czech Republic	-13 050	-7 996	7 092	8 121
Denmark	11 166	6 790	1 843	-6 433
Germany	13 349	41 522	128 025	129 315
Estonia	2 771	1 070	2 563	729
Greece	1 433	1 318	14 726	19 699
Spain	13 077	18 436	50 930	72 804
France	21 625	16 751	90 612	94 957
Ireland	3 106	2 941	4 868	8 260
Italy	20 286	20 045	85 157	84 825
Cyprus	21	72	1 740	2 498
Latvia	799	93	3 074	1 423
Lithuania	1 457	112	8 135	2 039
Luxembourg	1 569	160	1 821	2 342
Hungary	4 220	1 556	4 917	4 757
Malta	-	-	707	1 361
Netherlands	12 746	13 483	32 684	41 605
Austria	5 015	4 919	9 750	11 436
Poland	-24 314	-25 060	12 679	18 790
Portugal	4 230	4 807	12 384	16 642
Slovenia	180	506	1 628	2 310
Slovakia	12 481	5 698	3 786	2 974
Finland	5 878	6 587	10 273	9 992
Sweden	3 395	3 445	14 556	16 323
United Kingdom	17 796	34 764	-7 257	-35 297
Iceland	97	140	619	871
Norway	816	-228	-84 629	-155 561
Bulgaria	4 705	4 048	6 159	4 065
Romania	6 055	3 641	7 649	5 124
Turkey	6 112	8 303	17 097	26 476

Data Source: Eurostat



(mio tonnes)

Solid Fuels

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	133	132	110	107	113	121	125	129	130	148	164
EU-15	149	151	133	135	146	148	153	156	154	172	188

Oil

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	521	526	510	489	491	511	515	538	505	520	541
EU-15	475	483	466	446	447	465	468	490	459	474	496

Data Source: Eurostat

During the period 1991-2001 the net imports of solid fuels to the EU-25 increased by 23% (30.7 million tonnes), mainly attributed to the increased imports of Germany, United Kingdom and Spain. On the other hand, Slovakia, France, Denmark, Hungary imported less hard coal in 2001 compared to 1991.

The increase in net imports of oil products was 3.7% (19.3 million tonnes) over the 1991-2001 period. Most of the countries imported more oil products in 2001 than they did in 1991 but an increase of exports by the United Kingdom and Denmark almost balanced the net imports of oil products at EU-25 level.

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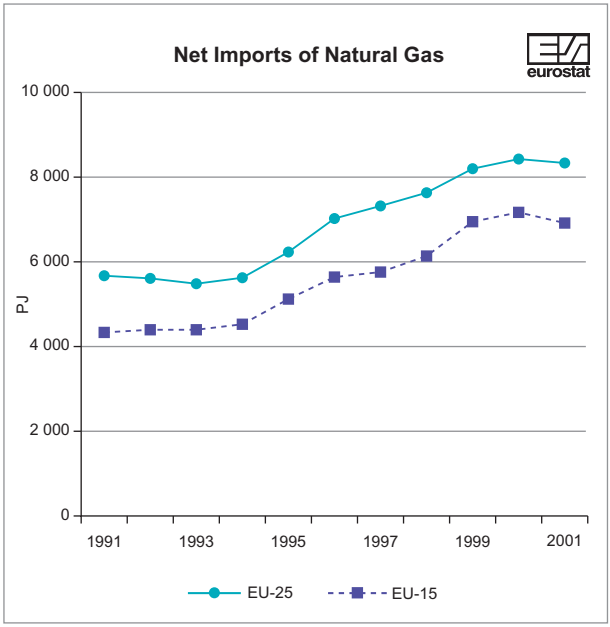
Net Imports of Natural Gas

(TJ)

	1991	1996	2001
EU-25	**5 693 665**	**6 908 384**	**8 467 268**
EU-15	**4 388 568**	**5 510 323**	**6 925 939**
Belgium	402 887	552 602	610 993
Czech Republic	256 209	351 128	359 894
Denmark	-58 229	-79 350	-142 090
Germany	2 031 039	2 793 795	2 707 308
Estonia	57 095	26 895	33 050
Greece	-	357	77 680
Spain	204 584	386 809	736 262
France	1 177 699	1 377 738	1 463 355
Ireland	-	22 489	136 078
Italy	1 280 369	1 415 724	2 084 562
Cyprus	-	-	-
Latvia	113 999	40 692	50 565
Lithuania	168 078	100 884	101 015
Luxembourg	20 789	28 430	32 311
Hungary	230 962	337 982	362 073
Malta	-	-	-
Netherlands	-1 269 313	-1 436 975	-938 409
Austria	202 552	260 237	232 956
Poland	247 314	293 011	333 925
Portugal	-	-	104 769
Slovenia	32 570	33 377	37 238
Slovakia	198 870	214 092	263 569
Finland	111 164	138 037	172 446
Sweden	25 799	33 866	35 685
United Kingdom	259 228	16 564	-387 967
Iceland	-	-	-
Norway	-1 022 434	-1 571 375	-2 022 071
Bulgaria	209 228	220 040	114 335
Romania	173 989	236 741	107 387
Turkey	154 541	318 304	614 878

Data Source: Eurostat



(PJ)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	5 694	5 638	5 449	5 593	6 271	6 908	7 164	7 524	8 249	8 508	8 467
EU-15	4 389	4 430	4 415	4 530	5 053	5 510	5 776	6 116	6 852	7 056	6 926

Data Source: Eurostat

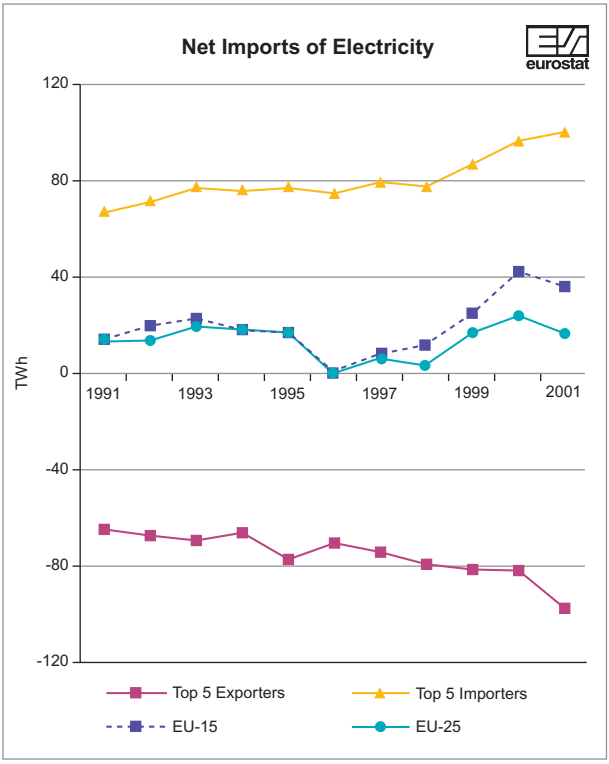
Total net imports at EU-25 level rose by 49% over the last decade; most EU-25 countries import natural gas with the exception of the North Sea producers: Denmark, Netherlands and the United Kingdom. Norway is the largest gas exporter of all the countries under consideration, while Germany, France and Italy are the largest importers with a share of 74% on the total net imports of the EU-25 in 2001.
Ireland, Greece and Portugal are rather new to the gas market since it was introduced in 1993, 1996 and 1997 respectively, while Cyprus and Malta do not use natural gas at all.

Net Imports of Electricity

(GWh)

	1991	1996	2001
EU-25	**12 896**	**-3 373**	**12 062**
EU-15	**14 170**	**-1 582**	**33 394**
Belgium	-1 847	4 191	9 106
Czech Republic	-2 530	-3	-9 539
Denmark	-1 972	-15 401	-575
Germany	-575	-5 266	2 724
Estonia	-4 771	-860	-622
Greece	644	1 350	2 500
Spain	-679	1 060	3 450
France	-52 893	-68 811	-68 390
Ireland	0	-129	-250
Italy	35 082	37 389	48 378
Cyprus	-	-	-
Latvia	4 225	3 227	1 883
Lithuania	-5 250	-5 159	-3 964
Luxembourg	3 996	4 906	5 646
Hungary	7 351	2 197	3 171
Malta	-	-	-
Netherlands	9 154	10 589	17 283
Austria	765	952	215
Poland	-2 618	-3 124	-6 729
Portugal	92	1 111	239
Slovenia	-2 019	-1 661	-1 772
Slovakia	4 338	3 592	-3 760
Finland	7 290	3 661	9 959
Sweden	-1 294	6 139	-7 290
United Kingdom	16 407	16 677	10 399
Iceland	-	-	-
Norway	-2 775	8 976	3 571
Bulgaria	2 124	-449	-6 925
Romania	7 047	807	-1 310
Turkey	253	-73	4 146

Data Source: Eurostat



(TWh)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	12.9	12.4	17.8	17.2	16.0	-3.4	6.3	2.3	14.0	24.9	12.1
EU-15	14.2	18.8	21.9	18.0	17.4	-1.6	7.8	13.1	23.7	42.4	33.4
Top 5 Exporters	-64.6	-68.3	-69.3	-64.9	-76.6	-71.0	-75.0	-80.3	-81.5	-82.5	-95.9
Top 5 Importers	66.1	69.2	76.3	75.6	76.2	72.5	79.0	75.7	86.7	93.6	95.1

Data Source: Eurostat

Note: Top 5 Exporters and Importers are drawn according to 2001 activity level.
Top 5 Exporting countries are France, Czech Republic, Sweden, Poland and Lithuania.
Top 5 Importing countries are Italy, Netherlands, United Kingdom, Finland and Belgium.

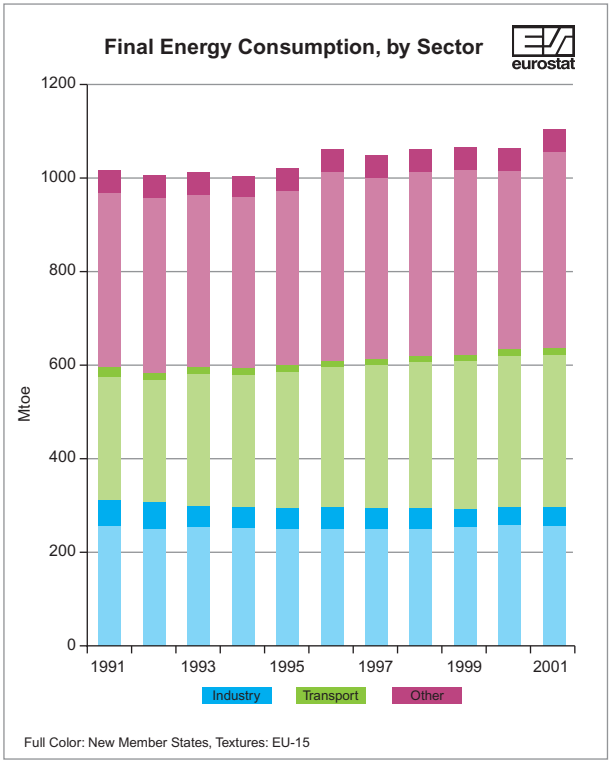
The net electricity imports of the European Union show variations in the period under consideration and considerable differences between Member States. This volatility must be seen in the context of trade in electricity rather than availability of local resources as is the case of solid fuels, natural gas and oil.
The largest net exporter of electricity in the EU-25 is France and the largest net importer is Italy, followed by the Netherlands and the United Kingdom, while the total exports of the 5 most exporting countries almost balanced the total imports of the 5 most importing countries throughout the period 1991-2001.

Final Enery Consumption, by Sector

(ktoe)

	Total		Industry		Transport		Other	
	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**1 028 462**	**1 095 057**	**315 942**	**308 540**	**276 217**	**336 037**	**436 303**	**450 481**
EU-15	**882 252**	**970 806**	**257 313**	**269 922**	**256 542**	**311 888**	**368 397**	**388 996**
BE	33 030	37 211	12 193	13 527	7 838	9 444	12 999	14 240
CZ	31 835	24 143	16 475	9 682	2 416	4 986	12 943	9 475
DK	14 115	14 749	2 846	2 979	4 084	4 548	7 185	7 222
DE	224 317	214 869	64 815	55 382	59 223	64 465	100 279	95 022
EE	5 704	2 516	2 546	582	771	650	2 387	1 283
EL	14 701	19 112	3 771	4 496	5 977	7 363	4 953	7 253
ES	60 081	83 252	20 201	27 163	24 168	34 233	15 711	21 857
FR	142 477	155 706	36 449	37 195	41 559	51 782	64 469	66 729
IE	7 096	10 675	1 780	2 040	2 019	4 273	3 298	4 362
IT	112 249	129 697	36 148	40 628	34 310	41 973	41 791	47 097
CY	1 120	1 680	349	408	572	927	199	345
LV	5 363	3 643	1 633	682	1 117	885	2 612	2 076
LT	9 056	3 778	2 976	690	2 090	1 142	3 990	1 946
LU	3 561	3 689	1 685	918	1 185	1 986	692	786
HU	17 662	16 390	5 445	3 570	2 676	3 403	9 540	9 417
MT	387	445	20	69	250	266	117	110
NL	45 566	50 775	12 722	13 773	10 546	14 233	22 297	22 769
AT	20 186	23 584	5 207	6 338	5 506	6 896	9 473	10 351
PL	60 041	56 230	22 652	17 392	7 535	9 139	29 854	29 699
PT	11 648	17 359	4 198	5 610	3 986	6 548	3 464	5 201
SI	3 330	4 562	1 304	1 358	856	1 372	1 169	1 832
SK	11 714	10 864	5 229	4 185	1 391	1 377	5 094	5 302
FI	21 203	24 690	9 070	11 578	4 139	4 482	7 994	8 630
SE	30 830	33 417	11 767	12 885	7 170	8 565	11 894	11 968
UK	141 193	152 021	34 460	35 411	44 833	51 097	61 900	65 512
IS	1 564	2 113	349	700	278	329	937	1 084
NO	15 838	18 539	5 690	6 780	3 861	4 529	6 286	7 230
BG	12 247	8 532	6 845	3 560	1 502	1 918	3 901	3 055
RO	26 578	22 418	15 389	9 344	3 784	3 948	7 405	9 126
TR	31 226	51 209	12 430	17 269	8 989	11 664	9 807	22 275

Data Source: Eurostat



(Mtoe)

EU-25	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Industry	316	304	297	297	308	306	309	304	300	309	309
Transport	276	284	289	291	295	305	312	323	332	333	336
Other	436	422	429	417	425	456	437	443	440	426	450

EU-15	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Industry	257	251	248	250	259	259	262	262	262	270	270
Transport	257	265	270	272	275	283	288	300	307	311	312
Other	368	360	365	355	363	394	378	384	381	370	389

Data Source: Eurostat

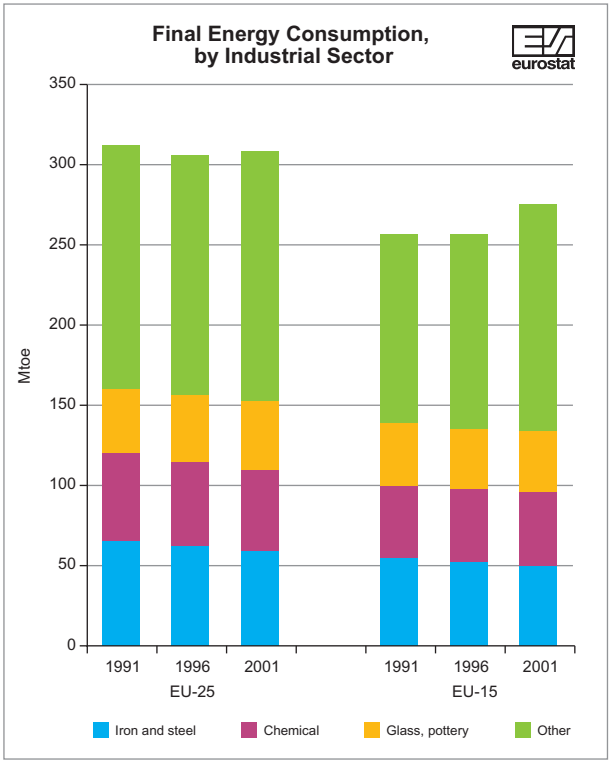
EU-25 final energy consumption increased by 6% over the period 1991-2001. 90% of this increase was due to the transport sector which rose by 22% over the last decade. Final energy consumption in industry decreased by 2% and energy consumption for the other sectors increased by 3% in the same period.
In 2001, transport accounted for 31% of EU-25 final energy consumption, industry for 28% and the other sectors of households, commerce and public services remained the largest final energy consumers accounting altogether for 41% of total energy consumption.

Final Energy Consumption, by Industrial Sector

(ktoe)

	Total industry		Iron and steel		Chemical		Glass, pottery	
	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**315 942**	**308 540**	**66 519**	**59 345**	**53 956**	**51 802**	**41 501**	**39 836**
EU-15	**257 313**	**269 922**	**53 742**	**49 876**	**46 988**	**44 959**	**35 184**	**34 512**
BE	12 193	13 527	4 656	4 638	2 564	2 811	1 160	1 196
CZ	16 475	9 682	4 235	3 171	1 047	1 347	640	1 043
DK	2 846	2 979	104	116	282	259	553	641
DE	64 815	55 382	15 908	14 205	14 808	9 885	7 473	6 441
EE	2 546	582	5	0	426	41	261	149
EL	3 771	4 496	101	211	218	251	1 303	1 366
ES	20 201	27 163	3 828	4 569	2 970	3 641	4 620	7 085
FR	36 449	37 195	7 198	6 076	5 900	7 364	4 742	3 870
IE	1 780	2 040	73	20	208	398	315	171
IT	36 148	40 628	7 169	6 998	7 508	6 276	7 337	7 174
CY	349	408	-	-	3	2	165	200
LV	1 633	682	95	131	47	17	82	58
LT	2 976	690	3	5	415	58	988	156
LU	1 685	918	1 239	347	99	32	110	88
HU	5 445	3 570	1 268	621	947	801	792	628
MT	20	69	-	-	-	-	-	-
NL	12 722	13 773	2 019	2 197	5 440	4 325	949	810
AT	5 207	6 338	1 160	1 558	540	622	598	524
PL	22 652	17 392	5 602	4 000	3 898	3 974	3 270	2 373
PT	4 198	5 610	246	151	462	779	1 395	2 068
SI	1 304	1 358	124	148	59	107	109	225
SK	5 229	4 185	1 445	1 392	125	495	10	493
FI	9 070	11 578	1 328	1 469	894	585	812	329
SE	11 767	12 885	1 542	1 812	892	680	553	492
UK	34 460	35 411	7 170	5 506	4 205	7 051	3 265	2 256
IS	349	700	94	171	15	7	16	13
NO	5 690	6 780	1 201	1 187	680	1 127	212	317
BG	6 845	3 560	938	988	2 536	1 053	574	493
RO	15 389	9 344	5 274	2 487	1 982	2 410	3 413	1 299
TR	12 430	17 269	2 807	4 565	1 167	1 252	587	857

Data Source: Eurostat



(Mtoe)

	EU-25			EU-15		
	1991	**1996**	**2001**	**1991**	**1996**	**2001**
Total	316	306	309	257	259	270
Iron and steel	67	64	59	54	52	50
Chemical	54	50	52	47	43	45
Glass, pottery	42	40	40	35	33	35
Other	154	152	158	121	131	141

Data Source: Eurostat

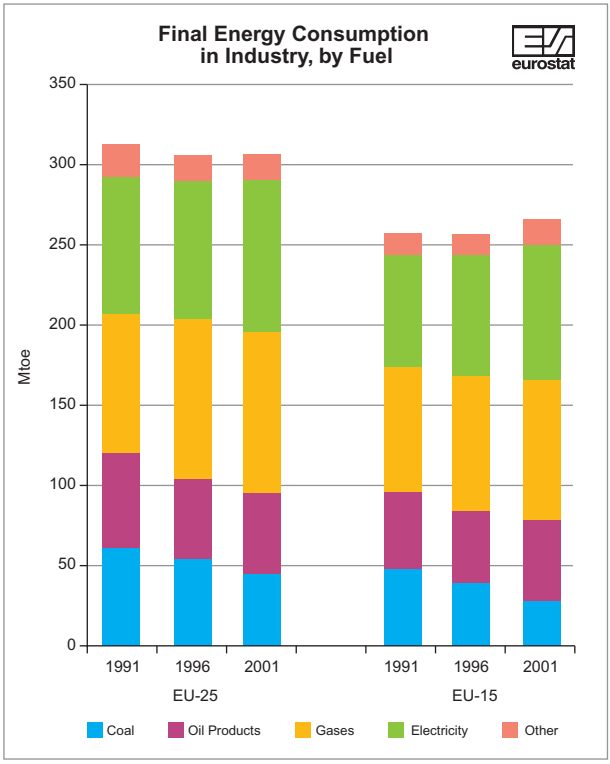
The total energy consumption of all EU-25 industrial sectors fell by 2% over the last decade. A reduction which is ascribed to the three main industrial sectors, namely iron and steel industry, glass, pottery and building material industry and chemical industry where reductions of 11%, 4% and 4% were observed respectively in the period under consideration. The other industrial sectors which made up 49% of the total industrial consumption in 1991 exhibited a 2% increase in consumption leading to a share of 51% of industrial consumption in 2001.

Final Energy Consumption in Industry, by Fuel

(ktoe)

	All products		Coal		Oil products		Gases		Electricity	
	1991	2001	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**315 942**	**308 540**	**65 843**	**43 130**	**55 476**	**48 508**	**87 279**	**103 061**	**76 708**	**89 609**
EU-15	**257 313**	**269 922**	**47 800**	**31 415**	**48 965**	**44 783**	**76 536**	**92 330**	**68 169**	**81 787**
BE	12 193	13 527	3 303	3 096	2 677	1 646	3 239	4 800	2 672	3 373
CZ	16 475	9 682	8 049	3 408	1 739	406	2 482	3 178	1 984	1 714
DK	2 846	2 979	367	216	970	794	580	826	777	882
DE	64 815	55 382	15 325	9 048	9 128	5 671	20 847	21 422	16 670	18 860
EE	2 546	582	135	104	633	93	378	101	248	156
EL	3 771	4 496	1 059	870	1 487	1 913	7	294	1 023	1 183
ES	20 201	27 163	3 371	1 741	5 524	5 899	4 146	10 365	5 564	7 762
FR	36 449	37 195	6 892	4 499	6 481	7 521	11 512	11 853	10 056	11 579
IE	1 780	2 040	263	48	681	776	376	440	398	667
IT	36 148	40 628	4 178	3 740	7 498	6 596	13 830	16 702	9 539	12 313
CY	349	408	11	37	310	332	-	-	29	39
LV	1 633	682	16	10	197	97	354	254	259	133
LT	2 976	690	71	10	734	155	249	220	434	202
LU	1 685	918	695	106	287	67	478	406	224	318
HU	5 445	3 570	622	423	774	209	2 900	1 650	917	811
MT	20	69	-	-	-	-	-	-	20	69
NL	12 722	13 773	1 397	1 310	1 341	1 602	7 072	5 788	2 859	3 494
AT	5 207	6 338	458	379	731	932	1 809	2 390	1 602	1 806
PL	22 652	17 392	6 454	6 564	844	1 796	3 268	3 273	3 243	3 355
PT	4 198	5 610	656	203	1 878	2 475	28	836	1 076	1 390
SI	1 304	1 358	108	85	205	213	499	472	452	489
SK	5 229	4 185	2 578	1 072	1 074	424	613	1 584	953	855
FI	9 070	11 578	1 351	1 093	1 150	1 074	1 540	1 310	2 698	3 644
SE	11 767	12 885	1 148	1 153	1 707	1 479	456	555	4 451	4 911
UK	34 460	35 411	7 337	3 914	7 425	6 338	10 615	14 343	8 561	9 605
IS	349	700	65	94	71	131	-	-	213	475
NO	5 690	6 780	721	877	640	801	10	171	3 894	4 201
BG	6 845	3 560	457	751	757	768	1 764	904	1 204	777
RO	15 389	9 344	1 777	643	2 483	1 678	8 607	4 505	2 484	1 785
TR	12 430	17 269	5 498	7 541	3 535	3 938	1 139	1 922	2 258	3 869

Data Source: Eurostat



(Mtoe)

	EU-25			EU-15		
	1991	**1996**	**2001**	**1991**	**1996**	**2001**
Total	316	306	309	257	259	270
Coal	66	53	43	48	35	31
Oil Products	55	50	49	49	46	45
Gases	87	98	103	77	88	92
Electricity	77	80	90	68	72	82
Other	31	24	24	16	18	20

Data Source: Eurostat

A clear trend observed in EU-25 industry is the significant reduction in coal use, a decrease of 34% over the last decade observed in almost all Member States. Consumption of oil also decreased by 13% over the same period and it is evident that the European industry is turning towards natural gas, a cleaner and more efficient fuel (18% increase over the last decade).
Likewise, there was a significant increase (17%) in electricity consumption of EU-25 industry between 1991 and 2001 which amounted to 29% of the total final energy consumption in industry in 2001. The share of oil was 16%, natural gas 33% while the share of coal was 14%, dropping from 21% ten years earlier.

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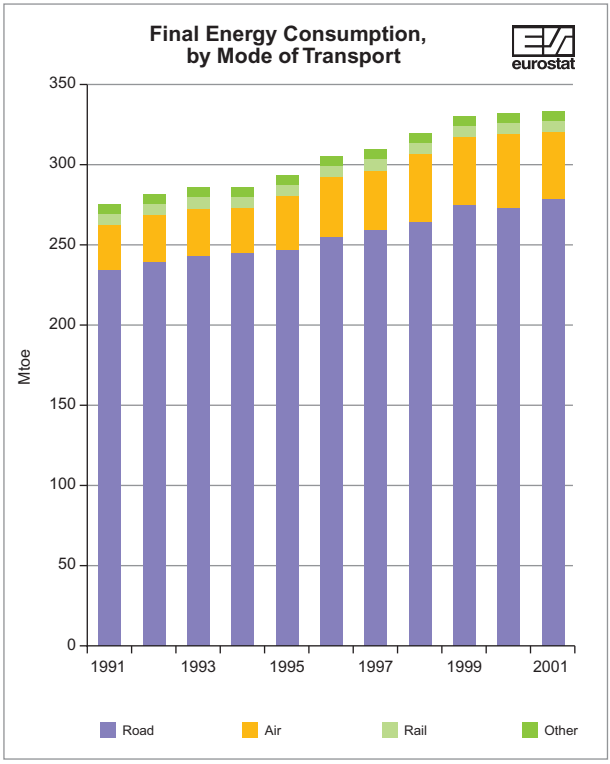
Final Energy Consumption, by Mode of Transport

(ktoe)

	Total transport		Rail		Road		Air	
	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**276 217**	**336 037**	**8 703**	**8 661**	**231 360**	**278 607**	**29 253**	**43 833**
EU-15	**256 542**	**311 888**	**7 106**	**7 451**	**214 940**	**257 015**	**27 779**	**42 527**
BE	7 838	9 444	215	181	6 502	7 981	927	1 154
CZ	2 416	4 986	203	279	2 058	4 487	155	214
DK	4 084	4 548	113	98	3 189	3 492	600	846
DE	59 223	64 465	2 155	1 944	51 261	55 231	5 145	7 021
EE	771	650	62	48	667	574	36	16
EL	5 977	7 363	56	59	4 177	5 444	1 163	1 191
ES	24 168	34 233	545	913	18 633	27 409	3 245	4 538
FR	41 559	51 782	1 221	1 248	35 753	43 133	3 812	6 643
IE	2 019	4 273	51	42	1 607	3 474	353	737
IT	34 310	41 973	762	823	30 989	37 490	2 153	3 405
CY	572	927	2	2	373	602	197	322
LV	1 117	885	16	77	883	764	99	27
LT	2 090	1 142	175	67	1 403	1 037	31	35
LU	1 185	1 986	13	12	1 035	1 628	137	346
HU	2 676	3 403	234	171	2 313	3 012	129	220
MT	250	266	-	-	167	173	82	93
NL	10 546	14 233	154	177	8 055	10 489	1 712	3 254
AT	5 506	6 896	304	337	4 847	5 981	348	570
PL	7 535	9 139	757	531	6 467	8 256	254	350
PT	3 986	6 548	86	73	3 263	5 667	595	758
SI	856	1 372	24	33	822	1 311	10	28
SK	1 391	1 409	124	3	1 267	1 374	:	31
FI	4 139	4 482	95	93	3 530	3 746	446	508
SE	7 170	8 565	244	270	6 049	7 190	775	950
UK	44 833	51 097	1 091	1 181	36 049	38 659	6 368	10 605
IS	278	329	-	-	188	200	74	122
NO	3 861	4 529	109	161	2 710	3 067	487	645
BG	1 502	1 918	183	71	1 126	1 698	192	149
RO	3 784	3 948	205	296	3 032	3 524	165	115
TR	8 989	11 664	229	224	8 057	9 953	496	1 241

Data Source: Eurostat



(Mtoe)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	276	284	289	291	295	305	312	323	332	333	336
Road	231	238	242	243	246	254	259	267	274	274	279
Air	29	30	31	32	34	35	37	41	43	45	44
Rail	9	9	9	9	9	9	9	9	9	9	9
Other	7	7	7	7	7	7	7	7	6	5	5

Data Source: Eurostat

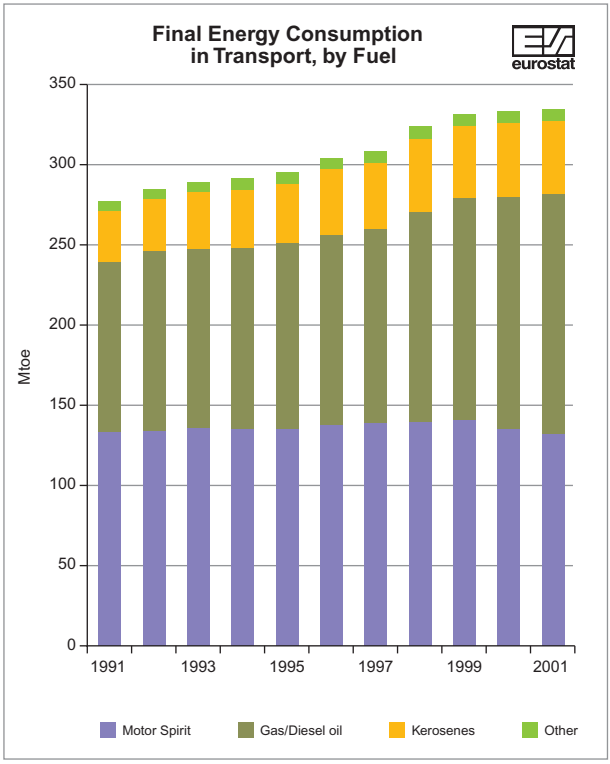
During the period 1991-2001, EU-25 energy consumption in transport increased by 22%. Increases can be observed in road transport, (20%) and in air transport, (50%); a very small decrease of 0.5% was observed in rail transport since the 24% decrease recorded for the new Member States almost balanced the 5% increase of the EU-15.
The large increase in energy use in air transport indicates a corresponding increase in air travel in the EU-15 over the period 1991-2001.

