

ISSN 1725-4566

2006 EDITION

# Energy, transport and environment indicators

Data 1990-2004



THEME  
Transport



THEME  
Environment  
and energy

*Europe Direct is a service to help you find answers to your questions about  
the European Union*

**Freephone number (\*):**

**00 800 6 7 8 9 10 11**

(\* Certain mobile telephone operators do not allow access to 00-800 numbers or these calls may be billed.

A great deal of additional information on the European Union is available on the Internet.

It can be accessed through the Europa server (<http://europa.eu>).

Luxembourg: Office for Official Publications of the European Communities, 2006

ISBN 92-79-02260-1

ISSN 1725-4566

© European Communities, 2006

## Introduction

### Energy, Transport and Environment Indicators

As in the past, this publication presents facts and figures from the Energy, Transport and Environment sectors, all in a single volume. Data for Croatia are included this year for the first time.

The pocketbook contains three chapters of selected indicators for Energy, Transport and Environment issues. Energy indicators include energy supply, final energy consumption, renewable energy sources, the structure of the energy industry, energy efficiency, and energy prices. Transport indicators cover infrastructure, equipment, transport of passengers and freight and road safety. The Environment chapter includes indicators on climate change and greenhouse gas emissions, air pollution, municipal waste, water use, environmental protection and environmental accounts. In the majority of cases the indicators contain national data for the 25 EU Member States, the EFTA and candidate countries.

Where aggregated data for EU Member States are available, they are presented, in general, for the period from 1990 to 2004 (Transport, mainly from 1999 to 2004 and Energy prices from 1990 to 2006). The main data source for indicators is the harmonised EU Energy Statistics although other official Eurostat data sources such as the Eurostat/OECD Joint Questionnaire on the state of the environment have also been used. The bulk of data on emissions have been provided by the European Environment Agency while the most important data sources for transport indicators are the EU legal acts on transport statistics and the Eurostat/UNECE/ECMT Common Questionnaire.

For detailed data please check:

- free data available on the Eurostat web site at <http://europa.eu.int/comm/eurostat/>
- DG Energy and Transport web site (DG TREN pocketbook updated regularly at [http://europa.eu.int/comm/energy\\_transport/etif/](http://europa.eu.int/comm/energy_transport/etif/)).
- EEA web site at <http://www.eea.eu.int/>

**Project management:**

Ruxandra Roman Enescu, Eurostat

**For further information:****Energy indicators:**

Ruxandra Roman Enescu

**Transport indicators:**

Boryana Milusheva

**Environment indicators:**

Christopher Garland

**Publication management:**

Philip Siakkis,  
Centre for Renewable Energy Sources

**Authors:**

Ph. Siakkis, Centre for Renewable Energy Sources  
J. Förster, Eurostat  
W. Kloek, K. Jordan, Eurostat  
C. Heidorn, Eurostat  
J. Cabeca, U. Luksch, Eurostat  
N. Steinbach, Eurostat  
P. Nadine, Eurostat  
J. Hanauer, Eurostat

**Original language:**

English

**Translations:**

European Commission Translation Service

**Data requests:**

See list of datashops at end of publication.

# Table of Contents

## 1 Energy Indicators

### 1.1 Energy Dependency

1.1.1 Energy Dependency - All Products	20
1.1.2 Energy Dependency - Hard Coal	22
1.1.3 Energy Dependency - Oil	24
1.1.4 Energy Dependency - Natural Gas	26

<b>1.2 Energy Intensity</b>	<b>28</b>
-----------------------------	-----------

### 1.3 Energy Supply

1.3.1 Primary Energy Production, by Fuel	30
1.3.2 Gross Inland Consumption, by Fuel	32
1.3.3 Imports of Energy Products by Country of Origin	34
1.3.4 Net Imports of Solid Fuels and Oil	36
1.3.5 Net Imports of Natural Gas	38
1.3.6 Net Imports of Electricity	40

### 1.4 Final Energy Consumption

1.4.1 Final Energy Consumption, by Sector	42
1.4.2 Final Energy Consumption, by Industrial Sector	44
1.4.3 Final Energy Consumption in Industry, by Fuel	46
1.4.4 Final Energy Consumption by Mode of Transport	48
1.4.5 Final Energy Consumption in Transport, by Fuel	50

### 1.5 Energy Industry

1.5.1 Installed Capacity of Electricity Generation Plants, by Type	52
1.5.2 Power Station Generation, by Type	54
1.5.3 Thermal Efficiency of Power Stations	56

### 1.6 Renewable Energy Sources

1.6.1 Gross Inland Consumption from Renewables and Share on total Gross Inland Consumption	58
1.6.2 Installed Capacity for Electricity Generation from Renewables	60
1.6.3 Contribution of Electricity from Renewables to Total Electricity Consumption	62

### 1.7 Energy Efficiency

1.7.1 Gross Inland Consumption per Capita	64
1.7.2 Final Electricity Consumption per Capita	66

### 1.8 Energy Prices

1.8.1 Price of Brent Crude Oil	68
1.8.2 Average Gas Import Prices	69
1.8.3 VAT-free Industrial Fuel Prices	70
1.8.4 Tax-inclusive Household Fuel Prices	72
1.8.5 Retail Prices of Transport Fuels (tax-inclusive)	74

## 2 Transport Indicators

### 2.1 Infrastructure

2.1.1 Railway Density	78
2.1.2 Motorway Density	80
2.1.3 Inland Waterways Density	82
2.1.4 Oil Pipelines Density	84
2.1.5 Number of Main Sea Ports	86
2.1.6 Number of Main Commercial Airports	88

### 2.2 Equipment

2.2.1 Motorisation Rate of Passenger Cars	90
2.2.2 Renewal Rate of Passenger Cars	92
2.2.3 Motorization Rate of Lorries and Road Tractors	94
2.2.4 Renewal Rate of Lorries and Road Tractors	96
2.2.5 Airfleet by Operator Country	98

## 2.3 Freight Transport

2.3.1	Index of Inland Freight Transport Volume Relative to GDP	100
2.3.2	Index of Inland Freight transport growth	102
2.3.3	Modal split of inland freight transport. Shares of rail, road, inland waterways and oil pipelines in total inland transport	104
2.3.4	Tonnage of Freight Transport by Rail	106
2.3.5	Tonnage of Freight Transport by Road	108
2.3.6	Tonnage of Freight Transport by Inland Waterways	110
2.3.7	Tonnage of Freight Transport by Sea	112

## 2.4 Passenger Transport

2.4.1	Passenger Transport by Rail	114
2.4.2	Passenger Transport by Buses and Coaches	116
2.4.3	International Passenger Transport by Air	118
2.4.4	Passenger Transport by Sea	120

## 2.5 Safety

2.5.1	Persons Killed in Road Accidents	122
-------	----------------------------------	-----

# 3 Environment Indicators

## 3.1 Air Pollution

3.1.1	Emissions of Tropospheric Ozone Precursors by Country	126
3.1.2	EU-25 Emissions of Tropospheric Ozone Precursors by Sector	128
3.1.3	EU-25 Emissions of Tropospheric Ozone Precursors by Pollutant	129
3.1.4	Emissions of Particulate Matter by Country	130
3.1.5	EU-25 Emissions of Particulate Matter by Sector	132
3.1.6	EU-25 Emissions of Particulate Matter by Pollutant	133

## 3.2 Climate Change

3.2.1	Greenhouse Gas Emissions per Capita	134
3.2.2	Greenhouse Gas Emissions and Agreed Reduction Targets	136
3.2.3	Emissions of Greenhouse Gases by Country	138
3.2.4	EU-25 Greenhouse Gas Emissions by Sector	140
3.2.5	EU-25 Greenhouse Gas Emissions by Pollutant	141

## 3.3 Waste

3.3.1	Municipal Waste Generated	142
3.3.2	Municipal Waste Landfilled	144
3.3.3	Municipal Waste Incinerated	146
3.3.4	Energy Production from Incineration of Municipal Solid Waste	148
3.3.5	Recycling Rates for Packaging Waste by Country	150
3.3.6	Collection Rate for Waste Paper by Country	152

## 3.4 Water

3.4.1	Fresh Water Resources per Year	154
3.4.2	Fresh Water Abstraction by Source	156

## 3.5 Environmental Pressure Indicators

3.5.1	Estimated Used Quantities of Plant Protection Products	158
3.5.2	Production of Toxic Chemicals by Toxicity Class	160

## 3.6 Protection of Nature and Biodiversity

3.6.1	Protected Areas for Biodiversity	162
-------	----------------------------------	-----

## 3.7 Environmental Accounts

3.7.1	Environmental Taxes by Revenue Type by Country	164
3.7.2	Energy Taxes as a % of Gross Domestic Product	166
3.7.3	Emissions of Greenhouse Gases by Industry	168
3.7.4	Material Composition and Development of Physical Exports	170

<b>Annex A:</b>	Glossary of Terms used in the Energy and Environment sections	172
-----------------	---	-----

<b>Annex B:</b>	Terms and Methodology used in the Transport Section	178
-----------------	---	-----

<b>Annex C:</b>	Methodology for the Calculation of EU-wide Average Fuel Prices	180
-----------------	--	-----

<b>Annex D:</b>	Calorific Values and Conversion Factors	182
-----------------	---	-----

# Table des Matières

## 1 Indicateurs de l'énergie

### 1.1 Dépendance énergétique

1.1.1 Dépendance énergétique - Tous produits	20
1.1.2 Dépendance énergétique - Houille	22
1.1.3 Dépendance énergétique - Pétrole	24
1.1.4 Dépendance énergétique - Gaz naturel	26

### 1.2 Intensité énergétique

28

### 1.3 Approvisionnement énergétique

1.3.1 Production d'énergie primaire, par combustible	30
1.3.2 Consommation intérieure brute, par combustible	32
1.3.3 Importations de produits énergétiques par pays d'origine	34
1.3.4 Importations nettes de combustibles solides et de pétrole	36
1.3.5 Importations nettes de gaz naturel	38
1.3.6 Importations nettes d'électricité	40

### 1.4 Consommation énergétique finale

1.4.1 Consommation énergétique finale, par secteur	42
1.4.2 Consommation énergétique finale, par secteur industriel	44
1.4.3 Consommation énergétique finale dans l'industrie, par combustible	46
1.4.4 Consommation énergétique finale, par mode de transport	48
1.4.5 Consommation énergétique finale dans les transports, par combustible	50

### 1.5 Industrie énergétique

1.5.1 Capacité installée de production d'électricité, par type	52
1.5.2 Production des centrales électriques, par type	54
1.5.3 Rendement thermique des centrales électriques	56

### 1.6 Sources d'énergie renouvelables

1.6.1 Consommation intérieure brute d'énergies renouvelables et part dans la consommation intérieure brute totale	58
1.6.2 Capacité installée de production d'électricité à partir de sources d'énergie renouvelables	60
1.6.3 Contribution de l'électricité produite à partir de sources d'énergie renouvelables dans la consommation totale d'électricité	62

### 1.7 Efficacité énergétique

1.7.1 Consommation intérieure brute par habitant	64
1.7.2 Consommation finale d'électricité par habitant	66

### 1.8 Prix de l'énergie

1.8.1 Prix du pétrole brut Brent	68
1.8.2 Prix moyens du gaz à l'importation	69
1.8.3 Prix hors TVA des combustibles industriels	70
1.8.4 Prix des combustibles ménagers, taxes comprises	72
1.8.5 Prix au détail des combustibles pour les transports (taxes comprises)	74

## 2 Indicateurs des transports

### 2.1 Infrastructure

2.1.1 Densité ferroviaire	78
2.1.2 Densité autoroutière	80
2.1.3 Densité des voies navigables intérieures	82
2.1.4 Densité des oléoducs	84
2.1.5 Nombre des principaux ports maritimes	86
2.1.6 Nombre des principaux aéroports commerciaux	88

### 2.2 Équipement

2.2.1 Taux de motorisation en véhicules particuliers	90
2.2.2 Taux de renouvellement des véhicules particuliers	92
2.2.3 Taux de motorisation en camions et tracteurs routiers	94
2.2.4 Taux de renouvellement des camions et tracteurs routiers	96
2.2.5 Flotte aérienne par pays opérateur	98

## 2.3 Transport de marchandises

2.3.1	Indice du volume du transport intérieur de marchandises par rapport au PIB	100
2.3.2	Indice de croissance du transport intérieur de marchandises	102
2.3.3	Répartition modale du transport intérieur de marchandises: parts du transport routier, du transport par voies navigables intérieures, par rail et par oléoducs dans le transport intérieur total	104
2.3.4	Tonnage des marchandises transportées par rail	106
2.3.5	Tonnage des marchandises transportées par route	108
2.3.6	Tonnage des marchandises transportées par voies navigables intérieures	110
2.3.7	Tonnage des marchandises transportées par voie maritime	112

## 2.4 Transport de passagers

2.4.1	Transport de passagers par rail	114
2.4.2	Transport de passagers par autobus et autocars	116
2.4.3	Transport aérien international de passagers	118
2.4.4	Transport maritime de passagers	120

## 2.5 Sécurité

2.5.1	Personnes tuées dans des accidents de la route	122
-------	--	-----

# 3 Indicateurs de l'environnement

## 3.1 Pollution de l'air

3.1.1	Émissions de précurseurs de l'ozone troposphérique, par pays	126
3.1.2	Émissions de précurseurs de l'ozone troposphérique dans l'UE-25, par secteur	128
3.1.3	Émissions de précurseurs de l'ozone troposphérique dans l'UE-25, par polluant	129
3.1.4	Émissions de particules, par pays	130
3.1.5	Émissions de particules dans l'UE-25, par secteur	132
3.1.6	Émissions de particules dans l'UE-25, par polluant	133

## 3.2 Changement climatique

3.2.1	Émissions de gaz à effet de serre, par habitant	134
3.2.2	Émissions de gaz à effet de serre et objectifs de réduction adoptés	136
3.2.3	Émissions de gaz à effet de serre, par pays	138
3.2.4	Émissions de gaz à effet de serre dans l'UE-25, par secteur	140
3.2.5	Émissions de gaz à effet de serre dans l'UE-25, par polluant	141

## 3.3 Déchets

3.3.1	Production de déchets municipaux	142
3.3.2	Mise en décharge de déchets municipaux	144
3.3.3	Incinération de déchets municipaux	146
3.3.4	Production d'énergie à partir de l'incinération de déchets municipaux solides	148
3.3.5	Taux de recyclage des déchets d'emballages, par pays	150
3.3.6	Taux de collecte de vieux papiers, par pays	152

## 3.4 Eau

3.4.1	Ressources en eau douce renouvelables, par année	154
3.4.2	Prélèvements d'eau douce par source	156

## 3.5 Indicateurs de pression sur l'environnement

3.5.1	Estimations des quantités de produits phytopharmaceutiques utilisées	158
3.5.2	Production de substances chimiques toxiques, par classe de toxicité	160

## 3.6 Protection de la nature et de la biodiversité

3.6.1	Zones protégées pour la biodiversité	162
-------	--------------------------------------	-----

## 3.7 Comptes environnementaux

3.7.1	Taxes environnementales par type de recettes et par pays	164
3.7.2	Taxes sur l'énergie, en pourcentage du produit intérieur brut	166
3.7.3	Émissions de gaz à effet de serre, par industrie	168
3.7.4	Composition matérielle et développement des exportations physiques	170

**Annexe A:** Glossaire des termes utilisés dans les sections énergie et environnement 172

**Annexe B:** Section Transport - termes et méthodologie 178

**Annexe C:** Méthodologie de calcul des prix moyens des combustibles à l'échelle de l'UE 180

**Annexe D:** Valeurs calorifiques et facteurs de conversion 182



# Inhaltsverzeichnis

## 1 Energieindikatoren

### 1.1 Energieabhängigkeit

1.1.1 Energieabhängigkeit - Brennstoffe insgesamt	20
1.1.2 Energieabhängigkeit - Steinkohle	22
1.1.3 Energieabhängigkeit - Öl	24
1.1.4 Energieabhängigkeit - Erdgas	26

### 1.2 Energieintensität 28

### 1.3 Energieversorgung

1.3.1 Primärenergieerzeugung nach Brennstoff	30
1.3.2 Bruttoinlandsverbrauch nach Brennstoff	32
1.3.3 Einfuhr von Energieprodukten nach Ursprungsland	34
1.3.4 Nettoeinfuhr von festen Brennstoffen und Öl	36
1.3.5 Nettoeinfuhr von Erdgas	38
1.3.6 Nettoeinfuhr von Elektrizität	40

### 1.4 Endenergieverbrauch

1.4.1 Endenergieverbrauch nach Sektor	42
1.4.2 Endenergieverbrauch nach Industriesektor	44
1.4.3 Endenergieverbrauch der Industrie nach Brennstoff	46
1.4.4 Endenergieverbrauch nach Verkehrszweig	48
1.4.5 Endenergieverbrauch des Verkehrs nach Brennstoff	50

### 1.5 Energieindustrie

1.5.1 Installierte Leistung von Elektrizitätserzeugungsanlagen nach Anlageart	52
1.5.2 Erzeugung von Kraftwerken nach Anlageart	54
1.5.3 Thermischer Wirkungsgrad von Kraftwerken	56

### 1.6 Erneuerbare Energiequellen

1.6.1 Bruttoinlandsverbrauch aus erneuerbaren Energiequellen und Anteil am Bruttoinlandsverbrauch insgesamt	58
1.6.2 Installierte Leistung für Elektrizitätserzeugung aus erneuerbaren Energiequellen	60
1.6.3 Anteil der Elektrizität aus erneuerbaren Energiequellen am Elektrizitätsverbrauch insgesamt	62

### 1.7 Energieeffizienz

1.7.1 Bruttoinlandsverbrauch pro Kopf	64
1.7.2 Endverbrauch an Elektrizität pro Kopf	66

### 1.8 Energiepreise

1.8.1 Preise für Brent-Rohöl	68
1.8.2 Durchschnittspreise für Gaseinfuhren	69
1.8.3 Brennstoffpreise für die Industrie ohne Mehrwertsteuer	70
1.8.4 Brennstoffpreise für Haushalte inkl. Steuer	72
1.8.5 Einzelhandelspreise der Kraftstoffe für den Verkehr inkl. Steuer	74

## 2 Verkehrsindikatoren

### 2.1 Infrastruktur

2.1.1 Dichte des Eisenbahnnetzes	78
2.1.2 Dichte der Autobahnen	80
2.1.3 Dichte der Binnenwasserstraßen	82
2.1.4 Dichte der Olfenleitungen	84
2.1.5 Anzahl wichtiger Seehäfen	86
2.1.6 Anzahl wichtiger Frachtflughäfen	88

### 2.2 Ausrüstung

2.2.1 Motorisierungsgrad bei Personenkraftfahrzeugen	90
2.2.2 Erneuerungsrate bei Personenkraftfahrzeugen	92
2.2.3 Motorisierungsgrad bei Lastkraftwagen und Straßenzugmaschinen	94
2.2.4 Erneuerungsrate bei Lastkraftwagen und Straßenzugmaschinen	96
2.2.5 Flugzeugflotte nach Betreiberland	98

<b>2.3 Güterverkehr</b>	
2.3.1 Index des innerstaatlichen Güterverkehrsvolumens im Verhältnis zum BIP	100
2.3.2 Index der innerstaatlichen Güterverkehrszunahme	102
2.3.3 Innerstaatlicher Güterverkehr nach Verkehrszweigen - Anteile des Straßenverkehrs, der Binnenschifffahrt, des Schienenverkehrs und der Ölrohrfernleitungen am Binnenverkehr insgesamt	104
2.3.4 Schienengüterverkehr - Tonnage	106
2.3.5 Straßengüterverkehr - Tonnage	108
2.3.6 Güterverkehr der Binnenschifffahrt - Tonnage	110
2.3.7 Seegüterverkehr - Tonnage	112

## 2.4 Personenverkehr

2.4.1 Schienenpersonenverkehr	114
2.4.2 Personenbeförderung mit Linien- und Reisebussen	116
2.4.3 Personenbeförderung im grenzüberschreitenden Luftverkehr	118
2.4.4 Personenbeförderung im Seeverkehr	120

## 2.5 Sicherheit

2.5.1 Straßenverkehrstote	122
---------------------------	-----

# 3 Umweltindikatoren

## 3.1 Luftverschmutzung

3.1.1 Emissionen von Vorläufern für troposphärisches Ozon nach Land	126
3.1.2 Emissionen von Vorläufern für troposphärisches Ozon für EU-25 nach Sektor	128
3.1.3 Emissionen von Vorläufern für troposphärisches Ozon für EU-25 nach Schadstoff	129
3.1.4 Partikelemissionen nach Land	130
3.1.5 Partikelemissionen für EU-25 nach Sektor	132
3.1.6 Partikelemissionen für EU-25 nach Schadstoff	133

## 3.2 Klimaänderung

3.2.1 Treibhausgasemissionen pro Kopf	134
3.2.2 Treibhausgasemissionen und vereinbarte Reduzierungsziele	136
3.2.3 Treibhausgasemissionen nach Land	138
3.2.4 Treibhausgasemissionen für EU-25 nach Sektor	140
3.2.5 Treibhausgasemissionen für EU-25 nach Schadstoff	141

## 3.3 Abfall

3.3.1 Kommunales Abfallaufkommen	142
3.3.2 Deponierung kommunaler Abfälle	144
3.3.3 Verbrennung kommunaler Abfälle	146
3.3.4 Energieerzeugung aus der Verbrennung kommunaler fester Abfallstoffe	148
3.3.5 Recyclingraten für Verpackungsabfälle nach Land	150
3.3.6 Sammelrate für Altpapier nach Land	152

## 3.4 Wasser

3.4.1 Erneuerbares Süßwasserdargebot pro Jahr	154
3.4.2 Süßwasserentnahme nach Quelle	156

## 3.5 Umweltbelastungsindikatoren

3.5.1 Geschätzte Einsatzmengen von Pflanzenschutzmitteln	158
3.5.2 Produktion von toxischen Chemikalien nach Toxizitätsklasse	160

## 3.6 Naturschutz und biologische Vielfalt

3.6.1 Schutzgebiete für die biologische Vielfalt	162
--	-----

## 3.7 Umweltgesamtrechnungen

3.7.1 Umweltsteuern nach Art der Einnahmen, nach Land	164
3.7.2 Energiesteuern in % des BIP	166
3.7.3 Treibhausgasemissionen der Industrie	168
3.7.4 Materielle Zusammensetzung und Entwicklung von physischen Ausfuhren	170

<b>Anhang A:</b> Glossar der Begriffe in den Energie- und Umweltkapiteln	172
--	-----

<b>Anhang B:</b> Verkehr : Begriffe und Methodik	178
--	-----

<b>Anhang C:</b> Methodik zur Berechnung von EU-weiten durchschnittlichen Brennstoffpreisen	180
---	-----

<b>Anhang D:</b> Heizwerte und Umrechnungsfaktoren	182
--	-----

## Symbols and abbreviations

:	no data available
0	figure less than half of the unit used
-	not applicable or real zero or zero by default
%	percentage
1234	<i>Estimates are printed in italic</i>

### Units of measurement

ECU	European currency unit, data up to 31.12.1998
EUR	euro, data from 1.1.1999 on
GJ	Giga Joule
GWh	Gigawatt hour
kg	kilogram
km	kilometre
km <sup>2</sup>	square kilometre
m <sup>3</sup>	cubic metre
mio	million (10 <sup>6</sup> )
pkm	passenger-kilometre
tkm	tonne-kilometre
t	tonne
toe	tonne of oil equivalent
TOP	Tropospheric ozone precursors
TOFP	Tropospheric ozone forming potential

### Chemical and related symbols

CH <sub>4</sub>	Methane
CO <sub>2</sub>	Carbon dioxide
HFC	Hydrofluorocarbons
NH <sub>3</sub>	Ammonia
N <sub>2</sub> O	Nitrous oxide
NO <sub>x</sub>	Nitrogen oxides
PFC	Perfluorocarbons
SF <sub>6</sub>	Sulphur hexafluoride
SO <sub>2</sub>	Sulphur dioxide

### 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

## Abbreviations of Countries

EU-25	The twenty five Member States of the EU
EU-15	The 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
HR	Croatia
RO	Romania
TR	Turkey

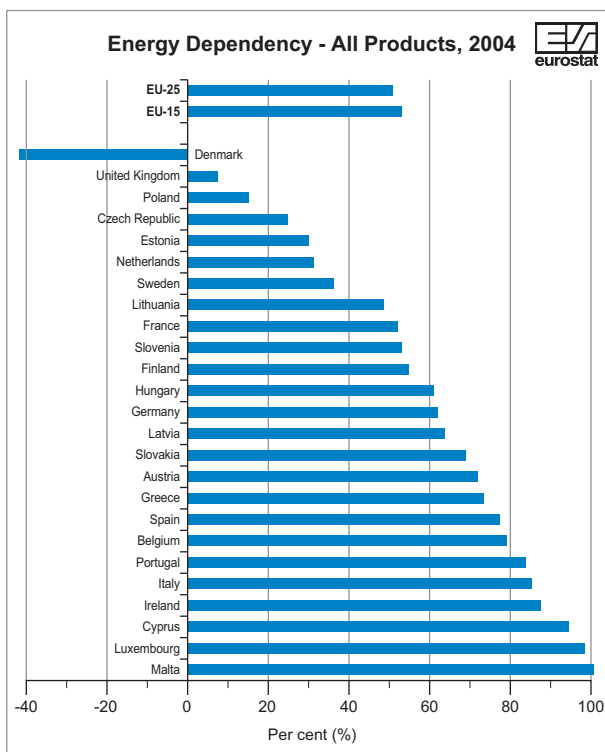
# **ENERGY INDICATORS**

## ENERGY, TRANSPORT AND ENVIRONMENT INDICATORS

### Energy Dependency - All Products

	1990	1997	2004
	<i>Per cent (%)</i>		
<b>EU-25</b>	<b>44.6</b>	<b>45.1</b>	<b>50.5</b>
<b>EU-15</b>	<b>47.4</b>	<b>47.7</b>	<b>52.9</b>
Belgium	75.7	78.4	78.9
Czech Republic	16.1	24.4	25.3
Denmark	45.8	17.3	-47.9
Germany	46.3	59.9	61.3
Estonia	44.3	33.4	28.5
Greece	62.1	66.9	72.7
Spain	64.2	71.8	77.4
France	52.4	48.9	50.5
Ireland	68.3	76.6	86.5
Italy	84.8	81.0	84.5
Cyprus	:	98.3	94.6
Latvia	88.8	59.2	63.5
Lithuania	72.3	56.6	48.0
Luxembourg	99.0	98.4	98.2
Hungary	50.4	52.8	60.8
Malta	100.0	99.9	100.0
Netherlands	22.4	26.0	30.7
Austria	68.3	66.9	70.8
Poland	2.2	6.3	14.7
Portugal	86.7	86.8	83.6
Slovenia	46.5	55.0	52.1
Slovakia	76.7	74.5	68.7
Finland	61.6	55.9	54.4
Sweden	37.5	38.1	36.5
United Kingdom	2.8	-15.3	5.2
Iceland	35.9	33.9	30.0
Norway	-436.9	-736.5	-746.7
Bulgaria	63.6	53.2	48.0
Croatia	33.6	47.5	57.4
Romania	33.1	32.6	30.2
Turkey	52.0	60.0	70.4

Data Source: Eurostat



	Per cent (%)										
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	44.6	43.5	44.2	45.1	46.4	45.5	47.3	47.8	47.9	49.3	50.5
EU-15	47.4	46.5	46.7	47.7	48.9	47.6	49.5	50.2	50.2	51.7	52.9

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 exporter country. Positive values over 100% indicate stocks build-up during the reference year.

The total energy dependency rate increased by about 6 percentage points between 1990 and 2004 reaching 50.5%. In several countries, a decrease in energy dependency is observed which is relatively high, such as Estonia, Latvia and Lithuania. Included in these countries are Denmark and the United Kingdom which became energy exporters rather than energy importers in the early '90s. On the other hand, the total energy dependency rate increased significantly in the Czech Republic, Ireland, Netherlands and Poland.

In 2004 only two countries, Denmark and Norway (not an EU MS), had a surplus of energy over their own requirements (i.e. negative energy dependency ratio), while fourteen Member States had an energy dependency ratio over 60%.

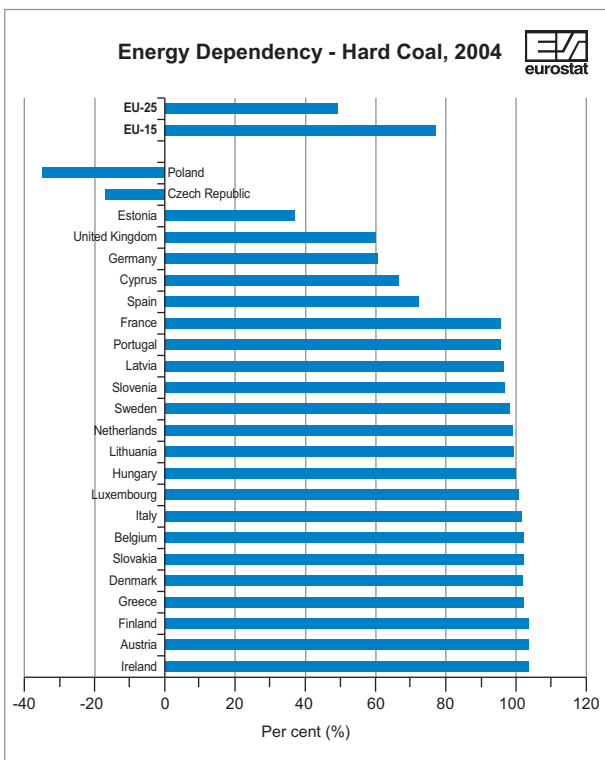
As far as the Acceding and Candidate countries are concerned a decrease in energy dependency is observed in the former and an increase in the latter.

## Energy Dependency - Hard Coal

	<i>Per cent (%)</i>		
	1990	1997	2004
<b>EU-25</b>	<b>22.9</b>	<b>31.0</b>	<b>49.9</b>
<b>EU-15</b>	<b>42.0</b>	<b>56.9</b>	<b>76.6</b>
Belgium	92.6	96.8	101.4
Czech Republic	-19.2	-21.0	-16.8
Denmark	102.1	120.6	101.4
Germany	7.4	29.3	60.2
Estonia	96.6	13.8	35.7
Greece	99.5	100.0	102.1
Spain	42.8	41.2	71.7
France	67.5	68.8	94.4
Ireland	95.8	108.5	102.8
Italy	95.5	95.0	101.1
Cyprus	113.3	130.8	66.7
Latvia	99.1	109.8	96.9
Lithuania	96.9	83.2	98.8
Luxembourg	100.0	100.0	100.0
Hungary	57.8	86.2	99.4
Malta	-	-	-
Netherlands	104.0	114.1	98.7
Austria	91.5	93.2	102.5
Poland	-30.4	-31.9	-35.2
Portugal	108.1	103.8	95.2
Slovenia	18.6	90.0	97.7
Slovakia	99.2	106.9	101.4
Finland	107.0	100.6	102.3
Sweden	94.3	107.9	98.0
United Kingdom	14.2	32.0	59.0
Iceland	100.0	100.0	100.0
Norway	77.7	77.2	-110.1
Bulgaria	97.1	96.5	106.2
Croatia	67.2	51.0	109.9
Romania	50.3	84.0	104.6
Turkey	66.0	84.1	87.4

Data Source: Eurostat





	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	22.9	26.9	28.8	31.0	33.4	35.4	39.4	43.7	43.5	45.9	49.9
EU-15	42.0	51.6	52.5	56.9	58.1	61.4	65.9	71.8	70.6	72.6	76.6

Data Source: Eurostat

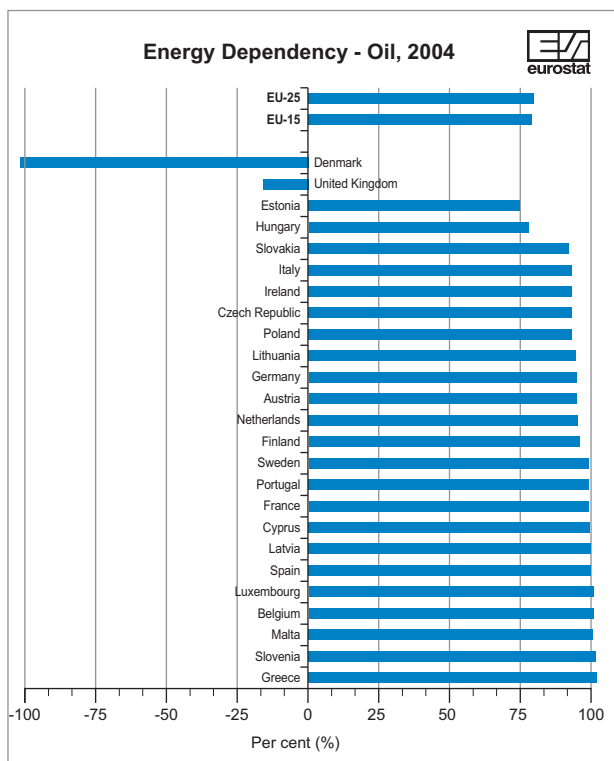
**Note:** Negative dependency rate indicates a net exporter country. Positive values over 100% indicate stocks build-up during the reference year.

The EU-15 and EU-25 hard coal energy dependency ratio exhibited a significant increase over the period 1990–2004, up to 118% and 82% respectively. In 2004, 17 Member States had hard coal energy dependency greater than 95% while only four Member States had hard coal energy dependency less than 60%. Two of the latter countries (Germany and the United Kingdom) were almost 60% dependent on imported coal and only the Czech Republic and Poland were exporting countries.

## Energy Dependency - Oil

	<i>Per cent (%)</i>		
	1990	1997	2004
<b>EU-25</b>	<b>80.9</b>	<b>76.1</b>	<b>80.2</b>
<b>EU-15</b>	<b>79.3</b>	<b>74.6</b>	<b>79.2</b>
Belgium	98.4	99.6	99.8
Czech Republic	95.8	100.1	93.6
Denmark	29.8	-6.4	-116.8
Germany	95.0	97.4	94.8
Estonia	103.4	95.4	73.8
Greece	93.2	99.6	104.8
Spain	99.6	100.2	99.4
France	96.0	97.7	98.3
Ireland	104.7	101.6	93.4
Italy	97.2	92.7	93.3
Cyprus	:	100.0	98.8
Latvia	100.4	92.5	99.2
Lithuania	104.1	94.7	94.2
Luxembourg	100.7	99.6	99.6
Hungary	75.8	76.5	76.8
Malta	100.0	99.9	100.0
Netherlands	87.6	92.4	95.5
Austria	89.8	89.5	95.0
Poland	104.7	97.9	94.0
Portugal	101.2	100.7	97.8
Slovenia	102.9	102.9	101.6
Slovakia	100.0	99.6	91.6
Finland	99.8	97.6	96.0
Sweden	99.7	100.1	97.8
United Kingdom	-12.5	-58.1	-15.3
Iceland	99.6	98.4	103.2
Norway	-807.7	-1 601.3	-1 300.6
Bulgaria	88.5	99.5	98.3
Croatia	:	57.3	77.8
Romania	58.6	54.3	46.6
Turkey	88.8	88.5	93.1

Data Source: Eurostat



	Per cent (%)										
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	80.9	74.7	75.9	76.1	77.4	73.3	76.3	77.6	76.4	78.9	80.2
EU-15	79.3	73.2	74.5	74.6	76.1	71.9	74.9	76.7	75.3	77.9	79.2

Data Source: Eurostat

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

The EU-25 oil energy dependency rate decreased slightly during the period 1990–2004.

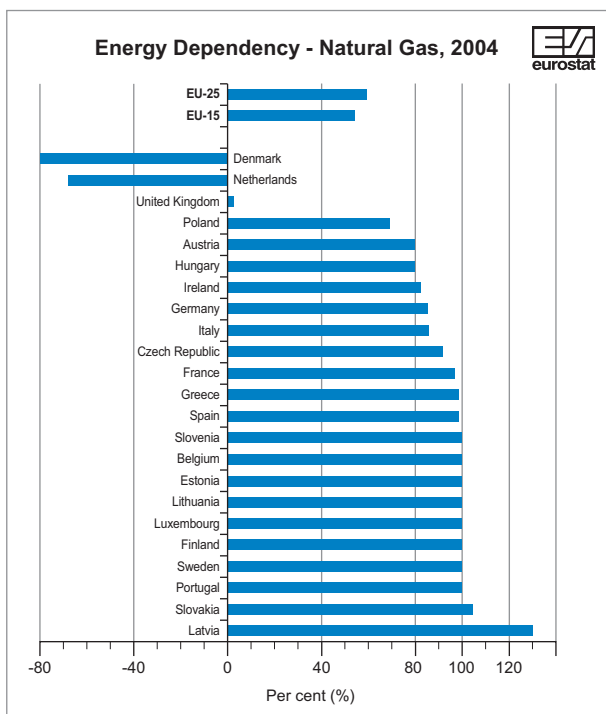
Denmark and the United Kingdom are the only EU-25 net oil exporting countries, while 21 of the Member States are over 90% dependent on imported oil and thirteen Member States have a dependency higher than 95%.

The situation of the Accessing and Candidate countries is quite mixed. Bulgaria, Turkey and Croatia have rates of 98, 93 and 78% respectively, while Romania has only 47%. It is also notable that the Romanian rate decreased from 59% in 1990 while the Croatian rate increased from 41% in 1992 and 1993 to the above mentioned value.