Final Energy Consumption in Transport, by Fuel

(ktoe)

	Total		Motor Spirit		Kerosenes		Gas/Diesel oil	
	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**276 217**	**336 037**	**132 087**	**127 226**	**29 102**	**43 689**	**105 844**	**153 813**
EU-15	**256 542**	**311 888**	**122 309**	**116 081**	**27 688**	**42 393**	**98 477**	**143 659**
BE	7 838	9 444	2 881	2 300	924	1 151	3 793	5 690
CZ	2 416	4 986	1 153	2 001	143	211	917	2 511
DK	4 084	4 548	1 731	2 003	600	844	1 626	1 623
DE	59 223	64 465	32 564	29 160	5 145	7 010	20 174	26 632
EE	771	650	463	324	36	16	251	303
EL	5 977	7 363	2 578	3 506	1 156	1 191	1 970	2 304
ES	24 168	34 233	8 981	8 924	3 232	4 526	11 206	20 039
FR	41 559	51 782	17 503	14 110	3 782	6 613	19 417	29 480
IE	2 019	4 273	952	1 630	352	736	705	1 880
IT	34 310	41 973	14 685	17 192	2 145	3 393	15 282	18 712
CY	572	927	169	230	197	322	204	372
LV	1 117	885	494	365	99	27	379	459
LT	2 090	1 142	1 092	390	511	35	456	588
LU	1 185	1 986	508	598	137	346	531	1 030
HU	2 676	3 403	1 638	1 464	129	218	813	1 621
MT	250	266	70	54	82	93	97	119
NL	10 546	14 233	3 637	4 334	1 707	3 250	4 116	5 942
AT	5 506	6 896	2 888	2 092	348	570	2 011	3 931
PL	7 535	9 139	3 762	4 838	208	347	3 086	2 963
PT	3 986	6 548	1 586	2 100	593	755	1 780	3 636
SI	856	1 372	555	840	8	27	278	484
SK	1 391	1 377	380	640	0	0	887	735
FI	4 139	4 482	2 073	1 904	443	505	1 548	1 986
SE	7 170	8 565	4 474	4 167	768	946	1 674	3 155
UK	44 833	51 097	25 269	22 060	6 355	10 556	12 643	17 620
IS	278	329	148	152	72	121	52	53
NO	3 861	4 529	1 810	1 705	484	640	1 453	2 034
BG	1 502	1 918	707	597	192	148	488	849
RO	3 784	3 948	1 833	1 662	185	113	1 170	1 955
TR	8 989	11 664	3 260	3 139	496	1 241	5 080	5 706

Data Source: Eurostat



(Mtoe)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	276	284	289	291	295	305	312	323	332	333	336
Motor Spirit	132	135	135	132	132	134	134	135	136	130	127
Gas/Diesel oil	106	110	113	116	120	125	129	137	142	147	154
Kerosenes	29	30	31	32	34	35	37	41	43	45	44
Other	9	9	10	10	10	11	11	11	11	11	11

Data Source: Eurostat

The 50% increase in kerosene consumption (the largest increase of fuels used in the transport sector) is directly related to the corresponding increase in air transport.

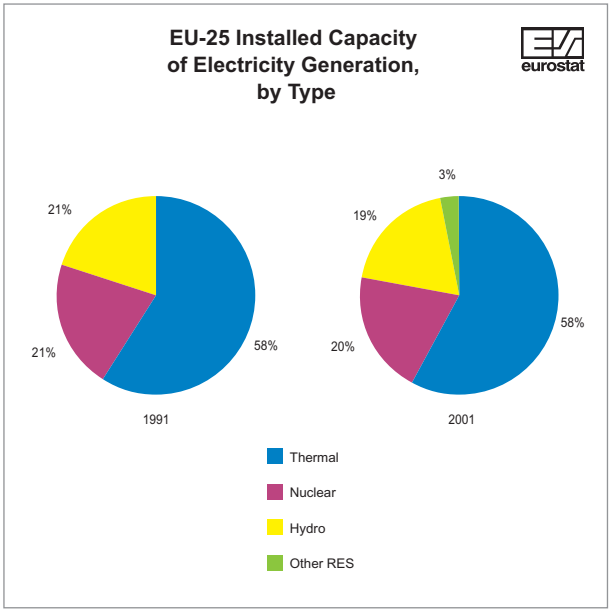
Due to the gradual shift towards diesel-engine cars the consumption of diesel grew rapidly. In the period 1991-2001 a 45% increase was observed for diesel while the decrease of petrol was slightly less than 4%. In 2001 the share in final energy consumption in transport by fuel was petrol 38%, diesel 46%, kerosene 13% and LPG, electricity and other fuels 3%, while in 1991 petrol held a 48% share, diesel 38%, kerosene 11% and others 3%.

Installed Capacity of Electricity Generation, by Type

(MW)

	Total		Thermal		Nuclear		Hydro		Others	
	1991	2001	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**562 156**	**670 867**	**327 728**	**390 009**	**118 396**	**133 769**	**114 807**	**129 311**	**1 225**	**17 778**
EU-15	**520 673**	**590 949**	**291 359**	**330 669**	**116 004**	**123 847**	**112 085**	**118 676**	**1 225**	**17 757**
BE	14 098	15 538	7 207	8 353	5 485	5 738	1 401	1 421	5	26
CZ	:	15 390	:	11 485	:	1 760	:	2 145	-	0
DK	9 570	12 767	9 147	10 201	-	-	10	10	413	2 556
DE	118 227	119 389	87 033	79 380	22 534	22 396	8 550	8 859	110	8 754
EE	3 000	2 223	3 000	2 223	-	-	-	-	-	-
EL	8 912	10 969	6 397	7 623	-	-	2 512	3 076	3	270
ES	43 629	55 695	20 295	26 915	6 987	7 519	16 340	18 017	7	3 244
FR	104 348	115 513	22 585	26 964	56 780	63 183	24 982	25 285	1	81
IE	3 811	4 717	3 295	4 064	-	-	516	528	0	125
IT	57 875	76 147	38 226	54 477	-	-	19 078	20 433	571	1 237
CY	471	1 004	471	1 004	-	-	-	-	-	-
LV	:	2 102	:	576	-	-	:	1 524	:	2
LT	:	6 568	:	2 652	:	3 000	:	916	-	-
LU	1 248	1 220	116	65	-	-	1 132	1 140	0	15
HU	7 193	8 392	5 385	6 478	1 760	1 866	48	48	-	-
MT	:	1 987	:	1 987	-	-	-	-	-	-
NL	16 845	20 311	16 219	19 344	505	449	37	38	84	480
AT	16 779	17 657	5 753	6 038	-	-	11 026	11 550	0	69
PL	28 288	30 672	26 369	28 420	-	-	1 919	2 233	0	19
PT	7 448	10 990	4 111	6 291	-	-	3 333	4 560	4	139
SI	2 531	2 899	1 144	1 337	632	656	755	906	-	-
SK	:	8 681	:	3 178	:	2 640	:	2 863	-	-
FI	13 349	16 472	8 340	10 898	2 360	2 640	2 648	2 895	1	39
SE	34 480	33 835	8 150	7 536	10 000	9 436	16 318	16 568	12	295
UK	70 054	79 729	54 485	62 520	11 353	12 486	4 202	4 296	14	427
IS	969	1 460	145	149	-	-	779	1 109	45	202
NO	26 890	28 866	0	272	-	-	26 890	28 581	0	13
BG	:	13 854	:	7 458	:	3 532	:	2 864	-	-
RO	22 267	20 864	16 580	14 035	-	707	5 687	6 122	-	-
TR	17 210	28 332	10 078	16 622	-	-	7 114	11 673	18	37

Data Source: Eurostat



(GW)

	EU-25		EU-15	
	1991	**2001**	**1991**	**2001**
Total	562	671	521	591
Thermal	328	390	291	331
Nuclear	118	134	116	124
Hydro	115	129	112	119
Other RES	1	18	1	18

Data Source: Eurostat

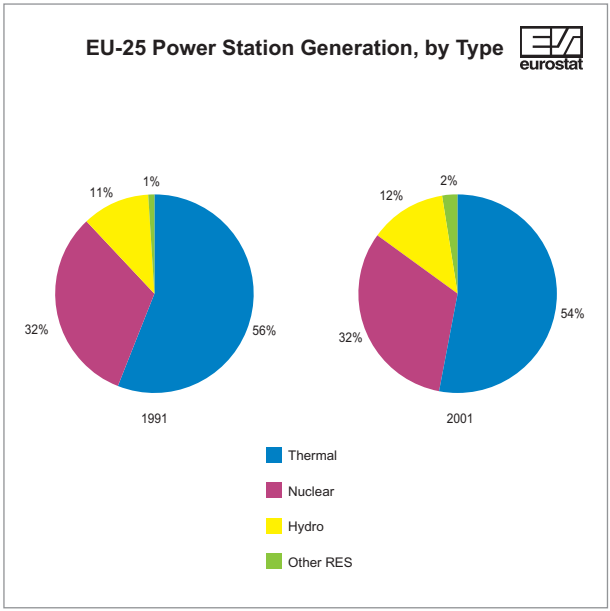
When analysing this table it is important to keep in mind that no data were available for Czech Republic, Latvia, Lithuania, Malta and Slovakia for 1991.
The total EU-15 installed capacity of electricity generation plants rose by 13% between 1991 and 2001. Thermal power plants provided the majority of capacity and increased by 13%, while installed nuclear capacity rose by 7% during the same period. The most important figure in the above table is the extraordinary increase of the installed capacity of RES (excluding hydro), which reached 17.7GW in 2001, however they still contribute only 3.0% to the total installed capacity of electricity generation plants.
In 2001 thermal power plants represented 74% of total installed capacity in the new Member States, followed by hydro plants (13%) and nuclear power plants (12%).

Power Station Generation, by Type

(GWh)

	Total		Thermal		Nuclear		Hydro		Others	
	1991	2001	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**2 506 742**	**2 980 578**	**1 398 158**	**1 598 290**	**806 851**	**953 759**	**279 975**	**353 572**	**21 758**	**74 957**
EU-15	**2 202 889**	**2 647 221**	**1 165 794**	**1 345 160**	**747 352**	**891 162**	**268 470**	**337 119**	**21 273**	**73 780**
BE	71 195	78 489	27 562	30 721	42 861	46 349	229	440	543	979
CZ	60 530	74 234	47 141	56 913	12 132	14 749	1 257	2 054	0	518
DK	36 328	37 711	35 277	31 265	740	4 299	26	29	285	2 118
DE	535 595	577 158	370 104	369 652	147 429	171 305	14 449	20 451	3 613	15 750
EE	14 627	8 483	14 627	8 466	-	-	0	7	0	10
EL	35 743	53 076	32 642	50 223	-	-	3 099	2 097	2	756
ES	154 708	235 154	71 232	120 165	55 578	63 708	27 282	41 021	616	10 260
FR	451 417	545 057	60 461	45 256	331 340	421 072	58 743	74 997	873	3 732
IE	14 929	24 632	14 183	23 605	-	-	746	596	0	431
IT	221 859	276 387	176 173	221 304	-	-	42 239	46 811	3 447	8 272
CY	2 077	3 551	2 077	3 551	-	-	-	-	-	-
LV	5 644	4 280	2 369	1 442	-	-	3 275	2 833	0	5
LT	21 863	14 362	4 525	2 672	17 000	11 362	338	326	0	2
LU	671	385	567	280	-	-	54	20	50	85
HU	29 963	36 418	15 995	21 991	13 726	14 126	194	186	48	115
MT	1 419	1 987	1 419	1 987	-	-	-	-	-	-
NL	74 292	93 747	69 633	85 371	3 329	3 976	104	117	1 226	4 283
AT	50 182	60 780	17 646	18 624	-	-	31 443	40 187	1 093	1 969
PL	132 728	143 720	130 866	140 938	-	-	1 425	2 324	437	458
PT	29 744	46 273	19 887	30 278	-	-	9 043	14 034	814	1 961
SI	12 742	14 466	4 182	5 344	4 952	5 257	3 608	3 796	0	69
SK	22 260	31 856	9 163	9 826	11 689	17 103	1 408	4 927	-	-
FI	57 985	74 450	20 195	29 992	19 511	22 773	13 197	13 204	5 082	8 481
SE	146 958	161 594	4 858	6 062	76 761	72 109	63 236	79 060	2 103	4 363
UK	321 283	382 328	245 374	282 362	70 543	89 870	4 580	4 055	786	6 041
IS	4 777	9 484	290	1 455	283	1 451	4 204	6 578	-	-
NO	110 652	121 356	72	720	-	-	110 580	120 417	0	219
BG	38 917	43 534	23 292	22 244	13 184	19 553	2 441	1 737	0	0
RO	56 912	53 866	42 663	33 497	-	5 446	14 249	14 923	0	0
TR	60 327	122 815	37 525	98 520	-	-	22 683	24 010	119	285

Data Source: Eurostat



(TWh)

	EU-25		EU-15	
	1991	**2001**	**1991**	**2001**
Total	2 507	2 981	2 203	2 647
Thermal	1 398	1 598	1 166	1 345
Nuclear	807	954	747	891
Hydro	280	354	268	337
Other RES	22	75	21	74

Data Source: Eurostat

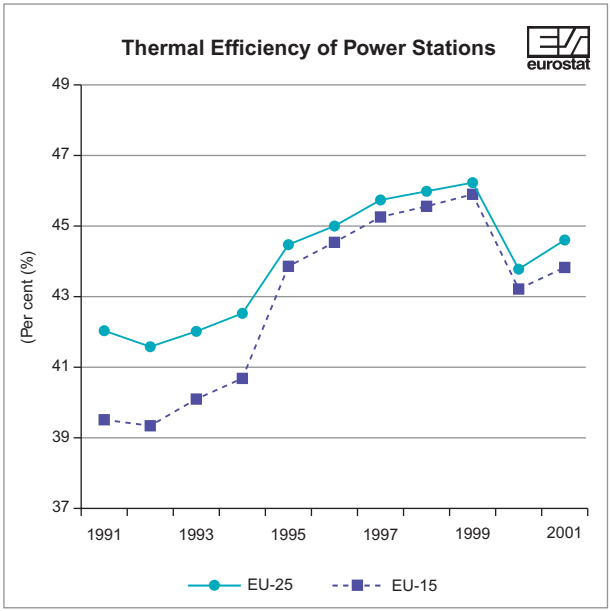
The increase in EU-15 total electricity generation over the last decade was 20%, higher than the 13% increase of the installed capacity seen in the previous table. In 2001, 51% of the electricity was provided by thermal power stations which were fuelled 59% with solid fuels, 29% with natural gas and 12% with oil products for the production of electricity. At EU-25 level there was an increase of 19% in total electricity generation over the 1991-2001 period. In 2001, the largest part was provided by thermal power plants, accounting for 54% of total electricity generation, followed by nuclear power plants (32%), hydro plants (12%) and other RES (2%).

Thermal Efficiency of Power Stations

Per cent (%)

	1991	1996	2001
EU-25	**42.1**	**44.9**	**44.5**
EU-15	**39.5**	**44.3**	**43.7**
Belgium	39.3	41.8	50.5
Czech Republic	59.4	48.1	47.3
Denmark	55.4	56.9	65.8
Germany	35.9	44.6	36.9
Estonia	49.3	39.4	40.3
Greece	32.7	32.6	37.4
Spain	36.3	38.3	42.5
France	40.1	42.2	39.2
Ireland	37.7	38.0	39.3
Italy	39.5	40.2	41.6
Cyprus	33.4	32.9	35.7
Latvia	57.2	82.5	79.6
Lithuania	64.8	65.5	72.7
Luxembourg	26.0	29.8	71.3
Hungary	43.4	43.2	51.2
Malta	38.9	29.4	31.8
Netherlands	42.9	49.4	54.1
Austria	50.7	51.2	61.3
Poland	49.4	46.0	47.3
Portugal	39.5	40.5	44.7
Slovenia	39.3	36.5	41.7
Slovakia	75.3	82.0	53.5
Finland	70.1	66.3	70.6
Sweden	87.4	76.8	93.0
United Kingdom	38.6	41.4	43.3
Iceland	30.0	28.6	24.6
Norway	53.4	80.9	82.1
Bulgaria	41.8	42.3	41.6
Romania	51.6	54.7	57.1
Turkey	35.1	34.0	38.9

Data Source: Eurostat



Per cent (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	42.1	41.7	42.0	42.4	44.4	44.9	45.8	46.0	46.2	43.9	44.5
EU-15	39.5	39.4	40.1	40.7	43.7	44.3	45.2	45.5	45.8	43.2	43.7

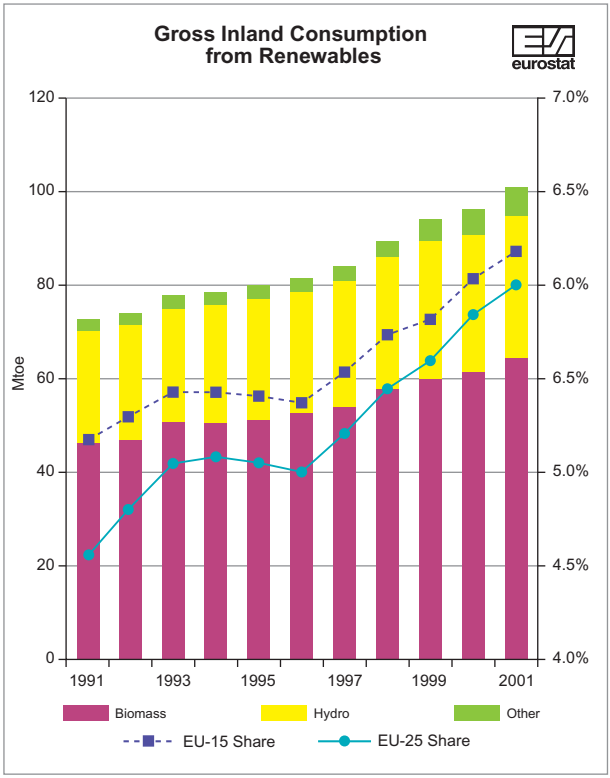
Data Source: Eurostat

The EU-25 efficiency of thermal power stations grew steadily until 1999 and is consequently higher than the EU-15 efficiency. This is due to the large number of CHP plants (which have intrinsically higher efficiency) in operation in the 10 new Member States. In 1991 the EU-15 efficiency of thermal power station was 39.5%, 2.6% lower than the EU-25 efficiency, while in 2001 the difference was just 0.8%. This leads to the conclusion that more and more CHP plants are operating in the EU-15.

Gross Inland Consumption from Renewables and Share on Total Gross Inland Consumption

							(ktoe)		Per cent (%)	
	Total		Hydro		Biomass		Other		Share	
	1991	2001	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**71 918**	**101 135**	**24 074**	**30 402**	**45 411**	**64 540**	**2 434**	**6 193**	**4.6**	**6.0**
EU-15	**69 230**	**91 703**	**23 084**	**28 987**	**43 712**	**56 567**	**2 434**	**6 149**	**5.1**	**6.2**
BE	659	782	20	38	636	736	3	8	1.3	1.4
CZ	108	689	108	177	:	512	_	_	0.3	1.7
DK	1 909	2 197	2	2	1 839	1 815	68	380	9.9	11.0
DE	5 549	9 859	1 242	1 758	4 272	7 092	34	1 009	1.6	2.8
EE	460	539	0	1	460	539	_	_	5.0	10.7
EL	1 230	1 318	266	180	897	970	66	167	5.5	4.6
ES	6 176	8 326	2 346	3 527	3 805	4 156	24	643	6.6	6.6
FR	18 100	18 642	5 051	6 449	12 925	12 019	123	176	7.7	7.1
IE	173	261	64	51	108	180	0	29	1.7	1.8
IT	9 067	13 480	3 632	4 025	3 379	6 153	2 055	3 301	5.8	7.6
CY	6	44	_	_	6	10	:	34	0.4	1.8
LV	282	1 502	282	244	:	1 258	_	_	4.2	35.2
LT	29	682	29	28	:	654	_	_	0.2	8.3
LU	46	50	5	2	42	46	0	2	1.2	1.3
HU	17	407	17	16	:	385	:	6	0.1	1.6
MT	_	_	_	_	_	_	_	_	0.0	0.0
NL	805	1 610	9	10	787	1 519	10	81	1.2	2.1
AT	5 267	6 585	2 704	3 455	2 543	3 035	20	96	20.1	21.8
PL	1 356	4 071	123	200	1 233	3 867	_	4	1.4	4.5
PT	2 663	3 368	778	1 207	1 868	2 056	17	105	15.5	13.9
SI	310	776	310	326	:	450	_	_	5.8	11.7
SK	121	722	121	424	:	298	_	_	0.6	3.9
FI	5 334	7 574	1 135	1 135	4 199	6 433	0	6	18.4	22.8
SE	11 203	14 951	5 437	6 798	5 762	8 106	5	47	23.0	29.0
UK	1 049	2 697	394	349	648	2 251	7	98	0.5	1.2
IS	1 359	2 451	361	566	0	1	997	1 884	66.8	73.2
NO	10 474	11 830	9 508	10 354	965	1 473	0	2	47.6	44.0
BG	210	692	210	149	:	543	_	_	0.9	3.7
RO	2 372	3 418	1 225	1 283	1 146	2 135	_	_	4.7	9.3
TR	1 950	10 203	1 950	2 064	:	6 297	:	1 841	4.3	13.9

Data Source: Eurostat



(Mtoe)

EU-25	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Total	72	74	78	79	80	82	84	89	92	96	101
Biomass	45	46	49	49	50	52	54	57	60	62	65
Hydro	24	26	26	27	26	26	27	28	28	29	30
Others	2	3	3	3	3	3	4	4	5	6	6
Share	4.6%	4.8%	5.0%	5.1%	5.1%	5.0%	5.2%	5.4%	5.6%	5.8%	6.0%

EU-15	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Share	5.1%	5.3%	5.4%	5.4%	5.4%	5.3%	5.5%	5.7%	5.8%	6.0%	6.2%

Data Source: Eurostat

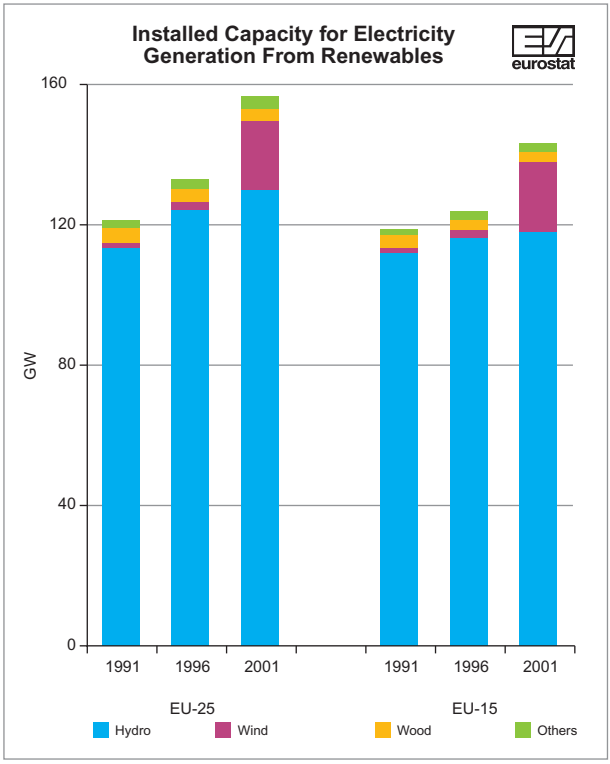
The EU-25 gross inland consumption from renewables rose by more than 35% - an accurate figure cannot be given due to lack of data for some countries - over the period 1991-2001 but still made only a small contribution of 6% in 2001 to total gross inland consumption. In 2001 the most significant contribution was that of biomass (accounting for 64% of gross inland consumption from renewables), followed by hydro (30%) and "other", mostly wind, (6%).
"Other" renewables such as solar, geothermal and wind increased by 154% over the period 1991–2001 with a significant increase of solar and wind energy.

Installed Capacity for Electricity Generation From Renewables

(MW)

	Total		Hydro		Wind		Wood		Others	
	1991	2001	1991	2001	1991	2001	1991	2001	1991	2001
EU-25	**120 534**	**155 107**	**114 914**	**129 311**	**653**	**17 191**	**3 106**	**4 234**	**1 861**	**4 371**
EU-15	**117 705**	**144 395**	**112 085**	**118 676**	**653**	**17 170**	**3 106**	**4 218**	**1 861**	**4 331**
BE	1 516	1 638	1 401	1 421	5	26	110	62	-	129
CZ	:	2 145	:	2 145	-	-	-	-	-	-
DK	483	2 566	10	10	413	2 556	40	0	20	:
DE	9 441	18 810	8 550	8 859	110	8 754	:	0	781	1 197
EE	-	-	-	-	-	-	-	-	-	-
EL	2 564	3 368	2 512	3 076	1	270	47	0	4	22
ES	16 489	21 589	16 340	18 017	7	3 244	115	167	27	161
FR	24 983	25 984	24 982	25 285	1	81	:	340	:	278
IE	516	668	516	528	-	125	-	-	0	15
IT	19 745	22 097	19 078	20 433	4	664	4	:	659	1 000
CY	-	-	-	-	-	-	-	-	-	-
LV	:	1 526	:	1 524	-	2	-	-	-	-
LT	107	916	107	916	-	-	-	-	-	-
LU	1 138	1 164	1 132	1 140	-	15	-	-	6	9
HU	48	73	48	48	-	-	0	1	:	24
MT	-	-	-	-	-	-	-	-	-	-
NL	295	953	37	38	84	480	-	-	174	435
AT	11 432	11 620	11 026	11 550	-	69	400	:	6	1
PL	1 919	2 264	1 919	2 233	-	19	-	-	-	12
PT	3 524	4 979	3 333	4 560	1	125	187	214	3	80
SI	755	924	755	906	-	-	-	15	-	3
SK	:	2 864	:	2 863	-	-	-	-	-	1
FI	3 652	4 434	2 648	2 895	1	39	1 003	1 500	-	-
SE	17 560	18 832	16 318	16 568	12	295	1 200	1 778	30	191
UK	4 367	5 693	4 202	4 296	14	427	0	157	151	813
IS	824	1 311	779	1 109	-	-	-	-	45	202
NO	26 958	28 629	26 890	28 581	-	13	68	35	-	-
BG	:	2 864	:	2 864	-	-	-	-	-	-
RO	5 687	6 273	5 687	6 122	-	-	:	151	-	-
TR	7 132	11 786	7 114	11 673	-	19	:	72	18	22

Data Source: Eurostat



(GW)

	EU-25			EU-15		
	1991	**1996**	**2001**	**1991**	**1996**	**2001**
Total	121	136	155	118	126	144
Hydro	115	125	129	112	116	119
Wind	1	3	17	1	3	17
Wood	3	4	4	3	4	4
Others	2	3	4	2	3	4

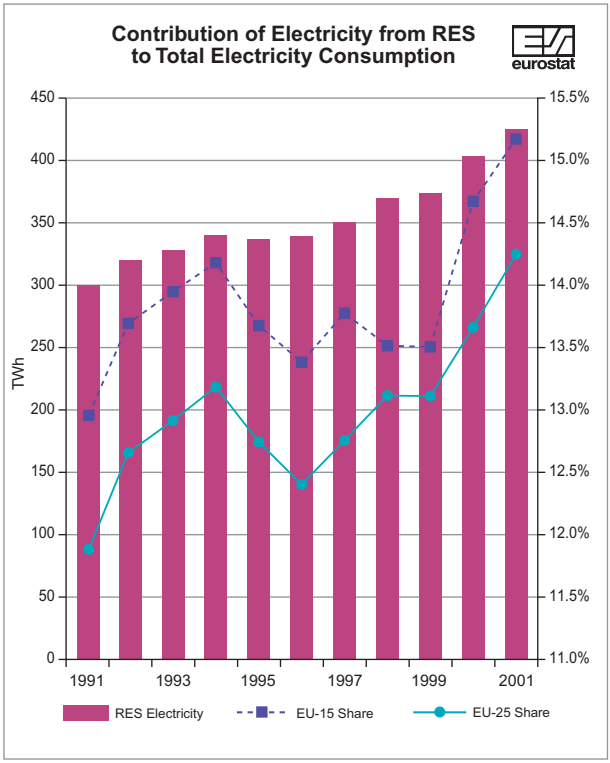
Data Source: Eurostat

Between 1991 and 2001 the EU-25 installed capacity for electricity generation from renewables increased by 29%. The most important increase was registered by wind installed capacity. Less than a GW in 1991, wind experienced a rapid and high increase in many countries and surpassed 17 GW in 2001. In the same year, Germany and Spain had 51% of the wind capacity of the EU-25, Finland and Sweden had 77% of wood power plants while Denmark, Italy and the United Kingdom had the 69% of "others" i.e. municipal solid waste, biogas, geothermal and photovoltaic.

Contribution of Electricity from RES to Total Electricity Consumption

	RES electricity *(GWh)*			Share (%)		
	1991	**1996**	**2001**	**1991**	**1996**	**2001**
EU-25	**301 733**	**337 461**	**428 529**	**11.9**	**12.4**	**14.2**
EU-15	**289 743**	**322 407**	**410 899**	**13.0**	**13.4**	**15.2**
BE	772	857	1 419	1.1	1.1	1.6
CZ	1 257	2 261	2 572	2.2	3.5	4.0
DK	1 051	2 401	6 446	3.0	6.3	17.4
DE	18 062	26 097	36 201	3.4	4.7	6.2
EE	0	7	17	0.0	0.1	0.2
EL	3 101	4 384	2 853	8.5	10.0	5.1
ES	27 898	41 146	51 281	18.0	23.5	21.2
FR	59 616	67 683	78 729	14.8	15.2	16.4
IE	746	763	1 027	4.9	4.0	4.2
IT	45 686	46 436	55 083	17.8	16.5	16.8
CY	-	-	-	0.0	0.0	0.0
LV	3 275	1 861	2 838	33.2	29.3	46.0
LT	338	326	328	2.0	2.8	3.0
LU	104	103	105	1.9	1.7	1.5
HU	242	290	301	0.6	0.8	0.8
MT	-	-	-	0.0	0.0	0.0
NL	1 330	2 664	4 400	1.6	2.8	4.0
AT	32 536	35 685	42 156	62.3	63.8	67.3
PL	1 862	2 333	2 782	1.4	1.7	2.0
PT	9 857	15 791	15 995	32.9	44.3	34.2
SI	3 608	3 673	3 865	33.6	33.0	30.4
SK	1 408	4 303	4 927	5.2	14.9	17.4
FI	18 279	18 594	21 685	26.2	25.5	25.7
SE	65 339	54 075	83 423	44.6	36.8	54.1
UK	5 366	5 728	10 096	1.6	1.6	2.6
IS	4 487	5 118	8 029	99.8	99.9	100.0
NO	110 580	103 931	120 636	102.2	91.4	96.1
BG	2 441	2 703	1 737	5.9	6.4	4.7
RO	14 249	15 755	14 923	22.3	25.3	28.4
TR	22 802	40 735	24 295	37.7	43.0	19.1

Data Source: Eurostat



(TWh)

EU-25	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
RES Electricity	302	320	328	340	337	337	350	369	375	404	429
Share	11.9%	12.6%	12.9%	13.2%	12.7%	12.4%	12.8%	13.1%	13.1%	13.7%	14.2%

EU-15	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Share	13.0%	13.7%	14.0%	14.2%	13.7%	13.4%	13.8%	14.0%	14.0%	14.7%	15.2%

Data Source: Eurostat

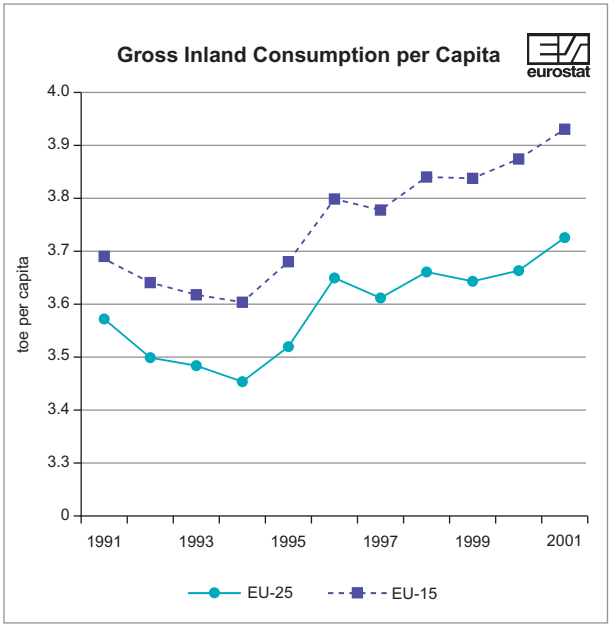
During the period 1991-2001 the electricity production from renewables increased by 42%, slightly more than the gross inland consumption from renewables. However, the share of electricity from renewables in total electricity consumption increased only by 20% (from the level of 11.9% to 14.2%).

In 2001, EU-25 electricity generation from renewable energy sources was 429 TWh, with a large contribution from hydro power plants (83%), biomass 10% and wind energy 6%.

Gross Inland Consumption per Capita

	(toe per capita)			*Index (1990=100)*		
	1991	**1996**	**2001**	**1991**	**1996**	**2001**
EU-25	**3.57**	**3.64**	**3.73**	**100.8**	**102.9**	**105.3**
EU-15	**3.68**	**3.80**	**3.93**	**101.5**	**104.6**	**108.4**
BE	4.96	5.32	5.42	104.3	112.0	114.1
CZ	4.14	4.04	3.99	90.8	88.6	87.6
DK	3.76	4.35	3.73	109.6	126.8	108.5
DE	4.35	4.26	4.24	96.7	94.7	94.2
EE	5.87	3.93	3.68	93.3	62.5	58.5
EL	2.20	2.43	2.73	100.0	110.4	124.2
ES	2.42	2.57	3.15	105.2	111.6	136.7
FR	4.15	4.30	4.44	105.1	109.1	112.7
IE	2.91	3.23	3.76	99.5	110.4	128.7
IT	2.76	2.83	3.05	101.2	103.8	111.8
CY	2.67	3.17	3.44	83.9	99.6	108.2
LV	2.51	1.43	1.81	163.5	93.0	117.5
LT	4.50	2.39	2.35	102.0	54.1	53.1
LU	9.82	8.24	8.57	104.8	88.0	91.5
HU	2.59	2.50	2.46	95.8	92.3	90.9
MT	1.69	2.36	2.10	102.8	143.3	127.5
NL	4.66	4.92	4.85	103.8	109.7	108.1
AT	3.37	3.51	3.71	105.6	110.3	116.6
PL	2.58	2.77	2.33	98.0	105.5	88.8
PT	1.74	1.95	2.36	102.1	114.4	138.7
SI	2.69	3.21	3.33	97.3	116.1	120.5
SK	3.51	2.98	3.44	89.2	75.7	87.5
FI	5.80	6.09	6.41	100.6	105.5	111.1
SE	5.67	5.84	5.81	102.7	105.6	105.1
UK	3.73	3.89	3.88	101.6	105.8	105.6
IS	7.95	9.21	11.82	91.1	105.6	135.5
NO	5.18	5.31	5.97	101.6	104.3	117.1
BG	2.59	2.75	2.38	81.1	86.4	74.7
RO	2.18	2.13	1.40	82.4	80.8	52.8
TR	0.79	0.95	1.10	99.9	119.9	139.0

Data Source: Eurostat



(toe per capita)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	3.57	3.50	3.48	3.45	3.52	3.64	3.61	3.66	3.64	3.66	3.73
EU-15	3.68	3.64	3.62	3.61	3.67	3.80	3.77	3.84	3.84	3.86	3.93

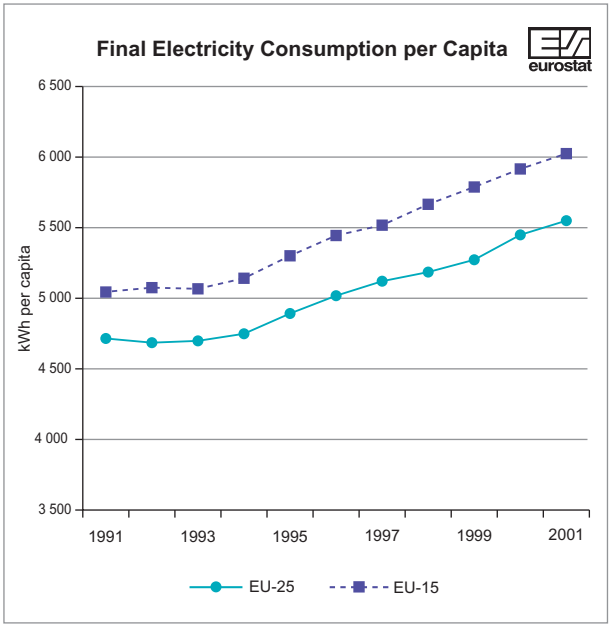
Data Source: Eurostat

EU-25 gross inland consumption per capita showed a small increase of 4.4% in the period 1991-2001. It can be observed that from 1991 until 1994 the EU-25 gross inland consumption per capita fell steadily but after 1995 it began to rise again, reaching its high of 3.73 toe per capita in 2001.

Final Electricity Consumption per Capita

	(kWh per capita)			*Index (1990=100)*		
	1991	**1996**	**2001**	**1991**	**1996**	**2001**
EU-25	**4 702**	**5 015**	**5 556**	**100.5**	**107.2**	**118.8**
EU-15	**5 055**	**5 427**	**6 038**	**101.4**	**108.9**	**121.1**
BE	6 059	6 888	7 613	104.0	118.2	130.6
CZ	4 315	4 867	4 954	92.8	104.7	106.5
DK	5 771	6 128	6 172	101.3	107.5	108.3
DE	5 450	5 598	5 959	96.6	99.2	105.6
EE	4 283	3 388	3 756	98.9	78.2	86.7
EL	2 876	3 398	4 201	102.2	120.8	149.4
ES	3 309	3 750	5 009	102.1	115.7	154.6
FR	5 648	6 137	6 699	105.8	115.0	125.5
IE	3 540	4 378	5 470	104.6	129.4	161.6
IT	3 858	4 189	4 794	102.2	110.9	127.0
CY	3 117	3 503	4 458	101.8	114.4	145.6
LV	3 145	1 762	1 913	96.5	54.0	58.7
LT	3 190	1 755	1 837	99.7	54.9	57.4
LU	10 981	11 911	12 816	100.9	109.5	117.8
HU	2 846	2 779	2 994	93.5	91.3	98.3
MT	3 383	3 607	4 770	131.0	139.7	184.7
NL	5 037	5 563	6 219	102.0	112.7	126.0
AT	5 752	5 902	6 636	103.7	106.4	119.6
PL	2 339	2 417	2 506	92.9	96.0	99.6
PT	2 517	3 010	3 891	106.1	126.8	164.0
SI	4 646	4 771	5 498	95.2	97.8	112.7
SK	4 115	4 374	4 392	92.9	98.8	99.2
FI	11 821	12 999	14 919	99.8	109.7	125.9
SE	14 203	14 258	14 936	100.6	101.0	105.8
UK	4 872	5 207	5 563	102.0	109.0	116.5
IS	15 035	16 032	25 452	97.6	104.1	165.2
NO	23 296	23 603	24 934	101.9	103.2	109.0
BG	3 481	3 565	3 094	86.5	88.6	76.9
RO	1 827	1 753	1 617	84.5	81.1	74.8
TR	821	1 139	1 436	102.6	142.4	179.6

Data Source: Eurostat



(kWh per capita)

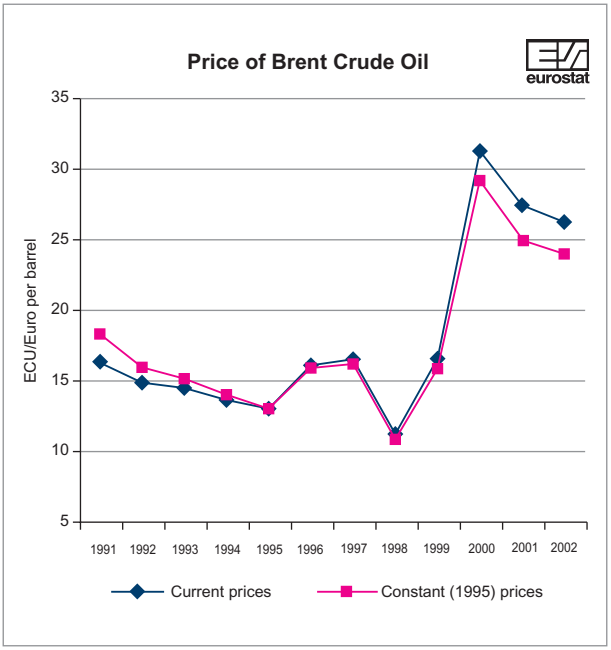
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	4 702	4 683	4 676	4 733	4 888	5 015	5 095	5 197	5 281	5 443	5 556
EU-15	5 055	5 073	5 076	5 138	5 301	5 427	5 518	5 645	5 748	5 922	6 038

Data Source: Eurostat

Between 1991 and 2001 EU-25 final electricity consumption per capita rose by 18%. Only in the case of Estonia, Latvia and Lithuania was there a decrease.

The EU-25 average was 5 556 kWh/head in 2001 but Sweden, Finland and Luxembourg had significantly higher values, among the highest worldwide and more than double the EU-25 average. Portugal, Ireland and Spain experienced more than 50% increase each in the period 1991-2001 but were still below EU-25 average by 2001.

Price of Brent Crude Oil



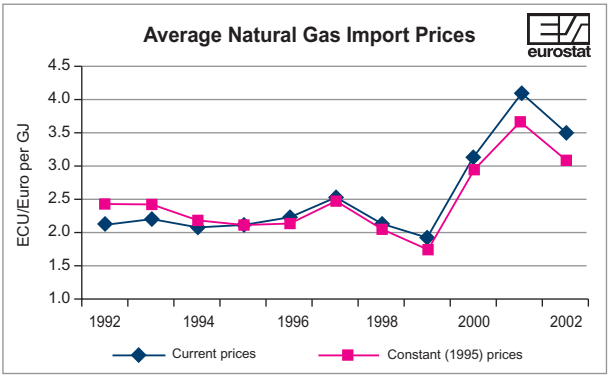
(ECU/Euro per barrel)

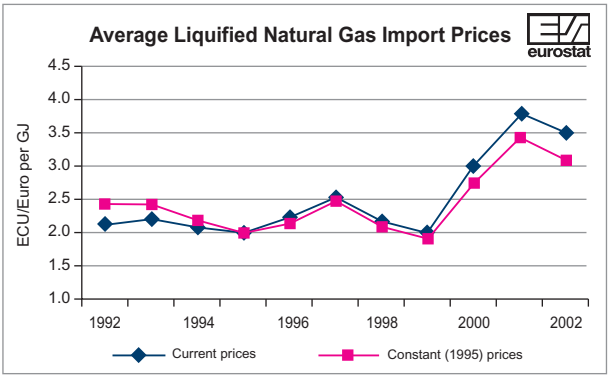
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Current prices	16.2	14.9	14.6	13.4	13.1	16.4	17.0	11.7	17.1	31.4	27.7	26.6
Constant (1995) prices	18.2	16.2	15.4	13.8	13.1	16.1	16.4	11.1	16.1	28.9	24.9	23.5

Data Source: Platt's European Marketscan, BP Statistical Review

The average price of Brent crude oil fluctuated at relatively low levels over the period from 1991 to 1999, particularly in comparison to the price in 1985. In 1996 and 1997 tensions in the Gulf led to price rises which did not last. The dip in prices in 1998 has been attributed largely to the decrease in demand associated with the Asian economic crisis.
The OPEC decision to reduce oil production caused prices to start rising again in 1999. In 2000 the upward movement in oil prices continued as demand increased through a combination of economic upturn and a cold winter in the United States. From the 3rd quarter of 2000 until the end of 2001 prices started to fall again.
At constant 1995 prices Brent crude oil rose by 59% in the period 1991-2000 while the overall increase during the period 1991-2002 - taking into account the fall in 2001 and 2002 - was 29%.

Average Gas Import Prices





(ECU/Euro per GJ)

Natural gas	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Current prices	2.16	2.27	2.12	2.14	2.22	2.53	2.21	1.86	3.17	4.14	3.55
Constant (1995) prices	2.35	2.39	2.18	2.14	2.17	2.44	2.09	1.74	2.92	3.72	3.12
Liquified natural gas (LNG)											
Current prices	2.22	2.29	2.15	1.90	2.19	2.65	2.26	1.98	3.53	4.33	3.53
Constant (1995) prices	2.41	2.41	2.21	1.90	2.15	2.55	2.14	1.86	3.26	3.90	3.11

Data Source: OECD/IEA

The average gas import prices for natural gas and LNG remained rather stable in the EU-15 over the period from 1992 to 1998 at around 2.2 Euro per GJ. After falling moderately in 1999 the gas import prices followed a steep increase over the next two years showing a link to crude oil prices. In 2002, there was a fall in natural gas prices reflecting the drop in oil prices.

For both natural gas and LNG current prices for the 1992 to 2001 period almost doubled with percentage increases in the order of 92% and 95% respectively. This is probably attributable to the respective price increases of competing oil products. The average import price for LNG in the EU-15 was slightly higher than natural gas reflecting the higher transportation cost.

Vat-Free Industrial Fuel Prices

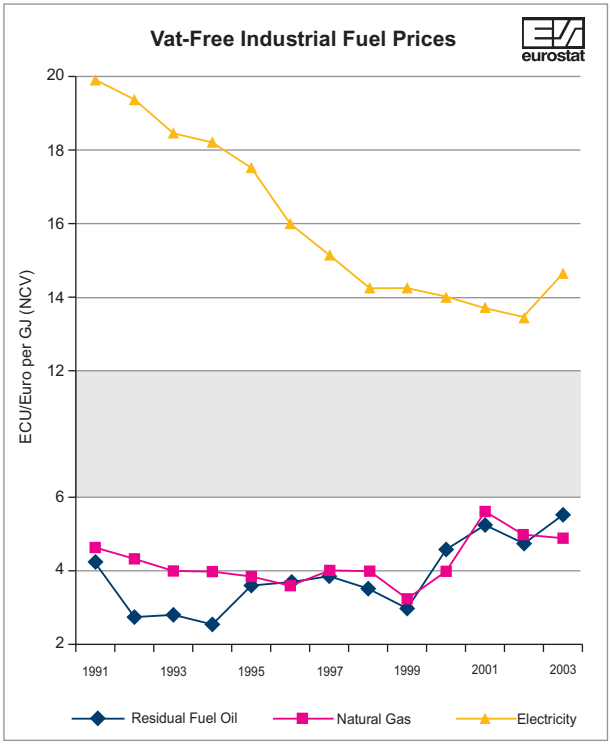
(ECU/Euro per GJ (NCV)

		BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	**EU-15**
Residual Fuel Oil	1990	2.90	3.85	3.22	3.17	3.19	3.01	3.46	3.56	3.02	4.23	:	3.49	:	:	2.98	**3.24**
	1995	2.86	3.27	3.06	3.89	3.59	3.54	3.34	3.61	3.08	4.10	2.93	3.70	:	8.18	3.04	**3.59**
	2000	3.55	4.87	3.88	5.23	4.86	4.13	:	4.74	3.94	5.00	4.12	5.12	5.19	10.47	:	**4.93**
	2002	3.53	5.75	4.24	4.91	5.26	4.77	:	5.06	3.64	5.05	4.21	6.18	6.94	11.73	:	**5.40**
	2003	4.99	6.45	5.06	6.27	6.32	5.44	:	5.98	5.22	5.93	5.83	6.35	7.97	13.77	6.10	**6.35**
Electricity	1990	15.97	12.17	20.65	15.33	19.67	13.75	14.56	16.67	13.42	12.11	:	17.81	:	:	15.78	**17.18**
	1995	16.75	13.03	22.31	13.39	17.14	15.58	14.06	17.33	13.42	13.17	19.11	18.19	12.28	:	14.40	**17.41**
	2000	15.36	:	15.19	13.33	15.64	13.64	14.72	20.03	12.39	:	:	14.58	10.56	7.86	16.00	**15.14**
	2002	16.22	:	14.76	13.89	13.61	13.53	18.00	23.11	11.14	:	:	15.44	11.33	7.28	14.56	**15.21**
	2003	16.39	:	18.06	14.44	13.89	13.61	18.06	25.00	11.67	:	:	15.56	15.83	17.22	12.78	**16.94**
Natural Gas	1990	3.89	:	5.03	:	3.82	3.40	2.53	3.43	4.33	3.15	:	:	:	:	3.75	**3.92**
	1995	3.66	3.52	4.86	:	3.12	3.17	:	3.64	4.28	3.39	:	:	2.92	:	3.43	**3.80**
	2000	4.05	4.76	4.94	:	4.33	4.25	:	4.45	5.36	4.08	6.08	:	4.81	:	3.31	**4.35**
	2002	4.96	4.81	7.30	:	4.65	4.78	5.01	5.80	5.69	:	6.53	4.63	5.44	8.59	5.66	**5.72**
	2003	5.13	5.76	7.42	:	5.01	5.26	5.37	5.59	4.70	:	:	4.41	5.62	6.92	4.33	**5.56**

Current prices

Data Source: Eurostat

eurostat



(ECU/Euro per GJ)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Residual Fuel Oil	4.22	2.76	2.76	2.66	3.59	3.64	3.85	3.46	2.98	4.54	5.20	4.76	5.48
Natural Gas	4.66	4.37	4.03	4.01	3.80	3.53	3.96	3.92	3.31	4.01	5.62	5.04	4.80
Electricity	19.91	19.35	18.51	18.23	17.41	16.01	15.19	14.29	14.25	13.95	13.71	13.40	14.61

Constant (1995) prices

Data Source: Platt's European Marketscan, BP Statistical Review

Between 1990 and 2003 industrial fuel prices (at current prices, net of VAT) rose for natural gas and residual fuel oil (by 42% and 96% respectively) but for electricity fell by 1% .
The price of natural gas remained stable over the period 1990 to 2000 with a notable increase in 2001 which was not maintained through 2002 and 2003. The price of residual fuel oil is even more closely linked to world oil prices and therefore rose particularly strongly in 2000, a trend that continued in 2001 followed by a small temporary drop in 2002, climbing back upwards in 2003.
The move towards cheaper fuels for electricity generation such as natural gas, the use of more efficient technologies and the greater competition in electricity markets as a result of energy market liberalisation in Member States led to a continuous decrease of electricity price in the 90s. This trend was reversed in 2003 due to rapid and high increase in Sweden, Finland and Germany.

Tax-Inclusive Household Fuel Prices

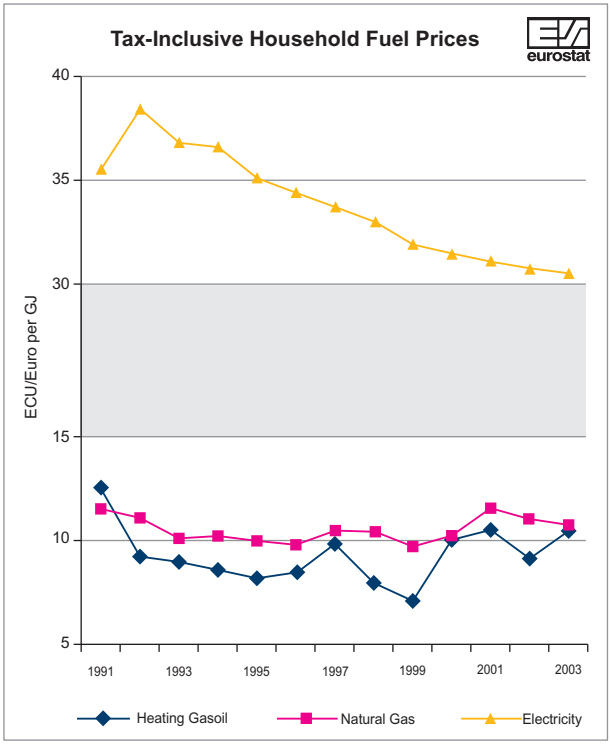
(ECU/Euro per GJ)

		BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	**EU-15**
Heating Gas Oil	1990	5.34	14.57	6.28	5.42	7.29	9.23	7.44	16.03	6.19	8.38	:	:	:	:	5.84	**8.88**
	1995	4.88	14.53	5.88	8.66	6.95	8.47	6.04	16.92	5.40	8.05	8.63	:	:	12.98	4.86	**8.02**
	2000	7.65	18.77	9.00	7.65	9.88	11.30	11.14	22.13	7.70	13.48	10.86	9.19	9.55	15.05	8.07	**10.88**
	2002	7.50	18.28	8.60	8.32	9.32	8.63	10.93	22.43	7.15	15.17	10.22	9.87	9.18	17.82	6.92	**10.25**
	2003	8.76	19.94	11.03	9.57	11.78	11.52	12.79	24.05	8.91	17.10	11.61	12.78	10.93	19.19	7.64	**12.42**
Electricity	1990	31.94	34.89	32.57	22.03	28.81	30.33	22.72	41.67	27.47	24.03	:	25.78	:	:	21.74	**29.97**
	1995	37.61	38.19	40.47	22.08	31.25	35.00	22.39	50.78	30.42	25.14	:	32.58	20.39	:	25.75	**34.90**
	2000	36.67	51.11	39.03	19.06	27.81	32.14	23.86	51.33	30.17	39.44	34.31	30.94	20.78	26.44	28.11	**34.04**
	2002	37.31	57.61	42.00	19.72	26.69	31.75	26.00	51.42	32.83	45.42	37.08	31.75	21.92	29.19	27.31	**35.02**
	2003	36.78	60.32	43.19	20.61	27.11	30.56	30.26	53.75	33.97	47.86	35.97	32.64	23.22	34.39	25.45	**35.56**
Natural Gas	1990	8.45	:	8.00	:	11.29	8.84	9.94	13.18	5.39	6.93	:	:	:	:	6.39	**8.53**
	1995	9.72	:	9.86	:	11.15	9.35	8.92	15.19	6.06	8.21	:	:	:	:	7.13	**9.99**
	2000	10.46	20.16	10.17	:	11.80	9.18	9.10	17.34	6.69	10.04	11.85	:	:	14.44	7.74	**10.98**
	2002	11.68	19.98	13.17	:	13.48	12.01	9.09	18.90	7.82	12.83	13.16	15.39	:	19.18	7.75	**12.65**
	2003	11.98	21.09	13.48	:	13.44	11.83	9.17	18.49	8.14	14.53	13.62	14.82	:	20.36	7.66	**12.76**

Current prices

Data Source: Eurostat

eurostat



(ECU/Euro per GJ)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Natural Gas	11.43	11.31	10.08	10.27	9.94	9.61	10.45	10.43	9.78	10.12	11.53	11.15	11.01
Electricity	35.55	38.14	36.59	36.47	34.90	34.29	33.67	32.89	31.59	31.38	31.12	30.85	30.67
Heating Gasoil	12.33	9.40	9.05	8.44	8.04	8.32	9.76	8.05	7.05	10.03	10.69	9.03	10.71

Constant (1995) prices

Data Source: Eurostat

The tax-inclusive prices, at current prices, of all domestic (housing) fuels increased between 1990 and 2003. Unlike industrial fuel prices, household fuel prices are affected by weather conditions with colder temperatures pushing up demand and prices.

Over the observation period (1990-2003), electricity cost at current prices increased by 19%, but it is notable that most of that change took place in 1991 and 1992. At 1995 constant prices domestic electricity price fell by 14%.

On the other hand natural gas and heating gas oil experienced respectively 50% and 40% increase from 1990 to 2003, the biggest part of which took place in the first years of the new millennium as a result of increases in oil prices. However, at 1995 constant prices, natural gas and gas oil grew only by 8% and 2% respectively during the period 1990-2003.

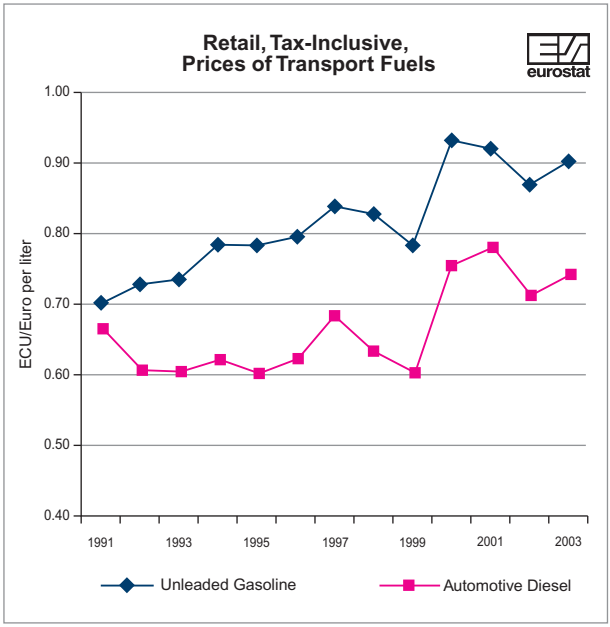
Retail, Tax-Inclusive, Prices of Transport Fuels

(ECU/Euro per liter)

		BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	**EU-15**
Unleaded Gasoline	1990	:	:	:	:	:	:	:	:	:	0.69	:	:	:	:	0.53	**:**
	1995	0.78	0.75	0.81	0.64	0.64	0.85	0.69	0.79	0.63	0.87	0.76	0.79	:	0.82	0.68	**0.78**
	2000	0.96	1.00	0.96	0.67	0.75	1.04	0.82	1.01	0.74	1.06	0.87	0.80	1.06	1.00	1.22	**1.01**
	2002	0.95	1.04	0.99	0.69	0.77	0.96	0.80	1.00	0.74	1.10	0.82	0.86	1.00	0.95	1.13	**0.98**
	2003	0.98	1.11	1.11	0.75	0.83	1.05	0.87	1.07	0.79	1.16	0.90	0.95	1.08	1.02	1.14	**1.05**
Automotive Diesel	1990	0.51	0.59	0.52	0.20	0.45	0.52	0.72	0.61	0.36	0.47	:	0.47	:	:	0.54	**0.53**
	1995	0.62	0.62	0.59	0.47	0.51	0.59	0.66	0.63	0.51	0.61	0.62	0.54	:	0.78	0.69	**0.60**
	2000	0.73	0.82	0.76	0.62	0.62	0.81	0.77	0.84	0.63	0.78	0.73	0.55	0.77	0.81	1.26	**0.81**
	2002	0.72	0.80	0.81	0.60	0.67	0.75	0.74	0.84	0.62	0.77	0.70	0.65	0.78	0.80	1.21	**0.81**
	2003	0.74	0.86	0.90	0.66	0.72	0.82	0.79	0.89	0.65	0.80	0.75	0.70	0.82	0.86	1.16	**0.86**

Current prices

Data Source: Eurostat



(ECU/Euro per liter)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Unleaded Gasoline	0.70	0.73	0.73	0.78	0.78	0.79	0.84	0.83	0.78	0.93	0.92	0.86	0.91
Automotive Diesel	0.66	0.61	0.60	0.63	0.60	0.63	0.68	0.64	0.60	0.75	0.78	0.72	0.74

Constant (1995) prices

Data Source: Eurostat

At current prices, during the period 1991-2003 the retail (tax inclusive) price of unleaded gasoline rose by 69% while that of diesel increased by 47%. The price of unleaded gasoline was maintained low during the early 1990s to encourage conversion from leaded to unleaded motor spirit. However on average diesel remained about 18% cheaper than unleaded gasoline.

Both types of fuel exhibited related trends with similar volatility over the period 1990 to 1999 reflecting global oil market price developments. In 2000, the price of both unleaded gasoline and diesel increased due to the rapid rise in world oil prices and remained high for the following years.

TRANSPORT INDICATORS

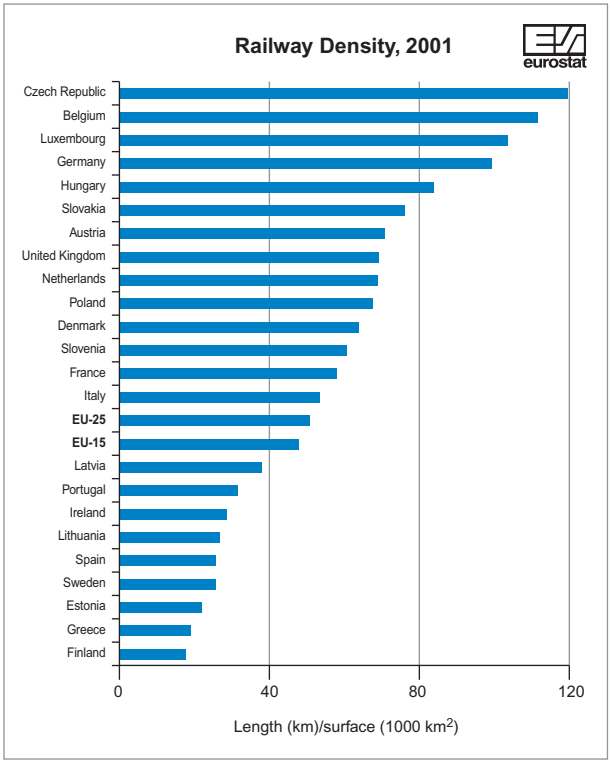
Railway Density

Length(km)/surface (1000km²)

	1996	1997	1998	1999	2000	2001
EU-25	**52**	**52**	**52**	**51**	**51**	**51**
EU-15	**49**	**48**	**48**	**48**	**47**	**47**
Belgium	111	112	114	114	114	113
Czech Republic	120	120	120	120	120	121
Denmark	55	52	53	64	64	64
Germany	114	108	107	105	102	101
Estonia	23	23	21	21	21	21
Greece	19	19	17	17	18	18
Spain	24	24	24	24	24	24
France	59	58	58	58	58	58
Ireland	28	27	27	27	27	27
Italy	53	53	53	53	54	53
Cyprus	-	-	-	-	-	-
Latvia	37	37	37	37	37	37
Lithuania	31	31	31	29	29	26
Luxembourg	106	106	106	106	106	106
Hungary	82	82	82	82	82	83
Malta	-	-	-	-	-	-
Netherlands	69	68	68	68	68	69
Austria	68	68	67	67	66	71
Poland	75	75	74	73	72	68
Portugal	33	33	30	31	31	31
Slovenia	59	59	59	59	59	61
Slovakia	75	75	75	75	75	75
Finland	17	17	17	17	17	17
Sweden	24	24	24	24	*24*	*24*
United Kingdom	70	70	70	70	70	70
Iceland	-	-	-	-	-	-
Liechtenstein *	119	119	119	119	119	*119*
Norway	12	12	12	12	13	13
Switzerland	72	*73*	*75*	76	*76*	*76*
Bulgaria	39	39	39	39	39	39
Romania	48	48	46	46	46	46
Turkey	11	11	11	11	11	11

* The 19km of railways in Liechtenstein are operated by the Austrian railways

Data Source: Eurostat, DG for Energy & Transport



In the EU-25, there was a slight decrease in the density of railway lines over the observed period. The highest density is to be found in Czech Republic, Belgium and Luxembourg while the lowest density can be found in Estonia, Greece and Finland. Finland is a typical case of a country with low population density while the low railway density for Greece is mainly due to the geographical characteristic features of the country. Cyprus, Malta and Iceland do not have any railway network; Norway and Turkey have a low density, whereas Switzerland is well above the EU average.

In 2001 the railway network of Germany was the longest of all the EU-15 countries with 35 986 km followed by the French network with 31 385 km length while the Italian network took third place with 16 035 km. Among the new Member States, Poland, Czech Republic and Hungary had the longest railway network in 2001 with 21 119 km, 9 523 km and 7 680 km respectively which altogether constituted the 79% of the new Member States' network.