## Energy Dependency - Natural Gas

	Per cent (%)		
	1990	1997	2004
<b>EU-25</b>	<b>47.5</b>	<b>45.5</b>	<b>54.5</b>
<b>EU-15</b>	<b>41.4</b>	<b>41.0</b>	<b>51.0</b>
Belgium	100.6	100.1	99.9
Czech Republic	91.2	99.2	91.1
Denmark	-51.0	-71.0	-79.7
Germany	75.9	80.8	83.7
Estonia	100.0	100.0	100.0
Greece	-	75.4	97.5
Spain	74.2	102.1	97.8
France	93.6	93.7	96.2
Ireland	-	31.2	81.2
Italy	64.9	67.3	83.8
Cyprus	-	-	-
Latvia	107.6	99.4	130.6
Lithuania	100.0	100.0	100.0
Luxembourg	100.0	100.0	100.0
Hungary	58.0	67.5	79.2
Malta	-	-	-
Netherlands	-77.2	-71.5	-67.7
Austria	85.7	78.4	78.8
Poland	75.8	69.9	68.3
Portugal	-	113.8	100.1
Slovenia	94.8	98.7	99.4
Slovakia	105.2	92.5	103.3
Finland	100.0	100.0	100.0
Sweden	100.0	100.0	100.0
United Kingdom	13.1	-0.8	1.7
Iceland	-	-	-
Norway	-1 122.1	-945.9	-1 482.8
Bulgaria	100.6	104.1	95.8
Croatia	26.2	38.0	23.5
Romania	20.6	25.3	29.5
Turkey	93.9	98.0	96.9

Data Source: Eurostat



Per cent (%)

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	47.5	43.9	43.5	45.5	46.0	48.6	49.7	47.9	51.7	53.0	54.5
EU-15	41.4	39.7	38.8	41.0	41.7	44.8	45.8	43.9	47.8	49.3	51.0

Data Source: Eurostat

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

The EU-25 is less dependent on imported natural gas than on oil both in absolute terms and in terms of the energy dependency rate. Nevertheless, the trend has been increasing in recent years. In 2004, the EU-25 energy dependency rate for natural gas was 54.5% while it was 47.5% in 1990. This increase is mainly attributed to the EU-15 countries and in particular the big natural gas markets of Germany, Italy and France where significant quantities of natural gas are imported and to the Netherlands which is a net exporter but with a decreasing trend.

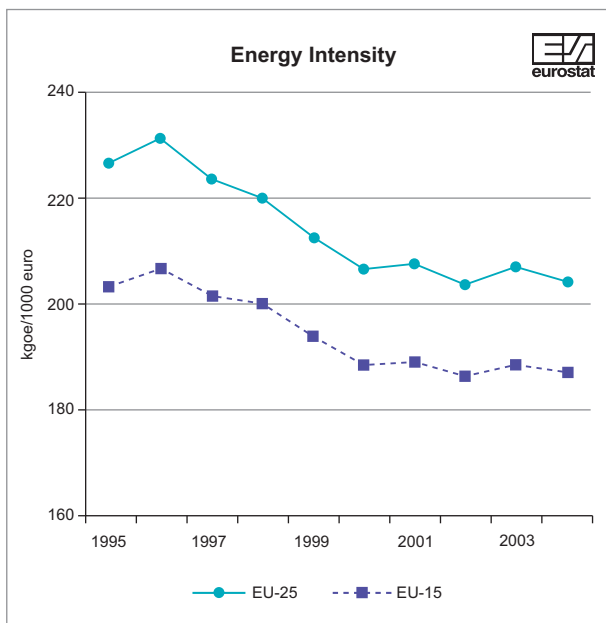
The Netherlands, as previously mentioned and Denmark are the only EU-25 natural gas exporting countries, while 14 of the Member States were over ninety percent dependent on imported natural gas in 2004. Malta and Cyprus have not introduced natural gas into their energy system.

Norway is a big natural gas exporter, mainly to EU-15 countries providing them with quantities of natural gas comparable to those coming from Algeria and Russia.

## Energy Intensity

	<i>(kgoe/1000 euro '95)</i>			<i>Index (1995=100)</i>		
	<b>1995</b>	<b>2000</b>	<b>2004</b>	<b>1996</b>	<b>2000</b>	<b>2004</b>
<b>EU-25</b>	<b>227</b>	<b>207</b>	<b>204</b>	<b>102</b>	<b>91</b>	<b>90</b>
<b>EU-15</b>	<b>204</b>	<b>189</b>	<b>187</b>	<b>102</b>	<b>93</b>	<b>92</b>
Belgium	232	231	208	106	99	90
Czech Republic	960	887	852	99	92	89
Denmark	146	123	120	110	84	83
Germany	175	160	159	102	91	91
Estonia	1 836	1 211	1 140	102	66	62
Greece	269	264	240	103	98	90
Spain	224	220	223	96	98	99
France	200	187	186	105	94	93
Ireland	214	174	157	99	81	73
Italy	187	182	189	99	97	101
Cyprus	281	282	262	105	100	93
Latvia	1 280	799	696	96	62	54
Lithuania	1 774	1 207	1 136	103	68	64
Luxembourg	211	170	194	100	81	92
Hungary	759	598	531	100	79	70
Malta	:	248	292	:	:	:
Netherlands	229	194	203	101	85	89
Austria	146	134	146	104	92	100
Poland	940	656	597	98	70	63
Portugal	225	227	239	96	101	106
Slovenia	391	333	325	101	85	83
Slovakia	1 193	976	860	95	82	72
Finland	288	259	274	103	90	95
Sweden	263	213	218	101	81	83
United Kingdom	251	227	206	102	90	82
Iceland	400	478	450	110	120	113
Norway	209	193	189	93	92	90
Bulgaria	2 326	1 931	1 628	109	83	70
Croatia	492	459	437	97	93	89
Romania	:	1 457	1 227	:	:	:
Turkey	479	492	452	102	103	95

Data Source: Eurostat



	(kgoe/1000 euro)									
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	227	231	224	220	213	207	208	204	207	204
<b>EU-15</b>	204	208	201	200	194	189	190	187	189	187

	Index (1995=100)									
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	100	102	99	97	94	91	91	90	91	90
<b>EU-15</b>	100	102	99	98	95	93	93	92	93	92

Data Source: Eurostat

Over the period 1995-2004, EU-25 energy intensity decreased by 10%. Fifteen of the Member States recorded a decrease of more than 10%, furthermore in 10 Member States energy intensity decreased by more than 17%.

It is notable that 7 new Member States had in 1995 energy intensities 3 to 9 times greater than the EU-15 average of that year. On the other hand, mostly these countries recorded the highest reductions. Yet, in 2004, the new Member States with the exception of Cyprus, Malta and Slovenia still have much higher energy intensities than the EU average.

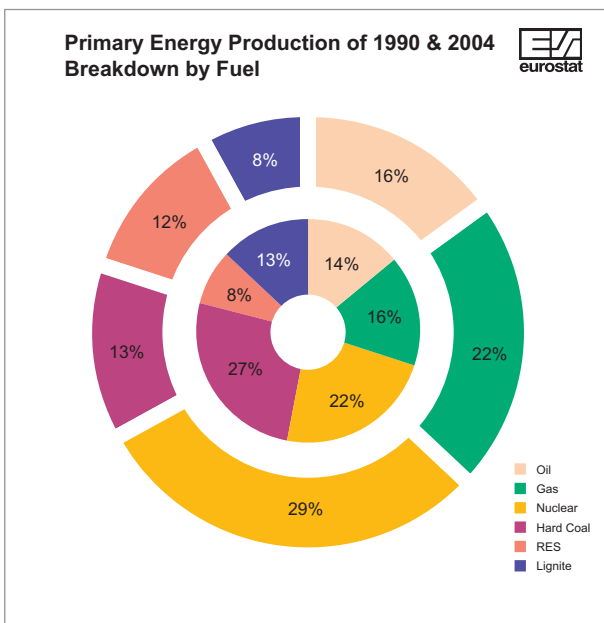
## Primary Energy Production

	<i>(ktoe)</i>			<i>Year 2004, share of each fuel to total (%)</i>					
	1990	1997	2004	Hard Coal	Lignite	Oil	Gas	Nuclear	RES
<b>EU-25</b>	<b>877 086</b>	<b>918 676</b>	<b>882 300</b>	<b>13</b>	<b>8</b>	<b>16</b>	<b>22</b>	<b>29</b>	<b>12</b>
<b>EU-15</b>	<b>706 699</b>	<b>757 684</b>	<b>741 492</b>	<b>5</b>	<b>7</b>	<b>18</b>	<b>25</b>	<b>32</b>	<b>13</b>
BE	11 971	12 552	13 159	-	-	-	-	93	7
CZ	38 297	32 331	32 260	73	0	1	0	21	5
DK	10 026	20 173	30 868	-	-	64	27	-	9
DE	185 640	138 377	135 266	14	29	4	11	32	10
EE	5 470	3 632	4 031	-	75	8	-	-	17
EL	9 152	9 924	10 268	-	84	1	0	-	15
ES	33 648	30 651	32 399	16	4	1	1	50	28
FR	110 101	127 298	135 591	0	0	1	1	85	13
IE	3 495	2 843	1 902	-	47	-	36	-	17
IT	25 334	30 249	28 036	0	-	20	38	-	42
CY	6	42	97	-	-	-	-	-	100
LV	1 123	1 719	2 141	-	0	-	-	-	100
LT	4 740	3 878	4 959	-	0	6	-	79	15
LU	47	47	73	-	-	-	-	-	100
HU	14 148	12 777	10 132	-	22	15	23	30	10
MT	-	-	-	-	-	-	-	-	-
NL	60 447	65 520	67 860	-	-	4	91	1	4
AT	7 934	8 503	9 526	-	1	11	17	-	71
PL	98 460	99 081	77 946	72	17	1	5	-	5
PT	2 808	3 045	3 894	-	-	-	-	-	100
SI	2 902	2 962	3 435	-	35	-	0	41	24
SK	5 241	4 571	5 808	-	14	1	2	76	7
FI	11 737	14 805	15 502	-	5	-	-	38	57
SE	29 723	32 170	34 500	-	1	-	-	58	41
UK	204 637	261 525	222 647	7	-	43	39	9	2
IS	1 400	1 682	2 519	-	-	-	-	-	100
NO	120 066	212 181	238 007	1	-	65	30	-	4
BG	9 136	9 798	10 168	0	44	0	3	43	10
HR	2 584	4 077	3 852	-	-	28	47	-	25
RO	41 399	31 625	28 414	0	22	20	37	5	16
TR	25 953	27 999	24 193	6	38	9	2	-	45

	<i>(Mtoe)</i>										
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	877	897	926	919	898	904	892	894	894	886	882
<b>EU-15</b>	707	738	765	758	752	766	756	755	753	744	741

Data Source: Eurostat





	(Mtoe)		
	1990	2004	Change 90-04
Total	877	882	1%
Oil	120	136	14%
Gas	140	192	38%
Nuclear	199	254	28%
Hard Coal	235	119	-50%
RES	69	109	58%
Lignite	115	72	-37%

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. The definition of renewable energy sources (RES) includes energy generated from solar, wind, biomass, geothermal, hydropower and ocean resources.

EU-25 primary energy production followed an increasing trend from 1990 to 1996 and a decreasing one from 1997 to 2004, resulting to a 0.6% increase during the whole period.

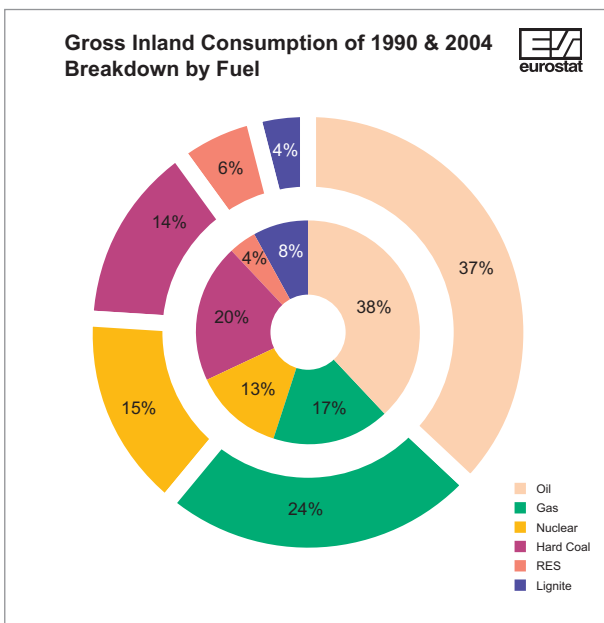
Year by year, the mixture of primary produced fuels changed in favour of oil, gas, nuclear energy and renewable energy sources. In 2004, nuclear energy and natural gas made up 51% of the total primary energy production.

## Gross Inland Consumption

	(ktoe)			Year 2004, share of each fuel to total (%)					
	1990	1997	2004	Hard Coal	Lignite	Oil	Gas	Nuclear	RES
<b>EU-25</b>	<b>1 559 161</b>	<b>1 626 533</b>	<b>1 746 801</b>	<b>14</b>	<b>4</b>	<b>37</b>	<b>24</b>	<b>15</b>	<b>6</b>
<b>EU-15</b>	<b>1 320 703</b>	<b>1 409 792</b>	<b>1 536 502</b>	<b>11</b>	<b>4</b>	<b>39</b>	<b>25</b>	<b>15</b>	<b>6</b>
BE	47 258	55 120	54 826	11	0	37	27	22	2
CZ	47 365	42 370	43 558	45	0	22	18	16	3
DK	17 856	21 309	19 998	22	-	42	23	-	15
DE	354 485	345 465	347 741	13	11	36	23	12	4
EE	9 876	5 510	5 639	0	59	19	14	-	11
EL	22 278	25 585	30 631	2	28	57	7	-	5
ES	89 401	106 054	140 246	14	1	49	18	12	6
FR	226 550	246 958	273 700	5	0	34	14	42	6
IE	10 398	12 279	15 707	11	4	59	23	-	2
IT	153 098	163 575	184 819	9	0	46	36	-	7
CY	:	2 065	2 488	1	0	95	-	-	4
LV	7 861	4 505	4 594	1	0	30	29	-	36
LT	16 037	8 867	9 150	2	0	28	26	43	8
LU	3 556	3 351	4 676	2	0	65	26	-	2
HU	28 650	25 760	26 191	4	9	24	45	12	4
MT	581	937	887	-	-	100	-	-	-
NL	67 031	75 127	82 283	11	0	38	45	1	3
AT	24 953	28 381	32 713	11	1	42	23	-	21
PL	100 021	102 483	92 509	45	14	24	13	-	5
PT	16 890	20 744	26 172	13	-	57	13	-	15
SI	5 517	6 471	7 114	5	17	35	13	20	12
SK	20 967	17 773	18 168	19	6	19	30	24	2
FI	28 701	32 760	37 708	14	6	29	10	16	23
SE	47 166	50 351	53 137	5	1	29	2	38	27
UK	211 082	222 734	232 144	16	-	35	38	9	2
IS	2 158	2 517	3 483	3	-	25	-	-	72
NO	21 573	24 439	27 648	3	-	38	16	-	39
BG	27 964	20 549	18 867	15	24	23	13	23	5
HR	7 979	7 794	8 842	7	0	50	28	-	11
RO	61 511	45 443	39 588	8	16	26	35	4	12
TR	52281	71034	81859	16	12	37	23	-	13

	(Mtoe)									
	1990	1995	1996	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	<b>1 559</b>	<b>1 579</b>	<b>1 636</b>	<b>1 648</b>	<b>1 643</b>	<b>1 654</b>	<b>1 694</b>	<b>1 687</b>	<b>1 727</b>	<b>1 747</b>
<b>EU-15</b>	<b>1 321</b>	<b>1 367</b>	<b>1 418</b>	<b>1 439</b>	<b>1 442</b>	<b>1 456</b>	<b>1 490</b>	<b>1 483</b>	<b>1 517</b>	<b>1 537</b>

Data Source: Eurostat



	(Mtoe)		
	1990	2004	Change 90-04
Total	1 559	1 747	12%
Oil	597	650	9%
Gas	261	418	60%
Nuclear	199	254	28%
Hard Coal	311	238	-23%
RES	69	109	58%
Lignite	119	74	-38%

Data Source: Eurostat

EU-25 gross inland consumption grew by 12% from 1990 to 2004 to 1 747Mtoe. The highest increase was that of natural gas which was 261Mtoe in 1990 and climbed to 418Mtoe in 2004. Nuclear energy, which grew by 28% to 254Mtoe, together with natural gas, gradually replaced solid and liquid fossil fuels in the fuel mix for electricity generation while natural gas increased its share in the industrial and the domestic sector. As a result, gross inland consumption of solid fuels dropped by 27% and at the same time gross inland consumption of oil grew by only 9%, despite the fact that oil is strongly linked to the transport sector where energy consumption increased by 29%.

## Imports of Energy Products, by Country of Origin

## Imports of Natural Gas, by Country of Origin

	1999	2000	2001	2002	2003	2004
	<i>(PJ)</i>					
Russia	4 140	4 287	4 121	4 031	4 357	4 380
Norway	1 915	1 985	2 087	2 515	2 690	2 746
Algeria	2 133	2 203	1 917	2 091	2 157	2 036
Nigeria	21	172	216	84	189	259
Lybia	40	33	33	26	30	48
Other Countries	382	440	694	1 103	1 074	1 470
Total	8 631	9 121	9 069	9 850	10 497	10 939

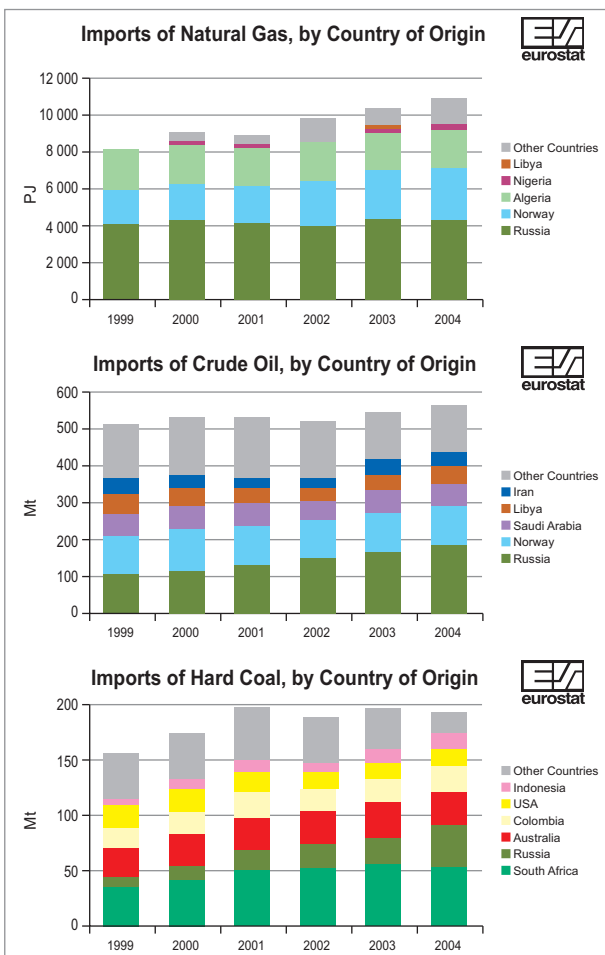
## Imports of Crude Oil, by Country of Origin

	1999	2000	2001	2002	2003	2004
	<i>(Mt)</i>					
Russia	104	109	129	146	163	180
Norway	108	115	108	103	106	109
Saudi Arabia	61	65	57	53	62	64
Lybia	47	46	44	39	46	50
Iran	42	35	31	26	35	36
Other Countries	148	162	161	155	132	124
Total	510	532	531	522	544	562

## Imports of Hard Coal, by Country of Origin

	1999	2000	2001	2002	2003	2004
	<i>(Mt)</i>					
South Africa	35	40	49	54	57	54
Russia	9	13	19	19	24	37
Australia	25	28	29	29	30	30
Colombia	19	23	23	21	23	24
USA	20	20	20	14	12	15
Indonesia	8	9	10	11	13	14
Other Countries	39	42	47	39	38	20
Total	155	174	196	187	196	194

Data Source: Eurostat



EU-25 imports of natural gas rose by 27% from 1999 to 2004. Imports from Russia represent 40% of total EU-25 imports while the share of the Norwegian natural gas is 25% and that of the Algerian is 19%.

Crude oil imports to the EU-25 grew by 10% over the last five years. In 2004, 32% of the imported crude oil came from Russia and 19% from Norway. While the remaining 49% came from other Non OPEC countries (11%) and OPEC countries (37%). It is notable that crude oil imports from Non-OPEC countries amounted to 53% of total imports in 1999 and to 63% in 2004, a change which is mainly due to a gradual increase of imports from Russia.

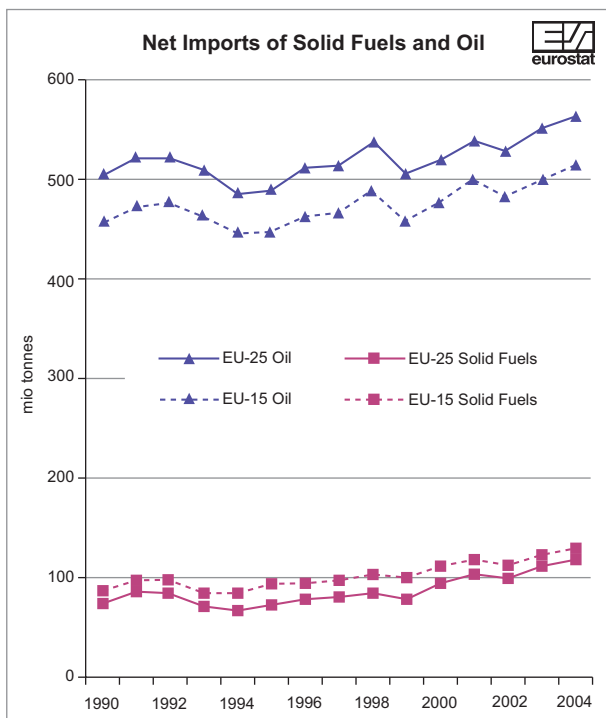
South Africa, with a share of 28% of the total hard coal supplied to the EU-25 in 2004, was the main supplier while hard coal from Russia and Australia amounted to 35% altogether. Total hard coal imports to the EU-25 grew by 25% over the period 1999-2004.

## Net Imports of Solid Fuels and Oil

(1000 tonnes)

	Solid Fuels			Oil		
	1990	1997	2004	1990	1997	2004
<b>EU-25</b>	<b>73 733</b>	<b>81 559</b>	<b>119 232</b>	<b>508 511</b>	<b>515 355</b>	<b>562 310</b>
<b>EU-15</b>	<b>88 308</b>	<b>98 483</b>	<b>131 530</b>	<b>457 569</b>	<b>468 444</b>	<b>513 989</b>
BE	9 492	8 095	6 173	22 227	28 644	30 606
CZ	-5 685	-4 977	-3 345	8 597	7 949	8 914
DK	6 216	8 029	4 422	2 672	-530	-10 375
DE	3 267	14 856	27 708	119 053	133 597	119 269
EE	697	280	206	3 196	1 118	883
EL	988	763	464	14 441	18 220	21 825
ES	7 038	7 045	14 175	49 056	62 516	76 923
FR	13 004	9 679	13 276	85 602	87 846	93 671
IE	2 100	1 987	1 809	4 998	6 674	8 789
IT	13 792	10 637	16 771	90 403	88 279	82 661
CY	68	19	27	:	2 156	2 433
LV	628	157	63	4 001	1 557	1 534
LT	758	135	167	7 333	3 233	2 499
LU	1 134	312	94	1 597	1 869	2 947
HU	1 686	1 378	1 138	6 555	5 464	4 801
MT	-	-	-	617	1 030	926
NL	9 546	10 403	9 058	30 741	36 286	44 112
AT	3 112	3 081	3 764	9 598	11 062	13 255
PL	-18 913	-18 290	-14 650	14 347	18 119	20 647
PT	2 789	3 623	3 210	12 198	14 573	15 597
SI	130	191	335	1 771	2 672	2 524
SK	6 055	4 184	3 759	4 525	3 613	3 160
FI	4 378	4 649	5 511	10 423	10 306	10 921
SE	2 329	2 521	2 509	14 954	16 359	16 595
UK	9 122	12 805	22 585	-10 394	-47 257	-12 807
IS	64	57	105	729	822	986
NO	668	791	-1 014	-71 352	-147 317	-140 716
BG	3 527	2 658	2 929	8 538	4 907	4 395
HR	617	147	755	:	2 372	3 459
RO	2 442	3 457	3 156	11 279	7 374	4 967
TR	4 208	7 510	11 131	20 270	26 605	29 017

Data Source: Eurostat



(mio tonnes)

**Solid Fuels**

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	74	74	79	82	85	83	94	104	101	110	119
EU-15	88	95	95	98	101	99	110	119	115	123	132

**Oil**

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	509	491	511	515	538	505	519	540	529	550	562
EU-15	458	446	465	468	489	459	474	496	484	504	514

Data Source: Eurostat

Net imports of solid fuels increased significantly during the period 1990-2004 although gross inland consumption of solid fuels decreased by 38%. In terms of tonnes and not calorific value, net imports of solid fuels to the EU-25 increased by 62%, app. (45 million tonnes) during this period mainly attributed to the higher imports to Germany, the United Kingdom and Spain as well as to fewer exports from the Czech Republic and Poland. On the other hand, Belgium and Slovakia imported considerably lower quantities of solid fuels in 2004 than in 1990.

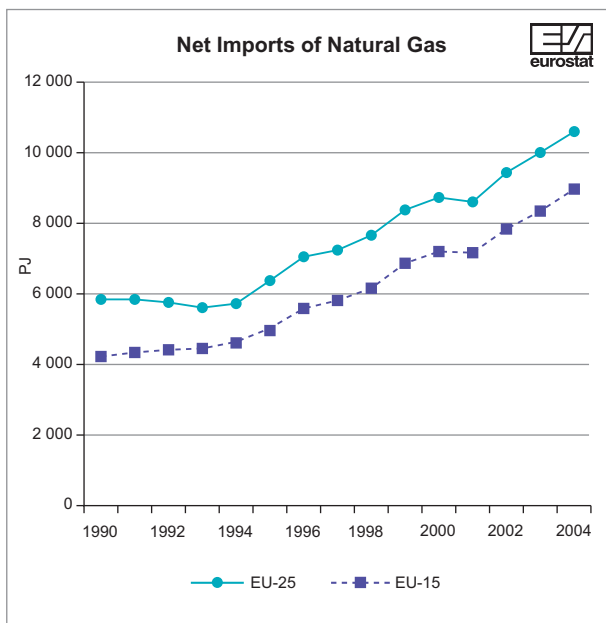
At the EU-25 level, net oil imports increased by 11% over the period 1990-2004. Twelve countries imported 25% more oil in 2004 than in 1990. In 2004, the share of these countries in total EU net imports was 43% and they had a 47% increase from 1990 to 2004 altogether. On the other hand, Germany, Italy and France which formed 58% of total net imports in 1990, imported practically the same quantities in 2004 like in 1990. Furthermore, the 2 oil net exporters (the UK and Denmark) had in 2004 a share of -4% to total net imports.

## Net Imports of Natural Gas

	1990	1997	2003	2004
				(PJ)
<b>EU-25</b>	<b>5 758</b>	<b>7 190</b>	<b>10 072</b>	<b>10 582</b>
<b>EU-15</b>	<b>4 303</b>	<b>5 779</b>	<b>8 397</b>	<b>8 909</b>
Belgium	382	525	663	677
Czech Republic	223	354	358	330
Denmark	-43	-130	-121	-172
Germany	1 942	2 706	2 905	3 065
Estonia	57	26	32	36
Greece	-	6	93	101
Spain	172	537	985	1 145
France	1 134	1 365	1 749	1 756
Ireland	-	40	146	138
Italy	1 177	1 488	2 378	2 572
Cyprus	-	-	-	-
Latvia	119	49	65	81
Lithuania	218	93	111	110
Luxembourg	20	29	49	56
Hungary	241	305	462	432
Malta	-	-	-	-
Netherlands	-1 107	-1 174	-754	-1 156
Austria	207	239	277	280
Poland	315	306	349	378
Portugal	-	5	123	154
Slovenia	34	36	42	42
Slovakia	249	240	256	264
Finland	105	135	190	184
Sweden	27	37	41	41
United Kingdom	287	-27	-327	68
Iceland	-	-	-	-
Norway	-1 031	-1 726	-2 835	-3 069
Bulgaria	253	179	110	111
Croatia	27	40	30	27
Romania	276	188	197	191
Turkey	125	380	804	843

Data Source: Eurostat





(PJ)

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	5 758	6 321	6 930	7 190	7 550	8 274	8 704	8 636	9 358	10 072	10 582
<b>EU-15</b>	4 303	5 084	5 510	5 779	6 119	6 855	7 226	7 093	7 780	8 397	8 909

Data Source: Eurostat

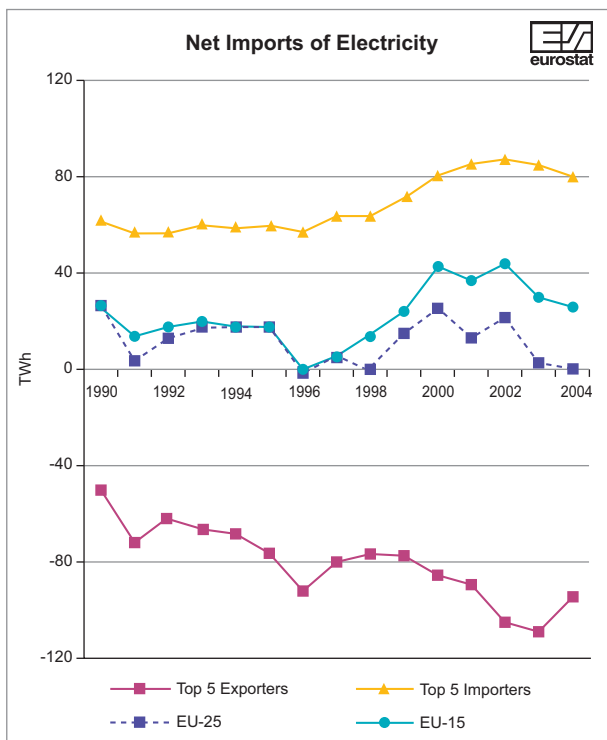
Since 1990, natural gas net imports rose by 84% following a conservative path until 1995 when they began increasing with an average annual increase of 6.5%.

Most EU-25 countries import natural gas with the exception of the North Sea producers: Denmark, the Netherlands and the United Kingdom. Germany, France and Italy are the largest importers with a share of EU-25 total net imports ranging between 70 and 85% within the period 1990-2004. In the same period, Spain has become a significant natural gas importer with a share of 11% in 2004.

## Net Imports of Electricity

	1990	1997	2003	2004
				(GWh)
<b>EU-25</b>	<b>25 363</b>	<b>6 268</b>	<b>4 295</b>	<b>-422</b>
<b>EU-15</b>	<b>27 134</b>	<b>7 782</b>	<b>32 614</b>	<b>26 654</b>
Belgium	-3 724	3 270	6 410	7 777
Czech Republic	-692	-1 188	-16 213	-15 717
Denmark	7 048	-7 252	-8 545	-2 872
Germany	789	-2 349	-3 272	-2 621
Estonia	-7 002	-974	-1 896	-1 794
Greece	711	2 294	2 093	2 820
Spain	-420	-3 073	1 263	-3 028
France	-45 438	-65 396	-66 414	-62 040
Ireland	0	-12	1 166	1 574
Italy	34 655	38 832	50 968	45 635
Cyprus	-	-	-	-
Latvia	3 584	1 823	2 633	2 097
Lithuania	-11 975	-3 525	-7 530	-7 195
Luxembourg	3 910	5 186	3 704	3 374
Hungary	11 147	2 149	6 939	7 468
Malta	-	-	-	-
Netherlands	9 208	12 632	16 992	16 217
Austria	-460	-768	5 613	3 081
Poland	-1 041	-2 185	-10 161	-9 293
Portugal	37	2 899	2 794	6 481
Slovenia	-988	-1 696	164	-780
Slovak Republic	5 196	4 082	-2 255	-1 862
Finland	10 643	7 653	4 852	4 870
Sweden	-1 768	-2 708	12 830	-2 104
United Kingdom	11 943	16 574	2 160	7 490
Iceland	-	-	-	-
Norway	-15 907	3 818	7 874	11 426
Bulgaria	3 790	-3 550	-3 931	-5 879
Croatia	7 062	3 948	3 893	3 665
Romania	9 476	221	-2 084	-1 182
Turkey	-731	2 221	570	-681

Data Source: Eurostat



	(TWh)										
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	25.4	16.0	-3.4	6.3	2.3	14.0	24.9	13.1	21.6	4.3	-0.4
EU-15	27.1	17.4	-1.6	7.8	13.1	23.7	42.4	34.3	45.9	32.6	26.7
Top 5 Exporters	-52.1	-75.7	-92.5	-79.5	-73.9	-76.3	-86.5	-89.2	-104.0	-108.9	-97.1
Top 5 Importers	61.9	62.3	58.0	64.5	64.0	73.5	82.9	87.9	90.7	86.2	82.0

Data Source: Eurostat

**Note:** Top 5 Exporters and Importers are drawn according to average activity levels of the last three years:

Top 5 Exporting countries are France, Czech Republic, Poland, Lithuania and Denmark.  
Top 5 Importing countries are Italy, Netherlands, Belgium, Finland and Hungary.

The net electricity imports of the European Union vary during the period under consideration and there are 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 with solid fuels, natural gas and oil. Thus, in the period 1990-2004, net electricity imports in the EU-25 ranged between -0.1 and 1.0% of inland electricity production.

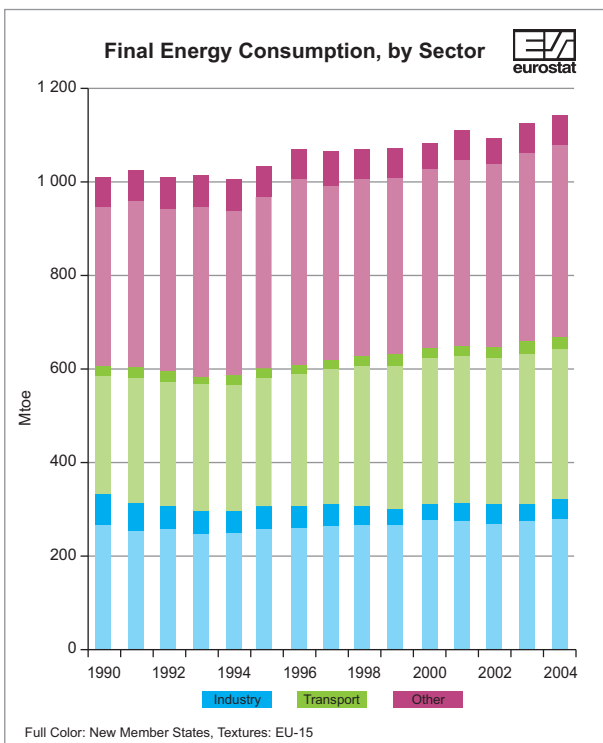
The largest net exporter of electricity in the EU-25 by far is France followed by the Czech Republic; on the other hand the largest net importer is Italy, followed by the Netherlands. The latter countries during 2004 imported 13% of their gross electricity consumption, while France exported about 11% of its production and the Czech Republic 19%.

## Final Energy Consumption, by Sector

(Mtoe)

	Total			Industry			Transport			Other	
	1990	2003	2004	1990	2003	2004	1990	2003	2004	1990	2004
<b>EU-25</b>	<b>1 014</b>	<b>1 129</b>	<b>1 142</b>	<b>333</b>	<b>315</b>	<b>319</b>	<b>272</b>	<b>344</b>	<b>350</b>	<b>409</b>	<b>473</b>
<b>EU-15</b>	<b>859</b>	<b>1 003</b>	<b>1 014</b>	<b>265</b>	<b>276</b>	<b>280</b>	<b>253</b>	<b>317</b>	<b>322</b>	<b>341</b>	<b>412</b>
BE	31.3	37.9	37.4	11.9	12.6	12.4	7.7	10.1	10.2	11.7	14.8
CZ	36.3	25.2	25.8	19.2	9.4	9.8	2.8	5.8	6.1	14.2	9.8
DK	13.5	15.0	15.2	2.7	2.9	2.9	4.0	4.9	5.1	6.8	7.1
DE	227.1	230.1	229.9	71.4	58.1	58.4	58.8	62.4	62.6	96.9	109.0
EE	6.0	2.7	2.7	2.7	0.6	0.6	0.8	0.6	0.5	2.4	1.7
EL	14.5	20.5	20.2	4.0	4.3	4.0	5.8	7.8	8.0	4.8	8.2
ES	56.6	90.3	94.3	20.0	29.5	30.7	22.3	36.7	38.4	14.3	25.3
FR	135.7	158.0	157.9	36.4	37.4	35.9	41.9	51.3	50.1	57.3	71.9
IE	7.3	11.3	11.5	1.8	2.1	2.1	2.0	4.4	4.6	3.5	4.8
IT	107.2	130.0	131.2	36.2	40.3	41.2	33.4	43.1	43.9	37.5	46.0
CY	0.2	1.8	1.9	0.1	0.4	0.5	:	1.0	0.9	0.1	0.4
LV	6.3	3.7	3.9	2.0	0.7	0.7	1.1	0.9	1.0	3.3	2.2
LT	9.7	4.1	4.3	3.3	0.9	0.9	2.0	1.2	1.3	4.4	2.0
LU	3.3	4.0	4.4	1.7	0.9	1.0	1.0	2.3	2.6	0.6	0.8
HU	19.1	17.5	17.4	6.5	3.4	3.4	3.0	3.7	3.9	9.6	10.1
MT	0.3	0.5	0.5	:	0.0	0.0	0.2	0.3	0.3	0.1	0.1
NL	42.9	51.5	52.5	12.6	14.3	14.8	10.4	14.7	15.0	19.9	22.6
AT	18.5	25.5	25.7	5.6	7.4	7.5	4.6	7.4	7.7	8.3	10.5
PL	59.6	55.8	56.9	25.3	17.3	17.7	7.3	10.2	11.3	27.0	27.9
PT	11.2	18.3	20.1	4.1	5.8	7.2	3.7	7.1	7.3	3.3	5.6
SI	3.4	4.7	4.8	1.5	1.5	1.5	0.9	1.3	1.4	1.0	1.9
SK	14.9	10.4	10.0	6.8	4.6	4.1	1.4	1.6	1.6	6.6	4.3
FI	21.6	26.0	26.5	9.6	12.5	13.2	4.3	4.6	4.7	7.8	8.6
SE	30.5	34.1	34.0	11.9	12.9	13.2	7.3	8.1	8.2	11.4	12.5
UK	137.4	150.6	153.0	35.4	35.1	35.1	45.5	52.2	53.5	56.5	64.5
IS	1.6	2.2	2.3	0.4	0.7	0.7	0.3	0.3	0.3	0.9	1.2
NO	16.1	18.0	18.6	6.1	6.4	6.7	4.1	4.7	4.9	5.9	7.1
BG	16.1	9.4	9.0	9.0	3.8	3.6	2.5	2.3	2.4	4.6	3.1
HR	3.4	5.9	6.1	1.7	1.4	1.6	:	1.8	1.8	1.7	2.8
RO	36.1	24.2	26.1	25.1	10.3	10.7	4.4	4.3	5.2	6.6	10.2
TR	38.5	56.7	58.1	12.0	21.2	21.1	9.4	12.6	12.8	17.2	24.2

Data Source: Eurostat



	(Mtoe)										
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>											
Industry	333	305	307	310	305	299	312	313	311	315	319
Transport	272	295	305	311	323	332	334	336	339	344	350
Other	409	427	458	440	442	440	441	464	451	470	473
<b>EU-15</b>											
Industry	265	259	258	261	261	262	273	276	273	276	280
Transport	253	275	283	288	300	307	310	312	314	317	322
Other	341	362	393	377	382	379	383	402	390	410	412

Data Source: Eurostat

EU-25 final energy consumption increased by 12.6% over the period 1990-2004, the increase of the EU-15 Member States being 18%. Most of the 25 MS's increase was due to the transport sector which grew by 29% from 1990 to 2004. The increase in agriculture, households and the tertiary sector was 15%, while final energy consumption by industry recorded a decrease of 4% over the period examined. It is notable that the consumption of the new Member States followed a decreasing trend from 1990 to 2000 with a particular decrease in the early 90s.