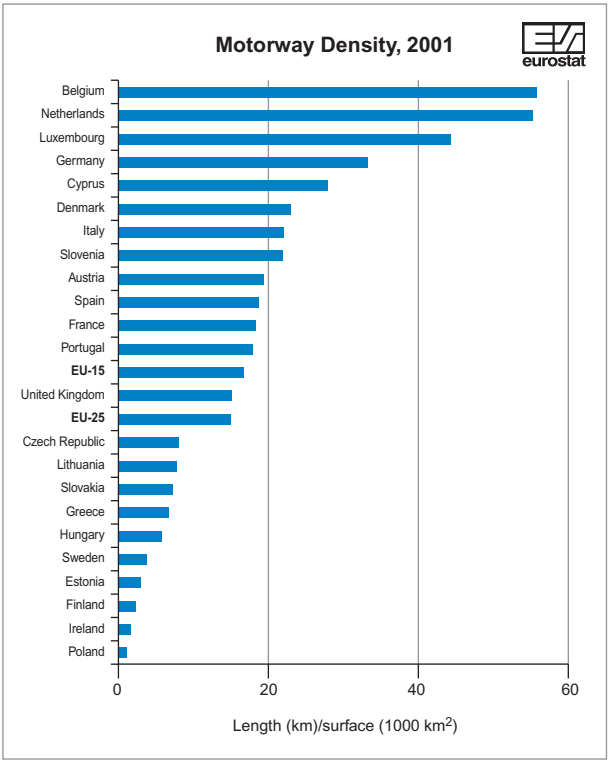
Motorway Density

Length(km)/surface (1000km²)

	1996	1997	1998	1999	2000	2001
EU-25	**12**	**13**	**13**	**14**	**14**	**14**
EU-15	**15**	**15**	**15**	**16**	**16**	**17**
Belgium	55	55	55	55	56	57
Czech Republic	5	6	6	6	6	7
Denmark	19	20	20	21	22	23
Germany	31	32	32	32	33	33
Estonia	1	2	2	2	2	2
Greece	*4*	*4*	*4*	*4*	*5*	6
Spain	14	15	16	18	18	19
France	16	16	17	18	18	18
Ireland	1	1	1	1	1	2
Italy	21	21	21	21	21	21
Cyprus	21	22	22	23	26	28
Latvia	-	-	-	-	-	-
Lithuania	6	6	6	6	6	6
Luxembourg	44	44	44	44	44	44
Hungary	4	4	5	5	5	5
Malta	-	-	-	-	-	-
Netherlands	54	57	54	56	56	*56*
Austria	19	19	19	19	19	20
Poland	1	1	1	1	1	1
Portugal	8	9	14	16	16	18
Slovenia	15	16	18	20	21	21
Slovakia	4	4	6	6	6	6
Finland	1	1	1	2	2	2
Sweden	3	3	4	4	4	4
United Kingdom	14	14	14	15	15	15
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	0	0	0	0	0	1
Switzerland *	30	30	31	31	31	32
Bulgaria	3	3	3	3	3	3
Romania	0	0	0	0	0	0
Turkey	2	2	2	2	2	2

* only state motorways

Data Source: Eurostat, DG for Energy & Transport



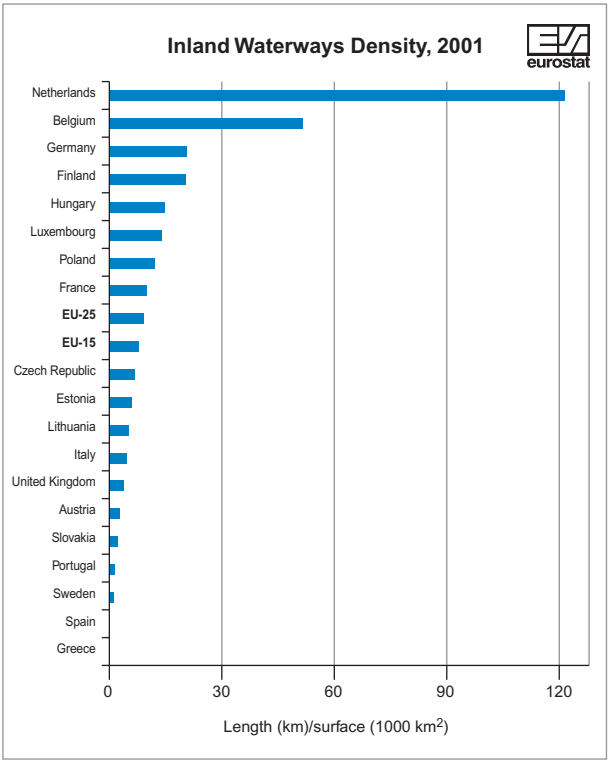
Over the years there has been a continuous increase of motorway density in the EU-25. The highest density is to be found in the Benelux countries and in Germany, whereas the more scarcely populated countries on the outskirts of the EU-25 have a lower density. To give an extreme example, for 2001, we can cite the Netherlands and Belgium on one hand with 56 and 57 km/1000km^2 respectively and on the other hand Ireland and Finland with 2 km/1000km^2, and Poland with 1 km/1000km^2. Also to be noted is the increase in Portugal, Spain and Greece over the latest years. Four EEA countries - Iceland, Liechtenstein, Latvia and Malta - have no motorways, whereas Switzerland is well above the EU-25 average with 32 km/1000km^2.
It is important to realise that a length-per-area indicator can not be used to compare the level of infrastructure development between different countries or regions. The reason is that population density and other factors must also be considered in such a comparison. For example, the same length of motorway in a more densely populated region serves more people than in a sparsely populated area.

Inland Waterways Density

Length(km)/surface (1000km²)

	1996	1997	1998	1999	2000	2001
EU-25	**9**	**9**	**9**	**9**	**9**	**9**
EU-15	**9**	**9**	**9**	**9**	**9**	**9**
Belgium	50	50	51	*51*	*51*	*51*
Czech Republic	9	9	8	8	8	8
Denmark	-	-	-	-	-	-
Germany	19	19	19	19	19	19
Estonia	7	7	7	7	7	7
Greece	0	0	*0*	*0*	*0*	*0*
Spain	*0*	*0*	*0*	*0*	*0*	*0*
France	10	11	11	10	11	10
Ireland	-	-	-	-	-	-
Italy	5	5	5	5	5	*5*
Cyprus	-	-	-	-	-	-
Latvia	-	-	-	-	-	-
Lithuania	6	6	6	6	6	7
Luxembourg	14	14	14	14	14	*14*
Hungary	15	15	15	15	15	15
Malta	-	-	-	-	-	-
Netherlands	123	123	123	*123*	*123*	*123*
Austria	4	4	4	4	4	4
Poland	12	12	12	12	12	12
Portugal	1	1	*1*	*1*	*1*	*1*
Slovenia	-	-	-	-	-	-
Slovakia	4	4	4	4	4	4
Finland	19	19	19	19	19	19
Sweden	1	1	*1*	*1*	*1*	*1*
United Kingdom	5	5	5	5	5	5
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	-	-	-	-	-	-
Switzerland	*18*	*18*	*18*	18	18	*18*
Bulgaria	4	4	4	4	4	4
Romania	7	7	7	7	7	7
Turkey	-	-	-	-	-	-

Data Source: Eurostat, DG for Energy & Transport



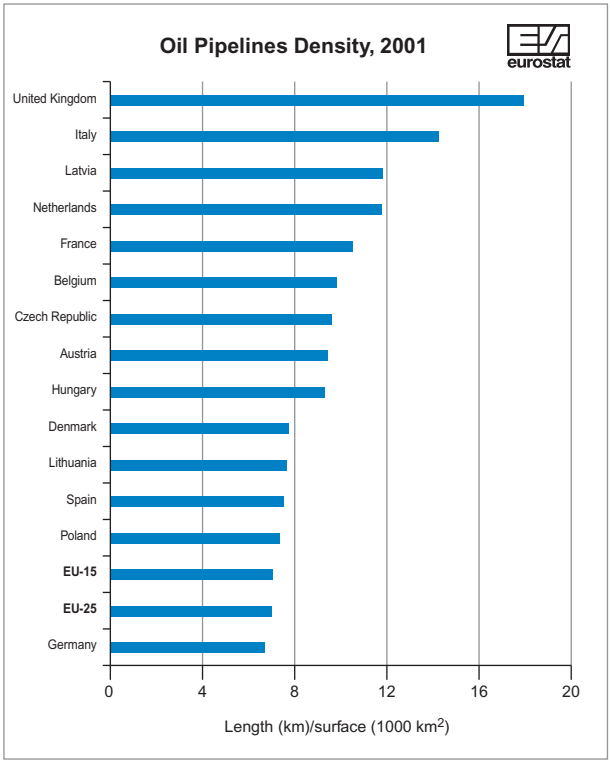
The inland waterways density in the EU-25 is constant over the period under review but the network is very unbalanced across the EU-25 with some countries completely lacking inland waterways and, on the other hand, countries such as the Netherlands and Belgium with a very long waterway system. This leads to the exceptionally high density of 123 km/1000km^2 for the Netherlands, compared to the average within the EU-25 of 9 km/1000km^2. In terms of inland waterways' length, Germany held the first position with a network of 6 687 km in 2001, followed by Finland with 6 245 km; Poland had by far the longest inland waterways network among the new Member States while it was in the fifth position in the EU-25 with a network of 3 812 km.

Oil Pipelines Density

Length(km)/surface (1000km²)

	1996	1997	1998	1999	2000	2001
EU-25	**7**	**7**	**7**	**7**	**7**	**7**
EU-15	**6**	**7**	**7**	**7**	**7**	**7**
Belgium	10	10	10	10	*10*	*10*
Czech Republic	9	9	9	9	9	9
Denmark	8	8	8	8	8	8
Germany	7	7	7	7	7	7
Estonia	-	-	-	-	-	-
Greece	-	-	-	-	-	-
Spain	7	7	7	7	7	7
France	9	11	11	11	11	11
Ireland	-	-	-	-	-	-
Italy	14	14	14	14	14	*14*
Cyprus	-	-	-	-	-	-
Latvia	12	12	12	12	12	12
Lithuania	6	6	6	8	8	8
Luxembourg	-	-	-	-	-	-
Hungary	9	9	9	9	9	9
Malta	-	-	-	-	-	-
Netherlands	*10*	*10*	*12*	12	*12*	*12*
Austria	9	9	9	9	9	9
Poland	7	7	7	7	7	7
Portugal	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-
Finland	-	-	-	-	-	-
Sweden	-	-	-	-	-	-
United Kingdom	14	16	16	16	16	18
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	13	14	18	21	24	25
Switzerland	6	3	3	3	3	3
Bulgaria	5	5	5	5	5	5
Romania	15	19	19	19	19	19
Turkey	3	3	3	3	3	3

Data Source: Eurostat, DG for Energy & Transport



The average density of oil pipelines for the EU-25 is a constant 7 km/1000km^2 throughout the reported period. The oil producing countries normally report the most dense pipeline network. In 2001, the United Kingdom has the highest density among the EU-25 countries (18 km/1000km^2) and Norway has the highest density in the EEA area with 25 km/1000km^2. Latvia has 12 km/1000km^2 which could be considered rather high and among the Candidate Countries Romania reports 19 km/1000km^2.

The total length of pipelines for the EU-25 in 2001 was approximately 27 600 km, with France in the lead followed by the United Kingdom and Italy, with 5 746 km, 4 368 km and 4 350 km respectively.

Please note that data on oil pipelines only are collected and that oil pipelines between the land and drilling platforms at sea are included.

Number of Main Sea Ports

Ports handling more than 1 million tonnes per year or with more than 200 000 passengers movements per year

	1997	1998	1999	2000	2001
EU-25	**384**	**388**	**389**	**405**	**421**
EU-15	**367**	**370**	**371**	**385**	**400**
Belgium	4	4	4	4	4
Czech Republic	-	-	-	-	-
Denmark	53	50	46	46	51
Germany *	17	17	17	36	43
Estonia	2	3	3	5	5
Greece	51	54	55	46	44
Spain	24	24	24	24	26
France	25	26	25	25	28
Ireland	8	7	9	10	9
Italy	63	64	63	63	67
Cyprus	2	2	2	2	2
Latvia	3	3	3	3	3
Lithuania	1	1	1	1	1
Luxembourg	-	-	-	-	-
Hungary	-	-	-	-	-
Malta	3	3	3	3	3
Netherlands	11	13	13	13	10
Austria	-	-	-	-	-
Poland	5	5	5	5	6
Portugal	6	6	6	8	8
Slovenia	1	1	1	1	1
Slovakia	-	-	-	-	-
Finland	22	22	21	22	24
Sweden	29	29	34	34	33
United Kingdom	54	54	54	54	53
Iceland	1	1	1	1	*1*
Liechtenstein	-	-	-	-	-
Norway	:	:	:	:	:
Switzerland	-	-	-	-	-
Bulgaria	2	2	2	2	2
Romania	2	2	2	2	2
Turkey	17	15	14	17	16

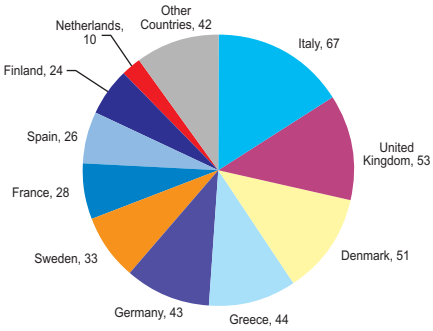
* Germany: 1997-1999, cargo ports only. From 2000, cargo and passenger ports.

Data Source: Eurostat

Number of Main Sea Ports, 2001

EU-25 Top Ten Countries

eurostat



In 2001 at EU-25 level there are 421 ports, each handling more than 1 million tonnes of freight or 200 000 passengers per year. The largest number of ports is to be found in Italy, United Kingdom, Denmark and Greece but the most important ports are located elsewhere. The port of Rotterdam (NL) is by far the most important port with regard to tonnage handled since it accounted for 296.6 million tonnes in 2001. Next in the ranking are the ports of Antwerp (BE), Marseille (FR), Hamburg (DE) and Le Havre (FR) handling 352.6 million tonnes altogether in 2001, just 19% more than the port of Rotterdam by itself.

Number of Main Commercial Airports

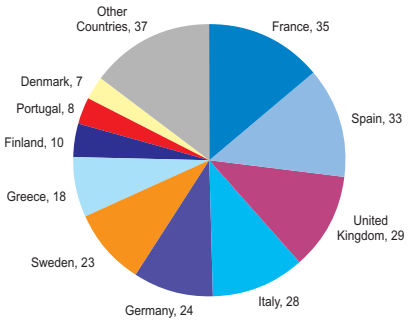
Commercial Airports with more than 150 000 passenger units movements per year*

	2001
EU-25	**252**
EU-15	**235**
Belgium	4
Czech Republic	2
Denmark	7
Germany	24
Estonia	1
Greece	18
Spain	33
France	35
Ireland	5
Italy	28
Cyprus	2
Latvia	1
Lithuania	1
Luxembourg	1
Hungary	1
Malta	1
Netherlands	4
Austria	6
Poland	6
Portugal	8
Slovenia	1
Slovakia	1
Finland	10
Sweden	23
United Kingdom	29
Iceland	3
Liechtenstein	-
Norway	16
Switzerland	5
Bulgaria	3
Romania	3
Turkey	15

* One passenger unit is equivalent to either one passenger or 100 kg of freight and mail

Data Source: Eurostat

Number of Main Commercial Airports, 2001
EU-25 Top Ten Countries



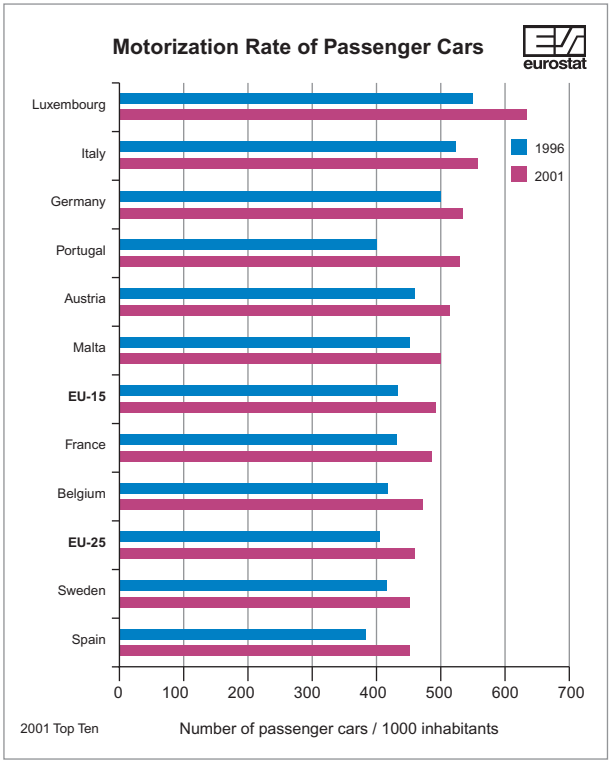
In 2001 at EU-25 level there are 252 commercial airports, each with more than 150 000 passenger unit movements per year. The largest number is to be found in France, Spain and United Kingdom.
The number of main commercial airports in a specific country depends more on its surface and number of islands than on the population: Germany which has by far the highest population in Europe, is only in fourth position in terms of the number of main airports whereas Sweden which has almost 10 times less inhabitants but whose surface area is larger, has almost the same number of main airports.
The ranking of airports differs whether cargo, domestic or international transport is concerned. Frankfurt airport comes first on the basis of cargo loaded or unloaded, Orly-Paris airport closely followed by the Barajas-Madrid airport are top in domestic air transport while Heathrow-London airport leads the ranking in international passenger transport.

Motorization Rate of Passenger Cars

Number of passenger cars/1000 inhabitants

	1996	1997	1998	1999	2000	2001
EU-25	**403**	**412**	**422**	**432**	**444**	**454**
EU-15	**438**	**446**	**456**	**466**	**478**	**487**
Belgium	427	*432*	440	448	456	461
Czech Republic	309	329	339	334	335	344
Denmark	330	337	343	346	347	350
Germany	500	504	508	516	532	539
Estonia	277	293	311	326	339	*298*
Greece	223	238	254	267	300	*324*
Spain	376	389	407	425	437	451
France	439	448	459	469	476	485
Ireland	291	309	322	338	347	359
Italy	531	535	548	556	564	574
Cyprus	307	316	333	341	354	*370*
Latvia	153	175	197	218	235	249
Lithuania	212	238	265	294	317	326
Luxembourg	553	580	593	608	624	635
Hungary	220	223	216	220	232	244
Malta	446	490	463	480	490	497
Netherlands	374	380	390	401	411	418
Austria	458	469	481	496	505	514
Poland	209	221	230	240	259	272
Portugal	398	424	453	485	514	538
Slovenia	373	392	410	428	437	444
Slovakia	197	211	222	229	236	240
Finland	379	379	392	403	412	417
Sweden	413	418	428	439	451	452
United Kingdom	388	397	404	414	420	431
Iceland	465	487	511	544	565	561
Liechtenstein	622	638	646	656	667	682
Norway	379	399	403	407	412	415
Switzerland	462	469	476	485	493	502
Bulgaria	204	208	219	232	247	264
Romania	106	116	125	133	139	*144*
Turkey	54	58	61	64	68	*68*

Data Source: Eurostat, DG for Energy & Transport



The number of passenger cars per 1000 inhabitants has continuously increased from 1996 to 2001 in every EU-25 country. This is generally accepted as one way of measuring the standard of living. The highest level of 635 in 2001 is to be found in Luxembourg, while the lowest of 240 is found in Slovakia. Between 1996 and 2001 the highest increase in the number of cars per 1000 inhabitants was reported by Latvia with 63%, Lithuania 54% and Greece 45%. This is mainly believed to be associated with the general growth of the economy of these countries and the very low motorization rates in the past.

The average value for the EFTA countries was 471 passenger cars per 1000 inhabitants in 2001, which is very close to the EU-25 average of 454.

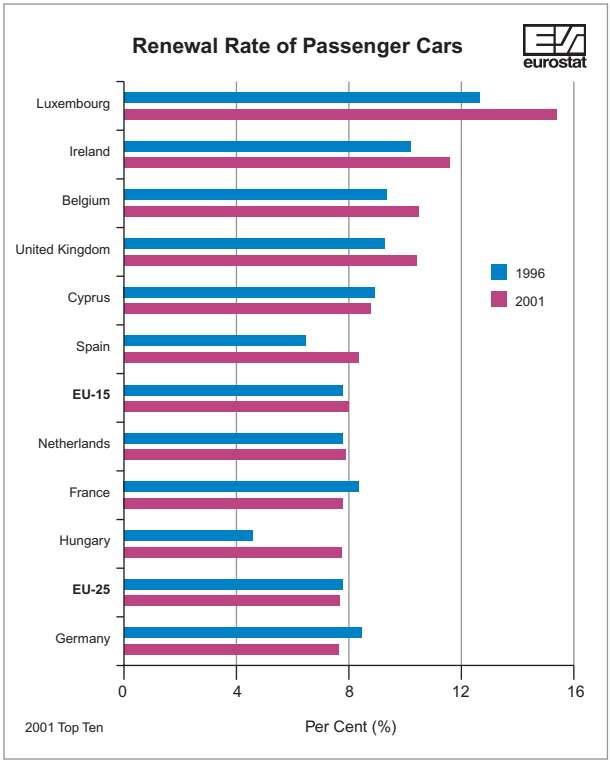
There are still some problems of definitions applied differently, mainly on the distinction between a lorry and a passenger car (i.e. vans, pick-ups, etc.). Moreover, vehicle registers seem to have some national differences. Therefore one should be cautious when interpreting the figures.

Renewal Rate of Passenger Cars

Passenger cars first registration/ total passenger cars (%)

	1996	1997	1998	1999	2000	2001
EU-25	**7.8**	**8.0**	**8.2**	**8.3**	**7.9**	**7.7**
EU-15	**7.8**	**8.0**	**8.4**	**8.5**	**8.1**	**8.0**
Belgium	9.4	*9.1*	10.3	11.0	11.4	10.5
Czech Republic	*6.3*	*5.9*	*5.7*	*5.8*	6.0	5.9
Denmark	8.2	8.6	9.0	7.8	6.1	5.1
Germany	8.5	8.5	9.0	9.0	7.7	7.5
Estonia	8.8	8.3	7.2	5.3	4.8	6.3
Greece	6.1	6.7	6.9	*6.8*	*6.3*	*6.1*
Spain	6.6	7.1	8.0	8.9	8.4	8.3
France	8.4	6.6	7.2	7.8	7.6	7.9
Ireland	10.3	11.1	11.6	13.4	17.1	11.6
Italy	6.0	7.8	7.7	7.2	7.2	7.2
Cyprus	9.0	8.6	10.0	7.8	7.1	8.8
Latvia	13.7	16.6	11.9	8.7	6.4	6.5
Lithuania	15.6	19.6	15.0	13.0	9.9	6.3
Luxembourg	*13.0*	*12.7*	14.4	15.6	15.5	15.4
Hungary	4.6	3.7	5.1	6.2	6.3	7.7
Malta	6.9	5.5	6.2	7.3	6.9	5.3
Netherlands	*7.7*	8.1	8.9	9.6	9.1	7.9
Austria	8.3	7.3	7.6	7.8	7.6	7.0
Poland	7.8	8.5	6.3	6.5	5.2	4.3
Portugal	6.7	6.7	7.1	7.1	6.5	5.5
Slovenia	8.3	8.2	8.7	9.6	7.5	6.3
Slovakia	10.2	7.5	6.4	4.7	4.3	5.2
Finland	4.9	5.4	6.3	6.6	6.3	5.1
Sweden	5.5	7.0	7.6	8.6	8.9	7.2
United Kingdom	9.2	9.6	9.9	9.6	9.7	10.4
Iceland	7.6	8.9	10.8	11.3	9.3	4.8
Liechtenstein	9.8	8.4	9.3	10.0	9.8	9.1
Norway	8.8	8.8	7.9	6.8	6.9	6.5
Switzerland	8.3	8.1	8.7	9.1	8.9	8.7
Bulgaria	4.1	1.6	3.9	5.4	4.9	5.6
Romania	8.1	8.9	7.7	5.3	4.8	3.0
Turkey	6.7	8.4	7.1	5.8	7.9	2.6

Data Sources: Eurostat, DG for Energy & Transport, national statistics



The average renewal rate in EU 25 was 7.7% in 2001, very close to 7.8% of the EFTA countries. The highest rate of 15.4% was reported by Luxembourg and the lowest of 4.3% by Poland. The renewal rate has direct effect to the average age of the car fleet; estimations put the average age of the car fleet in Luxembourg to 4 years while that of Poland is put to 10.5 years. (See indicator 3.5.1)

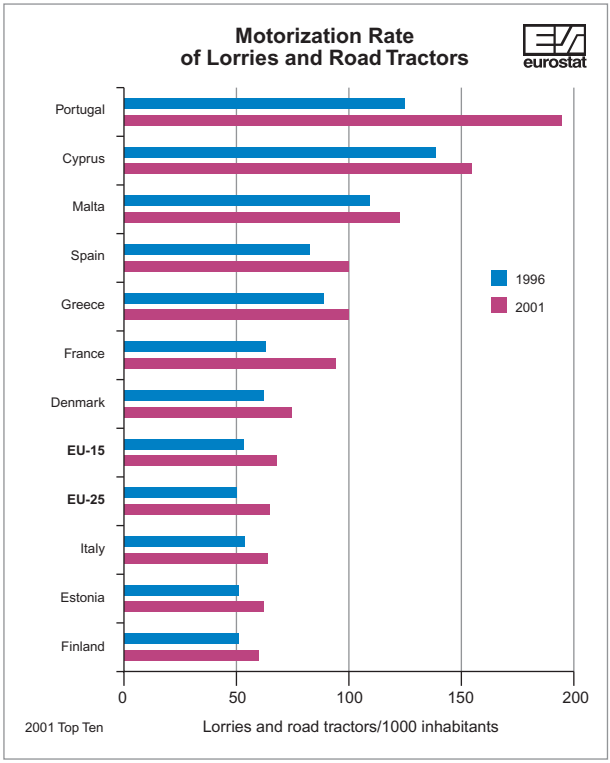
Again attention must be paid to the problem of countries applying definitions differently, mainly on the distinction between a lorry and a passenger car (i.e. vans, pick ups etc.). Caution should therefore be observed when interpreting the figures.

Motorization Rate of Lorries and Road Tractors

Lorries and road tractors/1000 inhabitants

	1996	1997	1998	1999	2000	2001
EU-25	**50**	**51**	**56**	**59**	**61**	**64**
EU-15	**53**	**54**	**60**	**62**	**65**	**67**
Belgium	45	*47*	49	51	53	56
Czech Republic	24	26	27	28	29	31
Denmark	65	65	67	70	72	73
Germany	29	30	31	32	34	34
Estonia	*51*	*55*	*59*	*61*	*63*	*62*
Greece	87	90	93	*97*	*100*	*100*
Spain	80	84	89	94	98	102
France	64	62	89	90	92	*94*
Ireland	*42*	*45*	*48*	*52*	*56*	*59*
Italy	54	55	57	58	60	63
Cyprus	141	142	146	148	151	*156*
Latvia	29	31	35	37	41	42
Lithuania	24	25	27	26	27	29
Luxembourg	*45*	*47*	*49*	52	68	59
Hungary	32	33	33	34	35	37
Malta	*109*	*130*	*121*	*122*	*121*	*120*
Netherlands	42	45	49	53	56	*59*
Austria	38	39	40	41	42	43
Poland	37	39	40	44	49	51
Portugal	127	136	146	156	167	*195*
Slovenia	23	24	25	26	27	28
Slovakia	*27*	28	29	30	28	30
Finland	51	53	55	58	60	61
Sweden	35	36	39	41	42	44
United Kingdom	47	47	*49*	*49*	*50*	*52*
Iceland	57	59	60	64	69	70
Liechtenstein	*70*	*73*	*76*	*79*	*70*	*73*
Norway	*35*	36	36	36	*36*	*36*
Switzerland	37	37	38	38	39	39
Bulgaria	32	33	34	36	37	39
Romania	16	17	18	20	20	*20*
Turkey	13	15	16	17	19	*19*

Data Source: Eurostat, DG for Energy & Transport



Portugal had the highest number of lorries and road tractors (195 per 1000 inhabitants) with Cyprus coming second (156 per 1000 inhabitants) and Malta third with 120, while the average for the EU-25 was 67 in 2001. These high figures are partly explained by the fact that there is little or no rail network, so most of the inland transport of goods is done by road. In addition, the size and capacity of lorries and road tractors also varies from country to country.

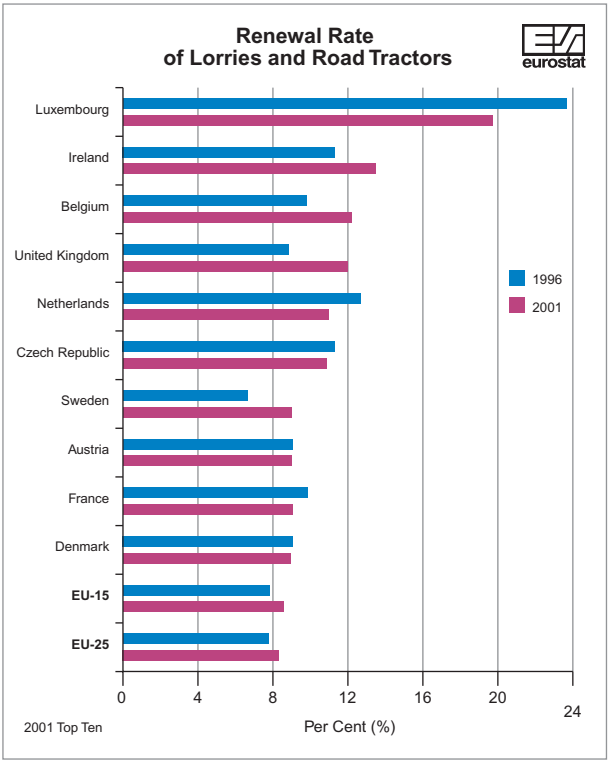
Again attention must be paid to the problem of countries applying definitions differently, mainly on the distinction between a lorry and a passenger car (i.e. vans, pick ups etc.). Caution should therefore be observed when interpreting the figures.

Renewal Rate of Lorries and Road Tractors

Lorries and road tractors
first registration/ total lorries and road tractors(%)

	1996	1997	1998	1999	2000	2001
EU-25	**7.8**	**8.1**	**8.4**	**8.8**	**8.8**	**8.3**
EU-15	**7.9**	**8.3**	**8.5**	**8.9**	**9.0**	**8.5**
Belgium	9.6	*10.5*	12.2	13.2	12.0	12.2
Czech Republic	*10.8*	*10.0*	*9.6*	*9.1*	*9.1*	*10.2*
Denmark	9.2	10.1	9.6	10.0	9.4	9.1
Germany	9.0	9.5	10.4	10.9	9.9	9.0
Estonia	*5.8*	*7.3*	*6.4*	*4.8*	*5.6*	*6.7*
Greece	3.8	4.3	4.2	*4.2*	*4.4*	*4.5*
Spain	6.6	7.5	8.1	9.0	8.3	7.5
France	10.0	9.7	7.6	8.1	8.8	*9.1*
Ireland	*11.2*	*11.9*	*13.9*	*15.8*	*16.2*	*13.9*
Italy	5.8	5.5	6.2	6.2	7.0	6.8
Cyprus	7.8	5.9	6.8	6.1	6.0	6.8
Latvia	3.7	5.7	6.9	7.4	5.6	5.0
Lithuania	9.3	15.3	13.4	8.0	8.0	6.8
Luxembourg	*23.7*	*22.4*	*21.7*	*21.7*	*18.1*	*19.7*
Hungary	8.1	7.1	8.9	9.5	9.7	9.0
Malta	*10.9*	*9.2*	*6.3*	*5.3*	*4.6*	*4.0*
Netherlands	12.7	13.7	14.9	13.8	12.6	10.6
Austria	9.1	9.5	10.1	10.2	10.4	9.1
Poland	5.6	5.8	7.3	8.8	7.9	5.7
Portugal	6.0	6.8	7.4	7.1	7.6	5.1
Slovenia	8.6	7.8	7.8	8.9	8.3	7.7
Slovakia	*5.1*	5.7	6.4	4.8	5.6	8.5
Finland	5.0	6.1	6.5	6.6	6.0	5.7
Sweden	6.8	8.0	9.1	9.7	10.5	9.1
United Kingdom	8.9	9.5	10.4	*10.8*	*11.6*	*11.9*
Iceland	6.6	8.1	9.3	10.4	11.2	6.2
Liechtenstein	*8.7*	*8.1*	*9.1*	*9.6*	*9.6*	*10.2*
Norway	*3.7*	*3.6*	4.4	3.4	3.7	*3.5*
Switzerland	7.0	7.4	8.1	8.5	9.6	10.0
Bulgaria	4.4	1.7	3.6	3.6	3.4	4.3
Romania	*6.6*	*6.4*	6.5	7.2	1.4	9.4
Turkey	7.8	12.5	11.6	7.0	9.8	3.6

Data Source: Eurostat, DG for Energy & Transport



The corresponding renewal rates for the countries with high numbers of lorries per 1000 inhabitants were rather low: 5.1% for Portugal, 6.8% for Cyprus and 4.0% for Malta. On the other hand Luxembourg, Ireland, Belgium, United Kingdom, Netherlands and Czech Republic all had a renewal rate of over 10%. The average for the EU-25 was 8.3%, slightly above the EFTA average of 7.6% in 2001.
Again attention must be paid to the problem of countries applying definitions differently, mainly on the distinction between a lorry and a passenger car (i.e. vans, pick ups etc.). Caution should therefore be observed when interpreting the figures.