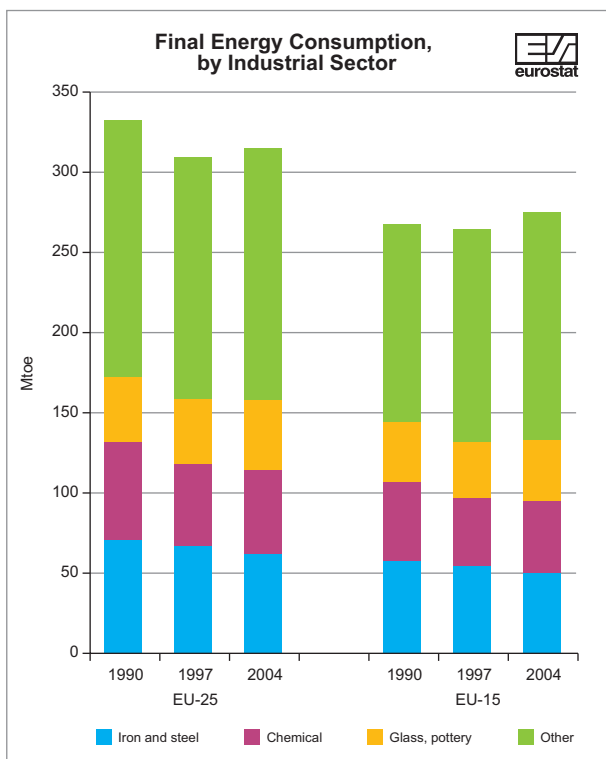
In the early 90s, industrial consumption was a few percentage points higher than the consumption of transport but as the years passed, things changed; in 2004 industrial consumption was 28%, the consumption of transport was 31% while the consumption of the other sectors was 41% of the EU-25 total final energy consumption.

## Final Energy Consumption, by Industrial Sector

(ktoe)

	Total industry		Iron and steel		Chemical		Glass, pottery	
	1990	2004	1990	2004	1990	2004	1990	2004
EU-25	332 758	319 211	71 950	59 290	59 146	56 572	43 490	41 579
EU-15	265 313	279 653	55 993	49 351	51 111	49 076	36 123	36 135
BE	11 886	12 444	4 730	3 840	2 648	3 184	1 199	1 308
CZ	19 215	9 846	4 901	2 851	1 060	2 038	497	1 148
DK	2 711	2 921	114	75	272	260	490	654
DE	71 433	58 351	17 088	13 980	17 177	10 463	8 290	6 806
EE	2 733	623	5	0	407	47	257	94
EL	3 953	4 045	224	221	291	243	1 270	1 199
ES	20 014	30 660	3 821	5 123	2 896	4 501	4 199	6 994
FR	36 430	35 891	7 436	6 277	6 675	6 600	4 768	3 941
IE	1 761	2 132	73	2	211	342	322	324
IT	36 221	41 232	7 380	7 329	7 815	6 300	7 367	8 732
CY	104	545	-	-	3	2	88	231
LV	1 973	742	180	130	161	17	366	94
LT	3 326	937	3	4	387	203	1 147	169
LU	1 729	993	1 306	379	85	54	134	73
HU	6 523	3 406	1 706	641	1 078	653	1 045	575
MT	:	47	-	-	-	-	-	-
NL	12 597	14 801	2 157	2 472	5 226	5 766	989	733
AT	5 605	7 507	975	1 245	507	880	680	738
PL	25 252	17 742	7 058	4 183	4 203	3 845	3 469	2 514
PT	4 139	7 208	268	154	463	2 124	1 350	1 786
SI	1 468	1 532	207	132	56	180	111	211
SK	6 849	4 138	1 898	1 998	680	513	387	408
FI	9 571	13 179	1 389	1 732	951	733	845	319
SE	11 857	13 228	1 541	1 882	773	1 038	616	474
UK	35 408	35 061	7 492	4 639	5 121	6 586	3 603	2 056
IS	372	742	104	182	19	2	12	16
NO	6 092	6 678	1 328	1 142	763	1 073	240	383
BG	8 966	3 581	1 388	872	2 757	930	1 110	593
HR	1 675	1 556	290	32	295	296	368	488
RO	25 100	10 726	6 267	3 394	8 951	3 238	341	789
TR	11 950	21 129	2 813	3 342	1 503	2 095	542	1 136

Data Source: Eurostat



	EU-25			EU-15		
	1990	1997	2004	1990	1997	2004
<b>Total</b>	333	310	319	265	261	280
Iron and steel	72	67	59	56	54	49
Chemical	59	51	57	51	44	49
Glass, pottery	43	40	42	36	33	36
Other	158	152	162	122	130	146

(Mtoe)

Data Source: Eurostat

As already mentioned, industrial consumption decreased by 4% in the period 1990-2004. The iron and steel industry consumption decreased by 18% at the EU-25 level while the decrease in the new Member States was 38%. The decrease in the chemical industry was 4% at the EU-25 level and 7% in the new Member States. It is remarkable that other industrial sectors such as those of food, construction and manufacturing consumed 2.3% more at the EU-25 level regardless of the high increase (19%) recorded at the EU-15 level since the decrease at the New Member States was 54% in the period 1990-2004.

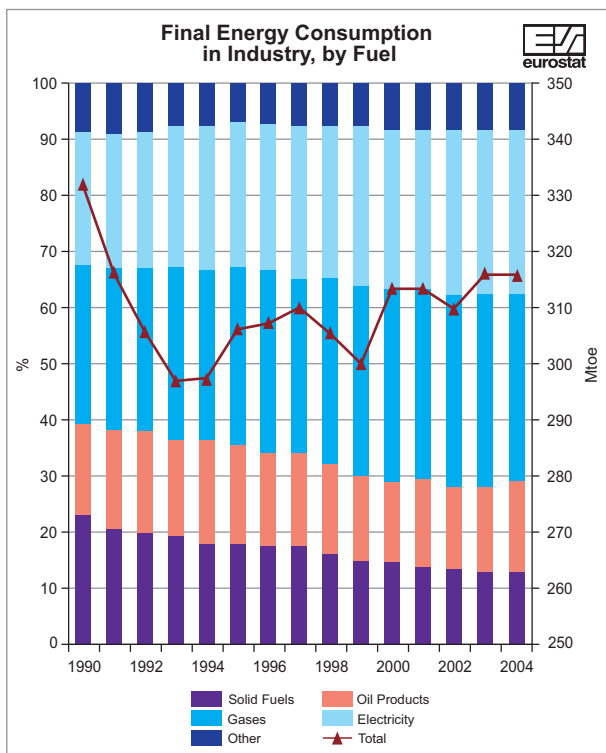
## Final Energy Consumption in Industry, by Fuel

(ktoe)

	All products		Solid Fuels		Oil products		Gases		Electricity	
	1990	2004	1990	2004	1990	2004	1990	2004	1990	2004
EU-25	332 758	319 211	74 915	41 703	56 802	51 596	92 708	104 618	79 251	93 661
EU-15	265 313	279 653	53 786	30 753	48 631	47 603	77 974	94 241	69 248	85 119
BE	11 886	12 444	3 237	2 139	1 966	1 089	3 731	5 046	2 625	3 471
CZ	19 215	9 846	10 400	3 164	2 445	660	2 978	2 943	2 315	1 922
DK	2 711	2 921	318	238	917	802	539	731	751	862
DE	71 433	58 351	20 759	9 702	8 278	4 728	21 325	21 732	17 869	20 107
EE	2 733	623	356	51	697	100	373	105	254	184
EL	3 953	4 045	1 034	553	1 679	1 709	8	373	1 041	1 203
ES	20 014	30 660	3 144	1 702	5 538	6 176	4 043	12 694	5 441	8 730
FR	36 430	35 891	7 360	4 405	7 331	6 634	10 535	11 958	9 860	11 520
IE	1 761	2 132	278	37	676	927	358	433	386	590
IT	36 221	41 232	4 108	4 104	8 488	7 509	13 873	17 017	9 530	12 399
CY	104	545	76	38	0	458	-	-	29	44
LV	1 973	742	32	9	434	99	439	284	274	140
LT	3 326	937	47	87	1 196	78	886	275	469	236
LU	1 729	993	750	94	273	86	481	427	225	360
HU	6 523	3 406	736	489	896	190	3 497	1 358	1 182	817
MT	:	47	-	-	-	-	-	-	:	47
NL	12 597	14 801	1 682	1 517	963	1 679	7 033	6 496	2 858	3 556
AT	5 605	7 507	484	376	999	1 391	1 992	2 866	1 523	1 897
PL	25 252	17 742	7 066	5 564	934	1 866	4 255	3 619	3 675	3 648
PT	4 139	7 208	616	87	1 801	3 143	51	946	1 051	1 469
SI	1 468	1 532	124	77	224	197	568	511	513	581
SK	6 849	4 138	2 292	1 470	1 344	346	1 738	1 281	1 290	922
FI	9 571	13 179	1 548	933	1 137	1 693	1 462	1 209	2 796	3 966
SE	11 857	13 228	1 190	1 213	1 708	2 003	480	535	4 639	4 918
UK	35 408	35 061	7 278	3 654	6 878	8 033	12 065	11 779	8 654	10 073
IS	372	742	64	105	88	128	-	-	220	509
NO	6 092	6 678	799	836	931	811	25	217	3 939	4 401
BG	8 966	3 581	685	739	1 068	764	2 047	834	1 595	835
HR	1 675	1 556	355	181	0	428	625	528	516	304
RO	25 100	10 726	2 333	1 434	2 033	1 041	17 406	5 268	3 292	2 172
TR	11 950	21 129	5 007	9 193	3 467	4 198	1 117	2 626	2 351	4 991

Data Source: Eurostat





	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	90-04
Total	333	305	307	310	305	299	312	313	311	315	319	-4%
Solid Fuels	75	55	54	54	50	44	44	42	41	41	42	-44%
Oil Products	57	53	51	50	49	46	46	49	47	48	52	-9%
Gases	93	96	100	99	100	101	108	105	105	107	105	13%
Electricity	79	79	80	83	84	85	90	91	91	92	94	18%
Other	29	22	22	24	22	23	24	26	27	27	26	-5%

Data Source: Eurostat

A clear trend observed in EU-25 industry is the significant reduction in the use of solid fuels, where a decrease of 44% during the period 1990-2004 is observed. Only in 2 countries use of solid fuels increased during the period while the decrease in the other EU-25 countries was up to 85%.

Consumption of oil decreased by 9% over the same period and it is evident that European industry is turning towards natural gas, a cleaner and more efficient fuel (13% increase over the same period).

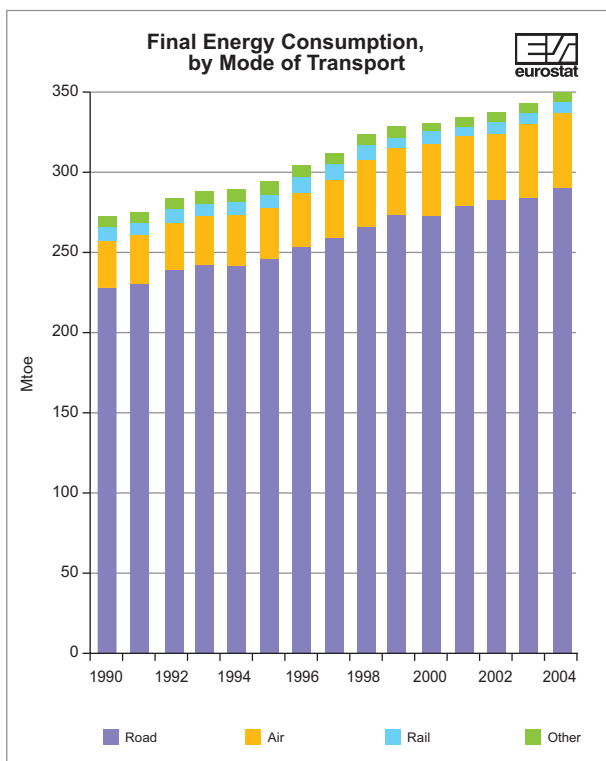
Likewise, there was an 18% increase in electricity consumption by EU-25 industry between 1990 and 2004 which amounted to 29% of the total final energy consumption by industry in 2004. The share of oil was 16% and that of natural gas 33% while the shares in 1990 were 17% and 28% respectively.

## Final Energy Consumption, by Mode of Transport

(ktoe)

	Total transport		Road		Air		Rail	
	1990	2004	1990	2004	1990	2004	1990	2004
<b>EU-25</b>	<b>272 281</b>	<b>350 239</b>	<b>227 957</b>	<b>289 688</b>	<b>28 700</b>	<b>46 966</b>	<b>9 125</b>	<b>8 591</b>
<b>EU-15</b>	<b>252 636</b>	<b>322 085</b>	<b>211 520</b>	<b>264 240</b>	<b>27 768</b>	<b>45 558</b>	<b>6 970</b>	<b>7 314</b>
BE	7 704	10 201	6 442	8 488	955	1 427	177	170
CZ	2 804	6 137	2 311	5 520	221	334	272	277
DK	4 012	5 137	3 066	4 027	683	888	113	101
DE	58 817	62 610	50 418	53 187	5 627	7 312	2 116	1 877
EE	839	467	730	382	36	30	65	48
EL	5 808	7 960	3 903	6 022	1 264	1 208	75	61
ES	22 326	38 398	17 676	30 817	2 467	5 006	528	1 040
FR	41 908	50 136	36 171	42 273	3 870	6 256	1 150	1 299
IE	1 985	4 607	1 546	3 811	365	727	48	51
IT	33 404	43 948	30 393	39 094	1 884	3 707	738	900
CY	:	859	:	553	:	303	2	3
LV	1 059	959	798	818	73	48	188	93
LT	1 990	1 319	1 719	1 197	135	40	132	77
LU	1 007	2 640	863	2 205	131	425	13	10
HU	3 024	3 867	2 580	3 484	164	221	270	162
MT	221	267	149	166	72	101	-	-
NL	10 356	15 038	8 040	11 004	1 614	3 563	147	188
AT	4 603	7 699	3 929	6 779	310	598	357	313
PL	7 338	11 316	5 940	10 503	205	285	1 095	528
PT	3 728	7 277	3 026	6 343	576	842	82	67
SI	928	1 379	872	1 330	27	21	29	28
SK	1 440	1 585	1 340	1 497	0	27	100	61
FI	4 265	4 741	3 631	3 936	463	554	99	98
SE	7 263	8 223	6 103	6 950	764	847	252	278
UK	45 451	53 471	36 312	39 304	6 794	12 198	1 076	863
IS	284	345	181	213	84	125	-	-
NO	4 126	4 861	2 591	3 285	505	603	104	163
BG	2 518	2 366	2 000	2 128	284	173	216	65
HR	:	1 821	:	1 658	:	81	:	53
RO	4 407	5 178	3 579	4 664	233	140	282	333
TR	9 351	12 810	8 377	10 338	480	1 861	243	230

Data Source: Eurostat



	(Mtoe)											
EU-25	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	90-04
Total	272	295	305	311	323	332	334	336	339	344	350	29%
Road	228	246	253	258	267	274	274	278	282	285	290	27%
Air	29	34	35	37	41	43	45	44	43	45	47	64%
Rail	9	9	9	9	9	9	9	9	9	9	9	-6%
Other	6	6	8	7	6	6	6	5	5	5	4	-23%

Data Source: Eurostat

As previously mentioned, EU-25 energy consumption in transport increased by 29%, mainly due to the 27% increase in energy consumption by road transport which in 1990, had a large share (84%) to total consumption of transport. The consumption of air transport increased by 64% to a share of 14% in 2004.

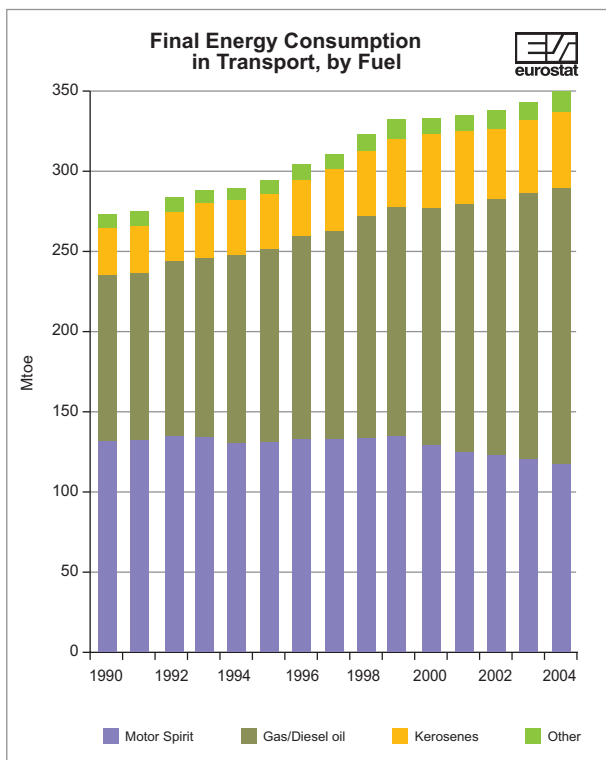
Between 1990 and 2004, energy consumption of transport increased by 43% in the new Member States mainly attributed to the 55% increase of the predominant mode which is road transport with a share of 84% in 1990 and 90% in 2004. Energy consumption by air transport increased by 51% while that of rail transport decreased by 41%.

## Final Energy Consumption in Transport, by Fuel

(ktoe)

	Total		Motor Spirit		Kerosenes		Gas/Diesel oil	
	1990	2004	1990	2004	1990	2004	1990	2004
<b>EU-25</b>	<b>272 281</b>	<b>350 239</b>	<b>131 535</b>	<b>117 338</b>	<b>28 566</b>	<b>46 830</b>	<b>103 115</b>	<b>172 604</b>
<b>EU-15</b>	<b>252 636</b>	<b>322 085</b>	<b>122 059</b>	<b>106 790</b>	<b>27 690</b>	<b>45 434</b>	<b>95 009</b>	<b>159 006</b>
BE	7 704	10 201	2 869	2 032	952	1 425	3 714	6 525
CZ	2 804	6 137	1 267	2 202	174	331	1 091	3 292
DK	4 012	5 137	1 627	1 993	690	886	1 582	2 176
DE	58 817	62 610	32 634	26 045	5 629	7 296	19 359	26 818
EE	839	467	516	97	36	30	268	332
EL	5 808	7 960	2 494	3 920	1 264	1 208	1 779	2 431
ES	22 326	38 398	8 571	8 117	2 456	4 996	10 573	24 293
FR	41 908	50 136	19 153	12 038	3 839	6 234	18 093	30 264
IE	1 985	4 607	930	1 711	365	724	663	2 138
IT	33 404	43 948	13 750	15 216	1 872	3 692	15 559	22 415
CY	:	859	:	296	:	303	:	257
LV	1 059	959	578	359	73	48	369	514
LT	1 990	1 319	1 000	359	135	39	815	706
LU	1 007	2 640	433	577	131	425	433	1 625
HU	3 024	3 867	1 817	1 522	164	218	940	1 993
MT	221	267	68	61	72	101	81	105
NL	10 356	15 038	3 630	4 373	1 608	3 560	4 011	6 547
AT	4 603	7 699	2 492	2 186	310	598	1 493	4 620
PL	7 338	11 316	3 195	4 318	196	281	3 355	4 897
PT	3 728	7 277	1 441	2 027	574	840	1 686	4 339
SI	928	1 379	594	697	27	20	288	647
SK	1 440	1 585	440	637	0	27	899	855
FI	4 265	4 741	2 076	1 916	459	548	1 653	2 167
SE	7 263	8 223	4 382	4 110	760	843	1 849	2 931
UK	45 451	53 471	25 577	20 528	6 779	12 158	12 562	19 717
IS	284	345	143	158	82	124	53	63
NO	4 126	4 861	1 864	1 699	502	603	1 578	2 306
BG	2 518	2 366	1 469	589	276	172	661	1 236
HR	:	1 821	:	743	:	80	:	957
RO	4 407	5 178	2 189	2 376	275	141	1 348	2 414
TR	9 351	12 810	3 359	2 494	480	1 861	5 355	6 913

Data Source: Eurostat



	(Mtoe)											
EU-25	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	90-04
Total	272	295	305	311	323	332	334	336	339	344	350	29%
Motor Spirit	131	132	134	134	135	136	130	127	125	122	117	-11%
Gas/Diesel oil	103	119	125	129	137	142	148	154	158	165	173	67%
Kerosenes	29	34	35	37	40	43	45	44	43	45	47	64%
Other	9	10	11	11	11	11	11	11	13	12	13	49%

Data Source: Eurostat

From 1990 to 2004, energy consumption in the transport sector increased by 27% at the EU-15 level and by 43% in the 10 new Member States. The average increase for the EU-25 was 29%.

Gasoline, with a share of 48% in 1990 to total consumption in transport, decreased by 11% to a 34% share in 2004. On the other hand, diesel consumption increased by 67% from the share of 38% in 1990 to 49% in 2004 mainly due to the gradual shift towards diesel-engine cars.

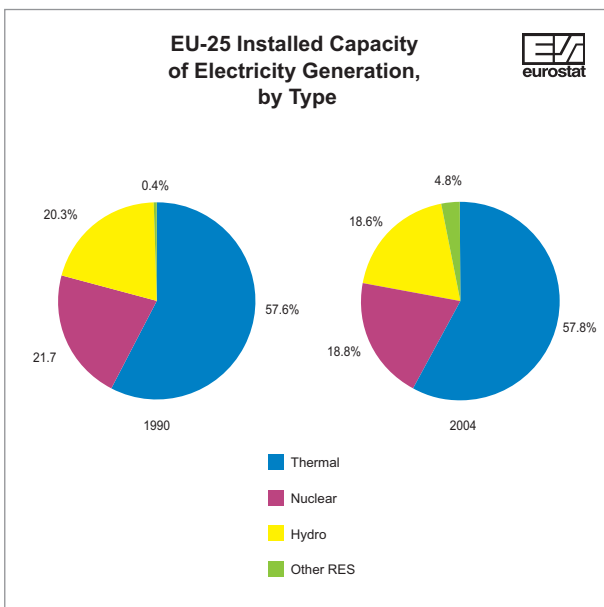
Air transport fuels in 2004 had a 13.4% share to total consumption showing an increase of 64% since 1990 (10.5% share).

## Installed Capacity of Electricity Generation, by Type

(MW)

	Total		Thermal		Nuclear		Hydro		Others	
	1990	2004	1990	2004	1990	2004	1990	2004	1990	2004
EU-25	571 455	706 352	329 318	407 709	123 582	132 985	116 069	131 440	2 486	34 218
EU-15	499 666	625 757	274 502	348 843	114 670	121 696	109 512	121 068	982	34 150
BE	14 146	15 634	7 240	8 365	5 500	5 761	1 401	1 415	5	93
CZ	15 279	17 418	12 109	11 498	1 760	3 760	1 410	2 160	-	-
DK	9 133	13 363	8 780	10 228	-	-	10	11	343	3 124
DE	97 598	123 845	68 440	78 413	22 260	20 552	6 850	8 251	48	16 629
EE	3 000	2 375	3 000	2 375	-	-	-	-	-	-
EL	8 514	12 435	6 100	8 866	-	-	2 410	3 099	4	470
ES	43 417	69 392	20 210	35 477	6 970	7 577	16 230	18 118	7	8 220
FR	103 170	116 342	22 673	27 387	55 750	63 363	24 747	25 235	0	357
IE	3 813	5 839	3 300	4 929	-	-	513	532	0	378
IT	56 559	81 306	37 290	58 792	-	-	18 770	20 745	499	1 769
CY	471	988	471	988	-	-	-	-	-	-
LV	:	2 132	:	590	-	-	:	1 517	:	25
LT	5 735	5 710	2 628	2 473	3 000	2 367	107	870	-	-
LU	1 242	1 632	110	459	-	-	1 132	1 138	0	35
HU	7 184	8 628	5 376	6 711	1 760	1 866	48	51	0	0
MT	:	387	:	387	-	-	-	-	-	-
NL	17 564	21 712	16 960	20 153	510	449	37	37	57	1 073
AT	16 686	20 972	5 739	6 326	-	-	10 947	14 086	0	560
PL	27 968	31 724	25 991	29 402	-	-	1 977	2 282	0	40
PT	7 396	12 711	4 050	7 292	-	-	3 344	4 852	2	567
SI	2 531	2 965	1 144	1 335	632	656	755	974	-	-
SK	:	8 268	:	3 107	:	2 640	:	2 518	-	3
FI	13 221	16 563	8 240	10 811	2 360	2 671	2 621	2 999	0	82
SE	34 187	33 649	7 880	7 424	9 970	9 471	16 330	16 302	7	452
UK	73 020	80 362	57 490	63 921	11 350	11 852	4 170	4 248	10	341
IS	944	1 503	142	142	-	-	756	1 159	46	202
NO	26 884	28 411	-	238	-	-	26 884	28 076	:	:
BG	:	11 978	:	6 689	:	2 722	:	2 567	-	-
HR	3 547	3 937	1 486	1 854	-	-	2 061	2 083	-	-
RO	22 477	19 624	16 820	12 638	-	707	5 657	6 279	-	-
TR	16 318	36 824	9 536	24 145	-	-	6 764	12 645	18	34

Data Source: Eurostat



(GW)

	EU-25		EU-15	
	1990	2004	1990	2004
Total	571	706	500	626
Thermal	329	408	275	349
Nuclear	124	133	115	122
Hydro	116	131	110	121
Other RES	2	34	1	34

*Data Source: Eurostat*

The reader must bear in mind that EU-25 totals for 1990 include estimations for Latvia, Malta and Slovakia.

The total EU-25 installed capacity of electricity generation plants rose by 24% between 1990 and 2004. Thermal power plants provided the majority of capacity and increased by 78 GW or 24% from 1990 to 2004, noteworthy being the decrease in gas turbine plants that of combined cycle power plants by more than 50 GW. Nuclear capacity rose by 8% during the same period and in 2004 represented 19% of the total capacity like hydro power plants did which grew by 13% from 1990 to 2004. The increase of the other electric power technologies was remarkable; from 2 GW in 1990 to 34 GW in 2004 mainly, attributed to wind energy development.

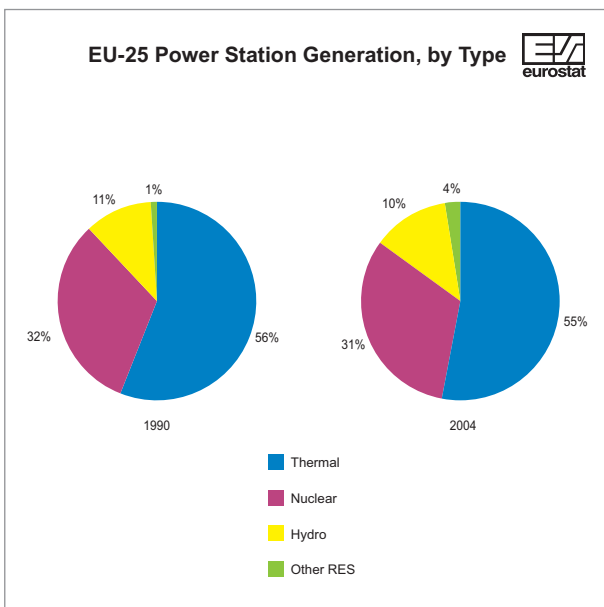
## Power Station Generation, by Type

(GWh)

	Total		Thermal		Nuclear		Hydro		Other RES	
	1990	2004	1990	2004	1990	2004	1990	2004	1990	2004
EU-25	2 459 637	3 152 139	1 386 485	1 729 506	780 196	986 074	271 740	303 873	21 216	132 686
EU-15	2 143 133	2 796 254	1 142 941	1 468 225	720 189	910 247	259 044	287 821	20 959	129 961
BE	70 215	84 152	26 727	34 858	42 722	47 312	267	317	499	1 665
CZ	62 271	83 780	48 525	54 698	12 585	26 325	1 161	2 019	0	738
DK	25 738	40 476	24 960	30 322	-	-	27	27	751	10 127
DE	546 328	600 396	374 419	374 954	152 468	167 065	16 105	21 077	3 336	37 300
EE	17 181	10 296	17 181	10 244	-	-	0	22	0	30
EL	34 774	58 812	33 004	52 895	-	-	1 768	4 672	2	1 245
ES	150 971	277 224	70 688	163 332	54 268	63 606	25 400	31 554	615	18 732
FR	416 742	567 059	47 118	52 825	314 081	448 241	53 900	60 230	1 643	5 763
IE	14 229	25 215	13 532	23 838	-	-	697	630	0	747
IT	216 662	301 553	181 646	246 208	-	-	31 624	42 698	3 392	12 647
CY	1 974	4 176	1 974	4 176	-	-	-	-	-	-
LV	6 648	4 689	2 152	1 493	-	-	4 496	3 109	0	87
LT	28 405	18 751	10 958	3 222	17 033	15 102	414	421	0	6
LU	627	3 392	514	3 153	-	-	68	106	45	133
HU	28 436	33 702	14 527	20 831	13 731	11 915	178	205	:	751
MT	1 100	2 216	1 100	2 216	-	-	-	-	-	-
NL	71 837	100 769	67 179	90 276	3 502	3 822	85	95	1 071	6 576
AT	49 296	61 593	16 721	22 094	-	-	31 509	36 423	1 066	3 076
PL	134 615	152 550	132 741	149 476	-	-	1 617	2 082	257	992
PT	28 359	44 914	18 508	32 338	-	-	9 157	9 869	694	2 707
SI	12 442	15 271	4 870	5 597	4 622	5 459	2 950	4 094	0	121
SK	23 432	30 454	9 516	9 328	12 036	17 026	1 880	4 100	-	-
FI	54 377	85 819	19 273	37 402	19 216	22 716	10 859	15 070	5 029	10 631
SE	145 984	151 672	3 167	5 270	68 185	77 486	72 503	60 123	2 129	8 793
UK	316 994	393 208	245 485	298 460	65 747	79 999	5 075	4 930	687	9 819
IS	4 810	10 106	306	1 487	-	-	4 204	7 134	300	1 485
NO	121 523	110 086	141	628	-	-	121 382	108 775	0	683
BG	42 141	41 425	25 598	21 442	14 665	16 815	1 878	3 168	-	-
HR	8 693	13 227	4 937	6 265	-	-	3 748	6 958	8	4
RO	63 409	56 482	46 429	34 418	-	5 548	16 980	16 513	0	3
TR	57 623	150 791	34 395	104 480	-	-	23 148	46 084	80	227

Data Source: Eurostat





	EU-25		EU-15	
	1990	2004	1990	2004
Total	2 460	3 152	2 143	2 796
Thermal	1 386	1 730	1 143	1 468
Nuclear	780	986	720	910
Hydro	272	304	259	288
Other RES	21	133	21	130

(TWh)

Data Source: Eurostat

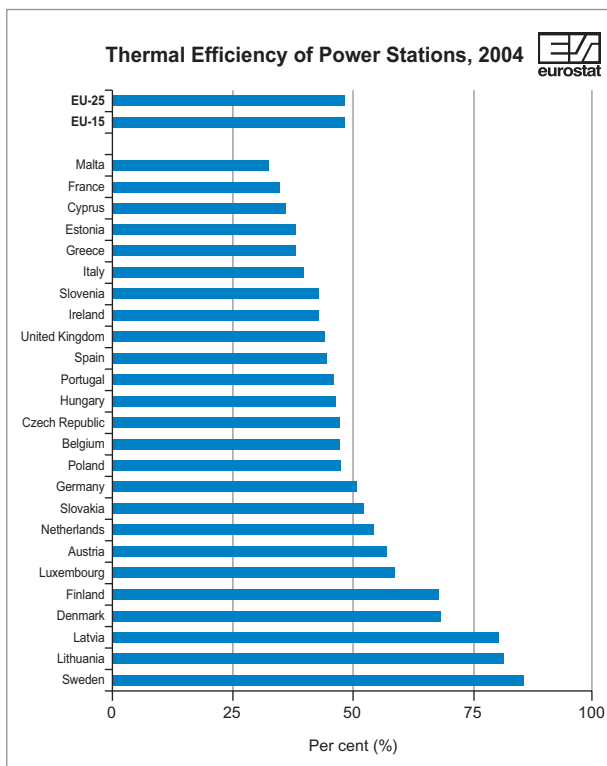
From 1990 to 2004, total electricity generation increased by 28% on the EU-25 level. The increase of electricity generation is more than that of the capacity in the case of thermal and nuclear technology and consequently of all technologies as a whole since thermal and nuclear electricity had, in 2004, an 86% share of total electricity generation. In 2004, hydroelectricity had in a share of 9.6% and the other renewable energy sources had a share of 4.2% of total electricity generation

In 2004, the largest electricity producer was Germany with 600TWh, 28% of which were produced by nuclear power plant. The second largest electricity producer was France with 567TWh, of which 448TWh (79%) were generated by nuclear power plants. In the same year these two countries generated 37% of EU-25 total electricity and 62% total nuclear electricity.

## Thermal Efficiency of Power Stations

	<i>Per cent (%)</i>		
	1990	1997	2004
<b>EU-25</b>	<b>41.5</b>	<b>45.5</b>	<b>47.8</b>
<b>EU-15</b>	<b>38.7</b>	<b>45.1</b>	<b>47.8</b>
Belgium	39.0	42.5	47.6
Czech Republic	63.6	48.7	47.6
Denmark	57.4	59.6	68.4
Germany	35.0	46.2	51.3
Estonia	43.2	41.6	37.8
Greece	32.9	33.6	38.3
Spain	36.8	39.7	44.7
France	37.7	39.4	34.8
Ireland	39.3	38.1	43.5
Italy	38.8	40.1	40.2
Cyprus	33.4	32.5	35.9
Latvia	81.2	77.1	81.0
Lithuania	69.4	81.0	81.1
Luxembourg	25.3	40.2	58.6
Hungary	44.1	44.0	46.8
Malta	29.6	29.2	32.6
Netherlands	42.6	52.6	54.7
Austria	49.9	52.6	57.3
Poland	49.7	46.3	48.0
Portugal	39.0	40.7	46.0
Slovenia	36.9	40.7	43.4
Slovakia	50.8	50.5	52.5
Finland	67.9	68.8	67.5
Sweden	89.4	91.2	85.9
United Kingdom	38.4	41.7	44.2
Iceland	30.3	29.5	35.3
Norway	54.9	85.5	100.0
Bulgaria	47.1	39.6	42.3
Croatia	60.8	50.8	50.7
Romania	41.7	57.8	49.9
Turkey	33.3	35.3	41.1

Data Source: Eurostat



	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	41.5	44.1	44.8	45.5	45.6	45.7	47.9	48.4	47.8	47.7	47.8
EU-15	38.7	43.6	44.4	45.1	45.2	45.3	48.2	48.5	47.8	47.5	47.8

Data Source: Eurostat

The efficiency of thermal power stations is calculated as the ratio between the output of electricity and heat from electricity and CHP power plants and the input of fuels to these plants.

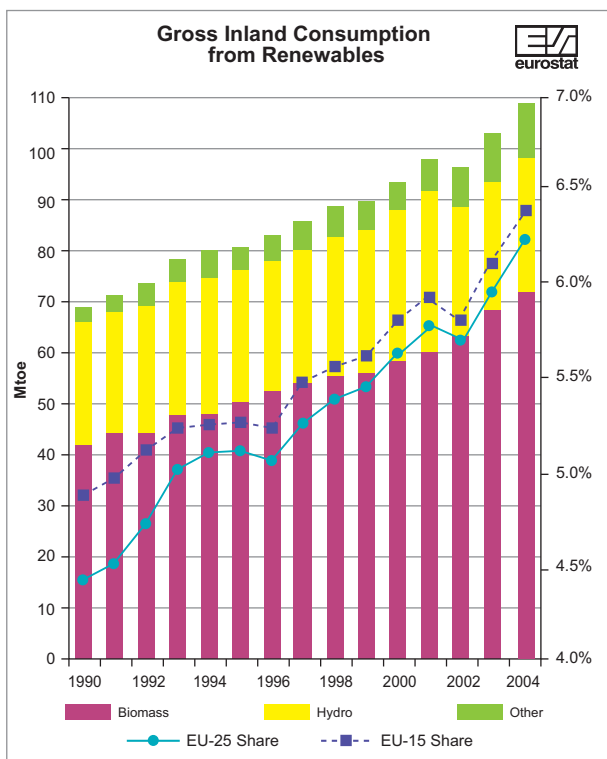
In 1990, the EU-25 average efficiency of thermal power stations was 41.5% while in 2004 it was 47.8%, with a percentage increase of 15%. The retirement and/or the refurbishing of old thermal power plants with new, more efficient equipment, as well as the operation of more combined cycle and/or CHP plants were the main reasons for the increase in the efficiency of thermal power stations.