Airfleet by Operator Country

	1st quarter 2003
EU-25	**5 223**
EU-15	**4 890**
Belgium	141
Czech Republic	62
Denmark *	195
Germany	910
Estonia	14
Greece	89
Spain	446
France	637
Ireland	132
Italy	453
Cyprus	23
Latvia	31
Lithuania	26
Luxembourg	55
Hungary	47
Malta	16
Netherlands	218
Austria	168
Poland	83
Portugal	124
Slovenia	11
Slovakia	20
Finland	85
Sweden *	169
United Kingdom	1 068
Iceland	35
Liechtenstein	5
Norway **	86
Switzerland	281
Bulgaria	58
Romania	30
Turkey	159

* Includes those SAS passenger aircraft registered in Denmark and Sweden respectively, for which the operator country is 'multinational'

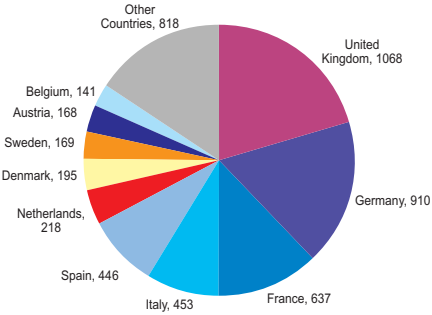
** Excludes SAS passenger aircraft

Data Source: Airclaims CASE2 database

Airfleet by Operator Country at 1st quarter of 2003

EU-25 Top Ten Countries

eurostat



Note: All military aircrafts excluded

At the end of the first quarter of 2003, there are 5 223 commercial aircrafts in the EU-25, of which 3 736 passenger aircrafts, 898 corporate, 340 cargos, 119 ambulances and 130 convertible from passenger to cargo.

Relatively small EU-25 countries weigh more in terms of number of commercial aircraft than in terms of population. For instance, Ireland, with a population of about 1% of the total EU-25 population, represents 2.5% of the number of aircraft registered in all EU-25 countries. Altogether the 13 countries with population less than 10 million inhabitants each represented 10% of total EU-25 population and 18% of total EU-25 airfleet in 2003. Among the 6 most populated EU countries, only the United Kingdom has a higher share in terms of number of aircraft (20.4%) than in terms of population (13%).

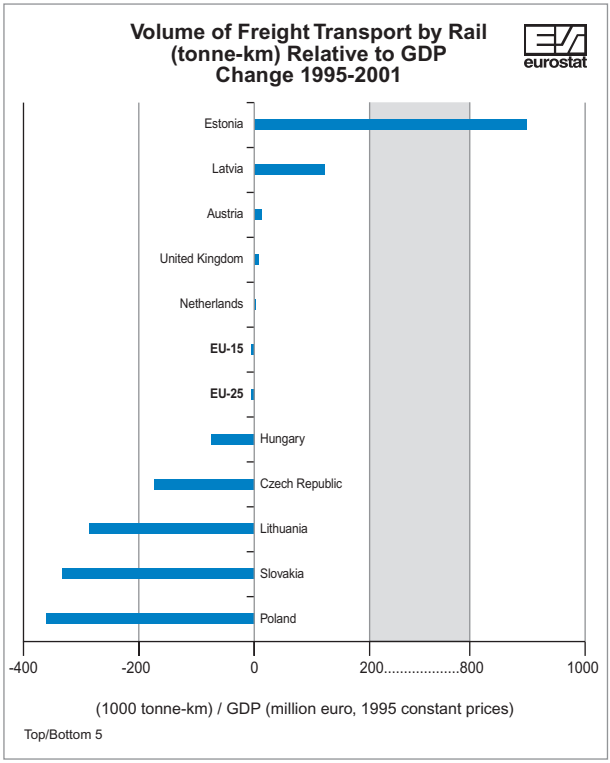
Volume of Freight Transport by Rail (tonne-km) Relative to GDP

(1000 tonne-km) / GDP (million euro, 1995 constant prices)

	1995	1996	1997	1998	1999	2000	2001
EU-25	**53**	**52**	**53**	**50**	**47**	**48**	**45**
EU-15	**34**	**33**	**35**	**34**	**33**	**33**	**32**
Belgium	36	34	34	34	32	32	29
Czech Republic	568	538	510	459	408	414	387
Denmark *	14	12	14	14	13	13	13
Germany	38	37	39	38	36	37	36
Estonia	1 410	1 481	1 639	1 867	2 255	2 334	2 315
Greece	3	4	3	3	3	4	3
Spain	25	24	26	23	22	22	21
France	41	41	44	43	41	41	36
Ireland	12	10	9	7	7	6	6
Italy	26	25	26	25	24	25	24
Cyprus	-	-	-	-	-	-	-
Latvia	2 888	3 544	3 680	3 268	2 986	3 046	3 007
Lithuania	1 524	1 634	1 625	1 452	1 404	1 535	1 250
Luxembourg	41	40	40	38	37	35	32
Hungary	247	221	225	215	196	195	179
Malta	-	-	-	-	-	-	-
Netherlands	10	10	10	11	11	12	11
Austria	73	73	76	76	76	81	82
Poland	702	654	615	528	459	388	339
Portugal	24	22	25	22	23	22	21
Slovenia	203	162	174	168	155	152	147
Slovakia	934	776	756	691	572	638	600
Finland	94	85	90	86	82	81	78
Sweden	102	98	97	94	89	90	87
United Kingdom **	15	17	18	18	19	18	19
Iceland	-	-	-	-	-	-	-
Liechtenstein	:	:	:	:	:	:	:
Norway	24	24	24	23	22	22	21
Switzerland	37	34	36	37	40	38	*39*
Bulgaria	858	832	867	689	580	575	489
Romania	894	861	835	660	590	643	599
Turkey	66	64	64	55	56	62	51

* Rail transport data include transport on the network of DSB/Banestyrelsen
** Rail transport data refer to Great Britain

Data Sources: Eurostat, UIC, national statistics



The average EU-25 volume of freight transport by rail in relation to GDP was slightly decreased in 2001 compared to 1995.
The picture of the 25 Member States is quite contrasted, having on one side the EU-15 countries with low values and on the other side the new Member States with high values.
The average value for the EU-25 in 2001 was 45 thousand tonne-km per million euro, which is much less than the high values that Latvia, Estonia, Lithuania and some other countries exhibited that year. This was due to their low Gross Domestic Product rather than their activity level.

Volume of Freight Transport by Road (tonne-km) Relative to GDP

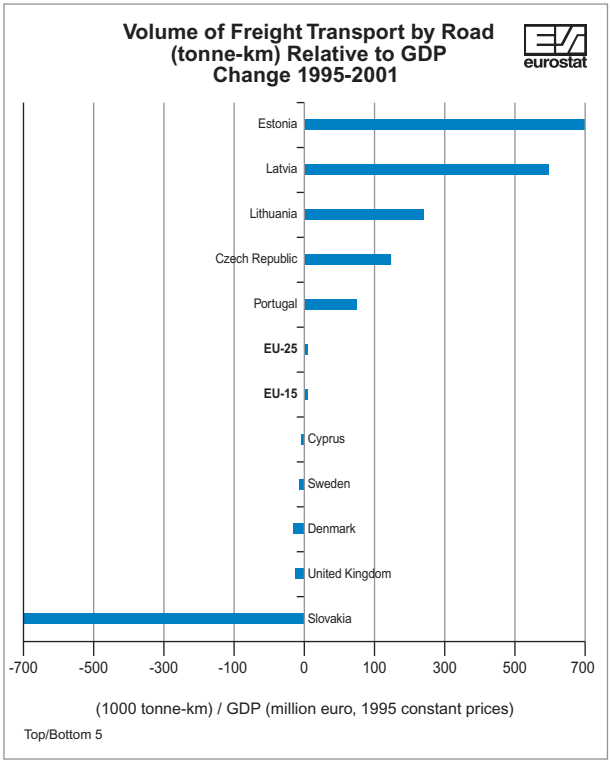
(1000 tonne-km) / GDP (million euro, 1995 constant prices)

	1995	1996	1997	1998	1999	2000	2001
EU-25 *	**182**	**182**	**185**	**189**	**191**	**191**	**191**
EU-15	**167**	**168**	**169**	**173**	**174**	**174**	**174**
Belgium	215	195	197	*182*	160	211	218
Czech Republic	786	724	987	832	903	923	923
Denmark	162	151	148	*144*	152	153	139
Germany	126	125	128	131	139	137	139
Estonia	568	669	891	1 164	1 229	1 133	1 265
Greece	147	*173*	190	*209*	*210*	*202*	*194*
Spain	227	*223*	*230*	*252*	259	276	290
France	150	150	148	149	157	150	149
Ireland	108	115	115	124	138	151	143
Italy	194	*207*	*201*	*210*	198	200	198
Cyprus	*159*	*160*	*160*	*158*	*153*	*151*	*150*
Latvia	543	630	883	1 033	1 017	1 096	1 136
Lithuania	1 089	845	970	986	1 385	1 337	1 337
Luxembourg	*397*	*245*	*284*	*300*	354	391	441
Hungary	*404*	*414*	*411*	493	471	460	429
Malta	:	:	:	:	:	:	:
Netherlands	212	212	208	222	227	209	203
Austria	*147*	*151*	153	*156*	*171*	171	*181*
Poland	527	548	579	603	587	524	530
Portugal	227	*271*	279	272	269	*271*	*298*
Slovenia	*218*	*223*	*238*	*223*	*233*	*283*	285
Slovakia	1 813	1 023	938	1 051	1 074	1 213	1 112
Finland	*247*	*242*	*235*	245	249	256	241
Sweden	166	173	*178*	*163*	*155*	160	152
United Kingdom	186	186	184	181	170	164	158
Iceland	87	86	86	84	87	87	87
Liechtenstein	:	:	:	:	:	:	:
Norway	85	105	112	115	114	113	111
Switzerland	60	65	70	75	74	72	*72*
Bulgaria	:	:	:	:	:	665	803
Romania	729	703	822	627	540	562	690
Turkey	868	979	938	990	1 031	1 027	1 041

* including estimations done for Malta

Data Sources: Eurostat, DG for Energy & Transport, national statistics

eurostat



During the reference period 1995 - 2001, road freight transport (measured in tonne-kilometres relative to GDP) increased in EU-25 on average by 4.9%. The average value of 191 thousand tonne-km per million euro in 2001 is more than four times higher than the corresponding value for rail transport. In 2001, Lithuania led with a value of 1 337 whereas the lowest value is exhibited by Germany and Denmark with 139. The highest percentage increase in the reference period among the EU-25 countries is exhibited by Estonia (123%) while the lowest (39% decrease) from Slovakia, first in the ranking in 1995, far ahead of the second Lithuania.

Volume of Freight Transport by Inland Waterways (tonne-km) Relative to GDP

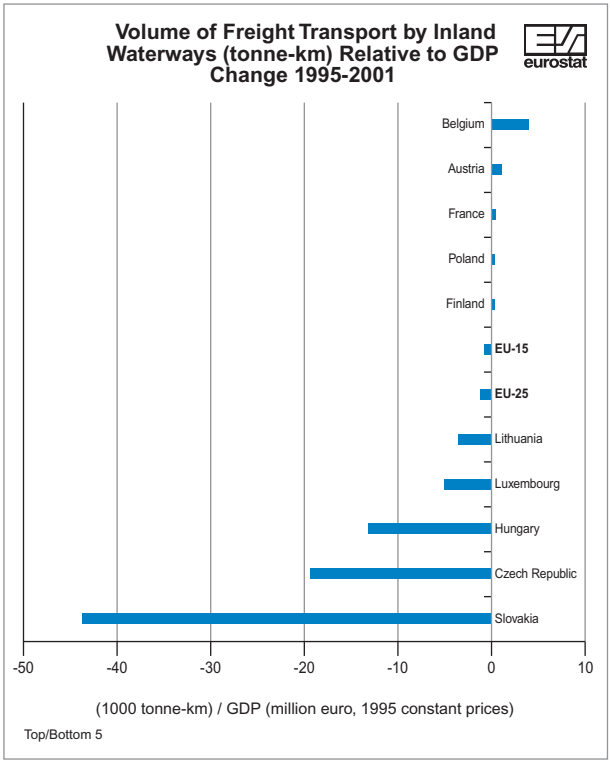
(1000 tonne-km) / GDP (million euro, 1995 constant prices)

	1995	1996	1997	1998	1999	2000	2001
EU-25	**18**	**17**	**17**	**17**	**17**	**17**	**16**
EU-15	**17**	**17**	**17**	**17**	**17**	**17**	**16**
Belgium	27	27	26	27	27	30	31
Czech Republic	33	27	19	22	22	18	14
Denmark	-	-	-	-	-	-	-
Germany	34	32	32	33	31	32	31
Estonia	0	0	0	0	1	0	0
Greece	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-
France	6	5	6	6	6	7	6
Ireland	-	-	-	-	-	-	-
Italy	0	0	0	0	0	0	0
Cyprus	-	-	-	-	-	-	-
Latvia	-	-	-	-	-	-	-
Lithuania	4	1	2	2	1	0	0
Luxembourg	25	22	23	22	20	19	19
Hungary	*43*	*40*	*40*	41	24	21	29
Malta	-	-	-	-	-	-	-
Netherlands	112	109	121	115	112	108	108
Austria	11	11	11	12	11	12	12
Poland	9	8	8	9	8	8	9
Portugal	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-
Slovakia	100	103	93	77	96	78	56
Finland	1	1	1	1	1	1	1
Sweden	-	-	-	-	-	-	-
United Kingdom	0	0	0	0	0	0	*0*
Iceland	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-
Switzerland	1	1	1	0	0	0	*0*
Bulgaria *	53	56	70	63	20	33	42
Romania	115	134	163	167	113	104	102
Turkey	-	-	-	-	-	-	-

* inland waterways transport data refer only to public sector enterprises

Data Sources: Eurostat, DG for Energy & Transport, national statistics

eurostat



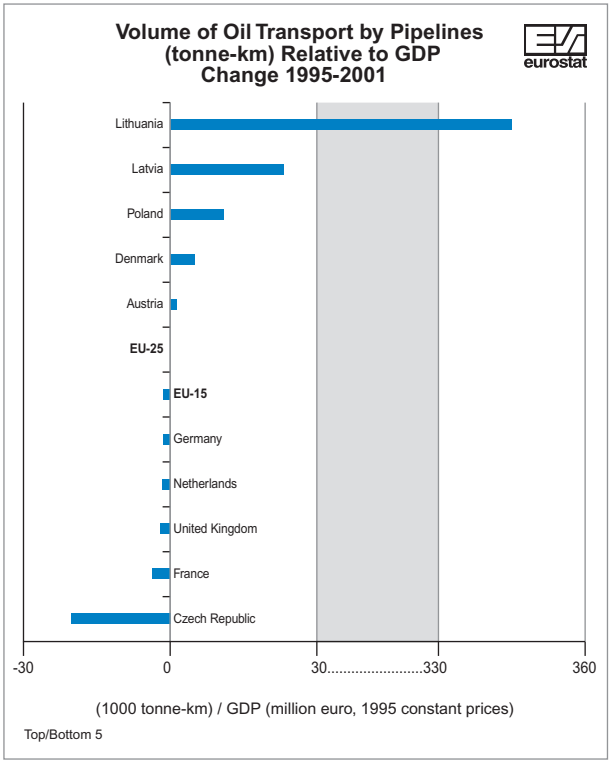
The volume of freight transport by inland waterways in relation to GDP is rather low compared to the rail and road transport and is showing a decreasing trend. The Netherlands have the highest value for this index, which was to be expected since the country has the largest network of inland waterways in the EU-25; during 2001 the freight transported by inland waterways was almost a third of the total inland freight transport. In comparison, at the level of EU-25, the freight transported by inland waterways was 7% of the freight transported by the three inland transport modes.

Volume of Oil Transport by Pipelines (tonne-km) Relative to GDP

(1000 tonne-km) / GDP (million euro, 1995 constant prices)

	1995	1996	1997	1998	1999	2000	2001
EU-25	**16**	**16**	**15**	**16**	**15**	**15**	**16**
EU-15	**12**	**12**	**12**	**12**	**12**	**11**	**11**
Belgium	7	7	7	7	7	7	*7*
Czech Republic	57	55	51	51	44	38	38
Denmark	23	24	26	26	28	*28*	*28*
Germany	9	8	7	8	8	7	8
Estonia	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-
Spain	13	13	14	14	14	14	14
France	19	18	18	17	16	16	15
Ireland	-	-	-	-	-	-	-
Italy	12	12	11	12	12	11	11
Cyprus	-	-	-	-	-	-	-
Latvia	1 574	1 730	1 676	1 652	1 481	1 480	1 595
Lithuania	424	466	501	521	470	595	772
Luxembourg	-	-	-	-	-	-	-
Hungary	48	49	50	51	46	42	47
Malta	-	-	-	-	-	-	-
Netherlands	17	18	18	17	16	15	*15*
Austria	38	39	43	42	38	37	39
Poland	139	149	136	160	162	146	150
Portugal	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-	-
Finland	-	-	-	-	-	-	-
Sweden	-	-	-	-	-	-	-
United Kingdom	13	13	12	12	12	11	11
Iceland	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-
Norway	47	43	34	32	30	26	*26*
Switzerland	5	5	1	1	1	1	1
Bulgaria	41	40	31	27	36	39	34
Romania	108	94	87	90	66	55	66
Turkey	25	29	141	258	297	263	233

Data Source: Eurostat, DG for Energy & Transport



The volume of oil transport measured in tonne-km in relation to GDP is constant at about 16 thousand tonne-km per million euro in the EU-25 over the period 1995-2001. Latvia (1 595) and Lithuania (772) show the largest values since there are important pipelines connecting the Russian oil deposits with the Baltic Sea ports.

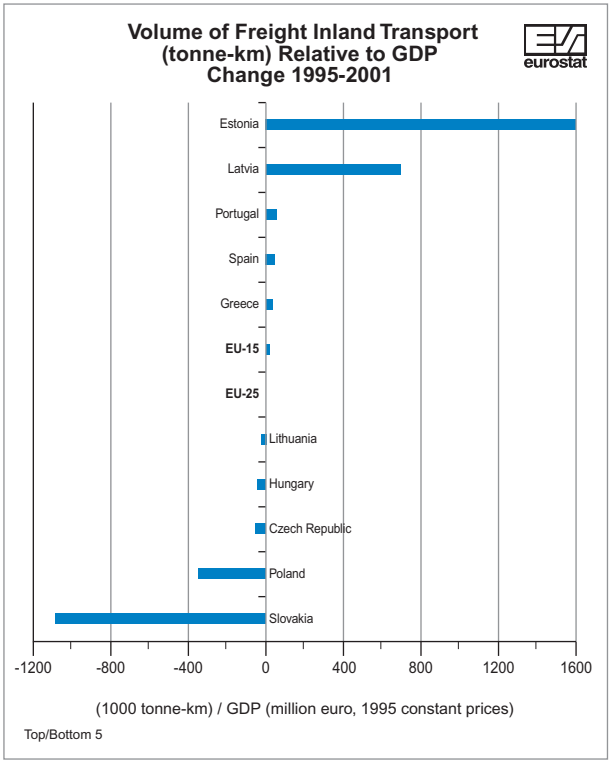
Volume of Freight Inland Transport (tonne-km) Relative to GDP

Total freight transport by Rail + Road + Inland Waterways (1000 tonne-km) / GDP (million euro, 1995 constant prices)

	1995	1996	1997	1998	1999	2000	2001
EU-25 *	**253**	**251**	**256**	***257***	**255**	**255**	**252**
EU-15	**218**	**218**	**221**	**224**	**223**	**224**	**222**
Belgium	278	256	257	*242*	219	272	278
Czech Republic	1 387	1 289	1 516	1 313	1 333	1 355	1 325
Denmark	177	163	161	*157*	165	165	151
Germany	198	194	199	202	206	206	207
Estonia	1 977	2 150	2 530	3 031	3 484	3 466	3 580
Greece	150	*177*	193	*212*	*213*	*206*	*198*
Spain	*252*	*247*	*256*	*274*	281	297	311
France	196	196	198	198	204	198	192
Ireland	120	125	123	131	145	157	149
Italy	220	*232*	227	*235*	222	225	222
Cyprus	*159*	*160*	*160*	*158*	*153*	*151*	*150*
Latvia	3 431	4 174	4 563	4 301	4 003	4 142	4 143
Lithuania	2 618	2 481	2 597	2 440	2 790	2 872	2 587
Luxembourg	*462*	*308*	*347*	*360*	411	445	492
Hungary	*694*	*675*	*676*	749	691	677	637
Malta	:	:	:	:	:	:	:
Netherlands	333	331	339	347	350	329	323
Austria	*232*	*236*	*241*	*244*	*258*	263	275
Poland	1 238	1 211	1 202	1 140	1 053	920	878
Portugal	252	*293*	304	294	292	*292*	*319*
Slovenia	*422*	*385*	*412*	*391*	*388*	*435*	432
Slovakia	2 847	1 902	1 787	1 818	1 742	1 929	1 768
Finland	*341*	*329*	*326*	332	332	338	320
Sweden	269	271	*275*	*257*	*245*	250	238
United Kingdom	202	204	202	200	189	182	*177*
Iceland	87	86	86	84	87	87	87
Liechtenstein	:	:	:	:	:	:	:
Norway	109	128	136	137	136	135	133
Switzerland	98	99	107	113	115	110	*111*
Bulgaria	:	:	:	:	:	1 273	1 335
Romania	1 737	1 698	1 821	1 453	1 242	1 308	1 390
Turkey	934	1 044	1 002	1 045	1 087	1 090	1 093

* including estimations done for Malta

Data Sources: Eurostat, DG for Energy & Transport, UIC, national statistics



When analysing this table it is important to note that total inland transport includes rail, road and inland waterways and excludes pipelines.
The total freight inland transport index for EU-25 remained almost unchanged during the reference period 1995-2001.
Latvia, Lithuania and Estonia had the highest values in 2001. As with road transport, Estonia exhibited the highest percentage increase of 81% between 1995 and 2001 while Slovakia, the highest decrease, -38%.

Modal Split of Freight Transport
Share* of Road in Total Inland Transport (%)

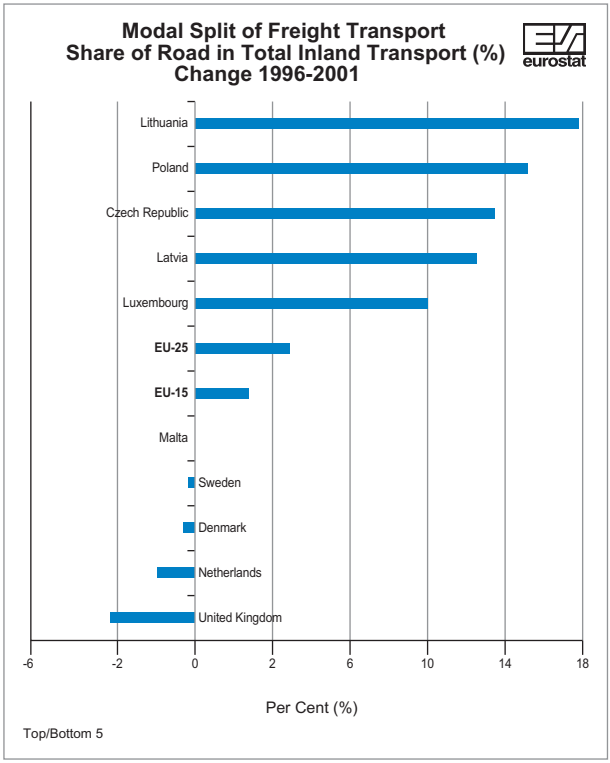
Total transport of freight by road / Total transport of freight by inland (rail + road + inland waterways) (%)

	1996	1997	1998	1999	2000	2001
EU-25	**72.6**	**72.3**	**73.6**	**74.8**	**74.7**	**75.7**
EU-15	**77.1**	**76.4**	**77.1**	**77.9**	**77.7**	**78.4**
Belgium	76.4	76.7	*75.1*	73.1	77.4	78.4
Czech Republic	56.2	65.1	63.3	67.7	68.1	69.7
Denmark	92.4	91.6	*91.2*	92.3	92.2	91.7
Germany	64.4	64.4	65.0	67.5	66.3	67.5
Estonia	31.1	35.2	38.4	35.3	32.7	35.3
Greece	*97.8*	98.3	*98.5*	*98.5*	*98.1*	*98.3*
Spain	*90.2*	*89.7*	*91.7*	92.1	92.8	93.2
France	76.4	74.9	75.3	76.8	76.0	77.9
Ireland	91.7	93.1	94.6	95.1	96.2	96.0
Italy	*89.2*	*88.3*	*89.1*	89.1	88.9	89.3
Cyprus	100.0	100.0	100.0	100.0	100.0	100.0
Latvia	15.1	19.4	24.0	25.4	26.5	27.4
Lithuania	34.1	37.4	40.4	49.6	46.5	51.7
Luxembourg	*79.7*	*81.9*	*83.4*	86.2	87.8	89.6
Hungary	*61.3*	*60.8*	65.8	68.2	68.0	67.3
Malta	100.0	100.0	100.0	100.0	100.0	100.0
Netherlands	64.2	61.4	63.8	64.8	63.4	63.0
Austria	*64.3*	*63.7*	*64.0*	66.3	64.8	65.9
Poland	45.3	48.1	52.9	55.7	56.9	60.3
Portugal	*92.6*	91.7	92.5	92.3	*92.5*	*93.4*
Slovenia	*57.9*	*57.8*	*57.1*	*60.1*	*65.0*	66.0
Slovakia	53.8	52.5	57.8	61.6	62.9	62.9
Finland	73.7	*72.1*	73.8	75.0	75.8	75.4
Sweden	63.9	*64.6*	*63.5*	*63.5*	63.9	63.6
United Kingdom	91.6	90.8	90.8	90.1	90.0	*89.3*
Iceland	100.0	100.0	100.0	100.0	100.0	100.0
Liechtenstein	:	:	:	:	:	:
Norway	81.7	82.4	83.6	83.7	83.5	84.0
Switzerland	65.4	65.6	66.6	64.6	65.4	*64.8*
Bulgaria	:	:	:	:	52.3	60.2
Romania	41.4	45.1	43.1	43.5	42.9	49.6
Turkey	93.8	93.6	94.8	94.8	94.3	95.3

* on the basis of tonne-km

Data Sources: Eurostat, DG for Energy & Transport, UIC, national statistics

eurostat



When analysing this table it is important to note again that total inland transport includes rail, road and inland waterways and excludes pipelines.

On average, at the EU-25 level, 76% of freight inland transport in tonne-km is performed by road. In most of the countries road transport is the dominant mode; exemptions are Estonia and Latvia where rail transport is ahead of road transport while in the case of Lithuania rail transport is just behind road transport. For all the other EU-25 countries the share of road transport in total inland transport is greater than 60%.

Tonnage of Freight Transport by Rail

(million tonnes)

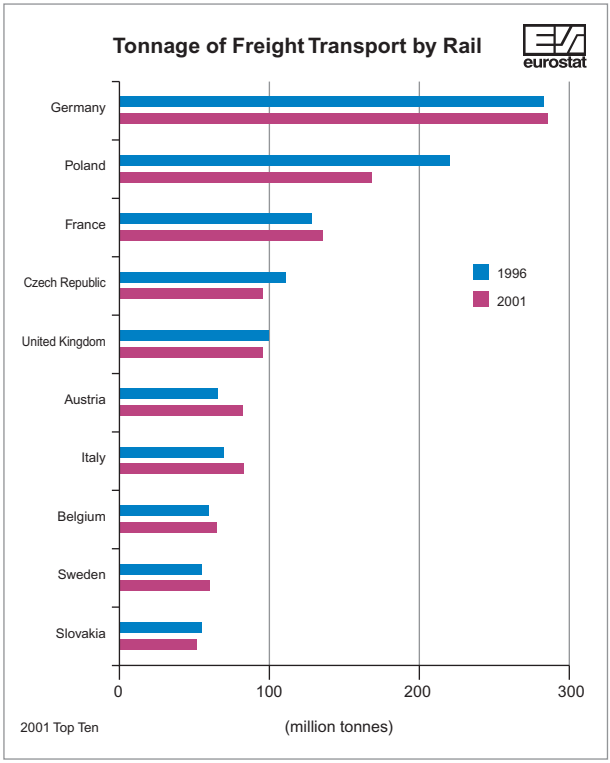
	1996	1997	1998	1999	2000	2001
EU-25 *	**1 413**	**1 474**	**1 446**	**1 376**	**1 438**	**1 404**
EU-15 *	**880**	**915**	**915**	**890**	**930**	**932**
Belgium	57	59	61	59	61	61
Czech Republic	107	111	105	91	98	97
Denmark	8	8	8	7	8	7
Germany	288	295	289	277	283	288
Estonia	25	*30*	32	37	40	39
Greece	2	2	2	2	3	3
Spain	24	25	26	25	26	26
France	126	135	137	137	142	138
Ireland	3	3	*3*	*3*	3	3
Italy	68	75	76	74	80	79
Cyprus	-	-	-	-	-	-
Latvia	35	41	38	33	36	38
Lithuania	29	30	31	28	31	29
Luxembourg	15	16	17	18	18	18
Hungary	48	51	53	49	50	36
Malta	-	-	-	-	-	-
Netherlands	21	23	*25*	*27*	*28*	26
Austria	66	71	73	74	81	83
Poland	219	222	203	185	185	166
Portugal	8	9	9	9	9	9
Slovenia	12	13	13	13	14	14
Slovakia	58	59	57	49	54	54
Finland	38	40	41	40	41	42
Sweden	53	*48*	48	*46*	52	55
United Kingdom	102	105	102	92	95	94
Iceland	-	-	-	-	-	-
Liechtenstein	:	:	:	:	:	:
Norway **	15	7	7	8	8	*8*
Switzerland	44	47	49	55	59	*59*
Bulgaria	30	29	24	21	21	19
Romania	104	93	76	63	71	72
Turkey	16	17	16	15	18	14

* The values of this table include national, international incoming, international outgoing and transit rail transport of each country. In consequence, some volumes are calculated twice or even three times. The estimated double counting in 2001 for the EU-15 and EU-25 is 24% and 27% respectively.

** The transport of ore on the Often Line ceased during 1996

Data Sources: Eurostat, UIC, national statistics

eurostat



The tonnage of goods transported by rail decreased by 0.7% in the 25 Member States from 1996 to 2001. Freight transported by rail increased by 5.9% in the EU-15 while it was 11.6% less in the new Member States.

In absolute terms, 288 million tonnes were transported in Germany in 2001, which corresponds to more than 20% of the total volume of the EU-25, and 166 million tonnes in Poland (12%).