Further development of power technologies, enhancement of fuels and the operation of more CHP plants across the EU-25 are the basic factors that will further increase thermal efficiency in the future.

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

	Total		Hydro		Biomass		(ktoe) Other		Per cent (%) Share	
	1990	2004	1990	2004	1990	2004	1990	2004	1990	2004
	EU-25	69 028	109 194	23 365	26 128	42 254	71 929	3 408	11 136	4.4
EU-15	64 395	98 240	22 274	24 748	38 799	62 567	3 322	10 925	4.9	6.4
BE	649	1 161	23	27	623	1 119	3	15	1.4	2.1
CZ	100	1 363	100	174	:	1 188	:	1	0.2	3.1
DK	1 198	2 926	2	2	1 140	2 346	55	577	6.7	14.6
DE	5 716	13 755	1 385	1 812	4 307	9 367	24	2 576	1.6	4.0
EE	460	607	0	2	460	604	-	1	4.7	10.8
EL	1 105	1 560	152	402	893	953	59	205	5.0	5.1
ES	6 256	8 977	2 184	2 713	4 047	4 853	24	1 411	7.0	6.4
FR	15 778	17 304	4 635	5 179	11 014	11 927	129	198	7.0	6.3
IE	168	325	60	54	108	214	0	56	1.6	2.1
IT	6 483	12 528	2 719	3 671	787	3 791	2 976	5 066	4.2	6.8
CY	6	97	-	-	6	5	:	92	0.4	3.9
LV	1 045	1 649	387	267	659	1 377	0	4	13.3	35.9
LT	320	734	36	36	285	698	-	-	2.0	8.0
LU	47	73	6	9	41	59	0	4	1.3	1.6
HU	523	965	15	18	422	860	86	88	1.8	3.7
MT	-	-	-	-	-	-	-	-	-	-
NL	956	2 364	7	8	942	2 175	7	181	1.4	2.9
AT	5 046	6 766	2 709	3 132	2 319	3 450	19	184	20.2	20.7
PL	1 597	4 325	139	179	1 458	4 126	-	20	1.6	4.7
PT	2 692	3 894	787	849	1 891	2 877	14	169	15.9	14.9
SI	254	822	254	352	:	470	-	-	4.6	11.6
SK	328	392	162	353	166	35	-	5	1.6	2.2
FI	5 507	8 805	934	1 296	4 574	7 498	0	11	19.2	23.4
SE	11 740	14 131	6 234	5 170	5 502	8 883	4	78	24.9	26.6
UK	1 054	3 671	436	424	611	3 055	7	192	0.5	1.6
IS	1 400	2 519	361	613	0	2	1 039	1 904	64.9	72.3
NO	11 469	10 697	10 437	9 353	1 032	1 322	0	22	53.2	38.7
BG	161	980	161	272	:	708	-	-	0.6	5.2
HR	864	977	322	598	542	379	-	-	10.8	11.0
RO	2 606	4 634	1 460	1 420	1 146	3 134	-	80	4.2	11.7
TR	9 658	10 783	1 990	3 963	7 207	5 550	461	1 271	18.5	13.2

Data Source: Eurostat



	(Mtoe)										
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>											
Total	69	80	83	86	89	90	93	98	96	103	109
Biomass	42	50	52	54	55	56	59	61	63	68	72
Hydro	23	26	26	27	28	28	29	31	26	25	26
Others	3	4	4	5	6	6	6	6	8	10	11
Share	4.4%	5.1%	5.1%	5.3%	5.4%	5.5%	5.6%	5.8%	5.7%	6.0%	6.3%
<b>EU-15</b>											
Share	4.9%	5.3%	5.2%	5.5%	5.6%	5.6%	5.8%	5.9%	5.8%	6.1%	6.4%

Data Source: Eurostat

The EU-25 gross inland consumption from renewables rose by 58% over the period 1990–2004 to 109Mtoe while, on the other hand, gross inland consumption of all fuels increased by 12%. Therefore, the contribution of renewables to total gross inland consumption increased by 41% from 4.4% in 1990 to 6.3% in 2004.

In 2004, the contribution of biomass was 4.1%, while the contribution of hydro and "Other RES" was 1.5% and 0.6% respectively.

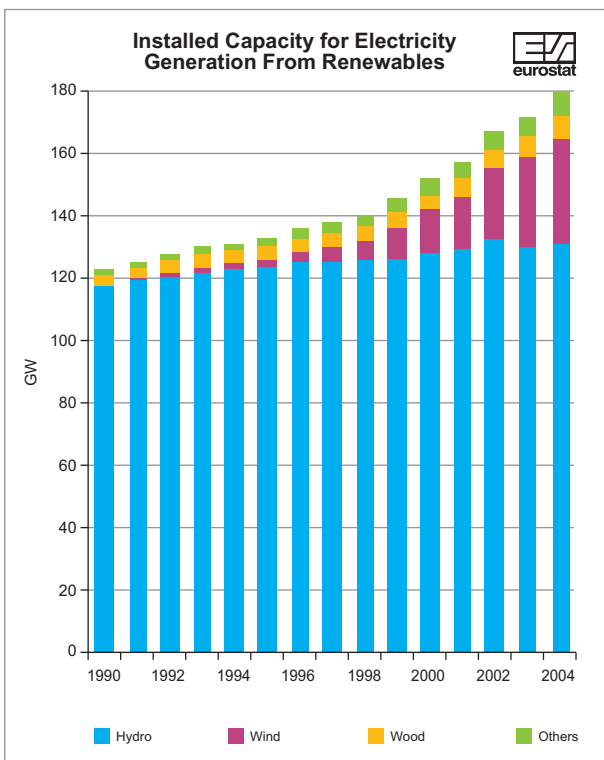
"Other" renewables which include solar, geothermal and wind increased by almost 230% over the period 1990-2004. Relative shares among these sources indicate their development from 1990 to 2004; in 1990 geothermal energy had a share of 94% which changed to 48% in 2004 when wind energy had a share of 45%.

## Installed Capacity for Electricity Generation From Renewables

(MW)

	Total		Hydro		Wind		Wood		Others	
	1990	2004	1990	2004	1990	2004	1990	2004	1990	2004
EU-25	122 820	179 723	117 573	131 440	483	33 562	2 962	7 765	1 802	6 956
EU-15	114 735	169 029	109 512	121 068	483	33 494	2 962	7 563	1 778	6 904
BE	1 485	1 821	1 401	1 415	5	93	79	130	0	183
CZ	1 410	2 160	1 410	2 160	-	-	-	-	-	-
DK	413	3 984	10	11	343	3 124	40	474	20	375
DE	7 814	27 637	6 850	8 251	48	16 629	135	810	781	1 947
EE	:	:	:	:	:	:	:	:	:	:
EL	2 414	3 594	2 410	3 099	2	0	0	0	2	495
ES	16 379	27 048	16 230	18 118	7	8 220	115	344	27	366
FR	24 747	26 214	24 747	25 235	0	357	:	340	0	282
IE	513	929	513	532	0	378	-	0	0	19
IT	19 364	23 803	18 770	20 745	3	1 127	4	503	587	1 428
CY	-	-	-	-	-	-	-	-	-	-
LV	:	1 542	:	1 517	-	25	-	-	-	-
LT	107	870	107	870	-	-	-	-	-	-
LU	1 138	1 211	1 132	1 138	-	35	-	-	6	38
HU	72	265	48	51	-	-	-	189	24	25
MT	-	-	-	-	-	-	-	-	-	-
NL	297	2 013	37	37	57	1 073	6	439	197	464
AT	11 353	15 785	10 947	14 086	-	560	400	766	6	373
PL	1 977	2 344	1 977	2 282	-	40	-	-	-	22
PT	3 346	5 722	3 344	4 852	1	553	:	224	1	93
SI	755	992	755	974	-	13	-	-	-	5
SK	:	2 521	:	2 518	:	3	:	0	:	:
FI	3 604	4 784	2 621	2 999	0	82	983	1 700	-	3
SE	17 567	18 711	16 330	16 302	7	452	1 200	1 670	30	287
UK	4 301	5 773	4 170	4 248	10	341	0	163	121	1 021
IS	802	1 361	756	1 159	-	-	-	-	46	202
NO	26 951	28 306	26 884	28 076	0	97	67	107	-	26
					-					
BG	:	2 567	:	2 567	-	-	-	-	-	-
HR	2 061	2 083	2 061	2 083	-	-	0	0	-	-
RO	5 657	6 279	5 657	6 279	-	-	:	:	-	-
TR	6 782	12 760	6 764	12 645	-	19	:	72	18	24

Data Source: Eurostat



		(GW)									
EU-25	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total	123	133	136	138	141	146	152	157	167	172	180
Hydro	118	124	125	125	126	127	128	130	133	130	131
Wind	0	2	3	5	6	9	13	17	23	28	34
Wood	3	5	5	5	5	6	6	6	6	7	8
Others	2	3	3	3	3	4	4	5	5	6	7

Data Source: Eurostat

Between 1990 and 2004, the EU-25 installed capacity for electricity generation from renewables increased by 46%. Hydro power plants corresponded to 73% of the total capacity in 2004 while wind capacity, which corresponded to 19%, recorded the highest increase among all the renewable energy sources.

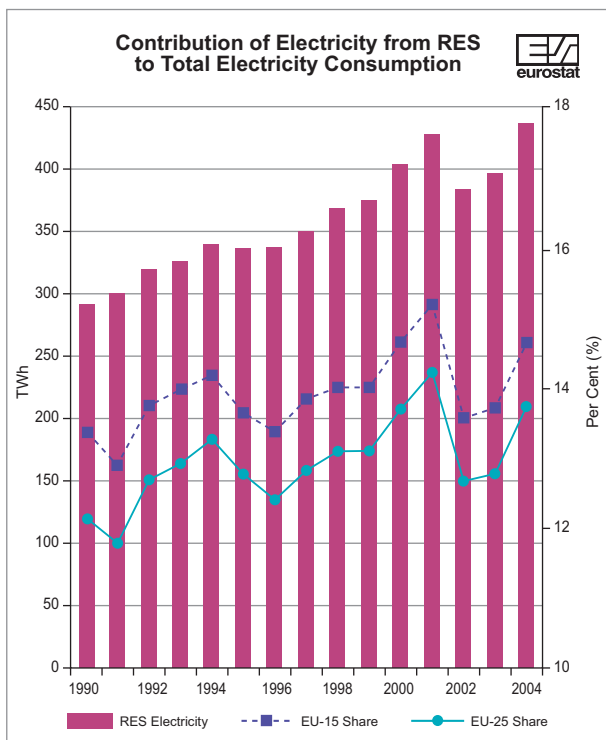
In 2004, Germany and Spain had 74% of the total EU-25 wind capacity of 33.6GW while Finland and Sweden had 43% of the wood burning power plants. Germany had 82% of the photovoltaic capacity, the UK had 38% of all the EU-25 biogas power plants and Italy with a 98% share, was dominant in geothermal capacity and the same technology was also available in Portugal.

## Contribution of Electricity from RES to Total Electricity Consumption

	RES electricity (GWh)			Share (%)		
	1990	1997	2004	1990	1997	2004
<b>EU-25</b>	<b>292 956</b>	<b>352 285</b>	<b>436 559</b>	<b>12.2</b>	<b>12.8</b>	<b>13.7</b>
<b>EU-15</b>	<b>280 003</b>	<b>336 826</b>	<b>417 782</b>	<b>13.4</b>	<b>13.8</b>	<b>14.7</b>
BE	766	862	1 982	1.1	1.0	2.1
CZ	1 161	2 193	2 757	1.9	3.5	4.0
DK	778	3 279	10 154	2.4	8.8	27.0
DE	19 441	23 796	58 377	4.3	4.3	9.7
EE	0	11	52	0.0	0.1	0.6
EL	1 770	3 919	5 917	5.0	8.6	9.5
ES	26 015	36 869	50 286	17.2	19.7	18.2
FR	55 543	66 861	65 993	14.8	15.2	12.9
IE	697	755	1 377	4.8	3.8	5.1
IT	35 016	46 461	55 345	13.9	16.0	15.9
CY	-	-	-	0.0	0.0	0.0
LV	4 496	2 954	3 196	43.9	46.7	47.1
LT	414	295	427	2.5	2.6	3.5
LU	113	129	239	2.1	2.0	3.2
HU	178	216	956	0.4	0.6	2.3
MT	-	-	-	0.0	0.0	0.0
NL	1 156	3 478	6 671	1.4	3.5	5.7
AT	32 575	37 692	39 499	65.4	67.2	58.8
PL	1 874	2 561	3 074	1.4	1.8	2.1
PT	9 851	14 229	12 576	34.5	38.3	24.4
SI	2 950	3 092	4 215	25.8	26.9	29.1
SK	1 880	4 137	4 100	6.4	14.5	14.3
FI	15 888	19 403	25 701	24.4	25.3	28.3
SE	74 632	72 051	68 916	51.4	49.1	46.1
UK	5 762	7 042	14 749	1.7	1.9	3.7
IS	4 504	5 582	8 619	99.9	99.9	100.0
NO	121 382	110 051	109 458	114.6	95.3	89.8
BG	1 878	2 765	3 168	4.1	7.0	8.9
HR	3 756	5 289	6 962	23.8	38.8	41.0
RO	16 980	17 520	16 516	23.0	30.5	29.9
TR	23 228	40 193	46 311	40.9	38.1	30.9

Data Source: Eurostat





	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>											
RES Electricity	293	338	338	352	369	375	404	429	386	397	437
% Share	12.2	12.8	12.4	12.8	13.1	13.1	13.7	14.2	12.7	12.7	13.7
<b>EU-15</b>											
% Share	13.4	13.7	13.4	13.8	14.0	14.0	14.7	15.2	13.5	13.7	14.7

Data Source: Eurostat

In 2004, EU-25 electricity generation from renewable energy sources was 437TWh the contribution of renewables to total electricity consumption was 13.7%.

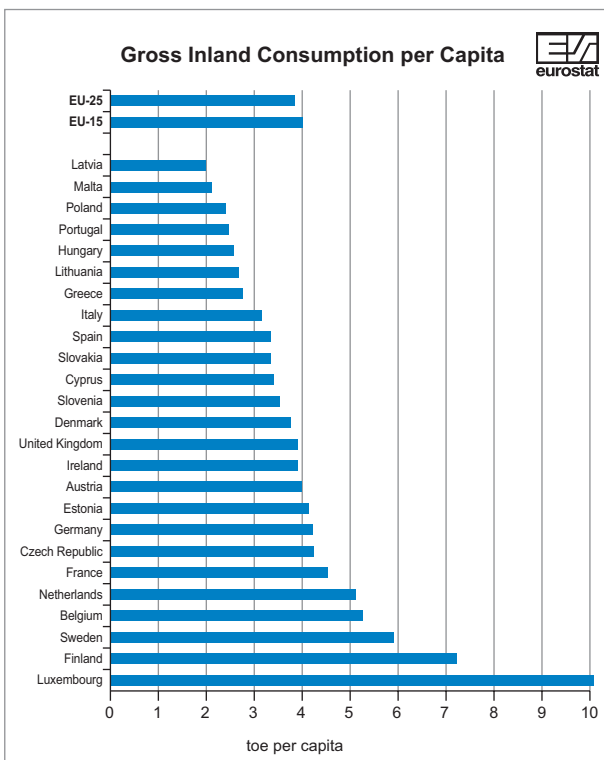
Over the period 1990-2004, electricity generation from renewables increased by 49%. In 2004, hydroelectricity provided 305TWh or 70% of the total RES generation, and the electricity production from biomass and wind was 15.6% and 13.4% respectively.

It should be noted that, due to the large share of hydroelectric power together with the annual variation in precipitation and also the role of hydro plants in covering peak demands, electricity production from renewables and consequently their share in total electricity consumption fluctuate from year to year.

## Gross Inland Consumption per Capita

	<i>(toe per capita)</i>			<i>Index (1990=100)</i>		
	1990	1997	2004	1991	1997	2004
<b>EU-25</b>	<b>3.55</b>	<b>3.62</b>	<b>3.82</b>	<b>100.9</b>	<b>101.9</b>	<b>107.5</b>
<b>EU-15</b>	<b>3.63</b>	<b>3.77</b>	<b>4.01</b>	<b>101.7</b>	<b>103.9</b>	<b>110.5</b>
BE	4.75	5.42	5.27	104.3	114.1	111.0
CZ	4.57	4.11	4.27	91.3	89.9	93.3
DK	3.48	4.04	3.70	110.5	116.2	106.5
DE	4.48	4.21	4.21	97.1	94.0	94.0
EE	6.29	3.92	4.17	93.3	62.3	66.4
EL	2.20	2.38	2.77	99.9	108.2	126.0
ES	2.30	2.69	3.31	105.2	116.7	143.8
FR	4.00	4.25	4.55	105.0	106.1	113.5
IE	2.96	3.36	3.90	99.1	113.4	131.5
IT	2.70	2.85	3.19	102.4	105.4	118.2
CY	2.76	3.10	3.41	97.6	112.2	123.4
LV	2.95	1.84	1.98	95.0	62.5	67.2
LT	4.34	2.47	2.66	104.6	56.9	61.2
LU	9.38	8.04	10.35	104.8	85.6	110.3
HU	2.76	2.50	2.59	96.2	90.6	93.7
MT	1.65	2.51	2.22	102.6	151.8	134.3
NL	4.50	4.83	5.06	103.5	107.2	112.4
AT	3.26	3.56	4.02	105.6	109.2	123.1
PL	2.63	2.65	2.42	98.4	100.9	92.1
PT	1.70	2.06	2.50	102.1	121.0	146.7
SI	2.76	3.26	3.56	97.2	117.8	128.9
SK	3.97	3.30	3.38	89.8	83.3	85.2
FI	5.77	6.38	7.22	100.6	110.6	125.2
SE	5.53	5.69	5.92	102.7	102.9	107.0
UK	3.67	3.78	3.89	101.6	102.9	105.8
IS	8.50	9.32	11.97	93.5	109.7	140.9
NO	5.10	5.56	6.04	101.6	109.2	118.5
BG	3.19	2.46	2.42	81.2	77.2	75.8
HR	1.70	1.70	1.99	91.0	99.8	117.0
RO	2.65	2.01	1.82	85.9	75.9	68.8
TR	0.93	1.11	1.16	99.7	119.8	124.5

Data Source: Eurostat



(toe per capita)

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	3.55	3.53	3.65	3.62	3.66	3.65	3.66	3.74	3.72	3.81	3.82
EU-15	3.63	3.68	3.80	3.77	3.84	3.84	3.86	3.94	3.92	4.00	4.01

Data Source: Eurostat

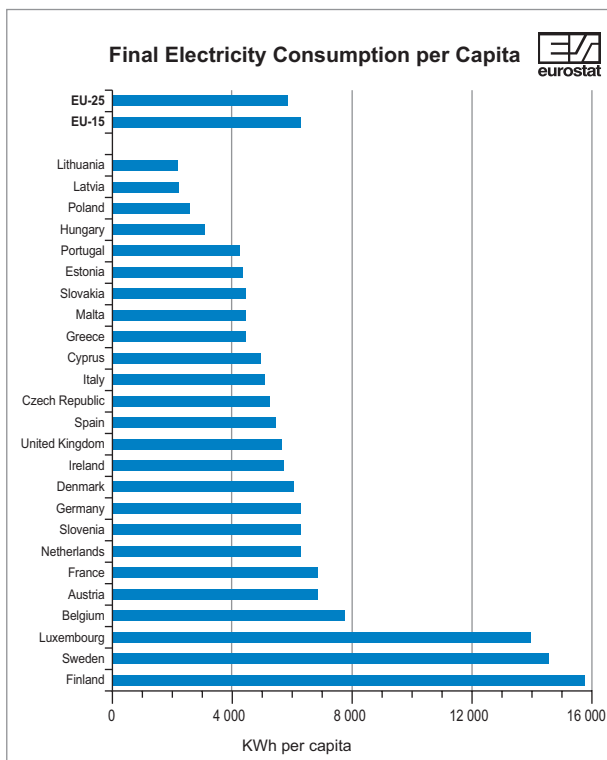
Over the period 1990-2004, the EU-25 gross inland consumption per capita increased by 7.5% while that of the EU-15 increased by 10.5%. The EU-25 average was 3.82 toe per capita in 2004 and half of the Member States had figures within the range of  $\pm 20\%$  of that average while there were countries, such as Luxembourg and Finland, with a much higher gross inland consumption per capita ratio and other countries with a lower ratio.

It is remarkable that the change in the gross inland consumption per capita ratio between 1990 and 1997 was 1.9% and between 1997 and 2004 it was 5.4%. Furthermore, corresponding figures for the EU-15 were 3.9% and 6.4% for the two periods respectively.

## Final Electricity Consumption per Capita

	<i>(kWh per capita)</i>			<i>Index (1990=100)</i>		
	1990	1997	2004	1991	1997	2004
<b>EU-25</b>	<b>4 678</b>	<b>5 093</b>	<b>5 800</b>	<b>100.6</b>	<b>108.9</b>	<b>124.0</b>
<b>EU-15</b>	<b>4 986</b>	<b>5 513</b>	<b>6 279</b>	<b>101.4</b>	<b>110.6</b>	<b>125.9</b>
BE	5 829	7 062	7 753	104.0	121.2	133.0
CZ	4 649	4 811	5 269	92.8	103.5	113.3
DK	5 700	6 044	6 108	101.3	106.0	107.2
DE	5 644	5 630	6 220	96.6	99.8	110.2
EE	4 332	3 660	4 361	98.9	84.5	100.7
EL	2 813	3 450	4 503	102.3	122.7	160.1
ES	3 240	4 029	5 447	102.1	124.3	168.1
FR	5 336	6 111	6 908	105.8	114.5	129.5
IE	3 384	4 570	5 717	104.6	135.0	168.9
IT	3 776	4 313	5 097	102.2	114.2	135.0
CY	3 061	3 577	5 011	101.8	116.8	163.7
LV	3 098	1 699	2 320	101.9	54.8	74.9
LT	3 251	1 873	2 209	98.8	57.6	67.9
LU	10 889	12 309	14 108	100.9	113.0	129.6
HU	3 045	2 799	3 144	93.5	91.9	103.2
MT	2 585	3 636	4 495	130.8	140.7	173.9
NL	4 937	5 750	6 343	102.0	116.5	128.5
AT	5 581	6 039	6 925	103.8	108.2	124.1
PL	2 517	2 449	2 613	92.9	97.3	103.8
PT	2 373	3 172	4 264	106.1	133.6	179.7
SI	4 880	4 957	6 307	95.2	101.6	129.3
SK	4 428	4 246	4 466	92.9	95.9	100.9
FI	11 850	13 710	15 927	99.8	115.7	134.4
SE	14 114	14 175	14 523	100.6	100.4	102.9
UK	4 776	5 250	5 696	102.0	109.9	119.3
IS	15 394	17 452	26 667	97.6	113.4	173.2
NO	22 870	23 651	24 001	101.9	103.4	104.9
BG	4 023	3 192	3 190	86.5	79.3	79.3
HR	2 820	2 401	3 073	85.9	85.2	109.0
RO	2 162	1 699	1 784	84.5	78.6	82.5
TR	800	1 250	1 690	102.6	156.3	211.3

Data Source: Eurostat



(kWh per capita)

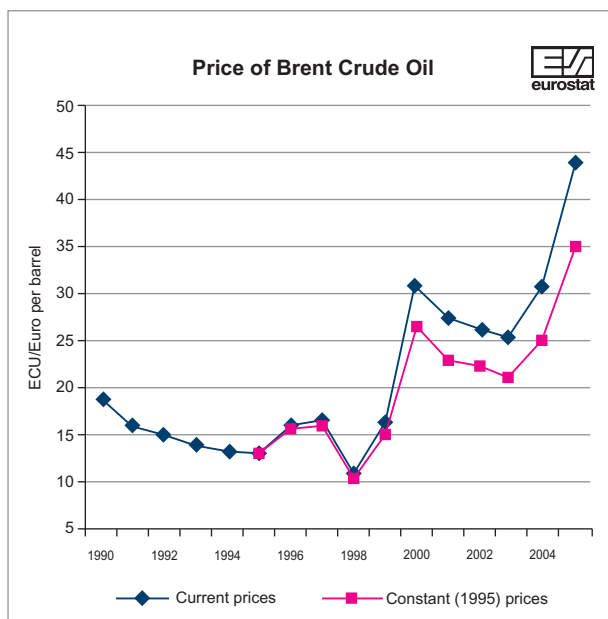
	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	4 678	4 889	5 014	5 093	5 196	5 280	5 440	5 582	5 608	5 741	5 800
EU-15	4 986	5 299	5 424	5 513	5 639	5 742	5 915	6 068	6 096	6 230	6 279

Data Source: Eurostat

Final electricity consumption per capita rose by 24% during the period 1990-2004 with an average annual rate of 1.55% due to use mainly in households and services.

The EU-25 average was 5 800 kWh/head in 2004, but Finland, Sweden and Luxembourg had significantly higher values, among the highest worldwide and more than double the EU-25 average. Spain, Ireland, Cyprus, Malta and Portugal experienced average annual increase rates of more 3.5% over the period 1990-2004. Nevertheless, in 2004, they were still below the EU-25 average. On the other hand, Latvia and Lithuania experienced more than a 2% average annual decrease rate with the result that both countries had figures of around 40% of the EU-25 average.

## Price of Brent Crude Oil



	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Current prices	18.6	13.0	16.3	16.8	11.3	16.8	30.9	27.3	26.5	25.5	30.8	43.8
Constant (1995) prices		13.0	16.0	16.1	10.5	15.2	26.8	23.2	22.3	21.2	25.0	35.0

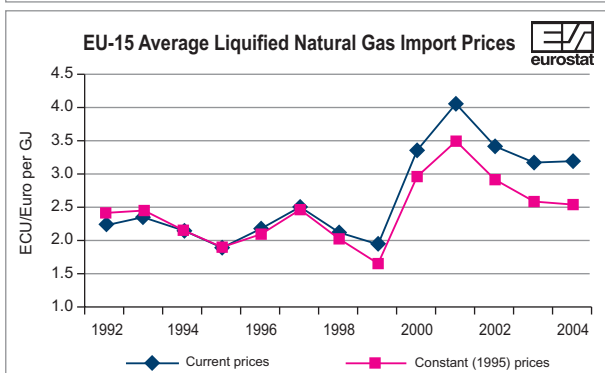
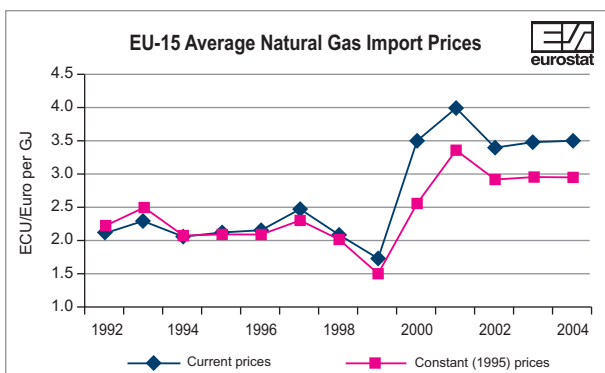
Data Source: Platt's European Marketscan, BP Statistical Review

Crude oil prices behave much as any other commodity with wide price swings in times of shortage or oversupply. The crude oil price cycle may extend over several years responding to changes in demand as well as OPEC and non-OPEC supply.

The price of crude oil spiked in 1990 with the uncertainty associated with the Iraqi invasion of Kuwait and the ensuing Gulf War, but following the war, crude oil prices began a steady decline until the end of 1994 - early 1995.

The price cycle then turned upwards when the economy of the United States was strong and the Asia Pacific region booming. Higher OPEC production in 1997 in combination with lower consumption (due to the Asian crisis) sent prices on a downward trend until the end of 1998. Since early 1999 and up to the end of 2000, oil prices recorded a rapid and high increase, which was followed by a one year long recession. At the end of 2001, oil prices started a new, steep upward trend and thus, the average 2005 value was 44 €/bbl.

## Average Gas Import Prices



(ECU/Euro per GJ)

Natural gas	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Current prices	2.16	2.14	2.22	2.40	2.09	1.76	3.00	3.92	3.36	3.47	3.50
Constant (1995) prices	2.26	2.14	2.18	2.30	1.94	1.59	2.60	3.34	2.83	2.88	2.84

Liquefied natural gas (LNG)	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Current prices	2.22	1.90	2.19	2.51	2.14	1.88	3.35	4.10	3.35	3.20	3.22
Constant (1995) prices	2.32	1.90	2.16	2.40	1.99	1.70	2.91	3.49	2.82	2.66	2.61

Data Source: OECD/IEA

The average gas import prices for natural gas and LNG remained rather stable in the 90s at 2.2 Euro per GJ. In 1997 natural gas and LNG reached their highest values of the 90s and in 1999 their lowest. Prices started rising in 2000, reaching one year later the highest value of the period 1990-2004. After a rise of more than 70% within 3 years, prices of natural gas and LNG subsided by 11 and 15% respectively, following oil prices with a small lag.

## Vat-free Industrial Fuel Prices

ELECTRICITY	<i>(ECU/Euro per GJ) (NCV)</i>						
	1990	1995	2000	2003	2004	2005	2006
<b>EU 25</b>	:	:	:	:	<b>16.56</b>	<b>17.67</b>	<b>21.14</b>
<b>EU 15</b>	<b>17.18</b>	<b>17.41</b>	<b>15.14</b>	<b>17.03</b>	<b>16.94</b>	<b>18.00</b>	<b>21.44</b>
Belgium	15.97	16.75	15.36	16.39	16.56	16.42	21.47
Czech Republic	:	:	11.42	11.56	11.11	13.75	15.86
Denmark	12.17	13.03	:	:	:	:	:
Germany	20.65	22.31	15.19	18.06	20.56	22.19	24.92
Estonia	:	:	:	11.50	11.50	10.86	10.50
Greece	15.33	13.39	13.33	14.44	14.67	15.03	15.56
Spain	19.67	17.14	15.64	13.89	14.17	16.89	17.75
France	13.75	15.58	13.64	13.61	13.89	13.89	13.89
Ireland	14.56	14.06	14.72	18.06	19.03	22.17	25.39
Italy	16.67	17.33	20.03	25.00	23.22	26.81	30.28
Cyprus	:	:	22.83	25.22	21.64	20.78	29.83
Latvia	:	:	:	:	9.97	9.11	9.11
Lithuania	:	:	:	13.36	13.36	13.42	13.39
Luxembourg	13.42	13.42	12.39	11.67	:	:	:
Hungary	:	7.56	10.92	12.86	13.22	14.17	16.22
Malta	:	14.28	16.28	16.08	14.97	15.78	15.89
Netherlands	12.11	13.17	:	:	:	16.50	17.53
Austria	:	19.11	:	:	17.14	18.72	20.00
Poland	:	:	:	13.75	12.14	13.94	16.11
Portugal	17.81	18.19	14.58	15.56	16.97	17.72	20.28
Slovenia	:	12.89	14.14	13.11	14.56	14.75	15.56
Slovakia	:	:	:	:	18.28	18.36	20.00
Finland	:	12.28	10.56	15.83	15.39	15.06	14.75
Sweden	:	:	7.86	17.22	12.36	10.78	14.36
United Kingdom	15.78	14.40	16.00	12.78	11.14	12.42	19.86
Bulgaria	:	:	:	:	10.50	10.64	11.50
Croatia	:	:	:	:	:	10.31	10.92
Romania	:	:	:	9.94	12.28	18.69	16.28
<b>NATURAL GAS</b>							
	<i>(ECU/Euro per GJ) (NCV)</i>						
	1990	1995	2000	2003	2004	2005	2006
<b>EU 25</b>	:	:	:	:	<b>5.26</b>	<b>5.99</b>	<b>8.22</b>
<b>EU 15</b>	<b>3.92</b>	<b>3.80</b>	<b>4.35</b>	<b>5.57</b>	<b>5.36</b>	<b>6.07</b>	<b>8.34</b>
Belgium	3.89	3.66	4.05	5.13	4.98	4.81	7.19
Czech Republic	:	:	3.31	4.35	4.44	5.41	7.74
Denmark	:	3.52	4.76	5.76	5.23	6.48	6.56
Germany	5.03	4.86	4.94	7.42	7.18	8.29	10.83
Estonia	:	:	:	2.94	2.67	2.68	2.83
Greece	-	-	:	:	:	:	:
Spain	3.82	3.12	4.33	5.01	4.57	4.87	7.24
France	3.40	3.17	4.25	5.26	4.81	6.09	8.23
Ireland	2.53	:	:	5.37	:	:	:
Italy	3.43	3.64	4.45	5.59	5.52	6.13	6.63
Cyprus	-	-	-	-	-	-	-
Latvia	:	:	:	:	3.81	3.69	4.24
Lithuania	:	:	:	4.44	4.02	3.78	4.56
Luxembourg	4.33	4.28	5.36	4.70	4.22	4.77	6.29
Hungary	:	2.46	2.47	4.92	5.05	5.41	7.49
Malta	-	-	-	-	-	-	-
Netherlands	3.15	3.39	4.08	:	:	4.78	5.72
Austria	:	:	6.08	:	:	:	10.53
Poland	:	:	:	4.55	4.12	5.03	6.16
Portugal	:	:	:	4.41	4.14	4.61	6.36
Slovenia	:	4.30	4.44	5.46	5.00	6.12	8.40
Slovakia	:	:	:	:	5.73	5.44	8.41
Finland	:	2.92	4.81	5.62	5.49	5.69	6.91
Sweden	:	:	:	6.92	7.47	:	:
United Kingdom	3.75	3.43	3.31	4.33	4.14	4.87	8.67
Bulgaria	:	:	:	:	3.47	3.62	4.61
Croatia	:	:	:	:	:	-	-
Romania	:	:	:	:	3.13	4.11	5.14

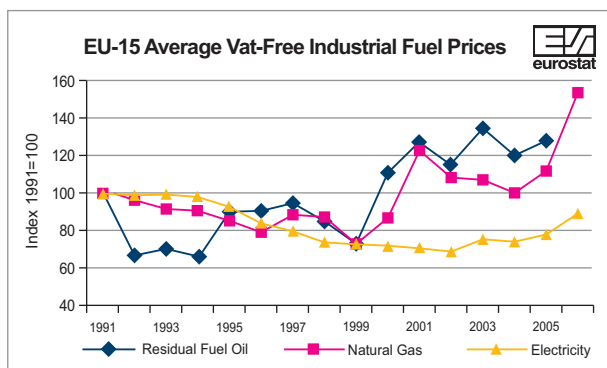
Data Source: Eurostat DG for Energy and Transport



## ENERGY, TRANSPORT AND ENVIRONMENT INDICATORS

RESIDUAL FUEL OIL	(ECU/Euro per GJ) (NCV)						
	1990	1995	2000	2003	2004	2005	2006
<b>EU 25</b>	:	:	:	:	:	:	<b>6.07</b>
<b>EU 15</b>	<b>3.24</b>	<b>3.59</b>	<b>5.03</b>	<b>5.48</b>	<b>6.31</b>	<b>5.70</b>	<b>6.23</b>
Belgium	2.90	2.86	3.55	3.53	4.99	3.70	4.15
Czech Republic	:	:	:	:	:	:	4.10
Denmark	:	:	11.60	12.50	13.21	12.02	13.26
Germany	3.22	3.06	3.88	4.24	5.06	4.13	4.25
Estonia	:	:	:	:	:	:	2.83
Greece	3.18	3.89	5.23	4.91	6.27	5.24	5.04
Spain	3.19	3.59	4.86	5.26	6.32	5.01	5.33
France	3.01	3.54	4.13	4.77	5.44	4.33	4.83
Ireland	3.46	3.34	:	:	:	6.39	6.48
Italy	3.55	3.61	4.71	5.06	5.98	5.45	6.15
Cyprus	:	:	:	:	:	:	:
Latvia	:	:	:	:	:	:	:
Lithuania	:	:	:	:	:	:	5.60
Luxembourg	3.02	3.08	3.94	3.64	5.22	4.41	4.26
Hungary	:	:	:	:	:	:	5.32
Malta	:	:	:	:	:	:	:
Netherlands	4.23	4.10	5.00	5.05	5.93	5.93	5.58
Austria	:	2.93	4.12	4.21	5.83	4.48	5.42
Poland	:	:	:	:	:	:	4.22
Portugal	3.49	3.70	5.12	6.18	6.35	5.60	5.88
Slovenia	:	:	:	:	:	:	6.33
Slovakia	:	:	:	:	:	:	4.86
Finland	:	:	5.19	6.94	7.97	6.53	7.70
Sweden	:	8.18	10.47	11.73	13.77	14.51	15.60
United Kingdom	2.98	3.04	:	:	6.10	5.06	5.69

Data Source: Eurostat DG for Energy and Transport



	(ECU/Euro per GJ) (NCV) at constant 1995 prices												
	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Residual fuel oil	3.98	3.59	3.60	3.78	3.40	2.90	4.45	5.10	4.66	5.33	4.71	5.06	:
Natural gas	4.40	3.80	3.49	3.88	3.85	3.22	3.85	5.44	4.83	4.70	4.43	4.93	6.66
Electricity	18.80	17.41	15.84	14.90	14.02	13.86	13.41	13.27	12.92	14.39	14.00	14.62	16.71