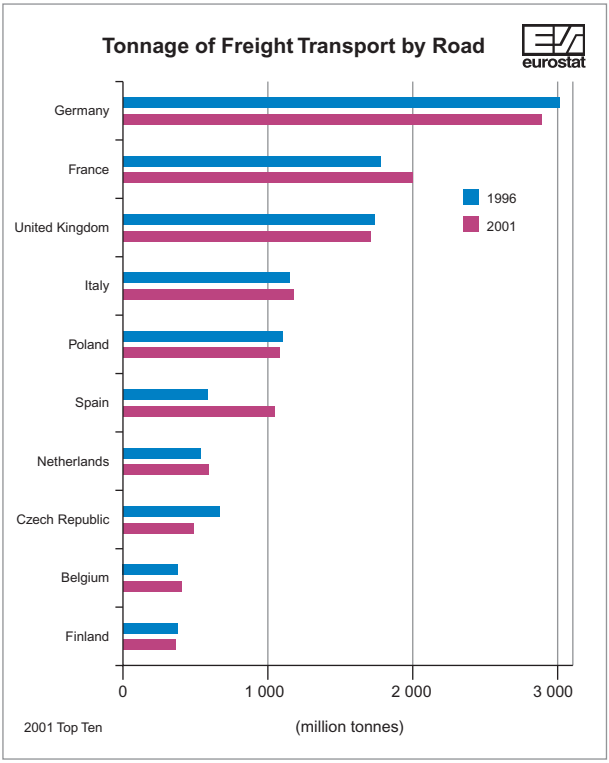
In total, in Estonia, Latvia and Lithuania - the countries that showed by far the highest values of freight transport by rail relative to GDP - only 106 million tonnes were transported in 2001, representing 7.6% of EU-25.

Tonnage of Freight Transport by Road

(million tonnes)

	1996	1997	1998	1999	2000	2001
EU-25	**:**	**:**	**:**	**:**	**:**	**:**
EU-15	**10 713**	**10 799**	**10 918**	**11 423**	**11 691**	**11 632**
Belgium	365	307	345	323	412	386
Czech Republic	685	521	471	448	415	439
Denmark	192	201	204	216	224	205
Germany	3 015	2 981	2 968	3 181	3 003	2 885
Estonia	11	13	:	:	26	33
Greece	177	204	*187*	*194*	*198*	*203*
Spain	589	628	718	827	945	1 048
France	1 726	1 770	1 788	1 897	1 924	1 991
Ireland	*118*	*127*	*136*	162	192	201
Italy	1 141	1 153	*1 100*	1 082	1 205	1 160
Cyprus	:	:	:	:	:	:
Latvia	29	25	34	33	33	32
Lithuania	89	59	55	46	45	45
Luxembourg	*33*	24	*25*	33	37	45
Hungary	*260*	268	258	263	261	246
Malta	:	:	:	:	:	:
Netherlands	475	486	500	608	585	593
Austria	257	258	260	273	277	284
Poland	1 092	1 111	1 077	1 068	1 083	1 072
Portugal	244	262	272	281	*290*	*310*
Slovenia	31	52	80	87	103	*110*
Slovakia	204	212	186	151	197	196
Finland	380	389	406	416	422	379
Sweden	301	299	313	306	329	311
United Kingdom	1 700	1 709	1 696	1 624	1 648	1 630
Iceland	:	:	:	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	210	222	225	226	222	219
Switzerland	:	:	:	:	:	:
Bulgaria	:	144	:	:	122	:
Romania	*250*	246	314	279	:	:
Turkey	:	:	:	:	:	:

Data Source: Eurostat



Note: In 1999, there may be a break in series for some Member States due to beginning of data collection according to the Council (EC) Regulation 1172/98. Cross-trade and cabotage data are included since 1999 (For Sweden, since 2000)

As indicated in the table, in the EU-15, road transport accounted for 10 713 million tonnes in 1996 and increased by 8.6% until 2001. In 2001, of the total of 11 632 million tonnes for the EU-15, the biggest share of 24.8% was realised by German hauliers. French hauliers had the second position in the ranking with a share of 17.1%. Note that about 95% of the total freight transport by road in EU-15 relates to national transport.

At EU 23 level, excluding Cyprus and Malta, countries with very little effect due to their size and activity, there was a 5.3% increase in the period 1996-2001 raising the figure for road haulage to 13 805 million tonnes in 2001.

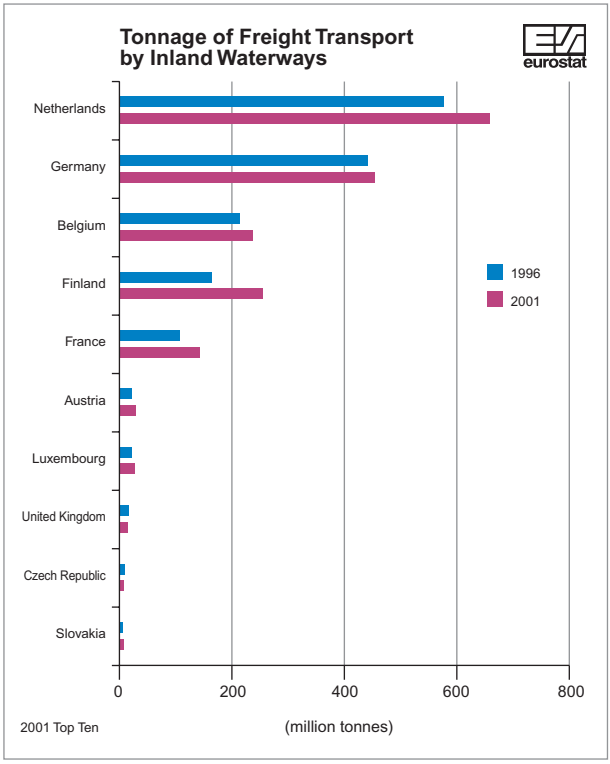
Tonnage of Freight Transport by Inland Waterways

(million tonnes)

	1996	1997	1998	1999	2000	2001
EU-25	**792**	**838**	**844**	**838**	**876**	**895**
EU-15	**777**	**824**	**830**	**825**	**860**	**879**
Belgium	107	106	106	110	120	128
Czech Republic	3	2	2	2	2	2
Denmark	-	-	-	-	-	-
Germany	227	233	236	229	242	236
Estonia	-	-	-	-	-	-
Greece	-	-	-	-	-	-
Spain	-	-	-	-	-	-
France	47	58	62	66	71	68
Ireland	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-
Latvia	-	-	-	-	-	-
Lithuania	0	0	0	0	0	0
Luxembourg	10	10	11	11	12	11
Hungary	2	2	2	2	2	*2*
Malta	-	-	-	-	-	-
Netherlands	289	319	316	311	314	329
Austria	9	9	10	10	11	12
Poland	9	9	9	8	10	*10*
Portugal	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-
Slovakia	1	1	1	2	2	2
Finland	*82*	83	84	84	86	91
Sweden	-	-	-	-	-	-
United Kingdom	6	5	4	4	4	5
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	-	-	-	-	-	-
Switzerland	8	:	:	:	:	:
Bulgaria *	1	1	1	0	1	*1*
Romania	14	16	15	14	*14*	*14*
Turkey	-	-	-	-	-	-

* only public transport enterprises

Data Source: Eurostat



Freight transport by inland waterways in the European Union accounted for 5.6% of total inland transport tonnage (excluding pipelines) in 2001, while transport by road and rail represented 85.7% and 8.7% respectively.

Between the year 1996 and 2001 the total volume of this mode of transport in the European Union increased nearly 13% to 895 million tonnes. Netherlands and Germany are the two main countries contributing to the importance of this activity. In 2001, they accounted for 63% of goods carried by inland waterways in the European Union. Belgium, which in 2001 was in the third place with a share of 14%, recorded the most significant percentage increase in the period 1996-2001.

Tonnage of Freight Transport by Sea

(million tonnes)

	1997	1998	1999	2000	2001
EU-25	**3 071**	**3 147**	**3 135**	**3 167**	**3 219**
EU-15	**2 912**	**2 982**	**2 967**	**2 985**	**3 028**
Belgium	162	171	166	179	174
Czech Republic	-	-	-	-	-
Denmark	124	105	97	97	94
Germany	213	217	222	243	246
Estonia	23	27	34	40	41
Greece	101	111	113	128	113
Spain	271	280	296	235	315
France	305	319	315	337	318
Ireland	36	40	43	45	46
Italy	459	476	463	447	445
Cyprus	7	6	6	7	7
Latvia	51	52	49	52	57
Lithuania	16	15	16	23	22
Luxembourg	-	-	-	-	-
Hungary	-	-	-	-	-
Malta	3	4	4	4	7
Netherlands	402	405	396	406	406
Austria	-	-	-	-	-
Poland	51	51	50	48	48
Portugal	55	58	59	56	56
Slovenia	7	8	8	9	9
Slovakia	-	-	-	-	-
Finland	75	77	77	81	96
Sweden	150	156	156	159	153
United Kingdom	558	568	565	573	566
Iceland	:	:	:	:	:
Liechtenstein	-	-	-	-	-
Norway	:	:	:	:	:
Switzerland	-	-	-	-	-
Bulgaria	:	:	:	:	20
Romania	32	28	23	25	28
Turkey	138	143	135	141	128

Data Source: Eurostat

Caution must be observed when considering the total figures (inwards + outwards), as the national transport includes some double-counting (goods loaded and unloaded). With this in mind, in 2001 more than 3 200 million tonnes were handled in the EU-25. Of these, around two thirds were goods unloaded and the remaining third goods loaded. Overall the volume of goods handled increased by 4.8% since 1997.

It must be said, however, that only three Member States registered a fall in the volume handled since 1997: Denmark, Italy and Poland. The decrease for Italy is mainly due to the change in the definition of “goods” in order to comply with the maritime statistics Directive while the decrease for Denmark is mainly attributed to the decrease of coal imports since 1998 and to the discontinuation of the Storebælt ferry service.

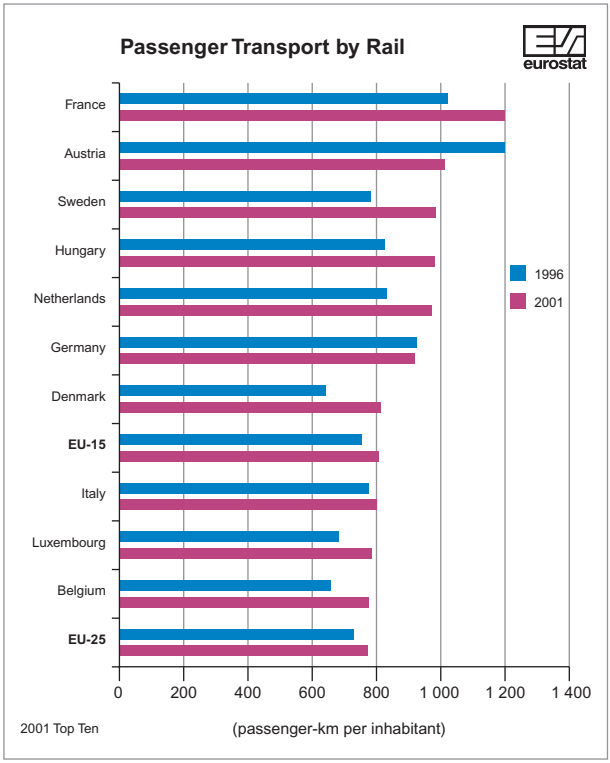
Passenger Transport by Rail

(passenger-km per inhabitant)

	1996	1997	1998	1999	2000	2001
EU-25	**719**	**722**	**726**	**747**	**763**	**767**
EU-15	**749**	**755**	**759**	**780**	**804**	**811**
Belgium	668	686	696	719	754	781
Czech Republic	786	749	682	676	711	711
Denmark *	649	718	744	738	776	813
Germany	927	901	882	896	913	915
Estonia	210	180	163	169	192	*134*
Greece	167	179	148	150	179	*166*
Spain	397	421	443	458	465	477
France	1 026	1 058	1 099	1 131	1 181	1 203
Ireland	356	378	383	388	365	393
Italy	780	758	719	753	816	806
Cyprus	-	-	-	-	-	-
Latvia	461	467	432	408	301	300
Lithuania	257	227	216	201	165	153
Luxembourg	683	701	703	717	759	783
Hungary	832	842	865	929	949	982
Malta	-	-	-	-	-	-
Netherlands	844	910	949	949	967	966
Austria	1 202	1 008	987	988	1 012	1 013
Poland	513	516	532	557	510	471
Portugal	448	452	454	425	355	358
Slovenia	308	310	325	314	354	359
Slovakia	701	568	574	550	531	520
Finland	635	657	655	661	658	633
Sweden	788	796	817	872	936	989
United Kingdom	549	592	616	650	643	657
Iceland	-	-	-	-	-	-
Liechtenstein **	:	:	:	:	:	:
Norway	544	571	587	652	636	612
Switzerland	1 649	1 749	1 758	1 834	1 851	*1 853*
Bulgaria	606	708	574	465	431	378
Romania	812	700	596	548	518	*489*
Turkey	86	94	98	96	90	*84*

* Rail transport data refer to DSB/Banestyrelsen, excluding S-tog (commuter trains)
** Rail transport data are included in Austrian data

Data Sources: Eurostat, DG for Energy & Transport, national statistics



Note: Handling of rail passengers transit is not harmonised.

The passenger transport by rail, in terms of passenger kilometres per inhabitant, increased on average by 6.6% in EU-25 between 1996 and 2001. In absolute figures, it is France which in 2001 recorded the largest number of passenger kilometres per inhabitant, certainly due to the major development of high speed lines, Austria being in second place and Sweden third. Germany and Poland, holders of the first two places in the freight transport by rail in 2001, were respectively in the sixth and the sixteenth position in passenger transport the same year.

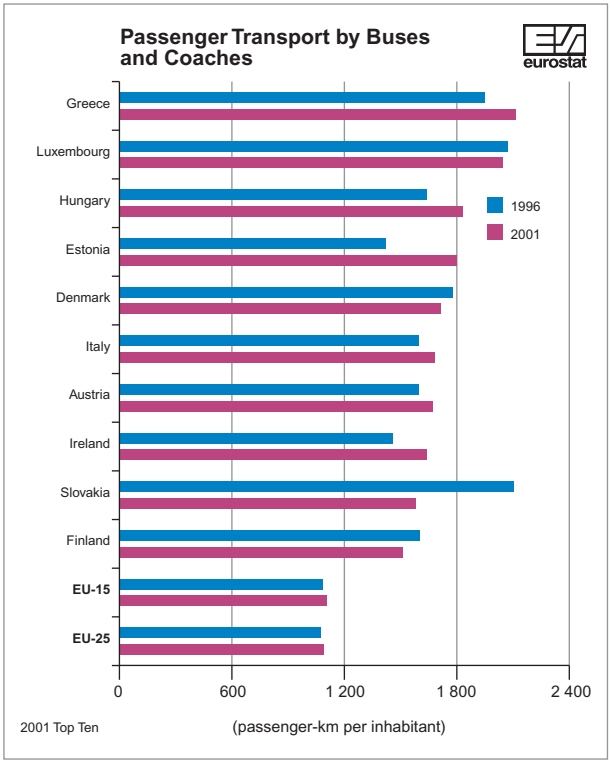
Among the new Member States, only Slovenia and Hungary recorded an increase in the period 1996-2001. Meanwhile Hungary was the country at the fourth position in the overall EU-25 ranking with almost 1 000 pkm per inhabitant.

Passenger Transport by Buses and Coaches

(passenger-km per inhabitant)

	1996	1997	1998	1999	2000	2001
EU-25	:	:	:	:	:	:
EU-15	**1 047**	**1 049**	**1 070**	**1 077**	**1 091**	**1 097**
Belgium	*1 122*	*1 169*	*1 176*	*1 193*	*1 210*	*1 215*
Czech Republic	*943*	*854*	*843*	*841*	910	1 033
Denmark	1 775	1 738	1 717	1 715	1 710	1 685
Germany	936	929	923	928	941	935
Estonia	1 423	1 535	1 562	1 578	1 920	*1 800*
Greece	1 952	1 971	2 016	2 040	2 058	*2 087*
Spain	*1 120*	1 117	1 252	1 262	1 260	1 284
France	731	722	731	732	769	740
Ireland	1 458	1 497	*1 535*	*1 571*	*1 607*	*1 624*
Italy	1 546	1 565	1 573	1 605	1 627	1 655
Cyprus	:	:	:	:	:	:
Latvia	645	697	777	983	989	979
Lithuania	471	407	370	331	271	300
Luxembourg	*2 166*	*2 138*	*2 110*	*2 081*	*2 057*	*2 037*
Hungary	1 606	1 616	1 673	1 738	1 834	1 827
Malta	:	:	:	:	:	:
Netherlands	509	512	497	474	471	474
Austria	1 548	*1 549*	*1 572*	*1 594*	*1 615*	*1 628*
Poland	880	857	880	860	821	802
Portugal	1 108	1 035	1 126	1 128	1 156	*1 169*
Slovenia	1 590	1 509	1 444	1 356	1 124	1 005
Slovakia	2 065	1 852	1 640	1 452	1 562	1 531
Finland	1 561	1 556	1 514	1 471	1 488	1 484
Sweden	984	1 006	1 028	1 050	1 048	1 079
United Kingdom	731	749	760	756	753	768
Iceland	*1 517*	*1 597*	*1 671*	*1 687*	1 693	*1 681*
Liechtenstein	:	:	:	:	:	:
Norway	940	964	950	936	922	909
Switzerland	834	846	844	*840*	*835*	*830*
Bulgaria	1 265	1 427	1 546	1 795	1 810	1 892
Romania	568	600	398	370	343	*315*
Turkey	1 501	1 538	1 508	1 429	1 348	*1 157*

Data Sources: Eurostat, DG for Energy & Transport, national statistics



Note: Buses and coaches data are asked to be based on movements on national territory, regardless of the nationality of the vehicle. However, data collection methodology is not harmonised at the EU level

Apart from passenger cars, more passenger kilometres are performed by bus and coach than any other mode of inland transport in the EU. In terms of passenger kilometres per capita, Greece, Luxembourg and Hungary are the countries that lead the ranking of 2001 while Netherlands and Lithuania are the last.

Italy with 95.8 billion pkm in 2001 offers the highest figure which accounts for almost 20% of the total EU-25, followed by Germany and Spain.

In terms of kilometres travelled per person per day, the average value for the EU is 3.0 km while the value of the leading countries Greece and Luxemburg are 5.7 and 5.6 km respectively.

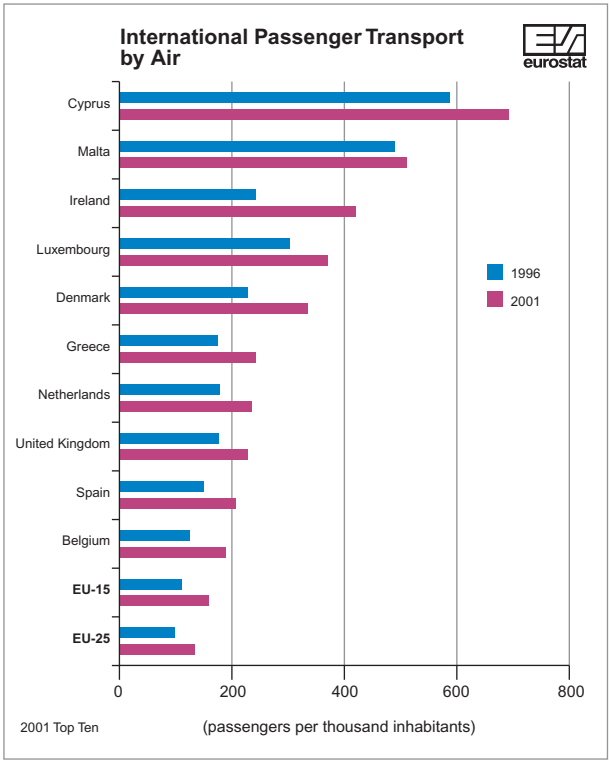
International Passenger Transport by Air

(passengers per thousand inhabitants)

	1996	1997	1998	1999	2000	2001
EU-25 [1]	**1 023**	**1 115**	**1 203**	**1 298**	**1 398**	**1 396**
EU-15	**1 179**	**1 283**	**1 383**	**1 492**	**1 604**	**1 599**
Belgium	1 315	1 564	1 811	1 956	2 106	1 923
Czech Republic [2]	370	410	430	477	551	606
Denmark	2 450	2 632	2 850	3 019	3 204	3 358
Germany	934	996	1 038	1 120	1 199	1 181
Estonia [2]	291	341	384	388	408	*416*
Greece	1 739	1 906	1 874	2 127	2 333	*2 512*
Spain	1 453	1 580	1 743	1 922	2 031	2 068
France	844	895	961	1 029	1 113	1 112
Ireland	2 598	3 247	3 574	3 909	4 217	4 320
Italy	544	585	609	676	767	750
Cyprus	5 873	6 157	6 683	7 256	7 965	*8 469*
Latvia [2]	200	215	227	234	243	265
Lithuania	117	129	142	146	157	187
Luxembourg	3 062	3 381	3 487	3 640	3 783	3 664
Hungary	321	352	384	422	460	451
Malta	6 885	7 337	7 616	7 869	7 789	7 139
Netherlands	1 794	2 027	2 206	2 357	2 538	2 456
Austria	1 356	1 459	1 576	1 641	1 753	1 739
Poland	74	87	104	112	122	129
Portugal	966	1 018	1 144	1 219	1 310	1 293
Slovenia	341	366	407	462	509	455
Slovakia [4]	24	29	39	29	27	35
Finland	1 131	1 253	1 356	1 344	1 468	1 485
Sweden	1 303	1 442	1 559	1 716	1 836	1 818
United Kingdom	1 784	1 935	2 118	2 243	2 390	2 376
Iceland	3 901	4 124	4 565	4 835	5 263	4 867
Liechtenstein	-	-	-	-	-	-
Norway	*1 521*	*1 608*	*1 611*	1 662	1 832	1 857
Switzerland	3 116	3 425	3 628	3 990	4 364	4 080
Bulgaria [2,3]	264	272	277	260	*260*	323
Romania	*71*	70	75	80	92	*112*
Turkey [5]	326	355	333	267	334	*355*

1) Passengers travelling between 2 countries are counted twice in the aggregate EU-25
2) BG, CZ, EE, LV: Passenger total includes transit
3) BG: only public sector enterprises
4) SK: data consist only of transport enterprises enrolled in Bussiness Register with 20 and more employees
5) TR: number of departures and arrivals in external lines reported to the General Directorate of State Airports

Data Sources: Eurostat, national statistics



Aviation is by far the fastest growing mode of transport for passengers in EU with, between 1996 and 2000, an average annual increase of 8.1% for international passengers per thousand inhabitants. Unlike previous years there was no increase in 2001 probably as a result of September 11th.
Despite lower growth rates between 2000 and 2001 as compared to the long-term average, twelve countries still registered development in 2001; note that among them are seven of the ten new Member States.

In 2001 the highest number of international trips per capita in EU-25 (8.5) is registered in Cyprus and the lowest in Slovakia (0.03 trips per capita). The very low figure of the latter can probably be explained on one hand by the proximity of the capital city (Bratislava) with the capital city of Austria and Vienna's international airport and on the other hand by the relative youth of Bratislava as a capital city (since the independence of Slovakia in 1993).

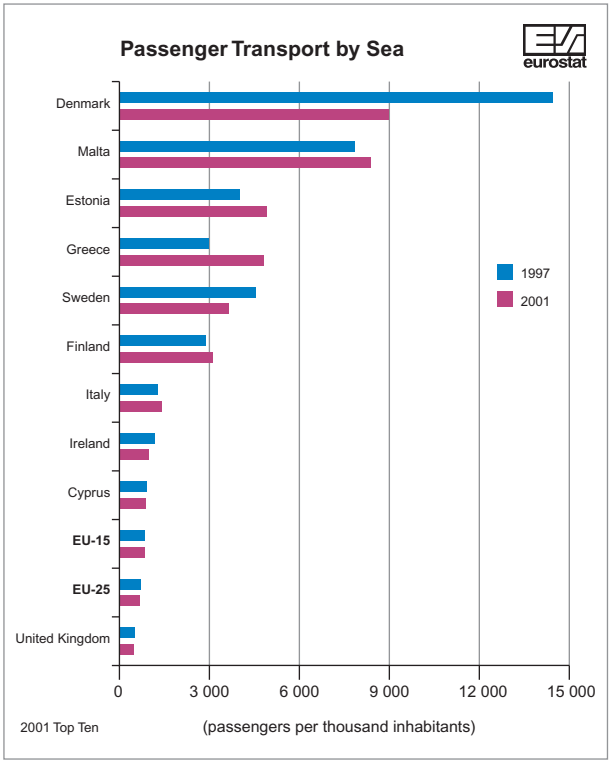
Passenger Transport by Sea

(passengers per thousand inhabitants)

	1997	1998	1999	2000	2001
EU-25	**845**	**828**	**829**	**776**	**817**
EU-15	**983**	**960**	**956**	**887**	**936**
Belgium	191	166	152	148	134
Czech Republic	-	-	-	-	-
Denmark	14 367	11 962	10 775	9 707	8 931
Germany	*378*	*378*	*378*	382	386
Estonia	4 207	4 661	5 212	5 427	*5 331*
Greece *	3 073	3 363	3 528	2 643	*4 751*
Spain	354	389	409	365	462
France	569	528	519	473	468
Ireland	1 192	1 261	1 160	1 110	1 011
Italy	1 394	1 400	1 482	1 495	1 501
Cyprus	963	984	1 094	1 367	*949*
Latvia	25	41	31	32	31
Lithuania	19	21	21	29	29
Luxembourg	-	-	-	-	-
Hungary	-	-	-	-	-
Malta	7 718	7 729	8 256	8 198	8 310
Netherlands	126	117	123	126	127
Austria	-	-	-	-	-
Poland	56	60	81	116	114
Portugal	*47*	47	46	52	53
Slovenia	22	21	19	19	17
Slovakia	-	-	-	-	-
Finland	2 955	3 102	3 126	3 084	3 225
Sweden	4 629	4 717	4 693	4 122	3 636
United Kingdom	615	623	602	567	577
Iceland	:	:	:	:	:
Liechtenstein	-	-	-	-	-
Norway	*1 345*	*1 444*	*1 466*	*1 461*	*1 434*
Switzerland	-	-	-	-	-
Bulgaria	:	:	:	:	0
Romania	:	:	:	:	:
Turkey	33	29	17	20	*20*

* Greece: until 2000, not all ferry connections were reported.

Data Source: Eurostat



Sea transport of passengers per thousand inhabitants was reduced by 8% in the EU-25 over the period 1997-2000 but there was a sharp increase in 2001 mainly attributed to the effect of additional ferry data reported for Greece. Although Italian ports registered the most passengers, Denmark was the country with the highest number of passengers per thousand inhabitants. Both the geographical characteristics of the country with numerous ferries between the various Danish islands and the ferry connections with Germany, Sweden and Norway explain the high numbers. Malta comes second in terms of passengers per thousand inhabitants and Estonia third.

Caution should be observed when interpreting the figures since they take into account passengers having made national, international intra-EU and extra-EU journeys. Thus passengers in national and international intra-EU traffic are double counted, once at embarkation and once at disembarkation.

Number of Persons Killed in Road Accidents

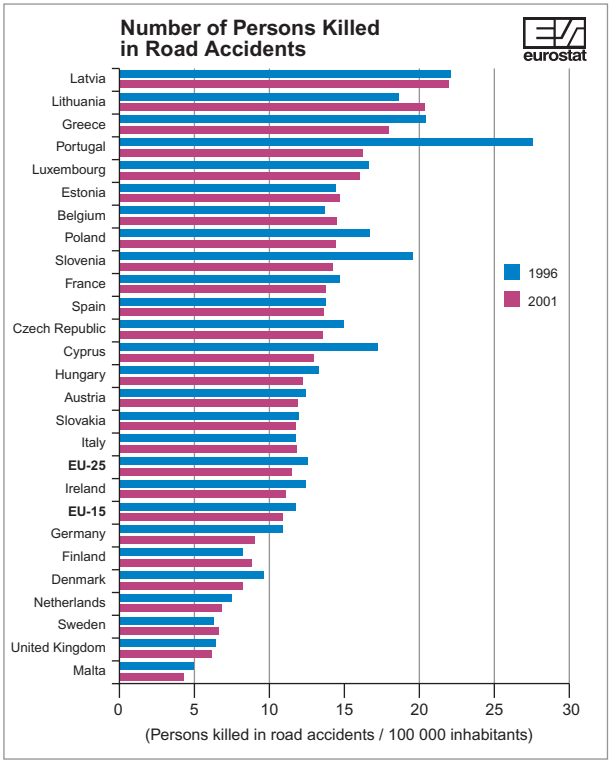
Persons killed in road accidents / 100 000 inhabitants

	1996	1997	1998	1999	2000	2001
EU-25	**12**	**13**	**12**	**12**	**12**	**11**
EU-15	**12**	**12**	**11**	**11**	**11**	**11**
Belgium	13	13	15	14	14	14
Czech Republic	15	15	13	14	14	13
Denmark	10	9	9	10	9	8
Germany	11	10	9	9	9	8
Estonia	14	19	20	16	15	*15*
Greece	21	20	21	20	19	*18*
Spain *	14	14	15	14	14	14
France *	15	15	15	14	14	14
Ireland	12	13	12	11	11	11
Italy *	12	12	11	12	11	12
Cyprus	17	15	15	15	15	*13*
Latvia **	22	21	26	25	25	22
Lithuania	18	20	22	20	17	20
Luxembourg	17	14	13	13	16	16
Hungary	13	14	13	13	12	12
Malta	5	5	5	1	4	4
Netherlands	8	8	7	8	7	7
Austria	13	14	12	13	12	12
Poland	16	19	18	17	16	14
Portugal *	27	25	21	20	18	16
Slovenia	20	18	16	17	16	14
Slovakia	12	15	16	12	12	12
Finland	8	9	8	8	8	8
Sweden	6	6	6	7	7	7
United Kingdom	6	6	6	6	6	6
Iceland	4	6	10	8	11	8
Liechtenstein	10	19	0	0	9	6
Norway	6	7	8	7	8	6
Switzerland	9	8	8	8	8	8
Bulgaria	12	11	12	13	13	13
Romania	13	13	12	11	11	*11*
Turkey	9	8	10	9	9	*7*

* for the countries not applying the UN "died within 30 day's of the accident" correction factors have been applied

** persons dying within 7 days after accident, no correction factor is applied

Data Source: Eurostat, DG for Energy & Transport



The cost of transport is still high at EU level with the number of deaths in road accidents totalling 50.5 thousand persons in 2001. On a more positive note, there has been a decrease of more than 10% in deaths or persons killed per 1000 inhabitants since 1996, even though the traffic has increased during the same period. Counted in deaths per 100 000 inhabitants, the figures for Malta, the United Kingdom and Sweden are 4, 6 and 7 respectively, well below the EU average of 11 for 2001. On the other side, Greece, Lithuania and Latvia have respectively 18 and 20 and 22 deaths per 100 000 inhabitants.

There can be several reasons for these differences such as driving habits, poor infrastructure, vehicle fleet (small and/or old vehicles) while the implementation (or lack of) road safety measures is also significant.