Data Source: Eurostat DG for Energy and Transport

## Tax-inclusive Household Fuel Prices

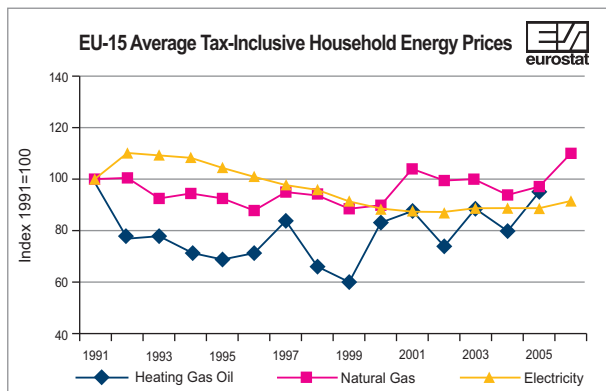
ELECTRICITY	<i>(ECU/Euro per GJ) (NCV)</i>						
	1990	1995	2000	2003	2004	2005	2006
<b>EU 25</b>	:	:	:	:	<b>34.75</b>	<b>35.64</b>	<b>37.36</b>
<b>EU 15</b>	<b>29.97</b>	<b>34.90</b>	<b>34.04</b>	<b>35.36</b>	<b>35.75</b>	<b>36.50</b>	<b>38.17</b>
Belgium	31.94	37.61	36.67	36.78	38.06	38.36	38.28
Czech Republic	:	:	13.50	18.36	18.33	20.08	21.86
Denmark	34.89	38.19	51.11	60.32	59.47	59.86	61.97
Germany	32.57	40.47	39.03	43.19	43.58	45.97	47.11
Estonia	:	:	:	16.58	16.58	18.28	19.36
Greece	22.03	22.08	19.06	20.61	21.11	21.67	22.53
Spain	28.81	31.25	27.81	27.11	27.50	27.97	29.22
France	30.33	35.00	32.14	30.56	32.28	32.28	32.58
Ireland	22.72	22.39	23.86	30.26	31.78	35.69	37.39
Italy	41.67	50.78	51.33	53.75	52.81	51.72	55.56
Cyprus	:	:	25.08	28.89	29.89	29.47	39.36
Latvia	:	:	:	:	16.17	18.56	18.56
Lithuania	:	:	:	:	17.97	20.39	20.39
Luxembourg	27.47	30.42	30.17	33.97	34.78	37.56	40.58
Hungary	:	15.86	19.86	23.39	28.19	30.25	30.89
Malta	:	14.58	22.67	22.44	22.92	26.50	33.36
Netherlands	24.03	25.14	39.44	47.86	49.86	53.42	57.06
Austria	:	:	34.31	35.97	36.64	37.08	35.50
Poland	:	:	:	23.89	24.67	28.97	32.33
Portugal	25.78	32.58	30.94	32.64	33.31	34.11	35.00
Slovenia	:	18.28	25.19	25.50	25.75	25.67	26.11
Slovakia	:	:	:	:	27.42	29.03	30.67
Finland	:	20.39	20.78	23.22	25.33	24.72	25.28
Sweden	:	:	26.44	34.39	37.25	36.22	36.75
United Kingdom	21.74	25.75	28.11	25.45	23.25	24.44	28.64
Bulgaria	:	:	:	:	16.61	18.89	19.17
Croatia	:	:	:	:	:	22.81	24.86
Romania	:	:	:	:	:	19.72	27.67
<b>NATURAL GAS</b>							
	<i>(ECU/Euro per GJ) (NCV)</i>						
	1990	1995	2000	2003	2004	2005	2006
<b>EU 25</b>	:	:	:	:	<b>12.04</b>	<b>12.51</b>	<b>14.47</b>
<b>EU 15</b>	:	<b>9.97</b>	<b>11.12</b>	<b>12.77</b>	<b>12.24</b>	<b>12.98</b>	<b>14.91</b>
Belgium	8.45	9.72	10.46	11.98	11.71	12.40	15.00
Czech Republic	:	:	4.84	7.06	7.30	8.32	11.14
Denmark	:	:	20.16	21.09	21.24	31.60	33.13
Germany	8.00	9.86	10.17	13.48	13.70	15.07	17.76
Estonia	:	:	:	5.15	5.16	5.14	5.14
Greece	-	-	:	:	:	:	:
Spain	11.29	11.15	11.80	13.44	12.83	13.22	15.14
France	8.84	9.35	9.18	11.83	12.01	11.74	14.13
Ireland	9.94	8.92	9.10	9.17	10.00	11.09	13.90
Italy	13.18	15.19	17.34	18.49	16.58	17.04	17.80
Cyprus	-	-	-	-	-	-	-
Latvia	:	:	:	:	4.69	5.04	5.93
Lithuania	:	:	:	:	6.06	6.01	6.93
Luxembourg	5.39	6.06	6.69	8.14	7.86	9.04	11.48
Hungary	:	3.28	3.69	4.90	6.41	6.88	8.22
Malta	-	-	-	-	-	-	-
Netherlands	6.93	8.21	10.04	14.53	14.66	16.86	18.80
Austria	:	:	11.85	13.62	15.23	14.84	17.39
Poland	:	:	:	8.00	7.04	8.39	10.51
Portugal	-	-	:	14.82	13.39	13.71	16.13
Slovenia	:	6.29	7.99	10.97	10.71	11.48	14.43
Slovakia	:	:	:	:	8.08	9.04	12.09
Finland	:	:	:	:	:	:	:
Sweden	:	:	14.44	20.36	21.74	24.64	28.83
United Kingdom	6.39	7.13	7.74	7.66	7.59	8.07	9.16
Bulgaria	:	:	:	:	7.50	7.48	8.56
Croatia	:	:	:	:	:	8.88	9.09
Romania	:	:	:	:	:	5.32	6.13

Data Source: Eurostat

## ENERGY, TRANSPORT AND ENVIRONMENT INDICATORS

HEATING GAS OIL	(ECU/Euro per GJ) (NCV)						
	1990	1995	2000	2002	2003	2004	2005
<b>EU 25</b>							<b>13.57</b>
<b>EU 15</b>	<b>8.88</b>	<b>8.02</b>	<b>10.88</b>	<b>10.20</b>	<b>12.26</b>	<b>11.17</b>	<b>13.6</b>
Belgium	5.34	4.88	7.65	7.50	8.76	8.32	10.24
Czech Republic	:	:	:	:	:	:	13.52
Denmark	14.57	14.53	18.77	18.28	19.94	19.79	23.03
Germany	6.28	5.88	9.00	8.60	11.03	9.19	11.84
Estonia	:	:	:	:	:	:	11.86
Greece	5.43	8.67	7.65	8.32	9.57	9.05	11.41
Spain	7.29	6.95	9.88	9.32	11.78	10.29	12.26
France	9.23	8.47	11.30	8.63	11.52	10.81	13.13
Ireland	7.44	6.04	11.14	10.93	12.79	12.20	14.45
Italy	16.00	16.93	21.98	22.43	24.05	23.39	26.18
Cyprus	:	:	:	:	:	:	17.12
Latvia	:	:	:	:	:	:	13.02
Lithuania	:	:	:	:	:	:	10.35
Luxembourg	6.19	5.40	7.70	7.15	8.91	8.25	10.36
Hungary	:	:	:	:	:	:	25.76
Malta	:	:	:	:	:	:	10.18
Netherlands	8.38	8.05	13.48	15.17	17.10	16.71	19.24
Austria	:	8.63	10.86	10.22	11.61	11.74	13.54
Poland	:	:	:	:	:	:	11.85
Portugal	:	:	9.19	9.87	12.78	11.68	13.74
Slovenia	:	:	:	:	:	:	13.39
Slovakia	:	:	:	:	:	:	11.77
Finland	:	:	9.55	9.18	10.93	10.49	12.34
Sweden	:	12.98	15.05	17.82	19.19	21.38	23.46
United Kingdom	5.84	4.86	8.07	6.92	7.64	7.53	10.25

Data Source: Eurostat DG for Energy and Transport



	(ECU/Euro per GJ) (NCV) at constant 1995 prices												
	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Heating gasoil	11.63	8.05	8.27	9.50	7.90	6.85	9.65	10.33	8.67	10.25	9.23	11.04	:
Natural gas	10.80	9.97	9.51	10.25	10.23	9.51	9.85	11.27	10.80	10.79	10.12	10.54	11.90
Electricity	33.57	34.90	33.93	33.04	32.29	30.73	30.15	30.10	29.68	29.89	29.55	29.65	30.46

Data Source: Eurostat DG for Energy and Transport

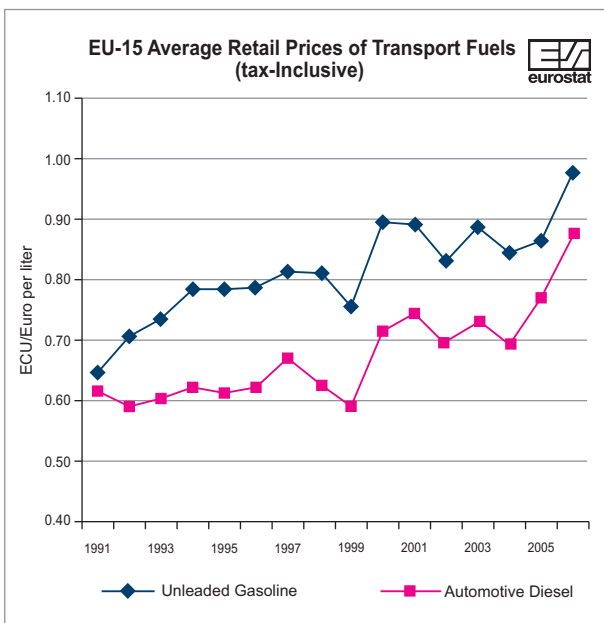
## Retail Prices of Transport Fuels (tax-Inclusive)

(ECU/Euro per liter)

	EU-25	EU-15	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	
Unleaded Gasoline	1990	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	.69	:	:	:	:	:	:	:	.53	
	1995	:	.78	.78	:	.75	.81	:	.64	.64	.85	.69	.79	:	:	.63	:	:	.87	.76	:	.79	:	:	:	.82	.68	
	2000	:	1.01	.96	:	1.00	.96	:	.67	.75	1.04	.82	1.00	:	:	.74	:	:	1.06	.87	:	.80	:	:	1.06	1.00	1.22	
	2004	:	1.02	.99	:	1.07	1.08	:	.74	.80	1.00	.87	1.05	:	:	.83	:	:	1.19	.86	:	.95	:	:	1.05	1.02	1.10	
	2005	1.04	1.06	1.07	.81	1.10	1.11	.67	.77	.84	1.04	.94	1.09	.76	.72	.71	.90	.96	.87	1.25	.91	.88	1.00	.82	.86	1.14	1.10	1.13
	2006	1.20	1.22	1.30	.98	1.27	1.26	.84	.94	1.00	1.22	1.08	1.26	.89	.86	.89	1.07	1.05	1.09	1.41	1.05	.97	1.20	.92	1.04	1.23	1.20	1.30
Automotive Diesel	1990	:	.53	.51	:	.59	.52	:	.20	.45	.52	.72	.61	:	:	.36	:	:	.47	:	:	.47	:	:	:	:	.54	
	1995	:	.60	.62	:	.62	.59	:	.47	.51	.59	.66	.63	:	:	.51	:	:	.61	.62	:	.54	:	:	:	.78	.69	
	2000	:	.81	.73	:	.82	.76	:	.62	.62	.81	.77	.84	:	:	.63	:	:	.78	.73	:	.55	:	:	.77	.81	1.26	
	2004	:	.84	.73	:	.82	.88	:	.64	.70	.79	.80	.88	:	:	.62	:	:	.83	.73	:	.70	:	:	.78	.85	1.13	
	2005	.94	.95	.85	.82	.91	.97	.70	.77	.81	.91	.95	1.00	.72	.70	.72	.72	.94	.83	.91	.84	.83	.83	.87	.87	.88	.98	1.20
	2006	1.08	1.09	1.03	.97	1.08	1.09	.86	.92	.93	1.05	1.08	1.16	.87	.86	.88	.88	1.02	.94	1.04	.97	.97	.98	.91	1.04	1.00	1.13	1.36

Current prices

Data Source: DG for Energy and Transport



*(ECU/Euro per liter)*

	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Unleaded Gasoline	0.66	0.78	0.79	0.82	0.81	0.76	0.90	0.89	0.83	0.89	0.85	0.86	0.98
Automotive Diesel	0.62	0.60	0.62	0.67	0.63	0.58	0.72	0.75	0.69	0.73	0.69	0.77	0.87

**Constant (1995) prices**

*Data Source: DG for Energy and Transport*

At 1995 constant prices, the retail (tax inclusive) price of unleaded gasoline rose by 48% while that of diesel increased by 40% during the period 1991-2006. Only in the last two years, EU-15 prices for unleaded gasoline and diesel rose by 16 and 25% respectively. Of all the Member States, unleaded gasoline costs more in the Netherlands, while the lowest price can be found in Estonia and Latvia where diesel is also the least expensive within the EU-25 countries. Diesel is most expensive in the United Kingdom while in the Netherlands and Belgium there is a discount of more than 20% compared to unleaded gasoline.

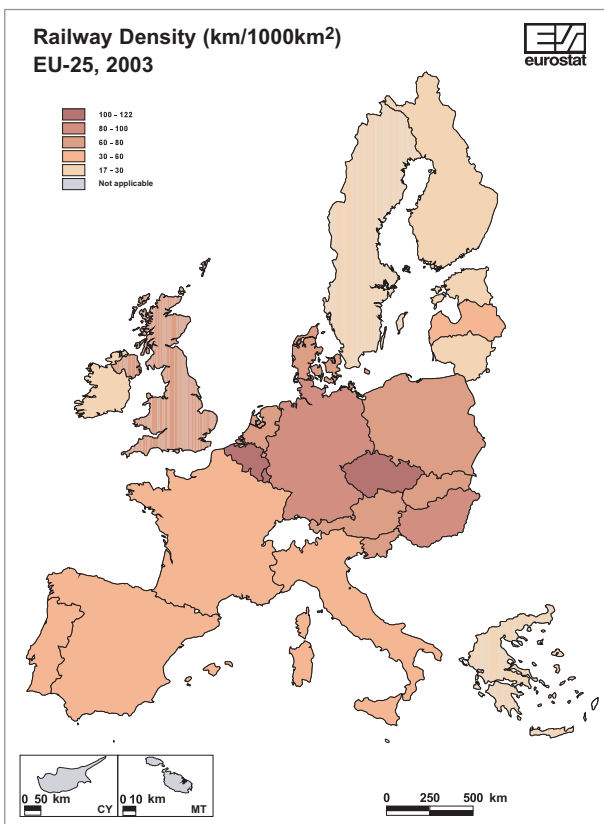
# **TRANSPORT INDICATORS**

## Railway Density

	<i>Length(km)/surface (1000km<sup>2</sup>)</i>					
	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	<b>52</b>	<b>52</b>	<b>52</b>	<b>51</b>	<b>51</b>	<b>51</b>
<b>EU-15</b>	<b>49</b>	<b>49</b>	<b>48</b>	<b>48</b>	<b>48</b>	<b>48</b>
Belgium	114	114	114	113	115	115
Czech Republic	120	120	120	121	122	122
Denmark	53	64	64	64	64	65
Germany	107	105	102	101	100	101
Estonia	21	21	21	21	21	21
Greece	17	17	18	18	18	18
Spain	32	32	32	32	33	33
France	58	58	57	57	57	56
Ireland	27	27	27	27	27	27
Italy	53	53	53	53	53	54
Cyprus	-	-	-	-	-	-
Latvia	37	38	36	36	35	35
Lithuania	31	29	29	26	27	27
Luxembourg	106	106	106	106	106	106
Hungary	82	82	82	83	83	83
Malta	-	-	-	-	-	-
Netherlands	68	68	68	69	68	69
Austria	67	67	66	71	67	68
Poland	74	73	72	68	67	66
Portugal	30	31	31	31	30	31
Slovenia	59	59	59	61	61	61
Slovakia	75	75	75	75	75	75
Finland	17	17	17	17	17	17
Sweden	24	25	25	24	25	25
United Kingdom	70	70	70	70	70	69
Iceland	-	-	-	-	-	-
Liechtenstein *	119	119	119	119	119	119
Norway	12	12	13	13	13	13
Switzerland	122	123	123	122	122	122
Bulgaria	39	39	39	39	39	39
Croatia	48	48	48	48	48	48
Romania	46	46	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 and Transport



Between 1998 and 2003, the total length of the railway network decreased by 2.1% on EU-25 level to reach 203 706 km. The network density and the utilisation rate depend, among other things, on the topographic characteristics of the individual countries and their population densities. In general, rail network density seems to be low in the periphery of the European Union and high in the centre. In 2003, the railway network of Germany (36 054 km) was the longest one among the EU-25 countries, followed by the network of France (30 990 km) and Poland (20 665 km). In 2003, the Czech Republic had the highest density (122) with total railway network length of 9 602 km.



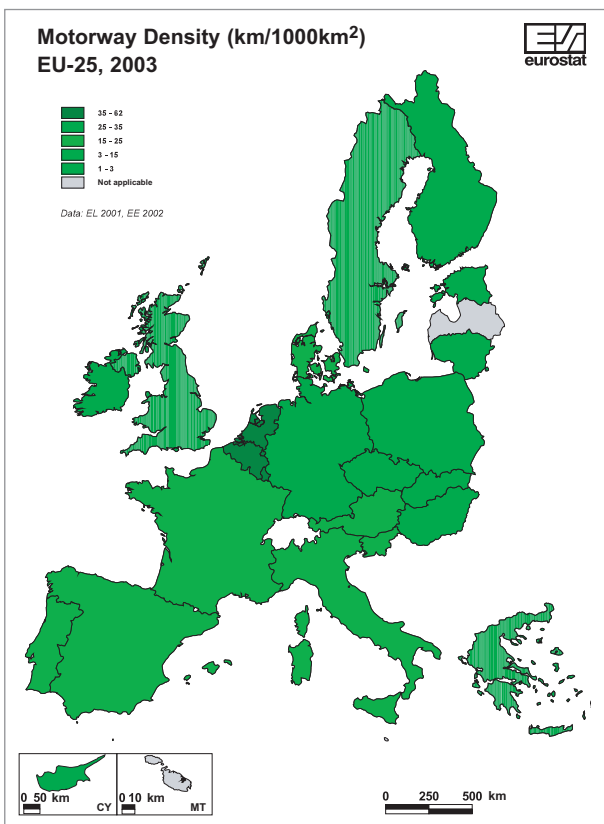
## Motorway Density

	<i>Length(km)/surface (1000km<sup>2</sup>)</i>					
	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	<b>13</b>	<b>13</b>	<b>14</b>	<b>14</b>	:	:
<b>EU-15</b>	<b>15</b>	<b>16</b>	<b>16</b>	<b>16</b>	:	:
Belgium	55	55	56	57	57	57
Czech Republic	6	6	6	7	7	7
Denmark	20	21	22	23	23	24
Germany	32	32	33	33	34	34
Estonia	2	2	2	2	2	:
Greece	3	3	5	6	:	:
Spain	16	18	18	19	19	20
France	17	18	18	18	19	19
Ireland	1	1	1	2	2	3
Italy	21	21	21	21	21	21
Cyprus	22	23	26	28	29	29
Latvia	-	-	-	-	-	-
Lithuania	6	6	6	6	6	6
Luxembourg	44	44	44	49	57	57
Hungary	5	5	5	5	6	6
Malta	-	-	-	-	-	-
Netherlands *	54	56	56	61	61	62
Austria	19	19	19	20	20	20
Poland	1	1	1	1	1	1
Portugal	14	16	16	18	20	22
Slovenia	18	20	21	21	23	24
Slovakia	6	6	6	6	6	6
Finland	1	2	2	2	2	2
Sweden	3	3	3	3	3	4
United Kingdom	14	15	15	15	15	15
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	0	0	0	0	1	1
Switzerland **	31	31	31	32	32	33
Bulgaria	3	3	3	3	3	3
Croatia	:	:	7	8	8	10
Romania	0	0	0	0	0	:
Turkey	2	2	2	2	2	2

\* break in 2001. Data on roads with separated lanes are reported since 2001

\*\* only state motorways

Data Source: Eurostat, DG for Energy and Transport



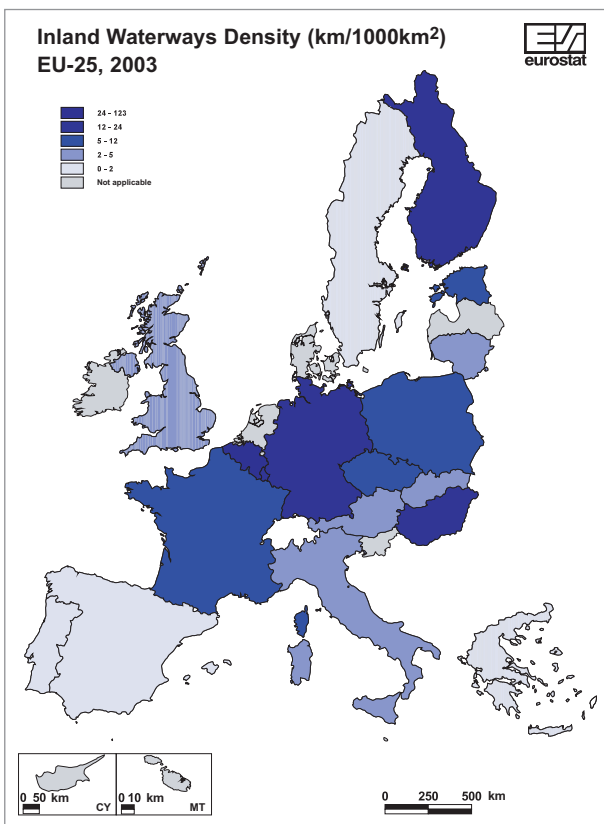
The density of the road network in the EU-25 is about 14 km per 1 000 km<sup>2</sup>. The highest density is to be found in the Netherlands, Belgium, Luxembourg, and in Germany.

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. Population density and other factors must also be considered in such a comparison.

## Inland Waterways Density

	<i>Length(km)/surface (1000km<sup>2</sup>)</i>					
	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>
<b>EU-15</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>
Belgium	50	50	50	50	50	50
Czech Republic	8	8	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	10	11	10	10	10
Ireland	-	-	-	-	-	-
Italy	5	5	5	5	5	5
Cyprus	-	-	-	-	-	-
Latvia	-	-	-	-	-	-
Lithuania	6	6	6	7	7	4
Luxembourg	14	14	14	14	14	14
Hungary	15	15	15	16	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	23	23	23	23	23	23
Sweden	1	1	1	1	1	1
United Kingdom	5	5	5	5	4	4
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	-	-	-	-	-	-
Switzerland	18	18	18	18	18	18
Bulgaria	4	4	4	4	4	4
Croatia	13	13	13	13	13	13
Romania	7	7	7	7	7	7
Turkey	-	-	-	-	-	-

Data Source: Eurostat, DG for Energy and Transport

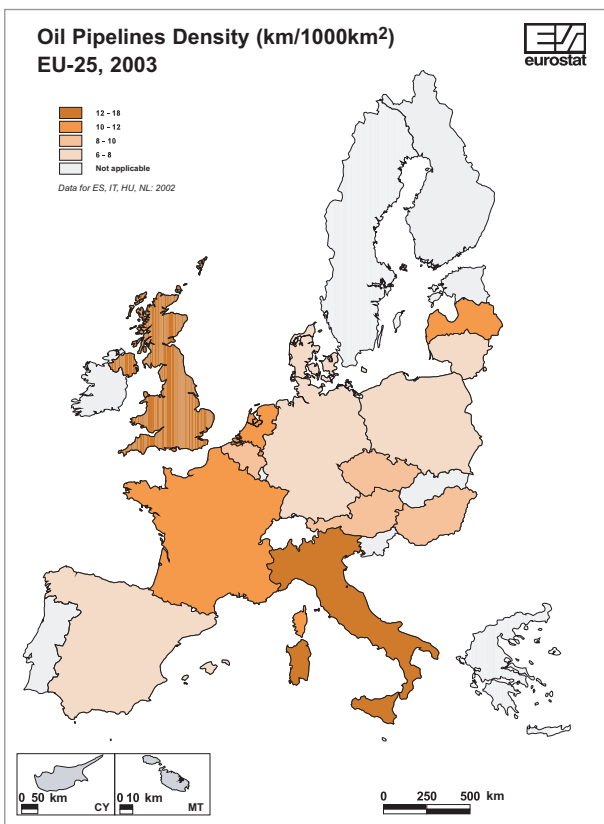


Inland waterways density in the EU-25 was almost constant over the period 1998-2003 but the network is very unbalanced across the EU-25 with some countries completely lacking inland waterways and, on the other hand, countries such as the Netherlands and Belgium with a very long waterway system. This leads to the exceptionally high density of 123 km/1000km<sup>2</sup> for the Netherlands, compared to the average within the EU-25 of 9 km/1000km<sup>2</sup>. In terms of inland waterways' length, Finland was in first place with a network of 7 884 km in 2003, followed by Germany with 6 636 km; France was third with a network of 5 384 km.

## Oil Pipelines Density

	<i>Length(km)/surface (1000km<sup>2</sup>)</i>					
	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	7	7	7	7	7	7
<b>EU-15</b>	7	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	:
France	10	10	10	10	10	10
Ireland	-	-	-	-	-	-
Italy	14	14	14	14	15	:
Cyprus	-	-	-	-	-	-
Latvia	12	12	12	12	12	12
Lithuania	6	8	8	8	8	8
Luxembourg	-	-	-	-	-	-
Hungary	9	9	9	9	9	:
Malta	-	-	-	-	-	-
Netherlands	12	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	16	16	16	18	18	18
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	18	21	24	25	25	:
Switzerland	3	3	3	3	3	3
Bulgaria	5	5	5	5	5	5
Croatia	11	11	11	11	11	11
Romania	19	19	19	19	18	:
Turkey	3	3	3	3	3	3

Data Source: Eurostat, DG for Energy and Transport



The average density of oil pipelines in the EU-25 was constant at 7 km/1000km<sup>2</sup> throughout the reported period. In 2003, the United Kingdom had the highest density among the EU-25 countries (18 km/1000km<sup>2</sup>) while Norway had the highest density in the EEA area with approximately 25 km/1000km<sup>2</sup>. Romania and Croatia had higher pipeline density than most EU countries.

The total length of pipelines for the EU-25 in 2003 was approximately 27 600 km, with France (5 746 km) in first place, followed by Italy (about 4 370 km) and United Kingdom (4 325 km).

Please note that data on oil pipelines only are collected and that oil pipelines between 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*

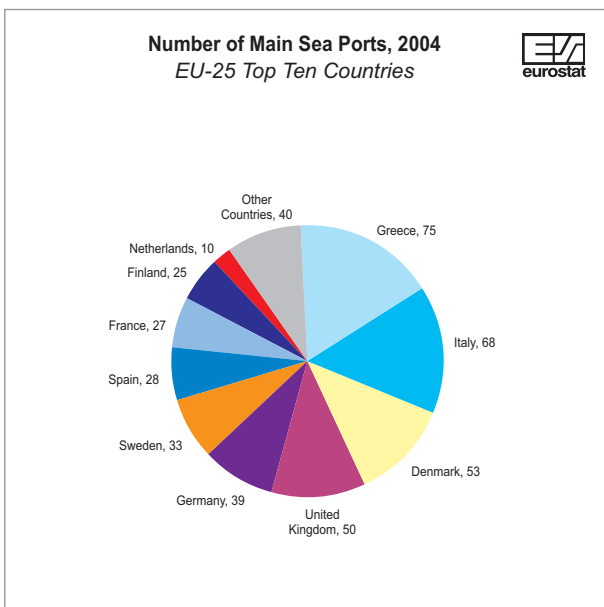
	2000	2001	2002	2003	2004
<b>EU-25</b>	:	:	:	<b>442</b>	<b>447</b>
<b>EU-15</b>	<b>385</b>	<b>401</b>	<b>416</b>	<b>422</b>	<b>426</b>
Belgium	4	4	4	4	4
Czech Republic	-	-	-	-	-
Denmark	48	48	50	52	53
Germany	38	39	39	39	39
Estonia	:	5	5	5	5
Greece *	46	53	69	70	75
Spain **	22	27	27	27	28
France	26	28	28	27	27
Ireland	10	9	8	8	8
Italy	64	67	66	67	68
Cyprus	:	:	3	3	3
Latvia	:	3	4	3	4
Lithuania	:	1	1	1	1
Luxembourg	-	-	-	-	-
Hungary	-	-	-	-	-
Malta	:	:	:	2	2
Netherlands	10	10	10	10	10
Austria	-	-	-	-	-
Poland	:	6	6	5	5
Portugal	8	8	7	7	7
Slovenia	:	1	1	1	1
Slovakia	-	-	-	-	-
Finland ***	20	24	23	24	24
Sweden	33	32	33	34	33
United Kingdom	56	52	52	53	50
Iceland	1	1	1	1	1
Liechtenstein	-	-	-	-	-
Norway	:	:	20	22	22
Switzerland	-	-	-	-	-
Bulgaria	:	2	2	2	2
Croatia	22	23	24	24	25
Romania	:	2	3	3	3
Turkey	17	16	17	:	:

\* the statistical coverage of data has considerably improved between 2001 and 2002

\*\* the statistical coverage has significantly improved in 2001

\*\*\* national maritime traffic is included only since 2001

Data Source: Eurostat



In 2004 at the EU-25 level, there were 447 ports, each handling more than 1 million tonnes of freight or more than 200 000 passengers per year. This threshold on handling is the reason for changing the number of main sea ports from year to year.

The largest number of ports is to be found in Greece, Italy, Denmark and the in United Kingdom.



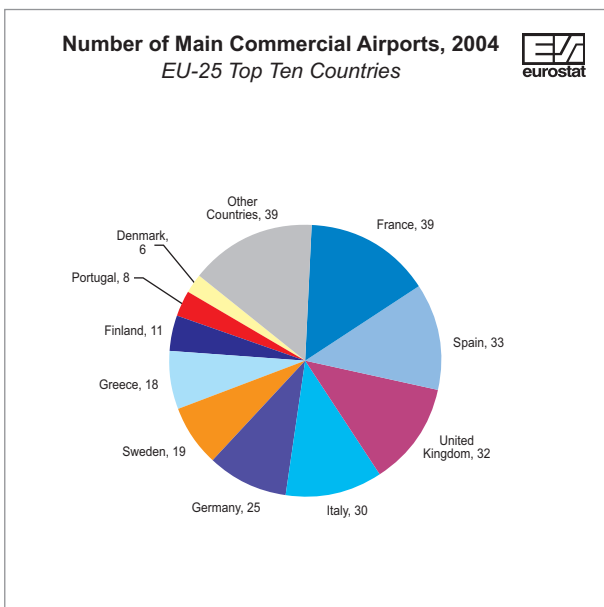
## Number of Main Commercial Airports

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

	<b>2004</b>
<b>EU-25</b>	<b>260</b>
<b>EU-15</b>	<b>242</b>
Belgium	4
Czech Republic	3
Denmark	6
Germany	25
Estonia	1
Greece	18
Spain	33
France	39
Ireland	6
Italy	30
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	11
Sweden	19
United Kingdom	32
Iceland	3
Liechtenstein	-
Norway	16
Switzerland	3
Bulgaria	3
Croatia	3
Romania	3
Turkey	14

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

Data Source: Eurostat



In 2004, at the EU-25 level there were 260 commercial airports, each handling more than 150 000 passenger movements per year.

The largest number of main commercial airports is to be found in France, Spain, the United Kingdom and Italy.

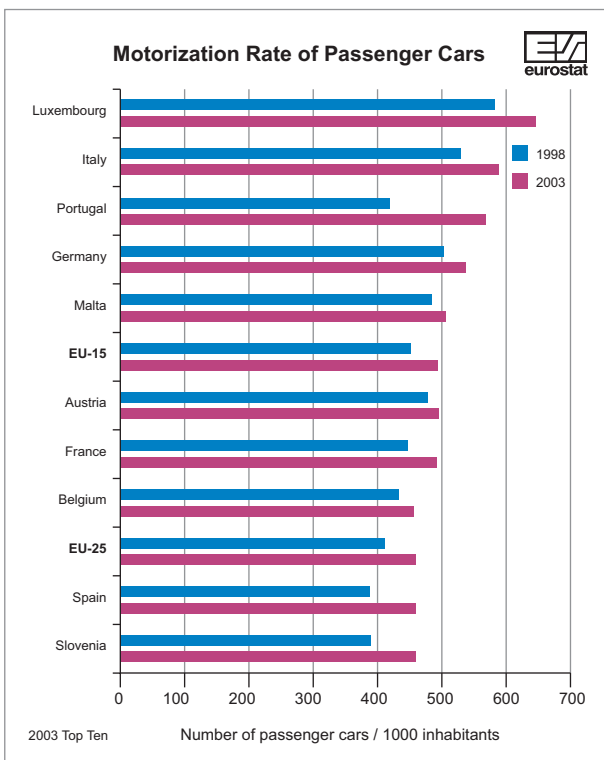
## Motorization Rate of Passenger Cars

Number of passenger cars/1000 inhabitants

	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	<b>422</b>	<b>432</b>	<b>444</b>	<b>455</b>	<b>463</b>	<b>468</b>
<b>EU-15</b>	<b>456</b>	<b>467</b>	<b>478</b>	<b>488</b>	<b>495</b>	<b>499</b>
Belgium	440	448	456	461	463	465
Czech Republic	339	334	335	345	357	363
Denmark	343	346	347	350	351	352
Germany	508	516	532	539	541	546
Estonia	325	333	339	299	295	321
Greece	247	269	293	312	331	348
Spain	407	425	437	451	460	450
France	459	469	476	485	490	493
Ireland	322	338	347	363	374	383
Italy	548	556	564	579	590	596
Cyprus	367	374	386	399	405	419
Latvia	200	220	235	249	265	279
Lithuania	276	309	335	326	340	364
Luxembourg	596	611	626	635	643	651
Hungary	216	220	232	244	259	274
Malta	463	480	490	497	510	524
Netherlands	390	401	411	418	424	426
Austria*	487	502	511	521	495	500
Poland	230	240	259	272	287	294
Portugal	453	485	514	538	558	574
Slovenia	410	428	437	444	459	446
Slovakia	222	229	236	240	247	252
Finland	392	403	412	417	422	436
Sweden	428	439	451	452	453	455
United Kingdom	403	414	420	433	447	453
Iceland	511	544	565	561	563	604
Liechtenstein	646	656	667	682	683	:
Norway	403	407	412	415	418	424
Switzerland	476	485	493	502	508	517
Bulgaria	219	232	247	264	276	295
Croatia	218	233	250	269	280	291
Romania	125	133	139	146	136	142
Turkey	61	64	68	66	66	66

\* break in the series in 2002

Data Source: Eurostat, DG for Energy and Transport



**Note:** 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.). Therefore one should be cautious when interpreting the figures.

The number of passenger cars per 1000 inhabitants has almost continuously increased from 1998 to 2003 in every EU-25 country. Therefore, a total increase of 11% is observed over these years, from 422 in 1998 to 468 in 2003 leading to 213 million cars in the EU-25 by 2003. The most significant increase in the order of 32% to 41% was recorded in countries with very low motorization rates in the past, namely Lithuania, Latvia and Greece.

## Renewal Rate of Passenger Cars

*Passenger cars first registration/ total passenger cars (%)*

	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	:	:	7.9	7.7	7.4	7.0
<b>EU-15</b>	8.4	8.6	8.2	8.0	7.6	7.4
Belgium	10.3	11.0	11.4	10.5	9.9	9.6
Czech Republic	5.7	5.8	6.0	5.9	6.0	3.9
Denmark	9.0	7.8	6.1	5.1	5.9	5.1
Germany	9.0	9.0	7.7	7.5	7.3	7.2
Estonia	:	:	2.2	3.1	3.7	3.6
Greece	6.9	9.2	9.5	8.5	7.6	7.1
Spain	8.0	8.9	8.4	8.3	7.5	7.4
France	7.2	7.8	7.6	7.9	7.4	6.8
Ireland	11.6	13.4	17.1	11.5	10.2	9.3
Italy	7.7	7.2	7.2	7.2	6.6	6.5
Cyprus	10.0	7.8	7.1	8.8	9.8	9.9
Latvia	11.9	8.7	6.4	6.5	6.5	7.7
Lithuania	15.0	13.0	9.9	6.3	7.9	9.4
Luxembourg	14.4	15.6	15.5	15.4	15.2	14.9
Hungary	5.1	6.2	6.3	7.7	9.1	6.8
Malta	6.2	7.3	6.9	5.3	5.1	5.1
Netherlands	8.9	9.6	9.1	7.9	7.5	7.1
Austria	7.6	7.8	7.6	7.0	7.0	7.4
Poland	6.3	6.5	5.2	4.3	3.8	2.4
Portugal	7.1	7.1	6.5	5.5	4.6	3.2
Slovenia	8.7	9.6	7.5	6.3	5.7	6.2
Slovakia	6.4	4.7	4.3	5.2	5.1	5.3
Finland	6.3	6.6	6.3	5.1	5.4	6.5
Sweden	7.6	8.6	8.9	7.2	7.3	7.5
United Kingdom	10.3	9.8	9.7	10.3	10.4	10.1
Iceland	10.8	11.3	9.3	4.8	4.6	6.2
Liechtenstein	9.3	10.0	9.8	9.1	9.0	:
Norway	7.9	6.8	6.9	6.5	:	:
Switzerland	8.7	9.1	8.9	8.7	7.9	7.1
Bulgaria	3.9	5.4	4.9	5.6	5.6	:
Croatia	:	:	8.2	9.1	7.6	8.1
Romania	7.7	5.3	4.8	3.0	:	:
Turkey	7.1	5.8	7.9	2.6	5.7	:

Data Source: Eurostat, DG for Energy and Transport, national statistics



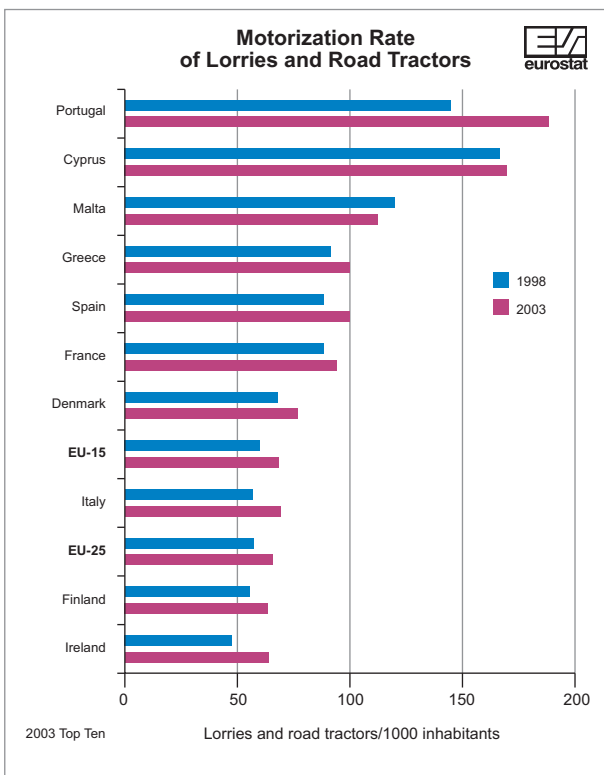
## Motorization Rate of Lorries and Road Tractors

*Lorries and road tractors/1000 inhabitants*

	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	<b>56</b>	<b>59</b>	<b>61</b>	<b>63</b>	<b>65</b>	<b>66</b>
<b>EU-15</b>	<b>60</b>	<b>62</b>	<b>65</b>	<b>67</b>	<b>68</b>	<b>69</b>
Belgium	49	51	53	56	57	58
Czech Republic	27	28	29	31	34	36
Denmark	67	70	72	73	75	77
Germany	31	32	34	34	34	34
Estonia	61	62	63	62	63	62
Greece	91	94	97	99	101	102
Spain	89	94	98	102	104	101
France	89	90	92	93	94	93
Ireland	48	52	56	59	59	63
Italy	57	58	60	64	68	68
Cyprus	161	162	165	168	166	166
Latvia	35	38	41	42	44	45
Lithuania	28	27	28	29	30	32
Luxembourg *	64	68	71	76	78	62
Hungary	33	34	36	37	39	39
Malta	121	122	118	117	114	112
Netherlands	49	53	56	59	61	62
Austria	41	42	43	44	42	43
Poland	40	44	49	51	56	61
Portugal	146	156	167	176	182	187
Slovenia	25	26	27	28	30	27
Slovakia	29	30	28	30	32	34
Finland	55	58	60	61	63	64
Sweden	39	41	43	45	47	48
United Kingdom	49	49	50	52	52	53
Iceland	60	64	69	70	71	80
Liechtenstein	76	79	70	73	:	:
Norway	36	36	36	36	:	:
Switzerland	38	38	39	39	40	40
Bulgaria	34	36	37	39	41	38
Croatia	:	:	27	29	31	31
Romania	18	20	20	21	20	21
Turkey	16	17	19	19	19	20

\* Including light lorries up to 2002

Data Source: Eurostat, DG for Energy and Transport, national statistics



**Note:** 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.). Therefore one should be cautious when interpreting the figures.

Likewise passenger cars, an increase is monitored in the motorization rate of lorries and road tractors from 1998 to 2003 and the countries having high increase in passenger car motorization do not necessarily have also high increases in the motorization of these vehicles.

In 2003, Portugal had the highest number of lorries and road tractors (187 per 1000 inhabitants) among the EU-25 countries, with Cyprus coming second (166 per 1000 inhabitants) and Malta third (112 per 1000 inhabitants). These high figures are partly explained by the fact that there is little or no rail network in these countries or even waterways networks, so most of the inland transport of goods is done by road.



## Renewal Rate of Lorries and Road Tractors

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

	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	<b>8.4</b>	<b>8.8</b>	<b>8.8</b>	<b>8.3</b>	<b>7.9</b>	<b>:</b>
<b>EU-15</b>	<b>8.5</b>	<b>8.9</b>	<b>8.9</b>	<b>8.5</b>	<b>7.9</b>	<b>7.7</b>
Belgium	12.2	13.2	12.0	12.2	9.9	10.1
Czech Republic <sup>1)</sup>	8.9	8.6	8.5	9.6	8.5	6.3
Denmark	9.6	10.0	9.4	9.1	8.8	8.8
Germany	10.4	10.9	9.9	9.0	8.3	8.2
Estonia	6.4	4.8	5.6	6.7	7.1	:
Greece	4.3	4.5	4.4	4.3	4.2	4.3
Spain <sup>1)</sup>	8.1	9.0	8.3	7.5	6.8	7.9
France	7.6	8.1	8.8	8.9	8.2	7.6
Ireland	13.9	15.8	16.2	13.9	16.1	13.5
Italy	6.2	6.2	7.0	6.8	7.8	6.1
Cyprus	6.8	6.1	6.0	6.8	6.2	4.2
Latvia	6.9	7.4	5.6	5.0	4.9	5.6
Lithuania	13.4	8.0	8.0	6.8	7.3	8.5
Luxembourg <sup>1,2)</sup>	10.9	12.3	12.6	13.4	12.6	16.6
Hungary	8.9	9.5	9.3	9.0	10.5	:
Malta <sup>1)</sup>	6.3	5.3	4.7	4.1	3.3	4.1
Netherlands	14.9	13.8	12.6	10.6	9.6	8.9
Austria	10.1	10.2	10.4	9.1	8.6	9.7
Poland	7.3	8.8	7.9	5.7	7.5	8.2
Portugal	7.4	7.1	7.6	5.7	4.5	3.7
Slovenia	7.8	8.9	8.3	7.7	7.8	8.8
Slovakia	6.4	4.8	5.6	8.5	7.4	8.8
Finland	6.9	6.6	6.0	5.7	5.6	5.7
Sweden	9.3	10.0	10.5	9.2	8.8	8.6
United Kingdom	10.4	10.8	11.6	11.9	10.2	11.1
Iceland	9.3	10.4	11.2	6.2	4.9	7.2
Liechtenstein	9.0	9.6	9.6	10.2	:	:
Norway	4.4	3.4	3.7	3.5	:	:
Switzerland	8.1	8.5	9.6	10.0	8.3	7.2
Bulgaria	3.6	3.6	3.4	4.3	4.6	:
Croatia	:	:	5.8	7.9	9.5	10.4
Romania	6.5	7.2	1.4	9.4	:	:
Turkey	11.6	7.0	9.8	3.6	3.8	8.1

1) Break in series in 2003

2) including light lorries up to 2002. Special vehicles are included in the total of lorries and road tractors.

Data Source: Eurostat, DG for Energy and Transport, national statistics



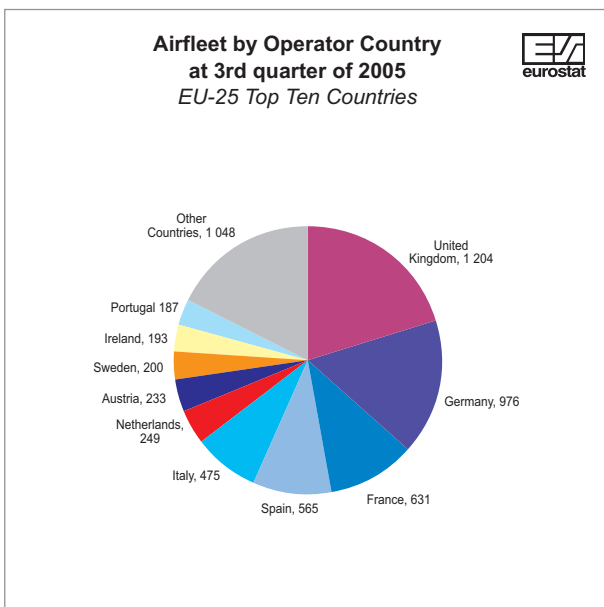
## Airfleet by Operator Country

	3rd quarter 2005
<b>EU-25</b>	<b>5961</b>
<b>EU-15</b>	<b>5492</b>
Belgium	152
Czech Republic	100
Denmark <sup>1)</sup>	168
Germany	976
Estonia	31
Greece	92
Spain	565
France	631
Ireland	193
Italy	475
Cyprus	23
Latvia	37
Lithuania	34
Luxembourg	79
Hungary	65
Malta	20
Netherlands	249
Austria	233
Poland	106
Portugal	187
Slovenia	19
Slovakia	34
Finland	88
Sweden <sup>1)</sup>	200
United Kingdom	1204
Iceland	44
Liechtenstein	4
Norway <sup>2)</sup>	90
Switzerland	251
Bulgaria	93
Croatia	29
Romania	44
Turkey	259

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

2) Excludes SAS passenger aircraft

Data Source: Airclaims



**Note:** All military aircrafts excluded

At the end of the third quarter of 2005, there were 5 961 commercial aircraft in the EU-25. Countries having the major share of airfleet in the total of EU-25 are: United Kingdom with 1 204 aircraft and a share of 20%, Germany with 976 aircraft and a share of 16%, followed by France - with 631 aircraft (11%).

The comparison between the airfleet of a country and its population shows a different picture: Luxembourg comes first with 174 aircraft per million of inhabitants, followed by Malta and Ireland with 50 and 47 aircraft per million of inhabitants respectively. The average for EU-25 is 13 aircraft per million of inhabitants while the United Kingdom, Germany and France have ratios of 20, 12 and 10 aircraft per million of inhabitants respectively.

## Index of Inland Freight Transport Volume Relative to GDP

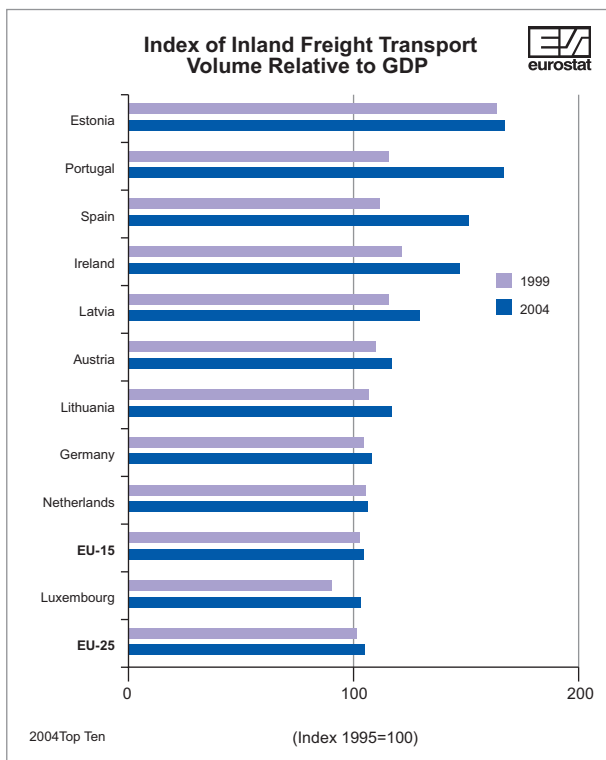
*Inland Freight Transport Volume measured in tonne-km / GDP (in constant 1995 Euro), 1995=100*

	1999	2000	2001	2002	2003	2004
<b>EU-25 *</b>	<b>100.7</b>	<b>100.4</b>	<b>99.4</b>	<b>100.3</b>	<b>99.7</b>	<b>104.7</b>
<b>EU-15 *</b>	<b>102.2</b>	<b>102.2</b>	<b>101.4</b>	<b>101.9</b>	<b>100.5</b>	<b>105.3</b>
Belgium	78.9	98.1	100.0	99.1	95.0	89.7
Czech Republic	95.7	94.0	93.5	97.9	99.5	93.3
Denmark	93.1	93.0	85.5	86.2	87.7	86.8
Germany	103.7	103.3	103.3	102.2	103.1	107.5
Estonia	164.4	182.8	165.2	172.3	158.5	167.9
Greece	141.7	:	:	:	:	:
Spain	111.7	117.7	122.5	135.4	137.1	151.4
France	103.3	100.0	96.8	94.6	92.4	92.8
Ireland	121.2	132.0	125.1	135.0	141.0	147.5
Italy *	100.9	102.1	100.9	102.6	93.4	104.4
Cyprus	96.2	94.6	93.9	95.7	99.5	76.5
Latvia	116.2	120.2	120.1	122.5	133.4	129.3
Lithuania	106.5	109.7	98.2	117.6	119.1	116.2
Luxembourg	88.9	96.5	106.4	107.3	109.0	104.8
Hungary	99.6	97.5	91.8	86.9	85.4	91.9
Malta	:	:	:	:	:	:
Netherlands	105.2	98.9	96.8	94.9	96.0	105.5
Austria *	109.8	112.3	117.1	119.0	117.8	117.0
Poland *	85.1	82.9	81.0	81.7	83.1	90.3
Portugal *	115.8	114.5	124.2	122.8	114.9	165.9
Slovenia	89.0	87.6	88.5	84.0	87.2	101.1
Slovakia	61.4	54.0	49.7	46.8	47.6	47.4
Finland	97.6	99.3	94.2	95.1	91.4	91.3
Sweden	91.1	93.1	88.8	90.6	90.8	89.2
United Kingdom	93.6	89.6	87.2	85.5	84.8	84.3
Iceland	102.6	103.3	100.7	102.9	109.1	111.6
Liechtenstein	:	:	:	:	:	:
Norway	124.1	122.8	119.2	118.2	124.9	127.9
Switzerland	:	:	:	:	:	:
Bulgaria	:	31.8	33.3	33.2	35.0	38.5
Croatia	:	:	:	:	:	:
Romania	71.5	75.3	80.0	90.2	96.1	100.2
Turkey	116.4	116.6	117.0	107.8	103.6	99.5

\* Break in 2004

EU totals include estimates for MT and EL

Data Source: Eurostat



The index of EU-25 freight transport volume measured in tkm/GDP shows an increase of 4.7% in 2004 compared to 1999.

In 2004, it is notable that the index is higher for Estonia, Portugal, Spain and well below 100 for Slovakia, though the breaks in series appearing in 2004 should be taken into account when data are interpreted.

## Index of Inland Freight Transport Growth

Total transport of road, rail, inland waterways and oil pipelines  
in tonne-kilometres, 1995=100

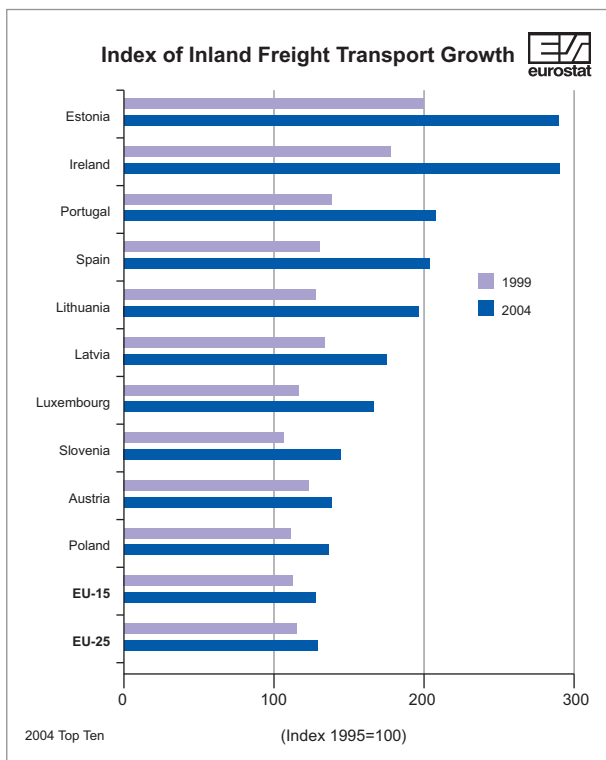
	1999	2000	2001	2002	2003	2004
<b>EU-25 *</b>	<b>111</b>	<b>115</b>	<b>116</b>	<b>118</b>	<b>119</b>	<b>127</b>
<b>EU-15 *</b>	<b>112</b>	<b>117</b>	<b>118</b>	<b>119</b>	<b>119</b>	<b>127</b>
Belgium	87	112	115	116	112	109
Czech Republic	98	100	102	108	114	111
Denmark	107	112	105	108	110	111
Germany	110	113	115	113	114	121
Estonia	200	240	231	258	253	289
Greece	161	162	:	:	:	:
Spain	129	142	152	172	179	203
France	113	114	112	111	110	112
Ireland	176	210	211	241	263	288
Italy *	108	112	113	115	106	119
Cyprus	110	114	118	122	130	104
Latvia	133	145	160	156	165	173
Lithuania	127	140	144	176	194	196
Luxembourg	115	136	152	157	164	165
Hungary	115	118	117	116	119	133
Malta	:	:	:	:	:	:
Netherlands	122	118	118	116	118	130
Austria *	121	127	134	137	137	139
Poland *	109	111	110	112	120	135
Portugal *	136	140	154	153	142	207
Slovenia	106	109	113	111	118	142
Slovakia *	72	65	62	61	65	68
Finland	117	125	119	123	121	126
Sweden	103	109	105	110	111	113
United Kingdom	106	105	105	104	106	108
Iceland	125	132	133	134	147	160
Liechtenstein	:	:	:	:	:	:
Norway	124	123	124	123	129	134
Switzerland	119	118	120	:	:	:
Bulgaria	:	:	:	:	:	:
Croatia	:	:	:	:	:	:
Romania	65	69	78	92	102	115
Turkey	163	171	155	147	138	136

\* Break in series: SK in 2000; EU-25, EU-15, IT, AT, PL, PT - 2004

Changes in the surveys methodology after the period of 1995 led to an index with value above 200 for EE and PT

EU totals include estimates for MT and EL.

Data Source: Eurostat



The average EU-25 freight transport, in terms of tonne-kilometres, grew by 27% in the period 1995-2004. The increase in the last year is 7%, partially attributed to the change in the methodology of road and rail freight transport surveys. It must be noted that due to the change in the methodology of freight transport surveys some breaks in series resulted in the table on the left hand page.



## Modal Split of Inland Freight Transport Shares of Rail, Road, Inland Waterways and Oil Pipelines in Total Inland Transport

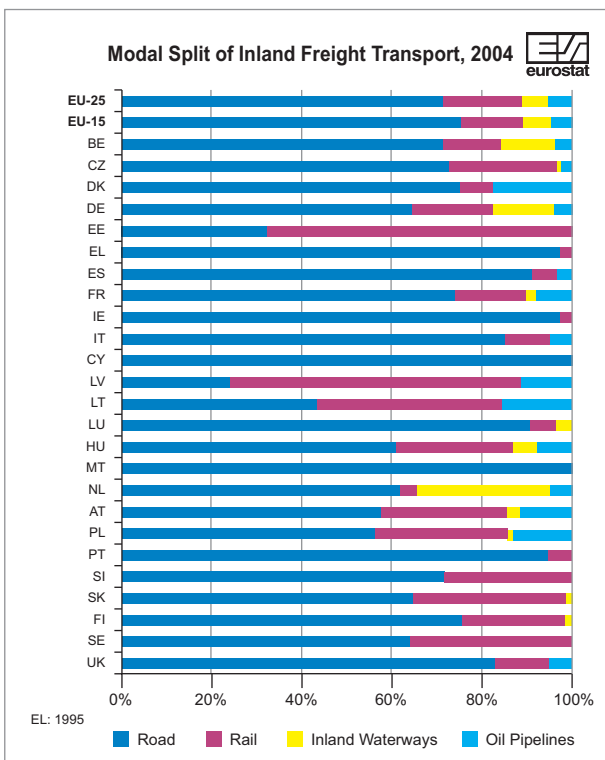
(% of total tonne-kilometres)

	1995					2004				
	Rail	Road	Inland Waterways	Oil Pipelines	Total	Rail	Road	Inland Waterways	Oil Pipelines	Total
EU-25	20	68	7	6	100	17	72	6	5	100
EU-15	15	72	8	5	100	13	76	7	5	100
BE	13	76	10	2	100	12	73	13	3	100
CZ	40	55	1	4	100	24	73	0	3	100
DK	7	81	-	11	100	7	76	-	17	100
DE	18	61	16	4	100	18	65	14	3	100
EE*	71	29	0	-	100	67	33	-	-	100
EL	2	98	-	-	100	:	:	-	-	:
ES	9	86	-	5	100	5	92	-	3	100
FR	19	70	3	9	100	16	74	3	7	100
IE	10	90	-	-	100	2	98	-	-	100
IT*	11	84	0	5	100	10	85	0	5	100
CY	-	100	-	-	100	-	100	-	-	100
LV	58	11	-	31	100	64	25	-	11	100
LT	50	36	0	14	100	41	44	0	15	100
LU	9	86	5	-	100	6	91	4	-	100
HU*	33	55	6	6	100	26	61	6	7	100
MT	-	100	-	-	100	-	100	-	-	100
NL	3	61	32	5	100	4	62	30	4	100
AT*	27	55	4	14	100	28	58	3	11	100
PL*	51	38	1	10	100	29	57	1	14	100
PT*	10	90	-	-	100	5	95	-	-	100
SI	35	65	-	-	100	28	72	-	-	100
SK*	33	64	4	-	100	34	65	0	-	100
FI	27	72	0	-	100	24	76	0	-	100
SE	38	62	-	-	100	36	64	-	-	100
UK	7	87	0	6	100	11	83	0	5	100
IS	-	100	-	-	100	-	100	-	-	100
LI	:	:	-	-	:	:	:	-	-	:
NO	15	55	-	30	100	12	74	-	14	100
CH	36	58	1	5	100	:	:	:	:	:
BG	:	:	:	:	:	29	66	4	2	100
HR	:	:	:	:	:	19	66	1	14	100
RO	48	39	6	6	100	25	65	7	3	100
TR	7	91	-	3	100	6	93	-	1	100

\*In the period between 1995 and 2004, breaks in series appeared for: EE, IT, HU, AT, PL, PT, SK

EU totals include estimates for MT and EL

Data Source: Eurostat



In 2004, 72% of the EU-25 freight inland transport (in tonne-km) was done by road. In most of the countries, road transport was the dominant mode with the exception of Estonia and Latvia where rail transport performance was more than double the road transport performance. For most of the countries, there was increase in the share of road freight transport in 2004 when compared to 1995. The exceptions were Belgium, the United Kingdom and Denmark.

Rail freight transport had a share of 20% at the EU-25 level in 1995 which dropped to 17% in 2004. There was also slight decrease in the shares of inland waterways and pipelines: from 12.4% in 1995 to 10.9% in 2004.

## Tonnage of Freight Transport by Rail

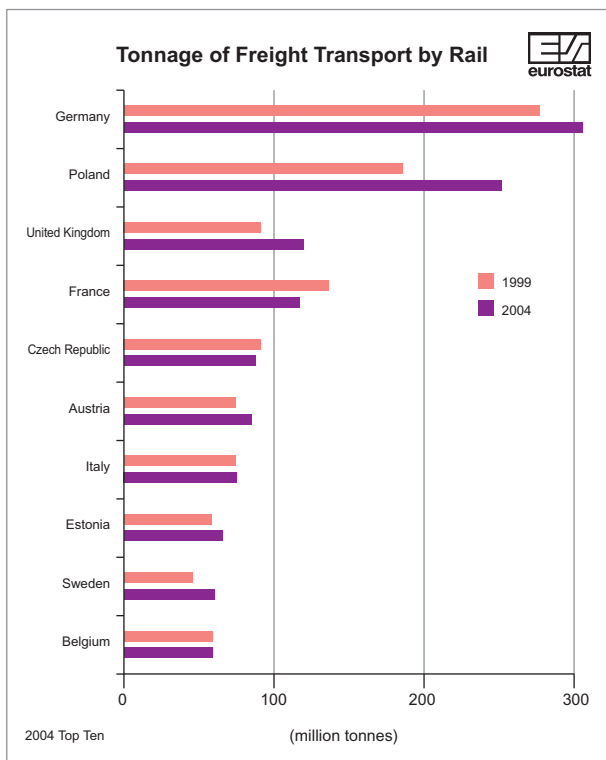
	<i>(million tonnes)</i>					
	1999	2000	2001	2002	2003	2004
<b>EU-25*</b>	<b>1 397</b>	<b>1 462</b>	<b>1 416</b>	<b>1 473</b>	<b>1 517</b>	<b>1 646</b>
<b>EU-15*</b>	<b>890</b>	<b>930</b>	<b>917</b>	<b>903</b>	<b>913</b>	<b>987</b>
Belgium	59	61	57	57	56	58
Czech Republic	91	98	97	92	93	89
Denmark	7	8	7	7	8	8
Germany	277	283	288	285	297	310
Estonia	58	64	65	71	66	66
Greece	2	3	3	2	3	3
Spain	25	26	26	26	26	29
France	137	142	126	128	121	117
Ireland	3	3	3	2	2	2
Italy	74	80	79	75	74	86
Cyprus	-	-	-	-	-	-
Latvia	33	36	38	40	49	56
Lithuania	28	31	29	37	43	46
Luxembourg	18	18	18	16	15	17
Hungary	49	50	36	43	43	52
Malta	-	-	-	-	-	-
Netherlands	27	28	26	26	30	30
Austria	74	81	83	84	82	95
Poland	185	185	167	223	242	283
Portugal	9	9	10	11	9	10
Slovenia	13	14	14	15	17	18
Slovakia	49	54	54	50	51	50
Finland	40	41	42	42	44	43
Sweden	46	52	55	55	58	60
United Kingdom	92	95	94	87	89	119
Iceland	-	-	-	-	-	-
Liechtenstein	:	:	:	:	:	2
Norway**	8	8	8	20	21	23
Switzerland	55	59	59	55	:	:
Bulgaria	21	21	19	19	20	20
Croatia	10	10	11	11	12	12
Romania	63	71	72	68	69	63
Turkey	15	18	14	14	16	18

Since 2004, small rail companies are included for some countries (break in series).

\* 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 is in order of the magnitude of 30%

\*\* break in series: two companies are included since 2002

Data Source: Eurostat, UIC, national statistics



The tonnage of goods transported by rail in the 25 Member States in 2004 was more than 1.6 billion tonnes, with an increase of 18% and 8% since 1999 and 2003 respectively. In terms of tonne-kilometres the rail freight in 2004 was more than 380 billion tkm. The growth in 2004 might be explained with increase appearing in some countries such as Poland, the United Kingdom and to a lesser extent, Germany and Austria.

## Tonnage of Freight Transport by Road

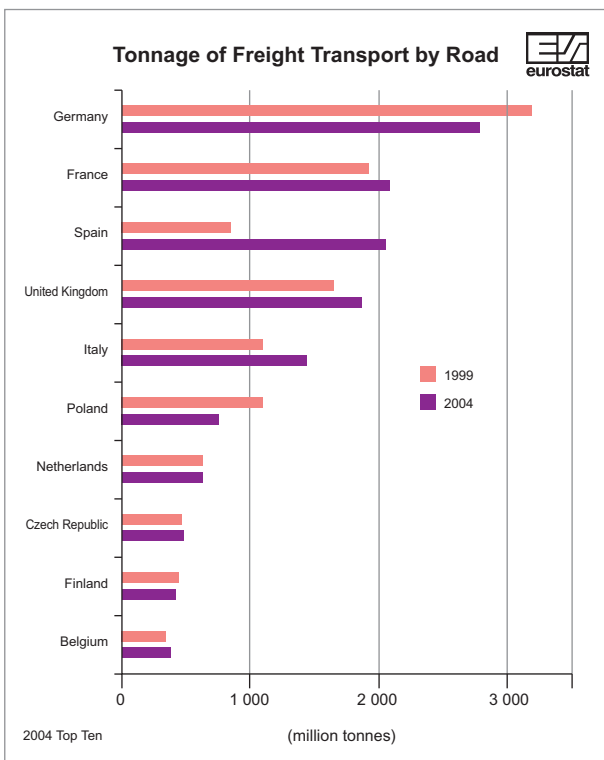
*(million tonnes)*

	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	:	:	:	:	:	:
<b>EU-15</b>	<b>11 423</b>	<b>11 687</b>	<b>11 626</b>	:	:	:
Belgium	323	412	386	392	378	347
Czech Republic	448	394	439	475	448	466
Denmark	216	224	205	209	206	192
Germany	3 181	3 003	2 885	2 721	2 744	2 768
Estonia	14	26	33	33	28	26
Greece	194	198	203	:	:	:
Spain *	827	945	1 048	1 761	1 850	2 013
France	1 897	1 924	1 991	2 037	1 982	2 077
Ireland	162	192	201	223	252	278
Italy	1 082	1 205	1 160	1 254	1 243	1 424
Cyprus	:	:	:	52	55	43
Latvia	33	33	32	39	44	46
Lithuania	46	45	45	45	52	51
Luxembourg	33	37	45	51	52	53
Hungary	263	261	246	228	214	213
Malta	:	:	:	:	:	:
Netherlands	608	585	593	570	571	614
Austria	273	277	284	286	297	283
Poland **	1 068	1 083	1 072	1 002	982	732
Portugal **	281	287	304	283	266	326
Slovenia	47	49	58	63	69	74
Slovakia	151	197	196	174	174	178
Finland	416	422	379	420	400	400
Sweden	306	329	311	326	312	329
United Kingdom	1 624	1 648	1 630	1 691	1 724	1 832
Iceland	:	:	:	:	:	:
Liechtenstein	:	:	:	:	:	:
Norway	226	222	219	216	230	244
Switzerland	:	:	:	:	:	:
Bulgaria	:	122	115	140	155	145
Croatia	36	45	41	46	52	55
Romania	279	263	268	267	276	:
Turkey	:	:	:	:	:	:

\* break in 2002: national transport includes goods transported inside the towns

\*\* break in 2004 due to methodological changes

Data Source: Eurostat



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

Road freight transport in the EU-25 accounted for approximately 15 billion tonnes in 2004, with a growth of 11% since 1999. European road transport in 2004 was dominated by Germany, France, Spain, the United Kingdom and Italy where, with the exception of Germany, the trend in recent years was increasing. In these countries, 6% increase was recorded for the most recent year.

## Tonnage of Freight Transport by Inland Waterways

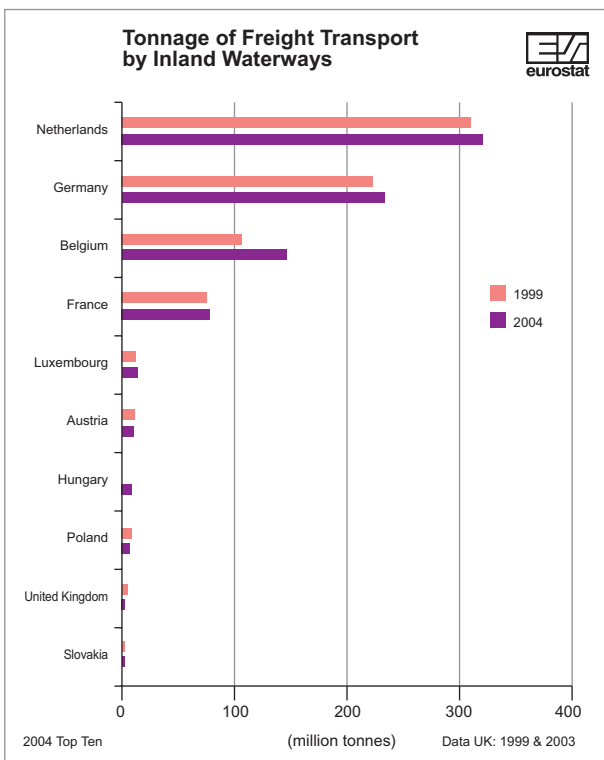
*(million tonnes)*

	1999	2000	2001	2002	2003	2004
<b>EU-25 *</b>	:	<b>792</b>	<b>808</b>	<b>788</b>	<b>756</b>	:
<b>EU-15 *</b>	<b>741</b>	<b>774</b>	<b>789</b>	<b>770</b>	<b>738</b>	:
Belgium	110	120	128	134	137	147
Czech Republic	2	2	2	2	1	1
Denmark	-	-	-	-	-	-
Germany	229	242	236	232	220	236
Estonia	:	:	-	-	-	-
Greece	-	-	-	-	-	-
Spain	-	-	-	-	-	-
France	66	71	68	67	64	67
Ireland	-	-	-	-	-	-
Italy	:	:	:	:	:	:
Cyprus	-	-	-	-	-	-
Latvia	-	-	-	-	-	-
Lithuania **	0	0	0	-	-	-
Luxembourg	11	12	11	9	10	11
Hungary	:	4	6	7	6	7
Malta	-	-	-	-	-	-
Netherlands	311	314	329	312	293	319
Austria	10	11	12	12	11	9
Poland **	8	10	10	7	8	7
Portugal	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-
Slovakia **	2	2	2	1	3	3
Finland	0	1	0	0	0	:
Sweden	-	-	-	-	-	-
United Kingdom	4	4	4	4	3	:
Iceland	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-
Norway	-	-	-	-	-	-
Switzerland	:	:	:	:	:	:
Bulgaria	:	:	6	6	7	4
Croatia	1	1	2	1	1	2
Romania **	14	13	11	14	:	30
Turkey	-	-	-	-	-	-

\* EU totals exclude Italy and Estonia

\*\* Inland waterways operators data are reported for: LT, PL (up to 2003), SK (up to 2002), RO (up to 2003) and HR

Data Source: Eurostat



In 2004, the total volume of inland waterways transport in the EU-25 was about 800 million tonnes. The Netherlands and Germany cover approximately 70% of the total tonnes for EU-25.



## Tonnage of Freight Transport by Sea

(million tonnes)

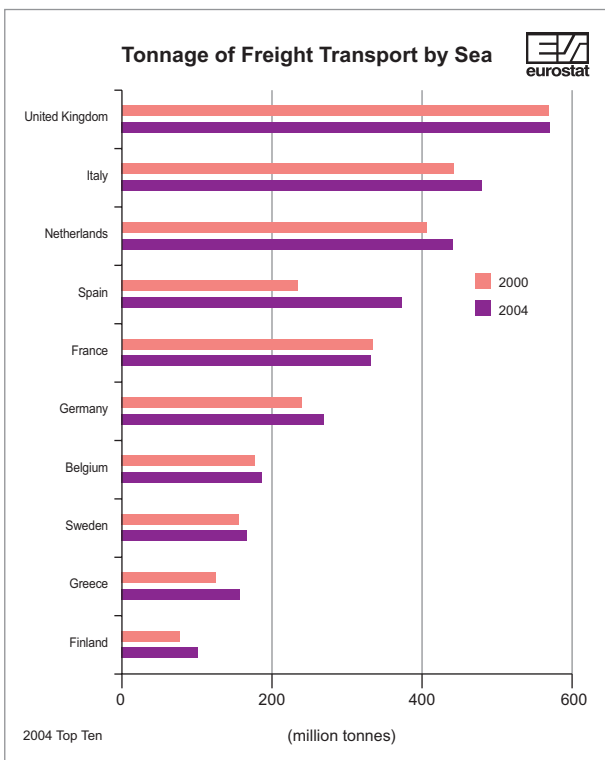
	2000	2001	2002	2003	2004
<b>EU-25</b>	:	:	:	<b>3 393</b>	<b>3 505</b>
<b>EU-15</b>	<b>2 985</b>	<b>3 038</b>	<b>3 091</b>	<b>3 189</b>	<b>3 305</b>
Belgium	179	174	174	181	188
Czech Republic	-	-	-	-	-
Denmark	97	94	94	104	100
Germany	243	246	246	255	272
Estonia	:	40	45	47	45
Greece *	128	122	148	163	158
Spain *	235	315	326	344	373
France	337	318	319	330	334
Ireland	45	46	45	46	48
Italy	447	445	458	477	485
Cyprus	:	:	7	7	7
Latvia	:	57	52	55	55
Lithuania	:	21	24	30	26
Luxembourg	-	-	-	-	-
Hungary	-	-	-	-	-
Malta	:	:	:	4	4
Netherlands	406	406	413	410	441
Austria	-	-	-	-	-
Poland	:	46	48	51	52
Portugal	56	56	56	57	59
Slovenia	:	9	9	11	12
Slovakia	-	-	-	-	-
Finland **	81	96	99	104	107
Sweden	159	153	155	161	167
United Kingdom	573	566	558	556	573
Iceland	5	5	5	5	5
Liechtenstein	-	-	-	-	-
Norway	:	:	190	187	198
Switzerland	-	-	-	-	-
Bulgaria	:	20	20	21	23
Croatia ***	17	19	19	20	25
Romania	:	28	33	36	41
Turkey	141	128	:	:	:

\* The statistical coverage has been significantly improved: for EL between 2001 and 2002, for ES - in 2001

\*\* National maritime traffic is included only since 2001

\*\*\* Break in series in 2004 due to methodological changes

Data Source: Eurostat



**Note:** Caution must be observed when considering the total figures (inwards + outwards), as the national transport includes some double-counting (goods loaded and unloaded).

In 2004, 3.5 billion tonnes of goods were handled at EU-25 sea ports. The total tonnage handled in 2004 rose by 3.3% compared to the previous year in addition to a similar growth between 2002 and 2003. Most of the Member States recorded an increase in 2004. Italy, the Netherlands and the United Kingdom, which traditionally handle higher quantities of seaborne goods, had in 2004 share of 43% in EU-25 total.