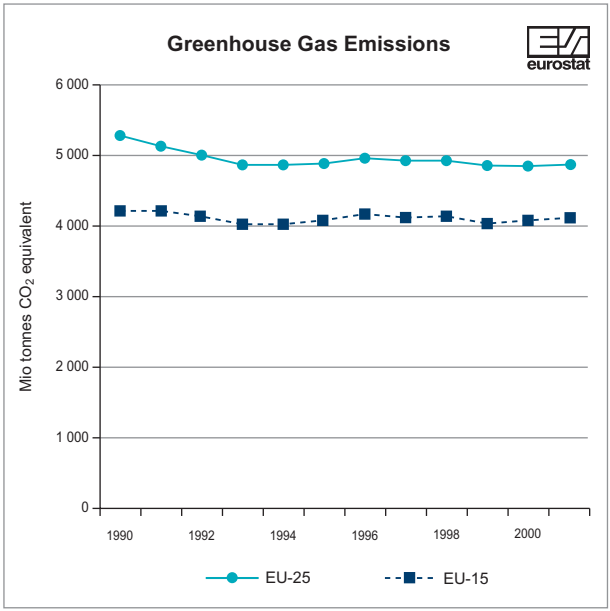
ENVIRONMENT INDICATORS

Greenhouse Gas Emissions

(Mio tonnes CO_2 equivalent)

	1990	1995	2000	2001
EU-25	**5 284.1**	**4 870.9**	**4 824.8**	**4 861.7**
EU-15	**4 199.6**	**4 082.6**	**4 074.8**	**4 116.1**
Belgium	141.1	152.1	150.3	150.5
Czech Republic	192.0	148.3	147.7	148.1
Denmark	69.2	77.3	68.2	69.4
Germany	1 213.5	1 060.7	983.3	995.3
Estonia	43.5	22.3	19.7	19.4
Greece	104.9	110.5	130.1	132.2
Spain	287.6	319.4	387.1	382.8
France	568.2	565.4	565.3	568.2
Ireland	53.2	57.6	68.3	70.0
Italy	508.6	520.4	543.8	545.4
Cyprus	4.6	5.6	7.0	7.0
Latvia	29.2	13.7	9.9	11.5
Lithuania	50.9	*23.9*	*23.9*	*23.9*
Luxembourg	13.4	10.2	6.0	6.1
Hungary	101.6	77.9	83.3	78.5
Malta	2.2	2.7	2.8	2.8
Netherlands	210.0	223.3	216.8	219.7
Austria	78.1	80.8	82.0	85.9
Poland	564.4	417.4	386.2	382.8
Portugal	61.4	70.0	82.3	83.8
Slovenia	19.9	18.9	19.8	19.8
Slovakia	72.2	53.4	47.9	50.1
Finland	77.2	76.7	75.4	80.9
Sweden	72.8	75.1	68.9	70.5
United Kingdom	744.1	687.4	649.1	657.2
Iceland	2.8	2.7	2.9	2.7
Liechtenstein	0.2	*0.2*	*0.2*	*0.2*
Norway	52.0	51.8	55.7	56.2
Switzerland	53.1	52.0	52.4	53.5
Bulgaria	144.4	87.1	64.5	65.8
Romania	264.3	212.3	155.8	148.3
Turkey	151.1	185.0	249.8	248.8

Data Sources: UNFCCC, European Environment Agency / European Topic Centre on Air and Climate Change



(Mt)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	5 284	5 108	4 967	4 857	4 862	4 871	4 982	4 908	4 900	4 826	4 825	4 862
EU-15	4 200	4 207	4 113	4 037	4 043	4 083	4 167	4 101	4 126	4 061	4 075	4 116

Data Sources: UNFCCC, European Environment Agency / European Topic Centre on Air and Climate Change

Note: Total GHG emissions comprise the Kyoto basket of 6 greenhouse gases: CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 weighted according to their global warming potential expressed in CO_2 equivalents.
Data exclude emissions and removals due to land use change and forestry (LUCF).

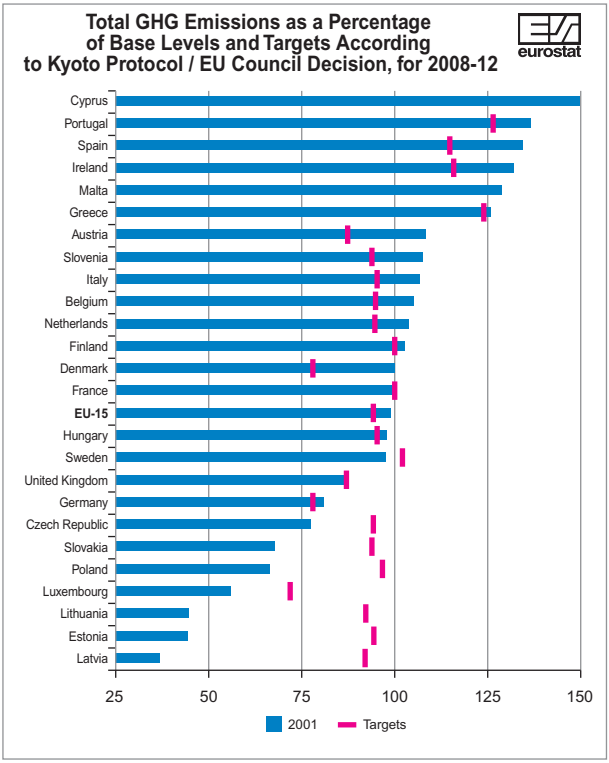
After an initial decrease in total greenhouse gas emissions in the early 1990s, emissions in the EU-15 fluctuated slightly below the 1990 level for the rest of the 1990s, increasing again by 1% from 2000 to 2001. The favourable situation in the 1990s was largely a result of considerable cuts in emissions in Germany and the United Kingdom. In Germany, the main reasons were increasing efficiency in power and heating plants and economic restructuring of the five new federal states following German reunification. In the United Kingdom the reduction of greenhouse gas emissions was partly a result of the liberalisation of the energy market and subsequent changes in the choice of fuel used in electricity production from oil and coal to gas. Another important factor was significant reductions in emissions of non-carbon dioxide greenhouse gas emissions, including implementation of nitrous oxide abatement measures in the chemical industry. Emissions have declined substantially in almost all of the new Member States and candidate countries and in 2001 emissions were 36% below the base-year level, mainly due to the introduction of market economies and the consequent restructuring or closure of heavily polluting and energy-intensive industries.

Greenhouse Gas Emissions as Percentage of Base Year Levels with Targets According to Kyoto Protocol

Index (Base Year = 100)

	1991	1995	2000	2001	Targets
EU-15	**100.2**	**97.2**	**97**	**98**	**92**
Belgium	104.2	107.5	106.2	106	92.5
Czech Republic	91.3	77.2	76.9	77	92
Denmark	115.4	111.7	98.5	100	79
Germany	95.6	87.4	81	82	79
Estonia	93.3	51.2	45.4	45	92
Greece	100	105.4	123.8	126	125
Spain	102.3	111	134.6	133	115
France	104.1	99.5	99.5	100	100
Ireland	101.9	107.8	127.6	131	113
Italy	100.3	102.3	106.9	107	93.5
Cyprus	102.1	120.2	149.9	150	:
Latvia	80.2	43.3	36	36	92
Lithuania	89.3	46.4	46.3	46	92
Luxembourg	96.1	71.6	55.1	56	72
Hungary	101.5	89.9	97.4	97	94
Malta	107.9	122.3	128.5	129	:
Netherlands	103.7	106.3	103.2	105	94
Austria	105.3	103.5	105	110	87
Poland	77.5	73.9	68.4	68	94
Portugal	102.9	113.9	133.9	136	127
Slovenia	96.4	103.4	107.7	108	92
Slovakia	88.1	74.7	70.6	69	92
Finland	97.5	99.2	97.6	105	100
Sweden	100.2	103.2	94.8	97	104
United Kingdom	100.1	92.4	87.2	88	87.5
Iceland	96.7	104.7	115	115	110
Norway	95.7	99.4	107.2	108	101
Bulgaria	83.1	69.9	51.7	53	92
Romania	78.5	92.9	68.2	65	92

Data Sources: UNFCCC, European Environment Agency/European Topic Centre on Air and Climate Change



Note: Under the Kyoto Protocol, the EU has agreed to an 8% reduction in its greenhouse gas emissions by 2008-2012, compared to the base year 1990. In order to meet the 8% target, Council Decision (2002/358/EC) of 25 April 2002 sets individual targets for each of the EU Member States for the period 2008-2012. In this Decision some countries are allowed to increase emissions, within limits, provided these are offset by reductions in other Member States. The new Member States and the Candidate Countries have chosen other reduction targets and other base years, as allowed under the Protocol. These and the 'Burden sharing' targets for 2008-2012 are shown in the table as figures for 2010. Emissions of the 6 greenhouse gases covered by the Protocol are weighted by their global warming potentials (GWPs) and aggregated to give total emissions in CO_2 equivalents. The total emissions are presented as indices, with the base year = 100.

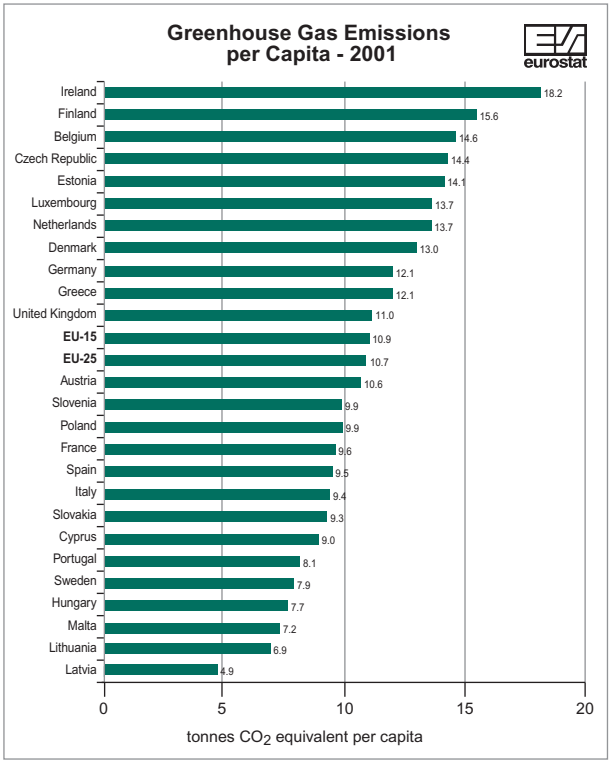
The EU-15 reduced its greenhouse gas (GHG) emissions by 2.3% between 1990 and 2001, with emissions rising between 2000 and 2001. This means the EU-15 is one quarter of the way towards achieving the 8% emissions reduction target set for 2008-12.
The new EU Member States and candidate countries have differing targets under the Protocol. Cyprus and Malta have no targets and Turkey is not a Party to UNFCCC. Hungary and Poland have reduction targets of 6% from the base year, while the others have reduction targets of 8%. Countries with base years other than 1990 are Bulgaria (1988), Hungary (average 1985–87), Poland (1988), Romania (1989) and Slovenia (1986).

Greenhouse Gas Emissions per Capita

(tonnes CO_2 equivalent per capita)

	1990	1995	2000	2001
EU-25	**12.0**	**10.9**	**10.7**	**10.7**
EU-15	**11.5**	**11.0**	**10.8**	**10.9**
Belgium	14.2	15.0	14.7	14.6
Czech Republic	18.5	14.4	14.4	14.4
Denmark	13.5	14.8	12.8	13.0
Germany	15.3	13.0	12.0	12.1
Estonia	27.7	15.0	14.4	14.1
Greece	10.3	10.6	11.9	12.1
Spain	7.4	8.1	9.7	9.5
France	10.0	9.8	9.6	9.6
Ireland	15.2	16.0	18.0	18.2
Italy	9.0	9.1	9.4	9.4
Cyprus	6.8	7.6	9.2	9.0
Latvia	10.9	5.4	4.2	4.9
Lithuania	13.7	6.4	6.6	6.9
Luxembourg	35.2	25.0	13.6	13.7
Hungary	9.8	7.5	8.2	7.7
Malta	6.3	7.3	7.4	7.2
Netherlands	14.0	14.4	13.6	13.7
Austria	10.1	10.0	10.1	10.6
Poland	14.8	10.8	10.0	9.9
Portugal	6.2	7.0	8.0	8.1
Slovenia	10.0	9.5	9.9	9.9
Slovakia	13.7	10.0	8.9	9.3
Finland	15.5	15.0	14.6	15.6
Sweden	8.5	8.5	7.8	7.9
United Kingdom	12.9	11.7	10.9	11.0
Iceland	11.1	10.2	10.2	9.5
Liechtenstein	7.6	7.1	6.7	6.6
Norway	12.3	11.9	12.4	12.5
Switzerland	7.9	7.4	7.3	7.4
Bulgaria	16.6	10.4	8.0	8.3
Romania	11.4	9.4	6.9	6.6
Turkey	2.7	3.1	3.8	3.8

Data Sources: UNFCCC, European Environment Agency / European Topic Centre on Air and Climate Change



(tonnes CO_2 equivalent per capita)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	12.0	11.6	11.2	10.9	10.9	10.9	11.1	10.9	10.9	10.7	10.7	10.7
EU-15	11.5	11.5	11.2	10.9	10.9	11.0	11.2	11.0	11.0	10.8	10.8	10.9

Data Sources: UNFCCC, European Environment Agency / European Topic Centre on Air and Climate Change

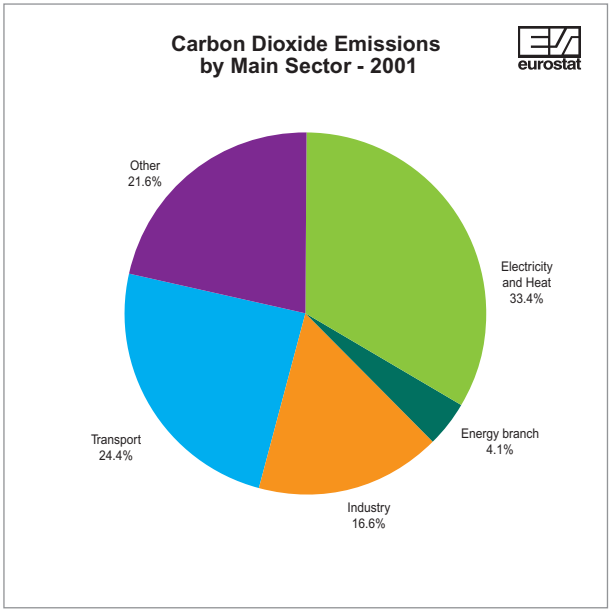
Although overall per capita emissions in EU-15 and EU-25 have fallen since 1990, in ten countries they have risen, significantly in the case of Greece, Spain, Ireland, Cyprus, Malta, and Portugal. In the EU, per capita emissions are now highest in Ireland and lowest in Latvia and Lithuania.

Carbon Dioxide Emissions by Main Sector - 2001

(thousand tonnes CO_2)

	Electricity and Heat	Energy branch	Industry	Transport	Other
EU-25	**1 342 801**	**164 695**	**667 880**	**979 490**	**866 702**
EU-15	**1 053 920**	**142 771**	**573 045**	**910 193**	**749 313**
Belgium	20 953	5 420	31 267	27 981	30 105
Czech Republic	64 610	2 092	24 200	14 294	13 300
Denmark	30 288	2 004	5 903	13 383	9 212
Germany	337 587	25 803	110 891	187 417	204 215
Estonia	11 108	181	1 337	1 909	2 085
Greece	44 098	3 473	11 269	21 757	14 661
Spain	90 656	12 684	59 006	101 418	38 566
France	40 035	19 604	80 554	151 252	135 823
Ireland	16 700	714	4 090	12 710	9 725
Italy	129 816	17 172	82 945	122 051	99 144
Cyprus	2 739	63	1 284	2 758	232
Latvia	3 419	109	1 686	2 604	4 774
Lithuania	4 241	1 547	1 247	3 355	3 335
Luxembourg	265	0	1 569	5 912	1 733
Hungary	21 572	1 675	6 465	9 868	16 909
Malta	1 725	:	24 245	797	49
Netherlands	58 510	13 361	15 557	41 810	40 015
Austria	15 343	4 019	45 274	18 208	21 803
Poland	161 517	11 872	16 267	25 644	64 749
Portugal	21 414	2 177	2 549	19 495	10 713
Slovenia	6 173	12	10 793	3 976	4 053
Slovakia	11 776	4 373	27 445	4 092	7 902
Finland	32 781	2 272	28 505	13 183	11 969
Sweden	20 322	1 105	73 532	24 609	7 269
United Kingdom	195 155	32 962	796	149 008	114 361
Iceland	8	:	9 534	967	647
Norway	1 065	13 029	8 343	13 055	6 174
Bulgaria	27 284	1 119	20 820	5 507	4 270
Romania	41 114	6 761	48 972	11 266	16 124
Turkey	73 982	6 159	48 972	34 234	58 563

Data Source: Eurostat



(mio tonnes CO_2)

EU-25	1990	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Electricity and heat	1 377	1 348	1 292	1 290	1 298	1 320	1 274	1 297	1 294	1 329	1 343
Energy branch	146	148	153	161	167	173	170	174	167	164	165
Transport	792	825	840	847	858	888	907	942	971	974	979
Industry	776	697	681	684	710	691	693	672	648	669	668
Other	871	879	888	839	847	911	861	863	846	818	867

Data Source: Eurostat

CO_2 emissions from the electricity and heat production sector fell slightly between 1990 and 2001, with increasing emissions in recent years largely offsetting the reduction seen in the early 1990s. Over the same period electricity production and consumption grew considerably. This decoupling of emissions from production was mainly due to a shift from coal to natural gas for electricity production. During the 1990s CO_2 emissions from fossil fuel use in industry decreased, mainly due to fuel efficiency improvements, economic restructuring in Germany and the East European countries, and relatively low economic growth in the EU-15.

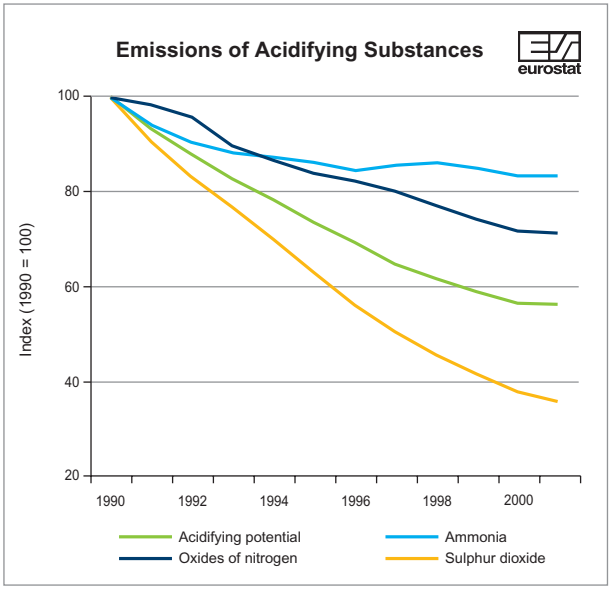
The largest increase in emissions between 1990 and 2001 was from transport, with road transport the major transport emission source. Emissions increased continuously due to high growth in both passenger and freight transport by road. The increase in carbon dioxide emissions from international aviation and navigation was even higher (an 82% increase from 1990 to 2001 of emissions from international aviation), but these are currently not addressed in the Kyoto Protocol.

Emissions of Acidifying Substances

Acidifying Potential (kt)

	1990	1995	2000	2001
EU-25	**1 378**	**1 010**	**764**	**750**
EU-15	**1 011**	**769**	**605**	**596**
Belgium	24.1	21.7	17.3	17.5
Czech Republic	84.0	48.3	21.4	19.7
Denmark	19.5	17.3	11.7	11.3
Germany	269.0	139.4	89.4	90.6
Estonia	11.0	5.5	4.4	4.2
Greece	26.3	28.4	26.4	26.7
Spain	115.2	103.9	101.5	97.6
France	128.5	113.3	97.9	95.6
Ireland	15.0	14.6	14.1	14.1
Italy	121.2	106.8	80.1	80.1
Cyprus	2.5	2.4	2.8	2.6
Latvia	7.3	3.7	2.0	2.1
Lithuania	15.3	6.6	3.9	5.7
Luxembourg	1.4	1.2	0.9	0.9
Hungary	44.3	30.7	23.4	20.4
Malta	:	:	:	:
Netherlands	32.1	26.3	20.8	20.4
Austria	10.0	9.1	8.6	8.6
Poland	167.7	124.5	87.6	87.1
Portugal	21.8	23.5	24.1	24.4
Slovenia	8.9	6.6	5.4	4.4
Slovakia	25.4	13.7	7.9	8.0
Finland	17.0	10.9	9.4	9.4
Sweden	13.8	12.4	10.7	10.4
United Kingdom	196.3	139.9	92.4	88.8
Iceland	2.1	1.7	1.4	1.4
Liechtenstein	0.0	0.0	0.0	0.0
Norway	7.8	7.4	7.2	7.0
Switzerland	8.9	7.7	6.7	6.6
Bulgaria	77.0	57.1	38.0	33.2
Romania	70.5	48.2	48.2	48.2
Turkey	64.1	72.8	86.5	86.5

Data Sources: European Environment Agency/European Topic Centre on Air and Climate Change, UNFCCC



(kt)

	1990	1992	1994	1996	1997	1998	1999	2000	2001
Acidifying potential *	1 378	1 208	1 072	956	901	861	812	764	750
Ammonia	4 610	4 176	4 036	3 952	3 980	3 998	3 957	3 885	3 880
Oxides of nitrogen	16 477	15 570	14 265	13 741	13 194	12 769	12 338	11 903	11 695
Sulphur dioxide	23 948	19 966	16 786	13 589	12 177	11 134	9 945	8 850	8 576

* *kt equivalent*

Data Sources: European Environment Agency/European Topic Centre on Air and Climate Change, UNFCCC

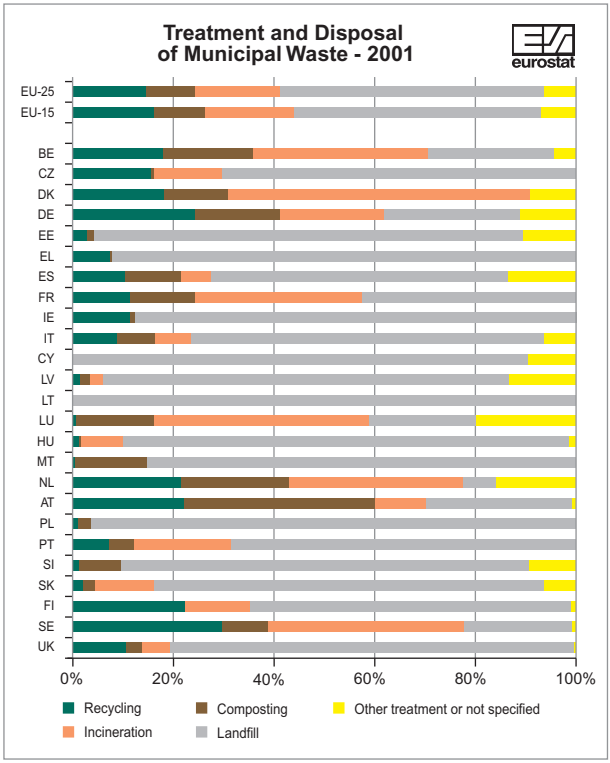
Note: Individual acidifying pollutants (SO_2, NO_x and NH_3) have been weighted by an acid equivalence factor, representing its acidification potential, prior to aggregation. The acid equivalence factors are given by: w (SO_2) = 2/64 acid eq/g = 31.25 acid eq/kg, w (NO_x) = 1/46 acid eq/g = 21.74 acid eq/kg and w (NH_3) = 1/17 acid eq/g = 58.82 acid eq/kg.

Emissions of acidifying substances in the EU-15 have decreased by 59%, and by similar amounts in the 10 new Member States. The major emission sources of acidifying pollutants, accounting for 95% of total emissions in the EU-25 are fuel combustion (NO_x and SO_2) and from animal husbandry (NH_3). The substantial decreases recorded are mainly due to reductions of SO_2 emissions. In EU-15 the biggest reductions have been in energy industries (60% between 1990 and 2000) and in industry (60%). Large reductions in SO_2 emissions have also been achieved in the 10 new Member States, i.e. in industry (down 56%), and in energy industries (39%) between 1990 and 2000. The reduction has been mainly due to a switch from high sulphur fuels to natural gas, and the use of low sulphur coal and introduction of flue gas desulphurisation in power plants. Since 1990, there have been significant reductions in emissions of NO_x from the road transport and energy sectors. This is mainly due to the introduction of catalysts on new cars and the introduction of combined cycle gas turbine (CCGT) power generation.

Treatment and Disposal of Municipal Waste - 2001

	Municipal waste, total arisings	Recycled	Composted	Landfilled	Incinerated	Other treatment or not specified
	1000 tonnes					
EU-25	**238 908**	***14%***	***10%***	***54%***	***16%***	***6%***
EU-15	**212 993**	***16%***	***11%***	***49%***	***18%***	***6%***
Belgium	4 746	*19%*	*16%*	*27%*	*34%*	*4%*
Czech Republic	2 865	*15%*	*1%*	*70%*	*14%*	*0%*
Denmark	3 560	18%	14%	8%	60%	0%
Germany	48 836	27%	15%	25%	22%	11%
Estonia	604	3%	2%	84%	0%	10%
Greece	4 559	8%	1%	91%	0%	0%
Spain	26 340	11%	10%	60%	6%	13%
France	32 174	12%	13%	43%	32%	0%
Ireland	2 376	11%	1%	87%	0%	0%
Italy	29 409	9%	8%	67%	9%	8%
Cyprus	490	0%	0%	90%	0%	10%
Latvia	2 254	1%	1%	81%	2%	14%
Lithuania	1 046	0%	0%	100%	0%	0%
Luxembourg	285	*1%*	*14%*	*21%*	*44%*	*20%*
Hungary	4 815	1%	0%	88%	8%	2%
Malta	217	1%	14%	85%	0%	0%
Netherlands	9 790	22%	23%	8%	33%	14%
Austria	4 634	*23%*	*37%*	*30%*	*10%*	*1%*
Poland	11 108	1%	3%	96%	0%	0%
Portugal	4 696	*7%*	*6%*	*69%*	*19%*	*0%*
Slovenia	929	2%	7%	82%	0%	9%
Slovakia	1 588	2%	3%	78%	10%	7%
Finland	2 440	24%	0%	64%	11%	1%
Sweden	3 930	29%	10%	22%	38%	1%
United Kingdom	34 851	10%	2%	80%	7%	0%

Data Source: Eurostat



The separate collection of paper, glass, plastic, wood and metal for recycling is the most important contributor to the reduction of municipal waste. The figures show large variations in the importance of recycling and composting of waste from one country to another, depending largely on the availability of collection facilities as well as proximity to recycling facilities. In the new Member States very little recycling takes place, except in the Czech Republic, and only Malta composts significant amounts of its waste.

Municipal Waste Collected

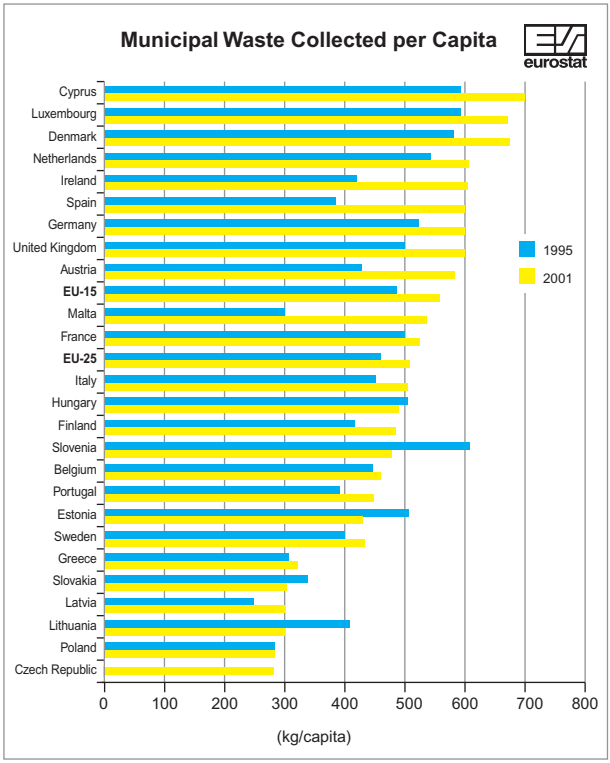
(kg/capita)

	1995	1996	1997	1998	1999	2000	2001
EU-25	*459*	*472*	*486*	*488*	*514*	*521*	*518*
EU-15	**483**	**497**	**512**	**516**	**546**	**555**	*556*
Belgium	443	440	474	471	476	484	*462*
Czech Republic	:	310	318	293	327	334	273
Denmark	567	619	588	593	627	665	662
Germany	533	543	556	546	605	610	594
Estonia	510	547	588	555	570	545	446
Greece	306	344	372	388	405	421	431
Spain	380	390	437	532	579	599	599
France	501	510	517	524	527	538	545
Ireland	430	*463*	*501*	522	*582*	624	607
Italy	450	453	463	466	492	502	509
Cyprus	595	637	646	660	666	677	699
Latvia	260	260	250	243	239	*270*	301
Lithuania	416	389	407	426	334	294	301
Luxembourg	591	587	606	627	648	655	*673*
Hungary	505	506	523	512	513	469	475
Malta	*298*	*323*	*348*	385	473	494	549
Netherlands	549	567	587	589	599	615	612
Austria	432	510	526	526	556	572	*570*
Poland	285	301	315	306	319	316	287
Portugal	388	401	408	426	430	444	462
Slovenia	613	609	606	606	*572*	*501*	466
Slovakia	340	348	*332*	316	315	316	*303*
Finland	419	424	429	447	465	483	471
Sweden	*397*	*407*	*413*	452	*433*	429	442
United Kingdom	499	513	534	544	571	578	590

Eurostat estimate

Country estimate

Data Source: Eurostat



Municipal waste includes waste from households, commercial activities, office buildings and institutions, as well as waste with similar properties from businesses and municipal services. The amount of waste collected per capita is up in all EU-15 countries, but has fallen in all new Member States, except Cyprus, Latvia, Malta and Poland.

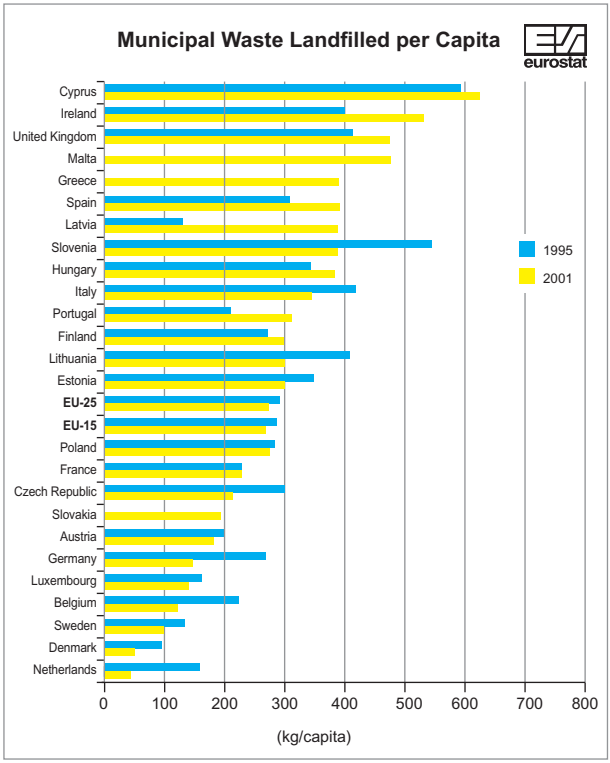
Municipal Waste Landfilled

(kg/capita)

	1995	1996	1997	1998	1999	2000	2001
EU-25	***296***	***292***	***297***	***295***	***290***	***283***	***281***
EU-15	**292**	**286**	**288**	**286**	**279**	**273**	***276***
Belgium	222	203	192	152	140	134	*124*
Czech Republic	302	310	318	293	292	292	214
Denmark	96	82	65	67	68	67	55
Germany	*270*	225	216	199	180	165	148
Estonia	355	382	405	382	393	438	295
Greece	:	:	338	354	369	384	394
Spain	*310*	*300*	*321*	*319*	*333*	258	391
France	236	248	249	249	245	241	235
Ireland	398	:	:	477	:	553	529
Italy	419	377	370	361	377	380	341
Cyprus	595	588	593	598	601	610	630
Latvia	130	130	125	122	120	:	385
Lithuania	416	389	407	426	334	294	301
Luxembourg	160	163	144	145	140	138	*137*
Hungary	346	367	391	396	404	376	375
Malta	:	:	:	:	362	344	472
Netherlands	158	115	70	54	40	57	50
Austria	202	183	187	184	192	182	*185*
Poland	280	295	306	300	312	310	275
Portugal	211	242	274	316	362	334	*314*
Slovenia	542	465	491	570	455	402	381
Slovakia	:	:	:	:	:	196	:
Finland	268	275	281	294	280	306	301
Sweden	139	141	144	147	122	98	99
United Kingdom	414	441	462	456	470	469	472

Eurostat estimate

Data Source: Eurostat



The amount of waste landfilled depends on the national policy on waste management, i.e. on the importance given to waste avoidance, incineration and recycling, and the extent of illegal dumping. Landfill is still by far the most commonly used option for disposal for municipal waste, except in Denmark, Luxembourg, Netherlands, Sweden, Austria, Belgium and Germany where less than 30% of waste is landfilled.