## Passenger Transport by Rail

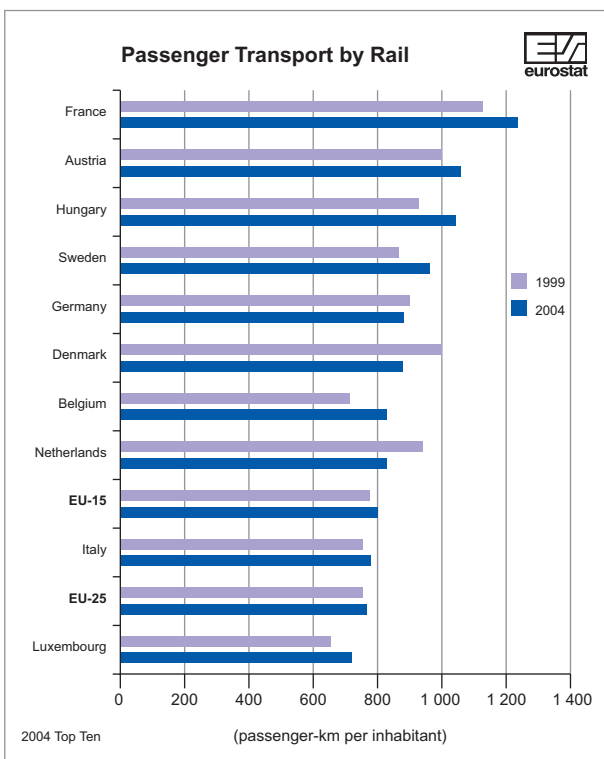
*(passenger-km per inhabitant)*

	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	<b>750</b>	<b>777</b>	<b>782</b>	<b>773</b>	<b>758</b>	<b>766</b>
<b>EU-15</b>	<b>784</b>	<b>808</b>	<b>818</b>	<b>813</b>	<b>798</b>	<b>810</b>
Belgium	719	756	781	799	796	832
Czech Republic	676	707	713	646	635	645
Denmark	998	1 037	1 068	1 069	1 081	881
Germany	899	917	920	865	864	883
Estonia	173	192	133	130	134	143
Greece	145	173	159	167	143	154
Spain	458	465	477	478	465	476
France	1 131	1 181	1 203	1 231	1 201	1 230
Ireland	388	365	392	414	401	389
Italy	753	816	814	804	786	783
Cyprus	-	-	-	-	-	-
Latvia	412	301	300	318	328	351
Lithuania	211	175	153	144	125	129
Luxembourg	720	761	783	800	582	589
Hungary	929	949	982	1 037	1 015	1 044
Malta	-	-	-	-	-	-
Netherlands*	949	967	966	960	851	826
Austria	1 001	1 024	1 026	1 031	1 018	1 061
Poland	557	623	582	540	514	483
Portugal	431	375	379	379	343	352
Slovenia	314	411	359	376	390	382
Slovakia	550	533	521	499	431	414
Finland	661	658	633	638	640	640
Sweden	872	936	989	1 020	1 049	961
United Kingdom	651	643	661	674	681	721
Iceland	-	-	-	-	-	-
Liechtenstein**	:	:	:	:	:	:
Norway	652	636	612	549	530	572
Switzerland	1 766	1 787	1 867	1 661	:	:
Bulgaria	465	431	378	330	322	338
Croatia	206	221	279	269	262	273
Romania	548	518	495	390	391	398
Turkey	96	90	81	75	83	74

\* Up to 2002, rail data are based on the movements of the Dutch inhabitants on Dutch territory

\*\* Rail transport data are included in Austrian data

Data Source: Eurostat, DG for Energy and Transport, national statistics



**Note:** Rail passenger data are not harmonised at EU level. Transit transport is included for some countries.

Rail passenger transport reached a total of 351 billion passenger-kilometres at the EU-25 level in 2004. Passenger transport by rail, in terms of passenger-kilometres per inhabitant, increased only by 2% in the EU-25 between 1999 and 2004. In relative terms, it is France which in 2004 recorded the largest number of passenger-kilometres per inhabitant. In absolute terms, it is also France that recorded in 2004 the highest number of 75 billion passenger-kilometres, followed by Germany and Italy.

## Passenger Transport by Buses and Coaches

*(passenger-km per inhabitant)*

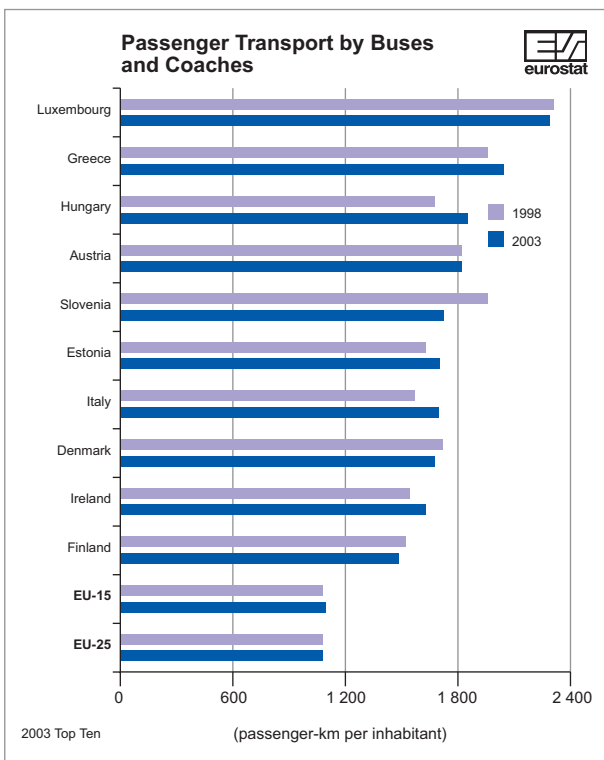
	1998	1999	2000	2001	2002	2003
<b>EU-25</b>	<b>1 078</b>	<b>1 081</b>	<b>1 091</b>	<b>1 093</b>	<b>1 079</b>	<b>1 086</b>
<b>EU-15</b>	<b>1 079</b>	<b>1 084</b>	<b>1 095</b>	<b>1 096</b>	<b>1 086</b>	<b>1 091</b>
Belgium	1 336	1 349	1 287	1 309	1 320	1 320
Czech Republic *	843	841	910	1 036	947	926
Denmark	1 717	1 715	1 710	1 685	1 669	1 670
Germany	923	928	941	935	917	919
Estonia	1 634	1 616	1 920	1 804	1 715	1 697
Greece	1 957	1 976	1 988	2 009	2 031	2 040
Spain	1 252	1 262	1 260	1 284	1 228	1 188
France	726	710	730	698	677	713
Ireland	1 535	1 571	1 607	1 620	1 615	1 627
Italy	1 573	1 599	1 614	1 651	1 688	1 694
Cyprus	:	:	:	:	:	:
Latvia	790	991	989	979	1 010	1 097
Lithuania	835	756	787	814	869	897
Luxembourg	2 308	2 300	2 292	2 286	2 286	2 289
Hungary	1 673	1 738	1 834	1 827	1 840	1 866
Malta	:	:	:	:	:	:
Netherlands	497	474	471	474	446	462
Austria	1 819	1 843	1 852	1 843	1 835	1 821
Poland	880	860	821	802	762	785
Portugal	1 140	1 128	1 156	1 084	959	1 006
Slovenia	1 956	2 087	1 761	1 703	1 674	1 727
Slovakia	1 640	1 452	1 565	1 534	1 531	1 450
Finland	1 514	1 471	1 488	1 484	1 481	1 471
Sweden	1 028	1 050	1 048	1 079	1 132	1 172
United Kingdom **	760	773	787	790	793	790
Iceland	1 671	1 687	1 750	1 748	1 753	1 910
Liechtenstein	:	:	:	:	:	:
Norway	950	936	922	909	909	877
Switzerland	432	429	426	426	:	:
Bulgaria	1 546	1 795	1 810	1 892	2 158	1 662
Croatia	866	734	740	783	801	838
Romania	398	370	343	320	242	434
Turkey	1 508	1 429	1 348	1 118	1 120	1 128

EU totals include estimates for Cyprus and Malta

\* break in series in 2000

\*\* buses and coaches data refer to Great Britain

Data Source: Eurostat, DG for Energy and 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.

In terms of passenger-kilometres per capita, Greece, Luxembourg and Hungary are the countries that led the ranking in 2004 in the EU-25. On the other hand, in terms of passenger-kilometres, Italy is in first place with 97.6 billion passenger-kilometres followed by Germany (75.8 billion pkm) and Spain (49.3 billion pkm).

## International Passenger Transport by Air

*(passengers per thousand inhabitants)*

	1999	2000	2001	2002	2003	2004
<b>EU-25<sup>1)</sup></b>	<b>1 298</b>	<b>1 398</b>	:	:	:	<b>1 592</b>
<b>EU-15</b>	<b>1 491</b>	<b>1 603</b>	:	:	<b>1 655</b>	<b>1 807</b>
Belgium	1 956	2 106	1 923	1 385	1 454	1 676
Czech Republic <sup>2)</sup>	480	554	610	632	745	957
Denmark	3 019	3 204	3 358	3 394	3 333	3 589
Germany	1 120	1 199	1 181	1 139	1 211	1 387
Estonia <sup>2)</sup>	398	408	417	434	513	722
Greece	2 060	2 253	:	:	2 104	2 171
Spain	1 922	2 031	2 068	2 042	2 142	2 243
France	1 029	1 113	1 112	1 153	1 161	1 259
Ireland	3 909	4 217	4 310	4 470	4 804	4 957
Italy	676	767	756	747	858	980
Cyprus <sup>6)</sup>	7 959	8 687	9 144	8 499	8 408	8 679
Latvia <sup>2)</sup>	236	243	265	271	306	457
Lithuania	154	166	187	202	209	289
Luxembourg	3 656	3 795	3 664	3 374	3 220	3 329
Hungary	422	460	451	440	495	638
Malta	7 869	7 789	7 139	6 547	6 533	6 859
Netherlands	2 357	2 538	2 456	2 516	2 528	2 726
Austria	1 661	1 775	1 761	1 790	1 882	2 170
Poland	112	122	129	132	:	136
Portugal	1 219	1 310	1 294	1 394	1 426	1 521
Slovenia	462	509	455	444	:	524
Slovakia <sup>4)</sup>	29	27	35	86	110	194
Finland	1 344	1 468	1 485	1 448	1 499	1 707
Sweden	1 716	1 836	1 818	1 635	1 514	1 633
United Kingdom	2 243	2 390	2 391	2 467	2 580	2 782
Iceland	3 451	3 827	3 611	3 405	:	:
Liechtenstein	-	-	-	-	-	-
Norway	1 662	1 832	1 857	1 725	1 762	1 881
Switzerland	3 990	4 364	4 080	3 342	3 383	3 494
Bulgaria <sup>3)</sup>	260	260	323	380	:	:
Croatia <sup>7)</sup>	258	332	368	408	459	547
Romania	80	92	113	103	117	138
Turkey <sup>5)</sup>	267	334	343	357	355	427

1) Passengers travelling between 2 countries are counted twice in the aggregate EU-25

2) CZ, EE, LV: up to 2001, air passenger data include transit

3) BG: up to 2001, only public sector enterprises. Including transit for 1995-1999

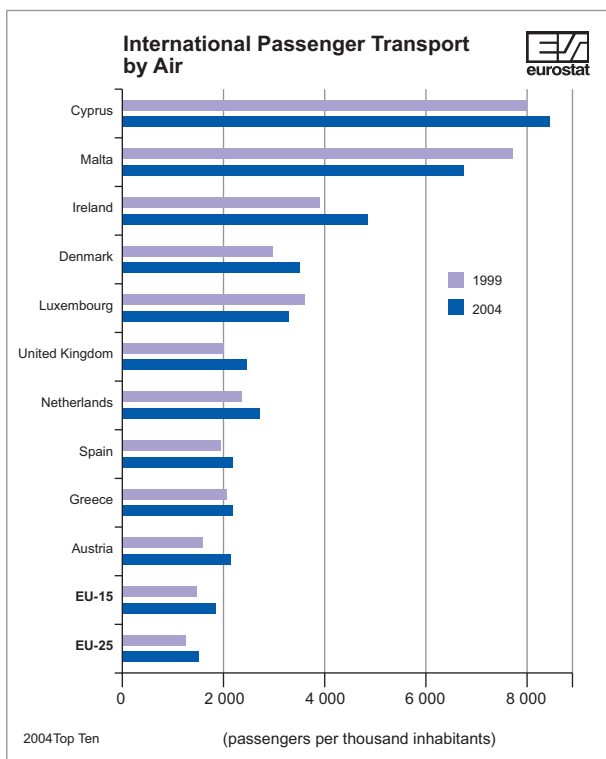
4) SK: up to 2001, data consist only of transport enterprises enrolled in Business Register with 20 and more employees

5) TR: up to 2001, number of departures and arrivals in external lines reported to the General Directorate of State Airports

6) CY: Excluding transfer passengers

7) HR: Excluding direct transit passengers

Data Source: Eurostat, national statistics



**Note:** In principle, data on air passengers used for the calculation of this indicator, are based on On Flight Origin/Destination information rather than Flight Stage. Flight Stage data were used when no On Flight Origin/Destination data were available and in these cases direct transit passengers were included.

The picture of the EU-25 Member States is diverse: the indicator for international passengers per thousand inhabitants vary considerably for 2004. Figures below 300 appear for Poland, Slovakia and Lithuania while, on the other hand, Ireland, Malta and Cyprus have values up to or higher than 5 000. The United Kingdom with 166 million passengers led the international air transport in 2004 followed by Germany (114 million) and Spain (96 million).



## Passenger Transport by Sea

*(passengers per thousand inhabitants)*

	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	:	:	:	:	<b>906</b>	<b>886</b>
<b>EU-15</b>	<b>956</b>	<b>886</b>	<b>938</b>	<b>1 070</b>	<b>1 058</b>	<b>1 033</b>
Belgium <sup>1)</sup>	152	148	134	109	71	76
Czech Republic	-	-	-	-	-	-
Denmark	10 775	9 707	8 931	8 962	9 025	8 984
Germany	378	382	386	403	389	361
Estonia	:	:	4 208	3 780	3 821	4 782
Greece <sup>2)</sup>	3 416	2 553	4 576	9 198	9 317	8 720
Spain <sup>3)</sup>	409	365	462	465	483	508
France	519	473	468	489	457	448
Ireland	1 160	1 110	1 008	990	938	873
Italy	1 482	1 495	1 513	1 447	1 433	1 432
Cyprus	:	:	:	477	397	334
Latvia	:	:	11	10	51	56
Lithuania	:	:	29	31	39	43
Luxembourg	-	-	-	-	-	-
Hungary	-	-	-	-	-	-
Malta	:	:	:	:	351	562
Netherlands	123	126	127	136	124	124
Austria	-	-	-	-	-	-
Poland <sup>4)</sup>	:	:	114	86	83	53
Portugal	46	52	53	48	59	62
Slovenia	:	:	17	21	24	21
Slovakia	-	-	-	-	-	-
Finland <sup>5)</sup>	3 126	3 084	3 225	3 188	3 135	3 215
Sweden	4 693	4 122	3 636	3 598	3 656	3 705
United Kingdom	602	567	580	601	566	548
Iceland	:	1 130	1 263	1 368	1 407	1 384
Liechtenstein	-	-	-	-	-	-
Norway	:	:	:	1 339	1 020	1 260
Switzerland	-	-	-	-	-	-
Bulgaria	:	:	0	1	0	1
Croatia <sup>6)</sup>	2 871	3 318	3 791	4 143	4 386	5 090
Romania	:	:	0	0	0	0
Turkey	17	20	19	:	:	:

Data include ferry and cruise passengers starting and finishing a voyage

1) Data until 2003 include also some non-maritime (inland waterways) transport.

2) The statistical coverage of data (in particular for ferry boats) has considerably improved between 2001 and 2002.

3) The statistical coverage has significantly improved in 2001.

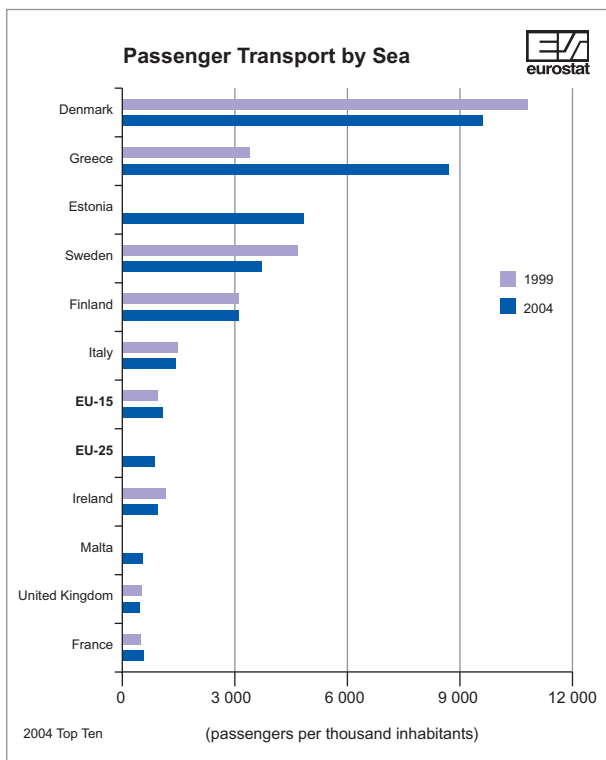
4) 2004 data do not include national traffic (ferry passengers).

5) National maritime traffic is included only since 2001.

6) Break in series in 2004 due to methodological changes.

Cruise passengers are included.

Data Source: Eurostat



**Note:** 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.

Sea transport of passengers per thousand inhabitants was reduced by 2% in the EU-25 in the last reporting year. Denmark is in the first position with 9 passengers per capita followed closely by Greece with 8.7 passengers per capita. Italy ranks several places below, although approximately 83 million passengers were embarked and disembarked at Italian ports. It is notable that in Greece and Italy, two of the three countries with large passenger movement figures, important ferry connections are included, which cover short national journeys as well.

## Persons Killed in Road Accidents

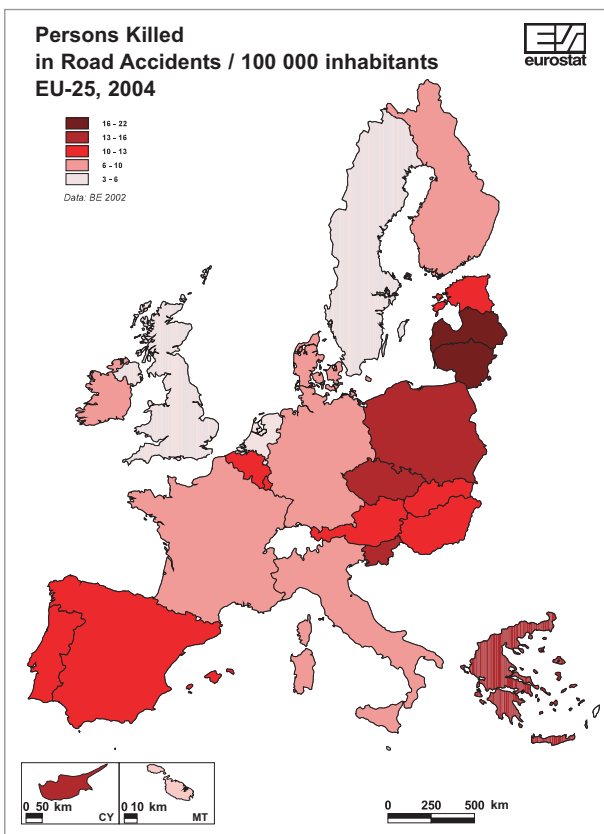
Persons killed in road accidents / 100 000 inhabitants

	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	<b>12</b>	<b>12</b>	<b>11</b>	<b>11</b>	:	:
<b>EU-15</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>10</b>	:	:
Belgium	14	14	14	13	:	:
Czech Republic	14	14	13	14	14	14
Denmark	10	9	8	9	8	7
Germany	9	9	8	8	8	7
Estonia	17	15	15	16	12	13
Greece	19	19	17	15	15	15
Spain *	14	14	14	13	13	11
France *	14	14	14	13	10	9
Ireland	11	11	11	10	8	9
Italy *	12	11	12	12	10	10
Cyprus	16	16	14	13	13	16
Latvia **	25	25	22	22	21	22
Lithuania	21	18	20	20	21	22
Luxembourg	13	17	16	14	12	11
Hungary	13	12	12	14	13	13
Malta	1	4	4	4	4	3
Netherlands	8	7	7	6	6	5
Austria	14	12	12	12	11	11
Poland	17	16	14	15	15	15
Portugal *	20	18	16	16	15	12
Slovenia	17	16	14	13	12	14
Slovakia	12	12	12	12	12	11
Finland	8	8	8	8	7	7
Sweden	7	7	7	6	6	5
United Kingdom	6	6	6	6	6	6
Iceland	8	11	8	10	8	8
Liechtenstein	0	9	6	0	:	:
Norway	7	8	6	7	6	6
Switzerland	8	8	8	7	7	7
Bulgaria	13	13	13	12	12	12
Croatia	:	15	15	14	16	14
Romania	11	11	11	11	10	11
Turkey	9	9	6	6	6	6

\* 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 and Transport (CARE Community Road Accident Database)



In 2003 and 2004 the slightly decreasing trend in the number of persons killed in road accidents per inhabitants has continued. Only in Cyprus, Latvia and Lithuania, there was no decrease in 2003 and 2004 although they have relatively small motorization rates. In addition to these countries, the Czech Republic, Slovenia, Greece and Poland had in 2004 a high (more than 130) number of deaths per million inhabitants. In 2004, there were about 42 thousand deaths in road accidents for EU-25, 3 thousand less than in 2003.

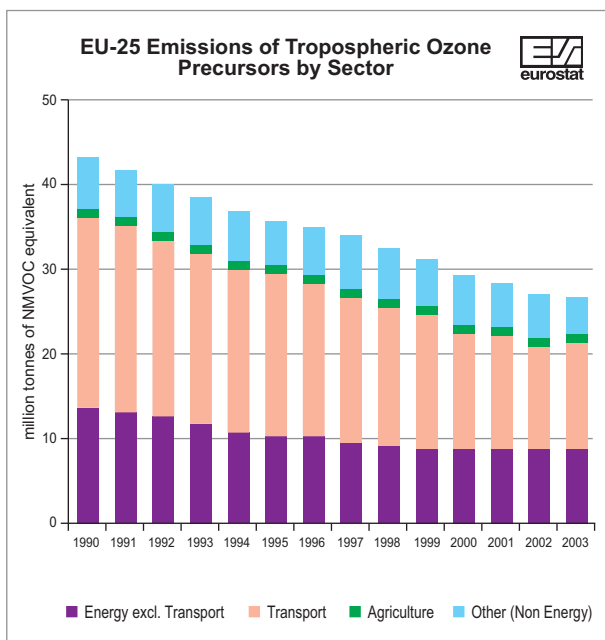
# **ENVIRONMENT INDICATORS**

## Emissions of Tropospheric Ozone Precursors by Country

(Tropospheric ozone forming potential in kilo tonnes of NMVOC equivalent)

	1990	1995	2000	2002	2003
<b>EU-25</b>	<b>43 215</b>	<b>35 670</b>	<b>29 273</b>	<b>27 130</b>	<b>26 677</b>
<b>EU-15</b>	<b>36 498</b>	<b>30 585</b>	<b>25 193</b>	<b>23 172</b>	<b>22 717</b>
Belgium	1 023	935	764	703	692
Czech Republic	1 254	859	697	658	669
Denmark	663	623	497	460	482
Germany	8 327	5 483	4 286	3 838	3 709
Estonia	222	127	150	107	109
Greece	758	779	872	791	791
Spain	3 065	3 103	3 273	3 287	3 285
France	5 884	5 064	4 136	3 743	3 577
Ireland	313	294	289	271	259
Italy	5 192	5 012	3 811	3 404	3 403
Cyprus	46	47	52	53	53
Latvia	267	168	151	156	159
Lithuania	363	191	152	161	165
Luxembourg	67	54	41	40	40
Hungary	613	473	475	449	447
Malta	0	0	0	0	0
Netherlands	1 309	1 044	831	764	747
Austria	687	574	525	540	555
Poland	3 246	2 670	2 033	1 995	1 995
Portugal	681	749	738	731	731
Slovenia	131	137	120	132	124
Slovakia	574	412	251	247	239
Finland	656	555	511	475	477
Sweden	1 036	876	679	639	634
United Kingdom	6 837	5 443	3 940	3 488	3 335
Iceland	52	52	48	48	48
Liechtenstein	2	1	1	1	1
Norway	666	721	719	666	628
Switzerland	544	403	293	303	263
Bulgaria	770	600	597	446	459
Croatia	286	197	220	209	209
Romania	1 818	1 256	1 023	1 047	1 048
Turkey	1 642	2 092	2 302	2 302	2 302

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

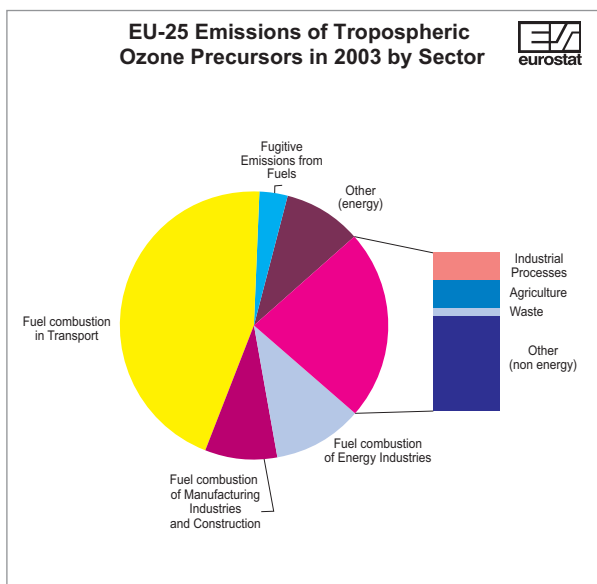


(Tropospheric ozone forming potential in million tonnes of NMVOC equivalent)

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	43.2	35.7	34.8	33.5	32.3	31.0	29.3	28.2	27.1	26.7
Energy excl. Transport	13.4	10.2	10.1	9.6	9.2	8.9	8.7	8.7	8.6	8.8
Transport	22.0	18.5	17.9	17.1	16.5	15.6	14.1	13.5	12.6	12.1
Agriculture	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other (Non Energy)	6.6	6.0	5.8	5.8	5.6	5.5	5.5	5.0	4.9	4.9

Data Source: European Environment Agency / European Topic Centre on Air and Climate Change

Ozone is a colourless gas with an acrid odour, and a powerful oxidant. Up in the stratosphere (at a height of 20 to 30 km) it absorbs the bulk of harmful ultra-violet radiation from the sun (at wavelengths between 240 and 320 nm) which can cause skin cancer and damage vegetation. Down in the troposphere (below a height of 10 km) however, ozone is a health and environmental hazard and a greenhouse gas. Tropospheric ozone is produced by photochemical reactions in the troposphere via its precursors:  $\text{NO}_x$ , NMVOC, CO,  $\text{CH}_4$ . Emissions of these pollutants are covered by the 1999 Gothenburg Protocol under the United Nations Convention on Long-Range Transboundary Air Pollution, and by the EU national emission ceilings directive (NEC Directive 2001/81/EC). For the new Member States the targets are specified in the 2003 Treaty of Accession. Total ozone precursor emissions decreased in the EU-25 by 38.3% between 1990 and 2003. The highest contribution came from the transport sector.



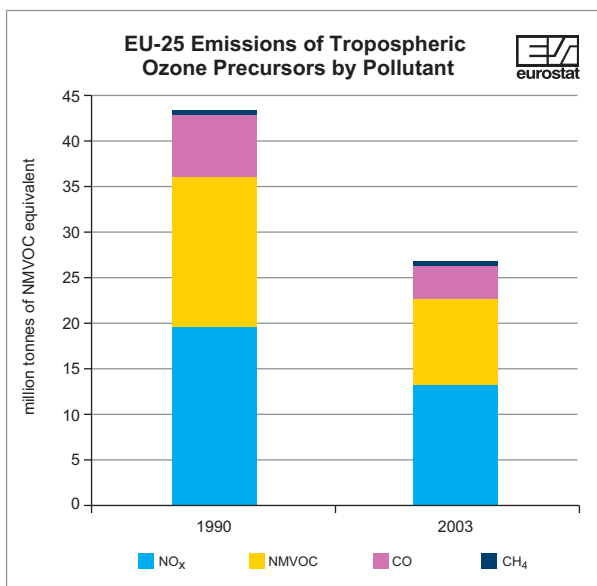
Sector	per cent (%)
Fuel combustion of Energy Industries	10.8
Fuel combustion of Manufacturing Industries and Construction	8.7
Fuel combustion in Transport	44.7
Fugitive Emissions from Fuels	3.4
Other (energy)	9.4
Industrial Processes	4.7
Agriculture	3.5
Waste	1.7
Other (non-energy)	13.0

*On the basis of their tropospheric ozone forming potential in NMVOC equivalent*

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

In EU-25, 77% of the photochemical ozone is connected with energy use and only 23% with non-energy use. Motor vehicles and combustion sources are the major contributor of nitrogen oxides and non-methane volatile organic compounds (NMVOC). The sector "Solvent and other product use" is another major source for NMVOC emissions. On a European scale roughly a quarter of the total anthropogenic NMVOC emission are from road transport and more than one third from solvents. Most solvents are part of a final product, e.g. paint, and sooner or later evaporate. A small fraction of the solvents ends up in waste or as emission to water and may finally also contribute to air pollution by evaporation from these compartments.





(Tropospheric ozone forming potential in million tonnes of NMVOC equivalent)

	1990	2003
Nitrogen Oxides	19.6	13.3
NMVOC	16.5	9.6
Carbon Monoxide	6.8	3.5
Methane	0.4	0.3
<b>Total</b>	<b>43.2</b>	<b>26.7</b>

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

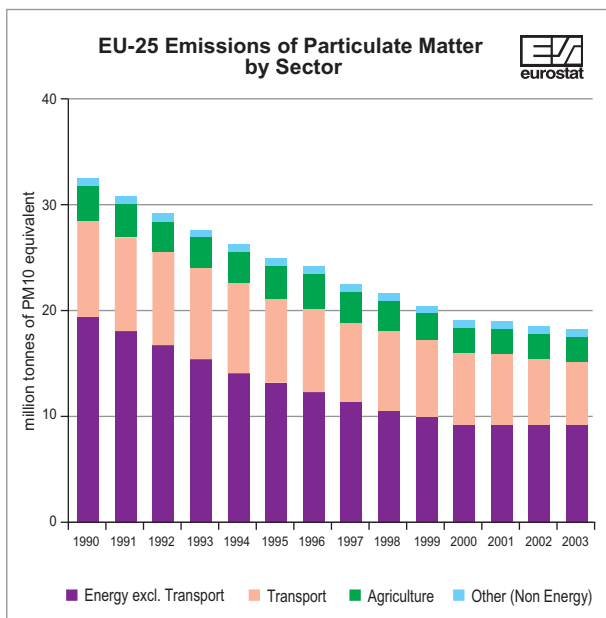
In 2003, emissions of nitrogen oxides (NO<sub>x</sub>) and non-methane volatile organic compounds (NMVOC) together were responsible for about 86% of the tropospheric ozone emissions in the EU-25. Between 1990 and 2003, the reduction for NO<sub>x</sub> is about 32.2% and is mainly due to the expansion in the use of low NO<sub>x</sub> combustion technology and catalysts for cars. The 41.5% reduction of NMVOCs is also attributed to the use of catalysts for cars and a reduction in fugitive emissions from fuel handling processes (e.g. recovering fuel gases in tanking operations). However, substantial reductions of both NMVOCs and NO<sub>x</sub> are still required to achieve 2010 targets of the EU national emissions ceilings directive (NEC Directive 2001/81/EC). Carbon monoxide (CO) and methane (CH<sub>4</sub>) are of minor importance for the formation of ground-level ozone.

## Emissions of Particulate Matter by Country

(Particulate Matter in kilo tonnes of PM10 equivalent, primary and secondary sources)

	1990	1995	2000	2002	2003
<b>EU-25</b>	<b>32 424</b>	<b>24 887</b>	<b>19 507</b>	<b>18 574</b>	<b>18 348</b>
<b>EU-15</b>	<b>24 922</b>	<b>19 535</b>	<b>15 764</b>	<b>14 970</b>	<b>14 712</b>
Belgium	650	585	501	464	458
Czech Republic	1 637	1 010	516	454	515
Denmark	461	417	297	286	293
Germany	5 857	3 204	2 176	2 038	1 980
Estonia	244	141	135	124	124
Greece	664	675	656	667	667
Spain	2 686	2 562	2 561	2 637	2 536
France	3 449	3 022	2 576	2 385	2 327
Ireland	290	279	273	254	231
Italy	3 159	2 767	2 087	1 938	1 938
Cyprus	47	45	53	52	48
Latvia	153	78	51	51	52
Lithuania	313	133	82	102	92
Luxembourg	41	34	25	24	24
Hungary	894	657	518	437	436
Malta	1	1	1	1	1
Netherlands	831	667	530	492	477
Austria	309	278	277	291	301
Poland	3 467	2 794	2 041	2 067	2 067
Portugal	564	612	616	600	600
Slovenia	185	149	125	112	106
Slovakia	559	344	220	204	196
Finland	459	331	317	304	322
Sweden	486	417	323	313	315
United Kingdom	5 017	3 685	2 549	2 278	2 242
Iceland	36	38	39	39	39
Liechtenstein	1	1	1	0	0
Norway	308	295	289	276	281
Switzerland	278	196	151	160	143
Bulgaria	1 494	1 094	729	731	740
Croatia	205	119	121	137	137
Romania	1 380	900	779	862	862
Turkey	979	1 248	1 564	1 564	1 564

Data Source: European Environment Agency/European Topic Centre on Air and Climate Change

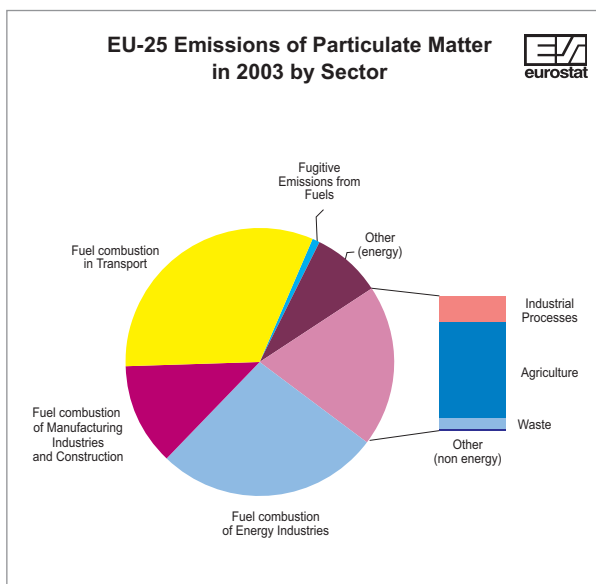


(Particulate Matter in million tonnes of PM10 equivalent)

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	32.4	24.9	23.8	22.6	21.7	20.6	19.5	19.1	18.6	18.3
Energy excl. Transport	19.4	13.2	12.4	11.5	10.7	9.9	9.3	9.4	9.2	9.2
Transport	9.1	8.1	7.9	7.6	7.5	7.2	6.8	6.5	6.2	6.0
Agriculture	3.3	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.8	2.8
Other (Non Energy)	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.3	0.4	0.4

Data Source: European Environment Agency / European Topic Centre on Air and Climate Change

Particulate Matter with diameters less than 10 micrometers (PM10) can be carried deep into the lungs where it causes inflammation and other problems. It is estimated that only its finer fraction PM2.5 shortens the statistical life expectancy in EU by more than 8 months and even over 2 years in the most polluted areas [source Clean Air for Europe programme]. Primary PM10 refers to particulate matter emitted directly into the atmosphere. PM10 precursors considered in this publication are sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>) that are partly transformed into particles by chemical reactions in the atmosphere (secondary PM10). There are no specific EU emission targets for primary PM10. However, emissions of the precursors NO<sub>x</sub>, SO<sub>x</sub> and NH<sub>3</sub> are covered by the EU National Emission Ceilings Directive (NEC Directive 2001/81/EC) and the Gothenburg Protocol under the United Nations Convention on Long-Range Transboundary Air Pollution. The total PM10 emissions in the EU-25 have decreased by 43% since 1990. The enlarged Union has managed to reduce its overall emissions of air pollutants and looks on track to meet the overall targets for 2010, as set in the NEC Directive, although the situation varies across individual Member States.

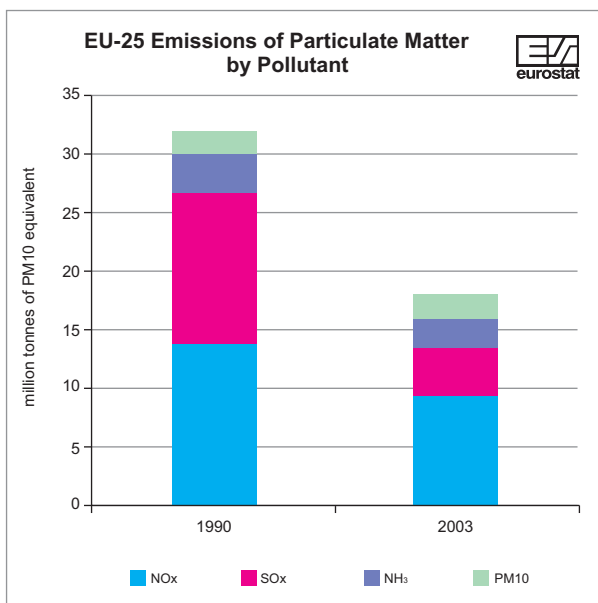


Sector	per cent (%)
Fuel combustion of Energy Industries	27.0
Fuel combustion of Manufacturing Industries and Construction	12.3
Fuel combustion in Transport	32.0
Fugitive Emissions from Fuels	0.9
Other (energy)	8.4
Industrial Processes	3.6
Agriculture	14.6
Waste	1.2
Other (non-energy)	0.1

*On the basis of PM<sub>10</sub> equivalent, primary and secondary sources)*

*Data Source: European Environment Agency / European Topic Centre on Air and Climate Change, Eurostat*

Energy use is the major source of total PM<sub>10</sub> emissions, accounting for 80% of the total in 2003. Agriculture was the second important sector with 15% of the total PM<sub>10</sub> emissions in 2003. Ammonia emissions from animal husbandry and use of nitrogen fertilisers are important PM<sub>10</sub> precursors.