Municipal Waste Incinerated

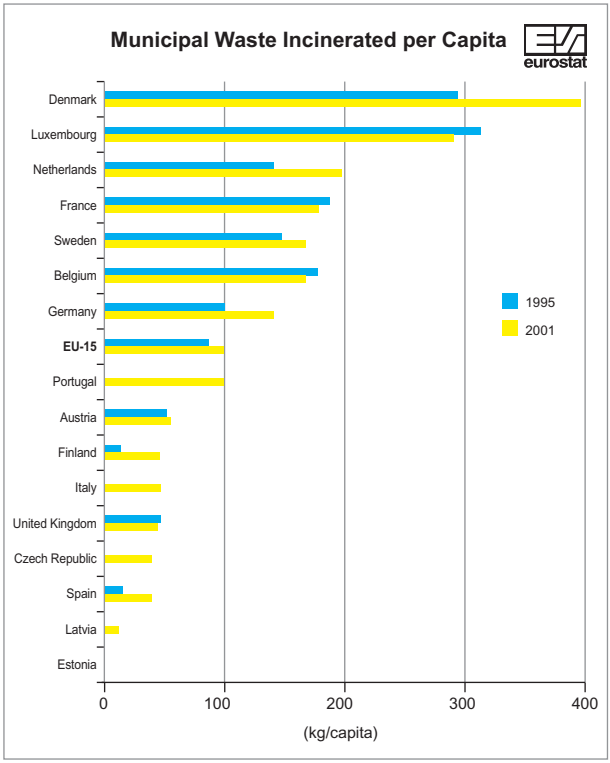
(kg/capita)

	1995	1996	1997	1998	1999	2000	2001
EU-25							
EU-15	*86*	*87*	*91*	*93*	*95*	*97*	*99*
Belgium	171	161	167	158	157	163	158
Czech Republic	:	:	:	18	:	:	*39*
Denmark	294	308	315	312	315	352	397
Germany	*100*	106	111	112	125	133	131
Estonia	:	:	:	:	:	:	1
Greece	-	-	-	-	-	-	-
Spain	*18*	*18*	*26*	*75*	*61*	43	37
France	184	176	175	172	174	174	176
Ireland	-	-	-	-	-	-	-
Italy	:	:	30	40	40	40	44
Cyprus	-	-	-	-	-	-	-
Latvia	:	:	:	:	:	:	12
Lithuania	-	-	-	-	-	-	-
Luxembourg	312	305	298	287	310	283	*284*
Hungary	:	:	:	:	:	:	:
Malta	-	-	-	-	-	-	-
Netherlands	139	171	219	198	203	190	199
Austria	54	54	55	54	56	59	*60*
Poland	-	-	-	-	-	-	-
Portugal	:	:	:	:	35	91	*97*
Slovenia	-	-	-	-	-	-	-
Slovakia	:	:	:	:	:	:	:
Finland	*13*	*18*	22	28	38	52	52
Sweden	150	153	155	158	162	165	169
United Kingdom	45	36	30	37	41	42	43

Eurostat estimate

Country estimate

Data Source: Eurostat



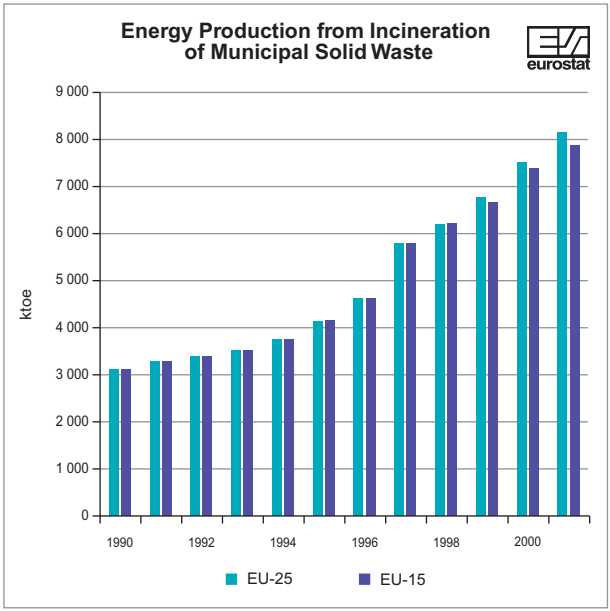
Levels of municipal waste incineration vary, depending on the number and location of suitable incinerators. Denmark, Italy, Netherlands, Austria, Portugal, Finland, and Hungary have increased incineration of municipal waste since 1990, while Greece, Ireland, Cyprus, Lithuania, Malta and Slovenia have no municipal waste incinerators, and incineration remains marginal in the other new Member States.

Energy Production from Incineration of Municipal Solid Waste

(ktoe)

	1990	1995	2000	2001
EU-25	**4 124**	**5 164**	**7 513**	**8 065**
EU-15	**4 124**	**5 164**	**7 364**	**7 897**
Belgium	281	323	323	317
Czech Republic	0	0	88	105
Denmark	370	546	725	761
Germany	1 063	1 073	1 416	1 826
Estonia	-	-	-	-
Greece	-	-	-	-
Spain	81	187	279	279
France	1 146	1 640	1 854	1 908
Ireland	-	-	-	-
Italy	191	124	356	397
Cyprus	-	-	-	-
Latvia	-	-	-	-
Lithuania	-	-	-	-
Luxembourg	25	23	27	28
Hungary	0	0	60	62
Malta	:	:	:	:
Netherlands	429	497	1 097	1 060
Austria	58	88	149	110
Poland	0	0	2	1
Portugal	0	0	174	175
Slovenia	-	-	-	-
Slovakia	-	-	-	-
Finland	19	12	45	77
Sweden	350	395	498	495
United Kingdom	112	254	420	465
Iceland	0	1	2	1
Liechtenstein	:	:	:	:
Norway	95	115	124	120
Switzerland	:	:	:	:
Bulgaria	-	-	-	-
Romania	-	-	-	-
Turkey	-	-	-	-

Data Source: Eurostat



(ktoe)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-25	4 124	4 309	4 386	4 511	4 695	5 164	5 556	5 766	6 270	6 797	7 513	8 065
EU-15	4 124	4 309	4 386	4 511	4 695	5 164	5 556	5 766	6 270	6 696	7 364	7 897

Data Source: Eurostat

Although levels of waste incineration vary, the recovery of energy from the process, mainly for heating or generating electricity, is widespread and for the EU-15 countries for which data is available, has increased by 91% since 1990.

Share of Population Connected to Urban Waste Water Treatment Plants by Type of Treatment

(%), latest year available

		primary	secondary	tertiary
Belgium	1998	0.0	22.0	16.1
Czech Republic	2001	———	65.1	———
Denmark	1998	1.6	3.4	84.0
Germany	1998	1.1	6.3	83.1
Estonia	2000	1.0	28.0	40.0
Greece	1997	32.4	14.2	9.6
Spain	1995	10.6	34.4	3.3
France	1998	———	76.9	———
Ireland	2000	47.0	26.0	1.8
Italy	1995	2.9	36.1	24.1
Cyprus	2000	0.0	0.0	34.5
Latvia				
Lithuania				
Luxembourg	1995	11.0	57.4	19.1
Hungary	2000	2.3	24.4	5.5
Malta	2001	———	13.0	———
Netherlands	2000	0.0	18.1	80.0
Austria	1998	0.5	17.2	63.7
Poland	2001	3.2	28.8	22.7
Portugal	1998	17.8	26.0	2.3
Slovenia	1999	15.0	15.0	0.0
Slovakia	1998	———	48.8	———
Finland	2001	0.0	0.0	81.0
Sweden	2000	0.0	5.0	81.0
United Kingdom *	2000	3.6	64.0	27.0
Iceland	2001	33.0	0.0	0.0
Norway	2000	22.0	1.0	50.0
Switzerland	2000	0.0	22.0	74.0
Bulgaria	2001	0.9	37.7	0.0
Romania				
Turkey	1998	8.3	8.3	0.0

* England and Wales only

Data Source: Eurostat

Note: **Primary treatment:** Treatment of (urban) waste water by a physical and/or chemical process involving settlement of suspended solids, or other process in which the Biological Oxygen Demand (BOD) of the incoming waste water is reduced by at least 20% before discharge and the total suspended solids of the incoming waste water are reduced by at least 50%.

Secondary treatment: Treatment of (urban) waste water by a process generally involving biological treatment with a secondary settlement or other process, resulting in a BOD removal of at least 70% and a Chemichal Oxygen Demand (COD) removal of at least 75%.

Tertiary treatment: Treatment (additional to secondary treatment) of nitrogen and/or phosphorus and/or any other pollutant affecting the quality or a specific use of water, such as microbiological pollution, colour, etc . The following minimum treatment efficiencies define a tertiary treatment: 'organic pollution removal' of at least 95% for BOD and at least 85% for COD, and at least one of the following:
- 'nitrogen removal' of at least 70%,
- 'phosphorus removal' of at least 80%,
- 'microbiological removal' achieving a faecal coliform density less than 1000 in 100 mL.

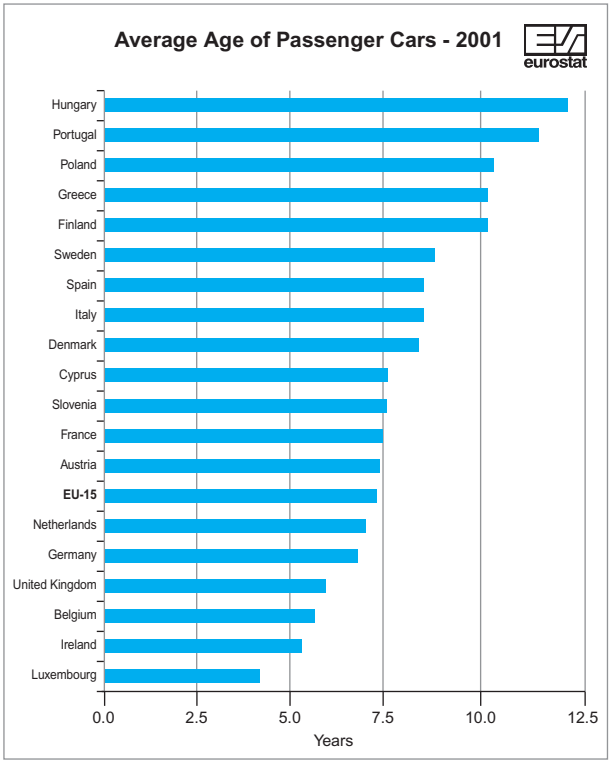
In the EU-15, the percentage of non-treated waste water has drastically decreased since the 1970s. In Denmark, Germany, Luxembourg, Netherlands, Austria, Sweden and Finland more or less the whole population is connected to some type of waste water treatment plant. Nonetheless, in the EU-25 there are still countries where more than 50% of the population is not connected to any kind of sewage treatment (Belgium, Spain, Cyprus, Hungary, Malta, Portugal, Slovenia and Slovakia). In general, there are significant differences between countries in the level of waste water treatment, with some countries, such as Spain, Greece and Ireland, not going much beyond secondary treatment, while others, such as Denmark, Germany, Finland and Sweden, have invested heavily in advanced (tertiary) treatment.

Estimated Average Age of Passenger Cars

(years)

	1990	1995	2000	2001
EU-25	**:**	**:**	**:**	**:**
EU-15	**6.5**	**7.2**	**7.4**	**7.4**
Belgium	5.1	5.5	5.6	5.6
Czech Republic	:	:	:	:
Denmark	7.8	8.3	7.9	8.2
Germany	6.4	6.8	6.6	6.8
Estonia	:	:	:	:
Greece	10.2	9.5	10.3	10.2
Spain	8.1	8.6	8.4	8.3
France	6.1	6.7	7.4	7.5
Ireland	6.3	7.3	5.5	5.3
Italy	7.7	8.3	8.3	8.3
Cyprus	7.1	7.8	7.7	7.6
Latvia	:	:	:	:
Lithuania	:	:	:	:
Luxembourg	3.2	3.9	4.1	4.0
Hungary	:	11.8	12.2	11.9
Malta	:	:	:	:
Netherlands	6.0	6.5	6.9	7.0
Austria	6.2	6.7	7.2	7.4
Poland	8.7	9.4	10.0	10.5
Portugal	9.0	10.1	11.2	11.4
Slovenia	6.0	7.0	7.4	7.6
Slovakia	:	12.1	:	:
Finland	7.3	9.3	10.0	10.2
Sweden	7.6	9.6	8.9	8.7
United Kingdom	5.3	6.1	6.2	5.9
Iceland	:	:	:	:
Liechtenstein	:	:	:	:
Norway	:	10.4	10.0	10.1
Switzerland	:	:	:	:
Bulgaria	:	13.2	13.6	13.6
Romania	:	9.4	10.2	10.7
Turkey	8.3	8.3	9.8	10.5

Data Source: Eurostat estimates



The average age of the passenger car fleet reflects its level of technology. A fleet of young cars will consume less fuel and produce less pollutant emissions than an older fleet. The effect of incentives for scrapping older cars introduced in some countries can be seen in some of the figures (e.g. Denmark, Ireland, Greece and Spain).

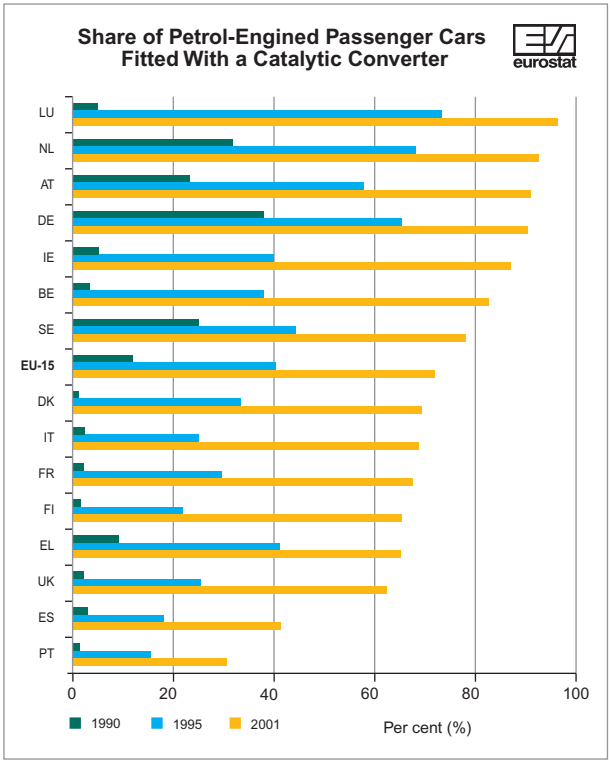
Share of Petrol-Engined Passenger Cars Fitted With a Catalytic Converter

Per cent (%)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
EU-15	**13**	**17**	**21**	**28**	**34**	**40**	**46**	**52**	**58**	**62**	**67**	**72**
Belgium	3	7	11	20	29	37	45	53	61	69	77	83
Denmark	2	7	12	17	25	31	38	46	52	58	64	71
Germany	38	45	52	57	63	68	72	77	82	85	87	89
Greece	9	18	29	35	39	43	46	50	53	58	62	66
Spain	4	5	7	11	15	18	22	26	30	34	39	42
France	3	5	8	15	23	30	38	43	49	55	61	67
Ireland	5	14	21	27	34	40	48	55	63	72	83	88
Italy	3	6	9	15	21	27	33	41	48	55	62	68
Luxembourg	5	12	17	30	41	52	62	70	78	86	92	96
Netherlands	32	40	47	56	62	68	73	78	82	86	90	92
Austria	24	31	39	45	51	57	62	69	75	81	87	91
Portugal	1	3	5	9	13	16	19	22	25	28	30	32
Finland	2	5	7	12	17	23	29	37	44	52	60	66
Sweden	26	31	35	39	43	46	51	56	61	67	73	78
United Kingdom	3	5	7	13	20	27	33	39	46	51	57	63

Data Source: Eurostat estimates

It has been a requirement of EU emission standards for more than ten years that new petrol-engined cars be fitted with catalytic converters. And in some countries this technology was introduced earlier. Nevertheless, the growth in the share has risen rather slowly, standing at an estimated 72% of the total at the end of 2001 (EU-15).
There is insufficient information at present to report on the situation in the ten new Member States and the 3 candidate countries.



The highest shares in 2001 existed in Luxembourg, the Netherlands, Austria and Germany. The lowest shares were in Portugal and Spain.

Evolution of Take-Up of Pollution Control Technologies in Passenger Cars - EU-15

Stock of Passenger Cars *(million)*

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	143.2	147.0	150.8	153.6	157.5	159.9	163.3	166.7	170.8	175.5	179.4	183.2
Conventional	127.5	122.7	118.7	110.5	103.7	95.0	86.9	78.3	69.8	61.6	53.4	45.6
Pre-Euro-Cat	3.3	3.4	3.4	3.4	3.4	3.4	3.2	3.1	2.9	2.6	2.4	2.1
Euro I	12.4	20.8	28.6	39.7	50.3	61.5	66.9	65.8	64.4	62.7	60.5	58.0
Euro II	-	-	-	-	-	-	6.3	19.5	33.7	48.5	55.7	55.4
Euro III	-	-	-	-	-	-	-	-	-	-	7.3	22.0

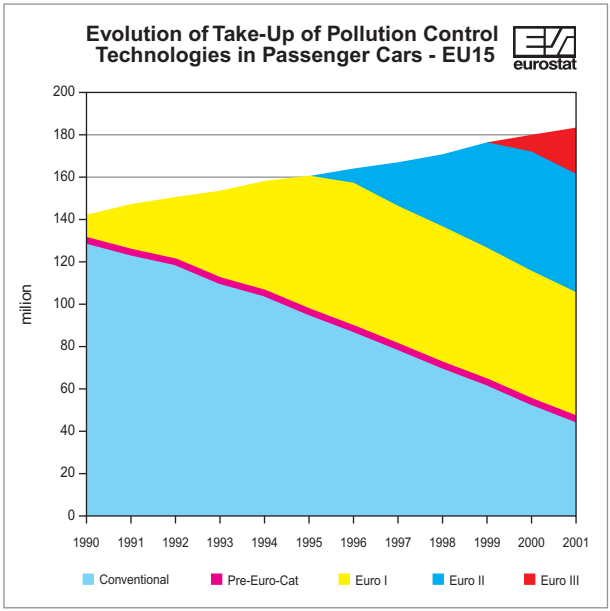
Data Source: Eurostat

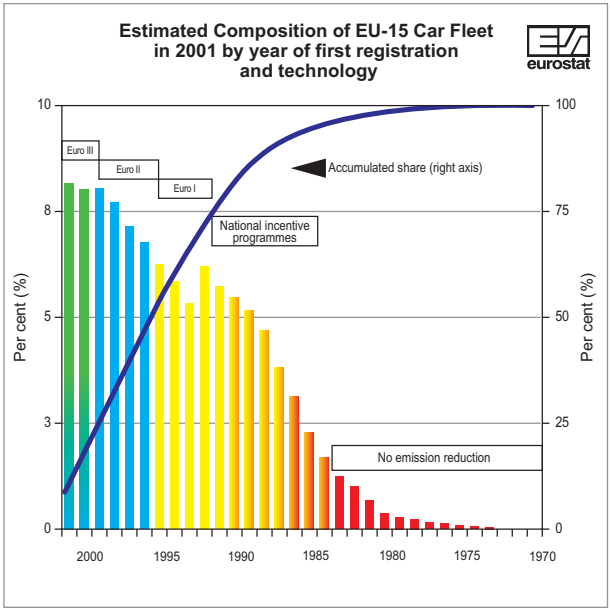
European Union emission standards applying to passenger cars of serial production

(g/km)

Standard	Directive	as from	CO	NOx	VOC
Petrol Engine					
EURO-I	91/441/EEC	01/07/1992	4.05	0.49	0.66
EURO-II	94/12/EEC	01/01/1996	3.28	0.25	0.34
EURO-III	98/69/EC	01/01/2000	2.30	0.15	0.20
EURO-IV	98/69/EC	01/01/2005	1.00	0.08	0.10
Diesel Engine					
EURO-I	91/441/EEC	01/07/1992	2.88	0.78	0.20
EURO-II	94/12/EEC	01/01/1996	1.06	0.73	0.19
EURO-III	98/69/EC	01/01/2000	0.64	0.50	0.06
EURO-IV	98/69/EC	01/01/2005	0.50	0.25	0.05

At the end of 2001 it is estimated that about 46 million cars without any form of catalytic converter were still part of the active vehicle fleet in EU-15.


Evolution of Take-Up of Pollution Control Technologies in Passenger Cars - EU15
eurostat
million
200
180
160
140
120
100
80
60
40
20
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
Conventional
Pre-Euro-Cat
Euro I
Euro II
Euro III


Estimated Composition of EU-15 Car Fleet in 2001 by year of first registration and technology
eurostat
Per cent (%)
Per cent (%)
10
8
5
3
0
100
75
50
25
0
Euro III
Euro II
Euro I
Accumulated share (right axis)
National incentive programmes
No emission reduction
2000
1995
1990
1985
1980
1975
1970

Annex A: Glossary of Terms used in the Energy and Environment sections

Acidifying substances:

The acidifying substances considered in this publication are sulphur dioxide (SO_2), nitrogen oxides (NOx) and ammonia (NH_3). Emissions of these gases are associated with the formation of acid rain.

Acid Equivalent:

Acid Equivalents are weighting factors used to aggregate the emissions of different substances that have different acidifying effects, so as to present a single figure for the acidification issue. They represent an oversimplified approach to a very complex process of chemical interactivity. Acid equivalents are estimated as follows: sulphur dioxide * 1/32; nitrogen oxide * 1/46 and ammonia * 1/17.

CHP:

See “Combined Heat and Power”

CO_2 Equivalent:

Increased concentrations of greenhouse gases (CO_2, CH_4, N_2O, HFC, PFC and SF_6) in the atmosphere cause heat that normally escapes into space to be trapped (the greenhouse effect) leading to global warming. 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.

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.

Constant Price:

The constant price of a commodity is its price considered in constant terms, taking account of inflation.

Current Price:

The current (or nominal) price of a commodity is its price considered in current terms, without taking account of inflation.

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 finally consumed in the transport, industrial, commercial, agricultural, public and household sectors. It excludes deliveries to the energy transformation sector and to the energy industries themselves.

GCV:

See “Gross Calorific Value”

GDP:

See “Gross Domestic Product”

Global Warming Potential (GWP):

The global warming potential is the estimated potential of a greenhouse gas to contribute to global warming. It is based on the ability of the gas to retain extra heat in the troposphere over a 100-year time horizon. For example, the GWP of methane is estimated to be 21 times higher than GWP of CO_2, which is set at 1.

Greenhouse Gases:

The greenhouse gases covered by the Kyoto Protocol are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

Gross Calorific Value:

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

Gross Domestic Product:

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

Gross Inland Consumption:

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

Hard Coal and Derived Products:

Hard coal and derived products include hard coal, patent fuels, hard coke, gasworks coke and coal semi-coke.

Lignite and Derived Products:

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

Natural Gas:

Natural gas occurs in natural underground deposits, and may or may not be associated with oil deposits. It contains essentially methane, but also small proportions of other gases. It also covers methane recovered in 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 any water vapour contained in the fuel nor of the water vapour formed by the combustion of any hydrogen contained in the fuel.

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. Production includes all crude oil, natural gas liquids (NGL), condensates and oil from shale and tar sands, etc.

Natural gas: Quantities of dry gas, 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 energy, Solar photovoltaic energy: 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 energy.

Annex B: Terms and Methodology used in the Transport Section

The main terms used in the field of transport statistics are defined on the "Eurostat concepts and definitions database (CODED)" accessible under the Eurostat web site at "http://forum.europa.eu.int/irc/dsis/coded/info/data/coded/en/Theme7.htm" (or "http://europa.eu.int/comm/eurostat" + language selection + Metadata + "classifications and definitions" + "Eurostat concepts and definitions database (CODED)" + "Transport").

The indicators presented in the transport section of this pocket book represent a small window open on 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 (infrastructure, equipment, quantity and performances 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).

Most of the tables show figures covering six-year period up to 2001. Data for up to 32 countries (members of the European Union (EU-15 or EU-25), of the European Free Trade Association (EFTA) and the candidates for EU membership) are included in this publication. A special focus has been made on a comparison between the transport activity of the fifteen Member States (EU-15) and the twenty five Member States (EU-25) of the European Union, due to the accession of the ten new countries to the Union in 2004.

To facilitate the comparisons between smaller and bigger countries, most of the indicators combine basic transport figures with surface, population or Gross Domestic Product (GDP).

Eurostat "NewCronos" database has been used as the main source for the indicators, while DG for Energy and Transport figures have been used as an additional source. For some missing data, figures from miscellaneous international or national bodies have been used and some estimations (put in italics) have been made.

Two main channels are used by Eurostat to collect statistical data:
1. Legal acts on transport statistics which cover detailed data collections for all the main modes of transport:

- Rail freight: Council Directive 80/1177/EEC of 4 December 1980 (O.J. L 350 of 23.12.1980) replaced by Regulation (EC) No 91/2003 of the European Parliament and of the Council of 16 December 2002 (rail freight, passengers, traffic and accidents) **(O.J. L 14 of 21.1.2003)**

– Road freight: Council Regulation (EC) 1172/98 of 25 May 1998 **(O.J. L 163 of 6.6.1998)**
– Inland waterways: Council Directive 80/1119/EEC of 17 November 1980 **(O.J. L 339 of 15.12.1980)**
– Maritime freight, passengers and traffic: Council Directive 95/64/EC Of 8 December 1995 **(O.J. L 320 of 30.12.1995)**
– Aviation passengers, freight and traffic: Regulation (EC) No 437/2003 of the European Parliament and of the Council of 27 February 2003 **(O.J. L 66 of 11.3.2003)**
– Road accidents: Council Decision 93/704/EC of 30 November 1993 **(O.J. L 329 of 30.12.1993)**

2. The so called "Common Questionnaire" of Eurostat, UNECE and ECMT, 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 NewCronos database which covers, from the early eighties, millions of transport figures from EU countries (EU-15) plus, to a lesser extent, statistics from EFTA, Mediterranean and Candidate countries. CD-ROMs and some miscellaneous publications in paper and electronic formats are also available, such as the Panorama of transport and "Statistics in Focus".

Annex C: Methodology for the calculation of EU-wide average fuel prices

Electricity

Electricity prices are collected by Eurostat from the Member States of EU based on the principles of Directive 90/377/EEC for Price Transparency. The prices are as of 1st January in the year shown. Prices are collected at a variety of locations in each country and for a number of different consumers. For *domestic* prices, the standard consumer used is *Dd* - one with an annual consumption of 7 500 kWh which corresponds to a standard dwelling of 100m^2 with 4-5 rooms plus a kitchen. For *industrial* prices, the standard consumer used is *Ig* - one with an annual consumption of 24 GWh and a maximum demand of 4 000 kW. More detailed information on the collection of electricity prices can be found in Eurostat's Electricity Prices publication.

The average price in each country is calculated as the median of the prices in the various locations. The average EU price is then calculated by taking a weighted average of the prices in individual countries. *Domestic* prices are weighted by the final energy consumption of electricity in households recorded annually by Eurostat. *Industrial* prices are weighted by the final energy consumption of electricity in industry recorded by the same survey. Since price data are available for 2002 and 2003 but consumption data is not, the prices for 2002 and 2003 have been weighted by 2001 consumption; this should have only a small effect on the EU average.

The survey collects prices all taxes included, prices without VAT and prices all taxes excluded. The *domestic* prices shown here are prices all taxes included while *industrial* prices are shown without VAT (i.e. what industry will actually pay for the energy).

Natural gas

Natural gas prices are collected by Eurostat on a similar basis to electricity prices following the same regulation. Again, the prices are as of 1st January in the year shown. The EU averages are also calculated in the same way albeit using different standard consumers and different consumption measures to weight the country prices. For *domestic* consumers, the standard consumer used is D3 (annual consumption of 83.70 GJ i.e. 23 260 kWh) while for *industrial* consumers it is I4-1 (annual consumption of 418 600 GJ i.e. 116.30 GWh). More detailed information on the collection of natural gas prices can be found in Eurostat's Gas Prices publication.

The average price in each country is calculated as the median of the prices in the various locations. The average EU price is then calculated by taking a weighted average of the prices in individual countries. *Domestic* natural gas prices are weighted by final energy consumption of gas in households while *industrial* prices are weighted by final consumption in industry. Since price data are available for 2002 and 2003 but consumption data is not, the prices for 2002 and 2003 have been weighted by 2001 consumption; this should have only a small effect on the EU average.

The survey collects prices all taxes included, prices without VAT and prices all taxes excluded. The *domestic* prices shown here are prices all taxes included while *industrial* prices are shown without VAT (i.e. what industry will actually pay for the energy).

Petroleum products

The heating gas oil, residual fuel oil, unleaded gasoline and automotive diesel prices are supplied to DG-TREN of the Commission by the Member States as those being the most representative price levels actually charged to consumers for the specific categories of sale listed below. This data collection is based on Council Decision 1999/280/EC and Commission Decision 1999/566/EC. The prices given are as of 15th January in each year.

The heating gas oil prices given are for deliveries of between 2 000 and 5 000 litres while those for residual fuel oil are for monthly deliveries of less than 2 000 tonnes or annual deliveries of less than 24 000 tonnes. Average pump prices are given for unleaded gasoline and automotive diesel fuel.

The EU average prices are calculated by weighting the prices from each country by the final energy consumption of heating gas oil in households, of residual fuel oil in industry and of the two automotive fuels (separately) in transport for the respective products. Since price data are available for 2002 and 2003 but consumption data is not (with the exception of unleaded gasoline for which consumption figures are available also for 2002), the prices for 2002 and 2003 have been weighted by 2001 consumption (with the exception of prices for unleaded gasoline in 2003 which have been weighted by 2002 consumption); this should have only a small effect on the EU average.

Annex D: Calorific Values and Conversion Factors

Calorific Values

		kJ (NCV)	kgoe (NCV)
Hard coal	1 kg	17 200 - 30 700	0.411 - 0.733
Recovered hard coal	1 kg	13 800 - 28 300	0.330 - 0.676
Patent fuels	1 kg	26 800 - 31 400	0.640 - 0.750
Hard coke	1 kg	28 500	0.681
Brown coal	1 kg	5 600 - 10 500	0.134 - 0.251
Black lignite	1 kg	10 500 - 21 000	0.251 - 0.502
Peat	1 kg	7 800 - 13 800	0.186 - 0.330
Brown coal briquettes	1 kg	20 000	0.478
Tar	1 kg	37 700	0.900
Benzol	1 kg	39 500	0.943
Oil equivalent*	1 kg	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	50 000	1.194
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	42 300	1.010
Residual fuel oil	1 kg	40 000	0.955
White spirit, industrial spirit	1 kg	44 000	1.051
Lubricants	1 kg	42 300	1.010
Bitumen	1 kg	37 700	0.900
Petroleum cokes	1 kg	31 400	0.750
Others petroleum products (paraffins, waxes, etc.)	1 kg	30 000	0.717
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