*(Particulate Matter in million tonnes of PM10 equivalent, primary and secondary sources)*

	<b>1990</b>	<b>2003</b>
Oxides of nitrogen	14.1	9.6
Sulphur oxides	12.9	4.3
Ammonia	3.0	2.4
Particulate Matter	2.4	2.0
<b>Total</b>	<b>32.4</b>	<b>18.3</b>

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

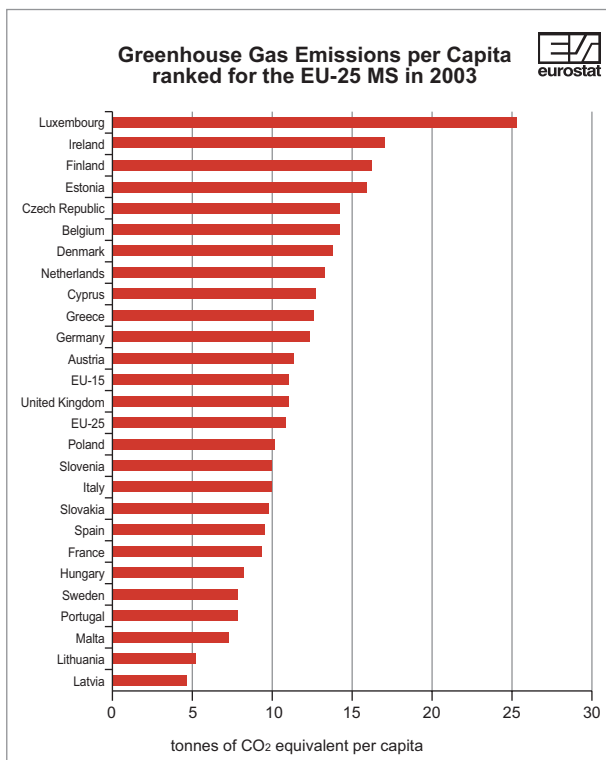
The substantial decrease in PM10 emissions is mainly due to reduction of sulphur dioxide (SO<sub>2</sub>) emissions following a switch from high sulphur fuels to natural gas, use of low sulphur coal and introduction of flue gas desulphurisation in power plants. Additionally, there have been significant reductions in emissions of nitrogen oxides (NO<sub>x</sub>) from road transport and energy industries. This is to a large extent due to the introduction of catalysts on new cars and the introduction of combined cycle gas turbine power generation. In 2003, 94% of the ammonia (NH<sub>3</sub>) emissions are from agriculture; emissions from road transport were only 2.2% of the EU-25 ammonia emission total in 2003 but there is a strong positive trend in connection with vehicles fitted with three-way catalysts. Reducing emissions of the pollutants causing PM10 emissions will also reduce the acidification of the soil.

## Greenhouse Gas Emissions per Capita

*(Global Warming Potential in tonnes of CO<sub>2</sub> equivalent per capita)*

	1990	1995	2000	2002	2003
<b>EU-25</b>	<b>11.9</b>	<b>11.0</b>	<b>10.7</b>	<b>10.7</b>	<b>10.8</b>
<b>EU-15</b>	<b>11.6</b>	<b>11.1</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>
Belgium	14.6	15.0	14.4	14.1	14.2
Czech Republic	18.6	14.8	14.4	14.0	14.2
Denmark	13.5	14.7	12.8	12.8	13.7
Germany	15.7	13.5	12.4	12.3	12.3
Estonia	27.7	15.5	14.4	14.4	15.8
Greece	10.8	10.8	12.1	12.2	12.5
Spain	7.3	8.0	9.4	9.6	9.6
France	10.0	9.7	9.5	9.3	9.3
Ireland	15.3	16.1	18.1	17.6	16.9
Italy	9.0	9.3	9.7	9.7	9.9
Cyprus	10.4	11.1	12.3	12.3	12.7
Latvia	9.5	5.0	4.2	4.5	4.5
Lithuania	13.8	8.6	6.0	5.6	5.0
Luxembourg	33.4	24.6	21.8	24.2	25.1
Hungary	10.0	8.1	7.9	8.0	8.2
Malta	6.3	7.3	7.4	7.3	7.2
Netherlands	14.2	14.5	13.4	13.2	13.2
Austria	10.2	10.1	10.1	10.7	11.3
Poland	12.1	10.8	10.0	9.7	10.1
Portugal	5.9	6.9	7.8	8.3	7.8
Slovenia	9.3	9.3	9.5	10.1	9.9
Slovakia	13.6	9.9	8.9	9.7	9.6
Finland	14.1	14.0	13.6	14.8	16.4
Sweden	8.4	8.3	7.6	7.8	7.9
United Kingdom	13.1	11.9	11.1	10.8	10.9
Iceland	12.9	11.6	11.8	10.9	10.6
Liechtenstein	8.7	7.1	6.7	6.4	7.7
Norway	11.8	11.4	12.0	11.8	12.0
Switzerland	7.8	7.2	7.1	7.0	7.1
Bulgaria	13.8	10.4	8.2	8.1	8.8
Croatia	6.8	4.8	5.8	6.4	6.7
Romania	10.0	7.7	5.7	6.2	6.6

Data Source: European Environment Agency / European Topic Centre on Air and Climate Change, UN Framework Convention on Climate Change



There is scientific evidence that emission of greenhouse gases from human activities, such as the burning of coal, oil and gas, are causing an overall warming of the earth's atmosphere and that climate change is the most likely result with potentially major economic and social consequences ('Winning the battle against global climate change', COM(2005) 35). In 2003, the Member States with the highest per capita emissions were Luxembourg and Ireland and the Member States with the lowest per capita emissions were Latvia and Lithuania. The data for Luxembourg includes emissions from road fuel sold in Luxembourg, but consumed abroad (fuel tourism). Although overall per capita emissions in EU-15 and EU-25 have fallen since 1990, they have risen in eleven countries; in Cyprus, Finland, Spain, Portugal, Greece, Ireland, and Austria, they have increased by more than one tonne between 1990 and 2003. For the same period, the largest reductions, of 4 or more tonnes, were in Estonia, Lithuania, Luxembourg, Latvia, Czech Republic and Slovakia.

## ENERGY, TRANSPORT AND ENVIRONMENT INDICATORS

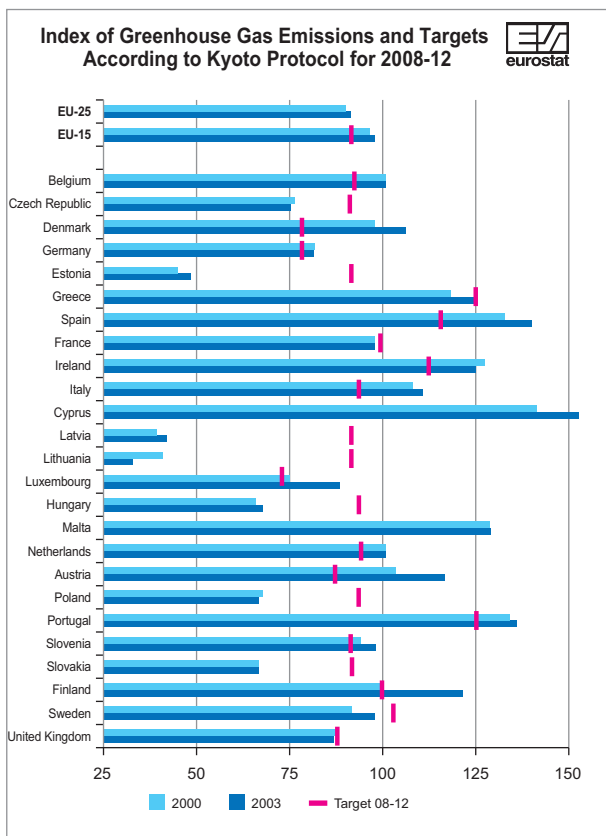
### Index of Greenhouse Gas Emissions and Targets according to Kyoto Protocol for 2008-12

Kyoto Base Year emissions: index = 100

	1990	1995	2000	2002	2003	Target 08-12
<b>EU-25</b>	<b>97.4</b>	<b>92.1</b>	<b>90.5</b>	<b>90.7</b>	<b>92.0</b>	<b>:</b>
<b>EU-15</b>	<b>99.7</b>	<b>97.1</b>	<b>96.4</b>	<b>97.0</b>	<b>98.3</b>	<b>92.0</b>
Belgium	99.2	103.8	100.6	99.0	100.6	92.5
Czech Republic	100.0	79.7	76.8	74.3	75.7	92.0
Denmark	99.6	110.2	98.1	99.1	106.3	79.0
Germany	99.6	88.3	81.4	81.3	81.5	79.0
Estonia	100.0	51.2	45.4	44.9	49.2	92.0
Greece	98.0	102.5	118.5	119.6	123.2	125.0
Spain	99.2	110.0	133.0	139.3	140.6	115.0
France	100.0	99.1	98.7	97.5	98.1	100.0
Ireland	99.9	107.8	127.8	128.6	125.2	113.0
Italy	100.2	103.4	108.0	108.7	111.6	93.5
Cyprus	100.0	119.5	141.6	145.1	152.8	:
Latvia	100.0	48.7	39.2	41.9	41.5	92.0
Lithuania	100.0	61.2	40.9	38.5	33.8	92.0
Luxembourg	100.0	78.8	74.7	84.9	88.5	72.0
Hungary	84.6	68.3	66.3	66.1	68.1	94.0
Malta	100.0	122.4	129.0	129.7	129.1	:
Netherlands	99.4	105.2	100.4	100.2	100.8	94.0
Austria	100.0	102.1	103.2	110.1	116.6	87.0
Poland	81.3	73.8	68.3	65.5	67.9	94.0
Portugal	100.0	117.2	135.0	144.3	136.7	127.0
Slovenia	92.0	92.1	94.0	99.3	98.1	92.0
Slovakia	100.2	74.1	66.6	72.8	71.8	92.0
Finland	100.0	101.6	99.7	109.7	121.5	100.0
Sweden	99.9	101.5	93.0	96.1	97.6	104.0
United Kingdom	99.5	91.9	86.7	85.7	86.7	87.5
Iceland	100	95	100	96	94	110.0
Liechtenstein	100	87	87	87	105	92.0
Norway	100	99	107	107	109	101.0
Switzerland	100	97	98	98	100	92.0
Bulgaria	86.7	63.1	47.5	45.9	50.0	92.0
Croatia	100.0	70.9	81.6	89.4	94.0	95.0
Romania	87.9	65.9	48.1	51.3	53.9	92.0

Data Source: European Environment Agency / European Topic Centre on Air and Climate Change, UN Framework Convention on Climate Change





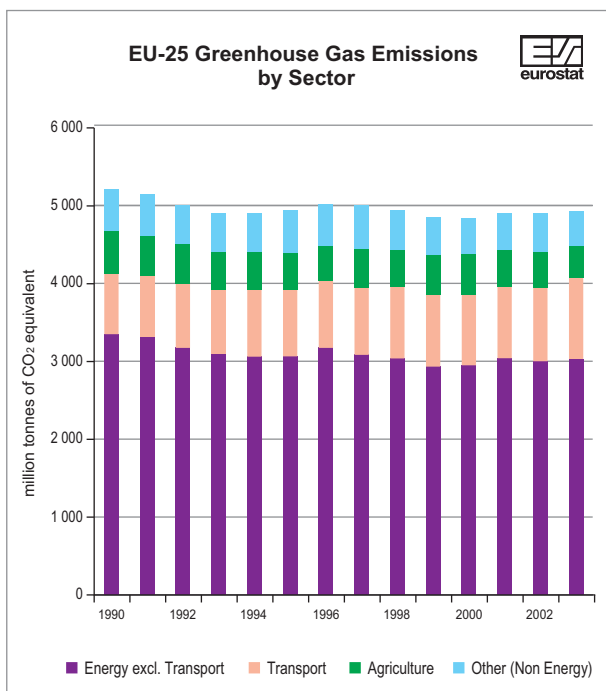
The greenhouse gas emissions are reported under Kyoto Protocol and the EU Decision 280/2004/EC. In the first quantified emission limitation and reduction commitment period, from 2008 to 2012, the EU has agreed to an 8% reduction in its greenhouse gas emissions compared to 1990. Individual targets for each of the EU-15 countries have been agreed under the EU burden sharing agreement (Council Decision 2002/358/EC). The new EU Member States and candidate countries have differing targets under the Kyoto Protocol. Overall, since the Kyoto base year, emissions in EU-15 have shown a decrease of 1.7% in 2003 (submission year 2005; this data has been revised to 1.2% in 2006 submission due to recalculation of national emission inventories), determined largely by considerable emission cuts by the EU's two greatest emitters which account for about 40% of total EU-15 GHG emissions: Germany (- 18.5%), which is now close to its burden-sharing target and the United Kingdom (- 13.3%) which has exceeded its target. Italy and France, the third and fourth largest emitters, increased (11.6%) and decreased (-1.9%) their emissions between 1990 and 2003. Emissions in Finland, Greece, Ireland, Portugal and Spain have increased by more than 20% since 1990.

## Greenhouse Gas Emissions by Country

*(Global Warming Potential in million tonnes of CO<sub>2</sub> equivalent)*

	Base					
	year	1990	1995	2000	2002	2003
<b>EU-25</b>	<b>5 352</b>	<b>5 212</b>	<b>4 931</b>	<b>4 844</b>	<b>4 854</b>	<b>4 925</b>
<b>EU-15</b>	<b>4 252</b>	<b>4 238</b>	<b>4 129</b>	<b>4 100</b>	<b>4 126</b>	<b>4 180</b>
Belgium	147	146	152	148	145	148
Czech Republic	192	192	153	148	143	145
Denmark	70	69	77	68	69	74
Germany	1 248	1 244	1 103	1 017	1 015	1 018
Estonia	43	43	22	20	20	21
Greece	112	109	114	132	134	138
Spain	286	284	315	380	399	402
France	568	568	563	560	554	557
Ireland	54	54	58	69	69	68
Italy	510	511	528	551	555	570
Cyprus	6	6	7	9	9	9
Latvia	25	25	12	10	11	11
Lithuania	51	51	31	21	20	17
Luxembourg	13	13	10	10	11	11
Hungary	122	103	84	81	81	83
Malta	2	2	3	3	3	3
Netherlands	213	212	224	214	213	215
Austria	79	79	80	81	86	92
Poland	565	460	417	386	370	384
Portugal	59	59	70	80	86	81
Slovenia	20	19	19	19	20	20
Slovakia	72	72	53	48	52	52
Finland	70	70	71	70	77	86
Sweden	72	72	73	67	69	71
United Kingdom	751	748	691	652	644	651
Iceland	3	3	3	3	3	3
Liechtenstein	0	0	0	0	0	0
Norway	50	50	50	54	54	55
Switzerland	52	52	51	51	51	52
Bulgaria	138	120	87	66	64	69
Croatia	32	32	23	26	28	30
Romania	265	233	175	127	136	143

Data Source: European Environment Agency / European Topic Centre on Air and Climate Change, UN Framework Convention on Climate Change

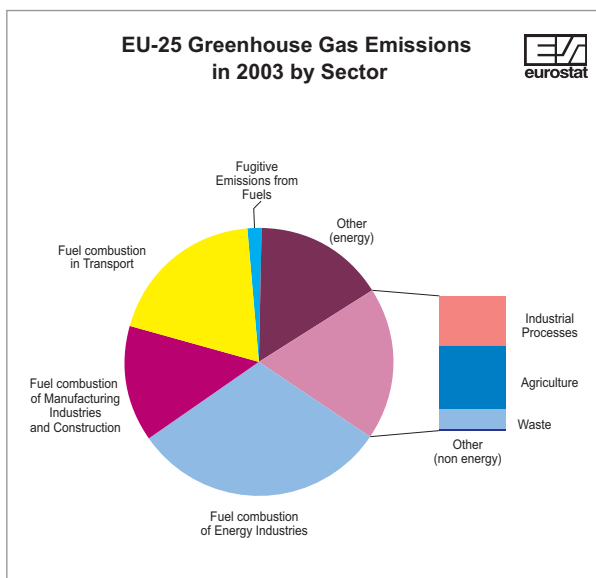


*(Global warming potential in million tonnes of CO<sub>2</sub> equivalent)*

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	5 212	4 931	5 036	4 964	4 935	4 849	4 844	4 896	4 854	4 925
Energy excl. Transport	3 353	3 083	3 171	3 085	3 055	2 979	2 982	3 044	3 008	3 064
Transport	770	831	853	863	888	915	912	928	940	951
Agriculture	547	494	496	497	493	496	491	483	476	468
Other (Non Energy)	541	522	517	519	498	459	458	441	430	442

Data Source: European Environment Agency / European Topic Centre on Air and Climate Change, UN Framework Convention on Climate Change

From 1990 to 2000, significant reductions of 7.1% in EU-25 GHG emissions were achieved, mainly as a result of fuel switching, in particular due to the replacement of coal-fired power stations with more efficient and less carbon-intensive gas-fired plants, combined with an increased use of cogeneration. The decrease in emissions in Germany was partly due to structural change after 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. But between 2000 and 2003, greenhouse gas emissions from the EU-25 have once more increased, by 1.7%, mainly as a result of a marked increase in energy use, particularly for electricity and transport, combined with a slowdown in fuel switching to lower carbon sources in power stations. Transport emissions account for about 20% of total EU-25 GHG emissions.

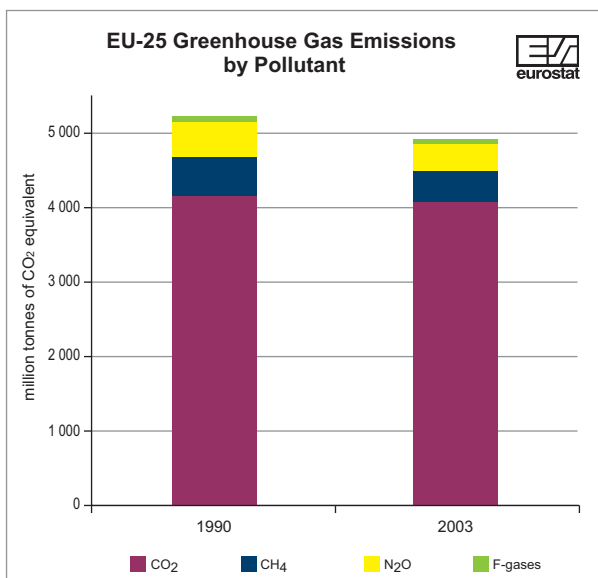


Sector	(%) of total
Fuel combustion of Energy Industries	30.9
Fuel combustion of Manufacturing Industries and Construction	14.0
Fuel combustion in Transport	19.3
Fugitive Emissions from Fuels	1.7
Other (energy)	15.7
Industrial Processes	6.2
Agriculture	9.5
Waste	2.5
Other (non-energy)	0.2

*On the basis of their global warming potential in CO<sub>2</sub> equivalent*

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

Energy use in 2003 accounted for more than 80% of total greenhouse gas (GHG) emissions. Energy efficiency increased during the 1990s and therefore GHG emissions decreased over the decade. Emissions from the sector 'Other (energy)', accounting for 16% of the total GHG emissions, are dominated by fuel combustion from households which is more or less stable depending on weather conditions. In 2003 agriculture accounted for about 10% of EU-25 GHG emissions, with a reduction of 14.5% between 1990 and 2003. This is mainly due to declining numbers of cattle and lower emissions from agricultural soils. Transport emissions increased continuously between 1990 and 2003 due to high growth in both passenger and freight transport by road (by 23.5%). The increase in carbon dioxide emissions from international aviation and navigation was even higher, but these are currently not addressed in the Kyoto Protocol.



	<b>1990</b>	<b>2003</b>
Carbon Dioxide	4 128	4 064
Methane	554	404
Nitrous Oxide	474	388
Fluorinated Gases	55	68
<b>Total</b>	<b>5 212</b>	<b>4 925</b>

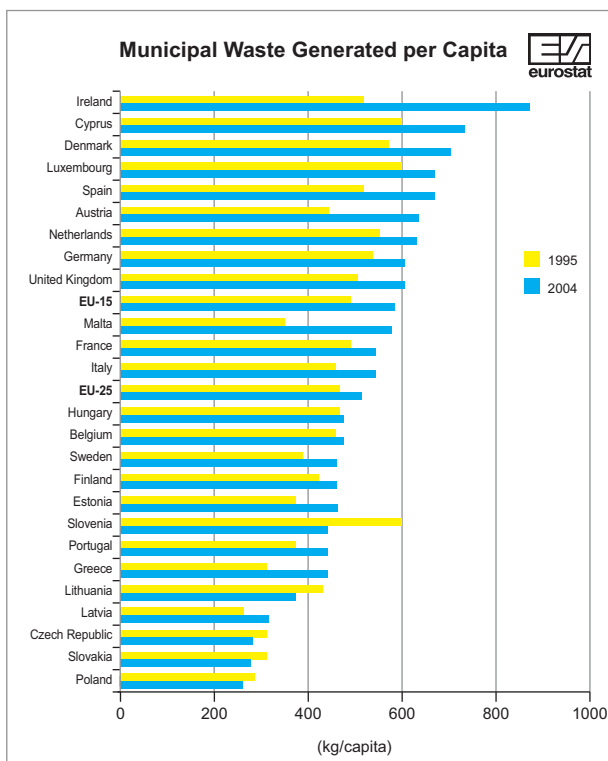
*Data Sources: European Environment Agency / European Topic Centre on Air and Climate Change*

Carbon dioxide (CO<sub>2</sub>) is by far the most important greenhouse gas, accounting in 2003 for about 82% of the global warming potential due to all EU-25 anthropogenic GHG emissions covered by the Kyoto Protocol. The main source of CO<sub>2</sub> is the burning of fossil fuels. Agriculture is the dominant source of anthropogenic methane (CH<sub>4</sub>) emissions; the other two important sources are waste management (e.g. landfills) and fugitive emissions by the energy use (e.g. coal mining). The largest source of nitrous oxide (N<sub>2</sub>O) emissions is agriculture (fertilisers and manure use) followed by the chemical industries (adipic and nitric acid production). For both, emissions have decreased in the last decade (between 1990 and 2003 by 27% and 18%, respectively). Fluorinated gases [F-gases: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>)] increased by 24% between 1990 and 2003. The production of PFCs has halved during this period and the SF<sub>6</sub> emission has stabilized. However, HFC-emissions have increased dramatically by 94% between 1990 and 2003, mainly as the result of the expanding use of HFCs as a substitute for ozone-depleting substances that were gradually phased out in the 1990s.

## Municipal Waste Generated

	1995	1998	2002	2003	2004
	(kg/capita)				
<b>EU-25</b>	<b>461</b>	<b>492</b>	<b>537</b>	<b>531</b>	<b>537</b>
<b>EU-15</b>	<b>487</b>	<b>521</b>	<b>580</b>	<b>573</b>	<b>580</b>
Belgium	456	460	463	447	469
Czech Republic	302	293	279	280	278
Denmark	567	593	665	672	696
Germany	533	546	640	601	600
Estonia	368	400	406	418	449
Greece	302	378	423	428	433
Spain	510	566	649	662	662
France	489	522	552	559	567
Ireland	514	557	698	757	869
Italy	454	472	524	524	538
Cyprus	600	664	709	724	730
Latvia	263	247	275	298	311
Lithuania	424	443	401	377	366
Luxembourg	592	629	656	662	668
Hungary	460	484	457	463	506
Malta	338	385	516	543	572
Netherlands	549	593	622	610	624
Austria	438	532	609	609	627
Poland	285	306	275	260	256
Portugal	385	423	447	452	434
Slovenia	596	584	479	418	435
Slovakia	302	323	283	297	274
Finland	414	466	449	453	455
Sweden	386	431	468	471	464
United Kingdom	499	543	600	593	600
Iceland	427	452	478	485	492
Norway	626	647	677	696	724
Switzerland	598	616	675	671	678
Bulgaria	693	495	500	499	471
Croatia	:	:	228	298	282
Romania	342	277	383	364	378
Turkey	438	503	442	457	458

Data Source: Eurostat



The total amount of municipal waste generated is growing. The upward trend has slowed down slightly since 2000. Over the period 1995 to 2004 both the Gross Domestic Product (GDP) and the generation of municipal waste grew by about 20 %; there is no evidence of decoupling of these trends. For 2003 some countries reported smaller amounts of (garden) waste due to the warm and dry summer.

The amount of municipal waste generated per person is generally higher in the old Member States (EU-15) than in the new Member States although Cyprus and Malta do have a relatively high production of waste. Ireland has the highest generation of municipal waste in the European Union. The low Polish result is biased because it does not include the waste generated in areas not covered by a municipal waste collection scheme.

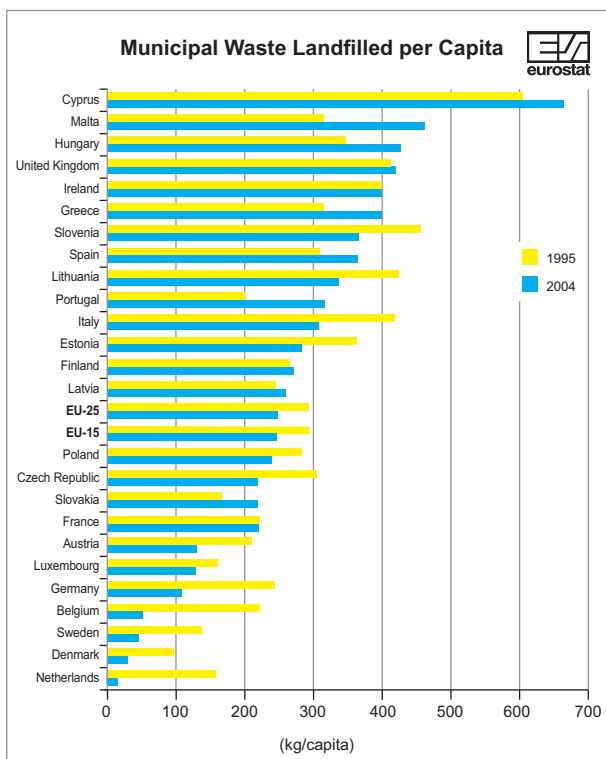
Municipal waste consists of waste generated by households and waste collected in the municipal waste collection scheme from businesses and institutions. The inclusion of businesses and institutions depends on individual countries' waste management procedures.

## Municipal Waste Landfilled

	(kg/capita)				
	1995	1998	2002	2003	2004
<b>EU-25</b>	<b>295</b>	<b>287</b>	<b>268</b>	<b>255</b>	<b>247</b>
<b>EU-15</b>	<b>294</b>	<b>281</b>	<b>265</b>	<b>252</b>	<b>242</b>
Belgium	218	108	58	51	47
Czech Republic	302	272	205	201	222
Denmark	96	67	41	34	31
Germany	245	199	137	115	104
Estonia	365	399	308	274	283
Greece	311	344	386	393	397
Spain	308	317	359	364	364
France	219	236	218	213	217
Ireland	398	478	504	480	397
Italy	422	365	331	314	306
Cyprus	600	601	638	653	657
Latvia	247	230	280	248	259
Lithuania	424	443	322	293	334
Luxembourg	161	146	129	126	123
Hungary	346	396	384	390	422
Malta	311	345	459	457	458
Netherlands	158	54	51	17	17
Austria	205	186	187	183	126
Poland	280	300	265	251	241
Portugal	200	310	328	338	318
Slovenia	457	512	351	341	364
Slovakia	168	181	222	233	222
Finland	268	294	286	278	273
Sweden	136	121	93	64	42
United Kingdom	414	456	465	440	416
Iceland	322	338	359	364	372
Norway	456	417	274	253	243
Switzerland	77	66	11	8	3
Bulgaria	530	382	404	407	396
Croatia	:	:	224	294	278
Romania	254	224	307	288	306
Turkey	324	368	353	361	369

Data Source: Eurostat





The amount of waste landfilled depends on the national policy on waste management; that is, it depends on the importance given to waste avoidance, recycling and incineration. For some countries landfill remains the major treatment method (for instance Cyprus and Malta); in such countries the amount of municipal waste landfilled will be in parallel with the rise in municipal waste generated.

On the other hand there has been a sharp decline in the amount of waste landfilled in some other Member States. Denmark already had a low level of landfilling in 1995 and has now almost completely banned landfilling. In recent years landfilling was also reduced in Germany, Belgium, Sweden and the Netherlands.

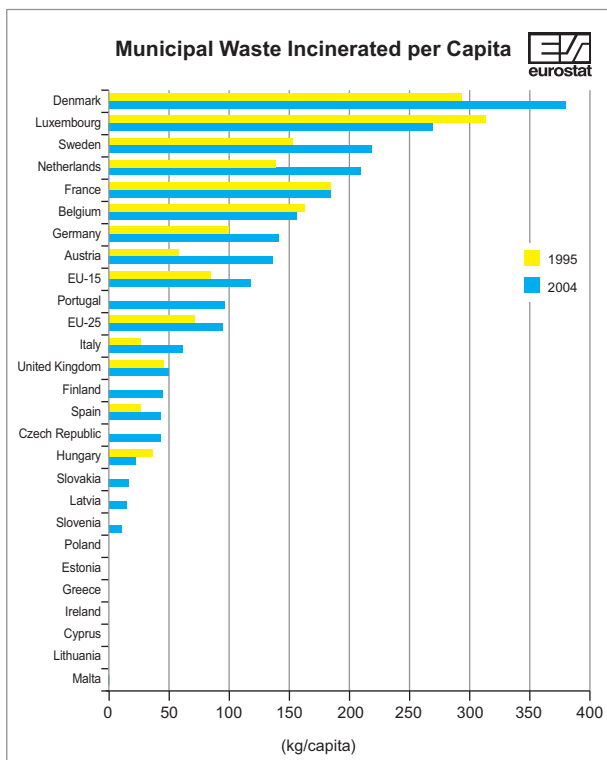
The result of these mixed developments among the Member States is a small decline in landfill for the EU as a total. Although landfill is still the most important way to dispose of municipal waste, nowadays less than half of the municipal waste generated is disposed of by landfilling.

## Municipal Waste Incinerated

(kg/capita)

	1995	1998	2002	2003	2004
<b>EU-25</b>	<b>69</b>	<b>76</b>	<b>91</b>	<b>91</b>	<b>94</b>
<b>EU-15</b>	<b>83</b>	<b>90</b>	<b>106</b>	<b>107</b>	<b>111</b>
Belgium	163	164	157	153	154
Czech Republic	-	17	39	39	39
Denmark	294	312	374	363	379
Germany	97	112	143	137	141
Estonia	-	-	-	-	-
Greece	-	-	-	-	-
Spain	24	38	38	42	42
France	183	172	187	188	184
Ireland	-	-	-	-	-
Italy	24	34	48	53	61
Cyprus	-	-	-	-	-
Latvia	-	-	23	10	12
Lithuania	-	-	-	-	-
Luxembourg	312	288	275	273	270
Hungary	32	35	28	24	21
Malta	-	-	-	-	-
Netherlands	139	198	194	197	210
Austria	54	55	66	73	136
Poland	-	-	1	1	2
Portugal	-	-	91	98	96
Slovenia	-	-	2	3	8
Slovakia	-	-	29	12	13
Finland	-	28	36	43	45
Sweden	149	165	188	212	217
United Kingdom	45	37	45	45	48
Iceland	82	70	49	45	48
Norway	84	85	109	120	118
Switzerland	288	280	351	345	347
Bulgaria	-	-	-	-	-
Croatia	:	:	1	1	1
Romania	-	-	-	-	-
Turkey	-	-	-	-	-

Data Source: Eurostat



The levels of municipal waste incinerated vary over the Member States, depending on the number and location of suitable incinerators and on national waste management policies. Denmark and Luxembourg have a high level of waste incineration; this is reflecting the low levels of landfill in these countries. Similarly, countries that drastically reduced landfilling (Sweden, the Netherlands), have increased the incineration capacity. The other alternative to landfilling is recycling; both Denmark and the Netherlands have banned landfilling, but while Denmark mainly uses incineration, the Netherlands has a more mixed strategy.

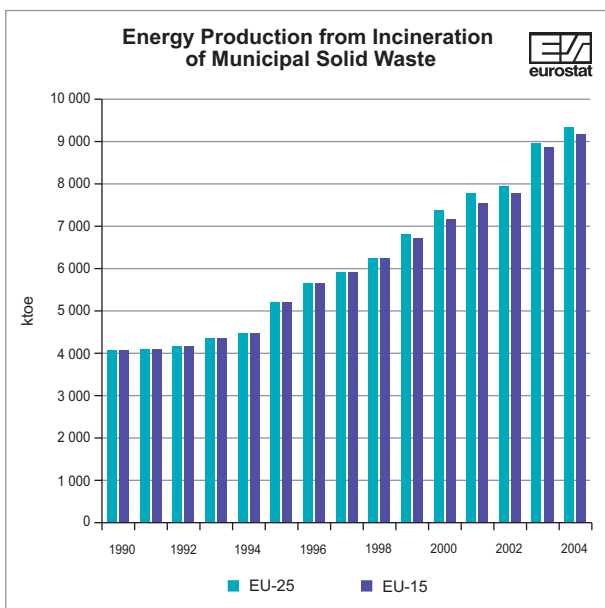
Although more and more countries use incineration in their waste management, it still makes only a small contribution in some of them. The creation of new waste incinerators takes a lot of time and resources. Seven Member States do not use incineration for the treatment of municipal waste.

The data include both incinerators with and incinerators without energy recovery.

## Energy Production from Incineration of Municipal Solid Waste

	1990	1995	2000	2003	2004
	(ktoe)				
<b>EU-25</b>	<b>4 079</b>	<b>5 216</b>	<b>7 389</b>	<b>8 976</b>	<b>9 284</b>
<b>EU-15</b>	<b>4 079</b>	<b>5 216</b>	<b>7 240</b>	<b>8 814</b>	<b>9 116</b>
Belgium	281	323	323	467	454
Czech Republic	:	:	88	100	106
Denmark	370	547	726	870	883
Germany	1 071	1 124	1 362	1 258	1 248
Estonia	-	-	-	-	-
Greece	-	-	-	-	-
Spain	81	187	229	491	326
France	1 146	1 640	1 854	2 088	2 133
Ireland	-	-	-	-	-
Italy	22	124	334	692	986
Cyprus	-	-	-	-	-
Latvia	-	-	-	-	-
Lithuania	-	-	-	-	-
Luxembourg	25	23	27	31	38
Hungary	0	0	60	36	33
Malta	-	-	-	-	-
Netherlands	546	497	1 097	1 273	1 325
Austria	58	88	149	138	181
Poland	0	0	2	1	1
Portugal	0	0	174	189	189
Slovenia	-	-	-	-	-
Slovakia	0	0	0	26	29
Finland	19	12	45	118	138
Sweden	350	395	498	602	635
United Kingdom	112	254	420	596	580
Iceland	0	1	2	2	2
Norway	108	115	124	182	178
Bulgaria	-	-	-	-	-
Romania	-	-	-	-	-
Turkey	-	-	-	-	-

Data Source: Eurostat



	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>EU-25</b>	4 079	5 216	5 666	5 909	6 271	6 826	7 389	7 769	7 925	8 976	9 284
<b>EU-15</b>	4 079	5 216	5 666	5 909	6 271	6 725	7 240	7 576	7 765	8 814	9 116

(ktoe)

Data Source: Eurostat

Incineration of municipal solid waste with energy recovery has been developed significantly since 1990 and particularly since 1994. In 2004, the share of MSW to the primary production of biomass and wastes was 13% from 9.7% in 1990. It can be noted that in 2004, almost half of the energy production took place in France, the Netherlands and Germany. Noteworthy is also the increase of energy recovery from incineration of municipal solid waste in Italy, the UK, Spain and Finland which in 1990 had a 6% share to EU total augmented to 22% in 2004. In Italy particularly, the share was negligible in 1990 and climbed to 11% in 2004.

## Recycling Rates for Packaging Waste by Country

	1997	1998	1999	2000	2001
<b>EU-15</b>	<b>45.4%</b>	<b>47.3%</b>	<b>49.5%</b>	<b>50.8%</b>	<b>52.9%</b>
Belgium	62.3%	63.5%	59.3%	62.5%	71.3%
Denmark	40.0%	50.0%	53.1%	55.6%	57.1%
Germany	80.6%	79.7%	79.2%	78.0%	75.9%
Greece	37.0%	34.6%	33.6%	33.3%	33.4%
Spain	33.5%	33.6%	37.9%	39.8%	43.6%
France	39.7%	41.5%	42.1%	42.2%	44.0%
Ireland	15.3%	14.8%	17.5%	18.9%	27.0%
Italy	29.6%	31.6%	34.0%	38.4%	45.5%
Luxembourg	37.7%	41.6%	39.2%	45.0%	57.0%
Netherlands	55.2%	62.4%	63.6%	58.8%	56.0%
Austria	64.5%	64.8%	65.6%	69.3%	64.3%
Portugal	:	34.8%	34.9%	30.8%	37.7%
Finland	41.6%	44.6%	49.4%	49.8%	47.3%
Sweden	58.0%	74.9%	65.0%	57.8%	63.2%
United Kingdom	24.1%	28.2%	35.3%	39.9%	42.4%

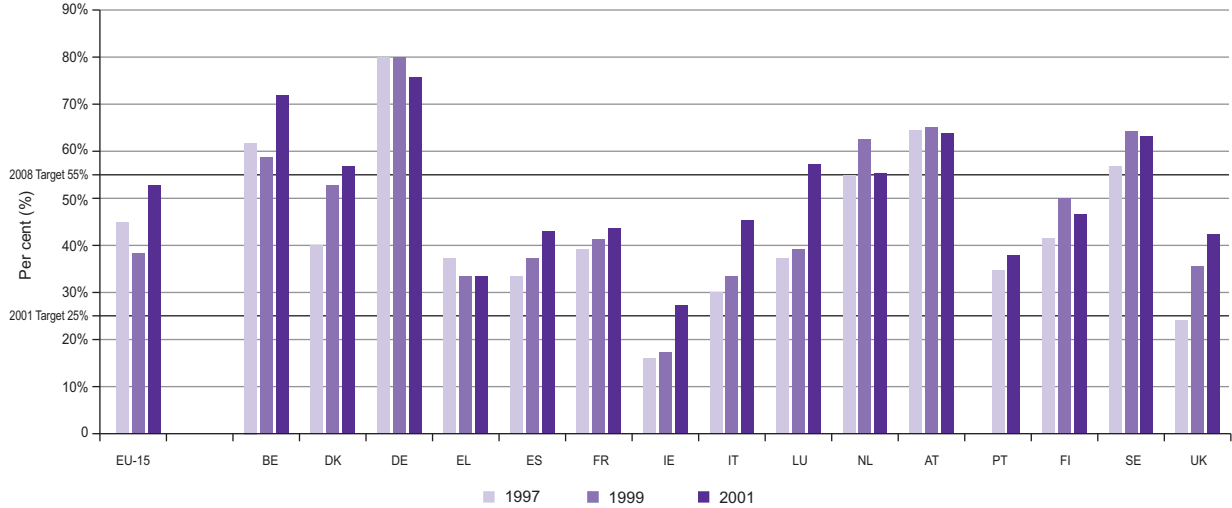
*Data Source: European Commission – Reports on implementation of Community waste legislation – periods 1998-2000 and 2001-2003*

Full data on the recycling of packaging waste is available only for the 15 old Member States. The EU has set targets for the recycling of packaging waste: by the year 2001, 25% of all packaging put on the market had to be recycled; by the year 2008 the target level is 55%. For Greece, Ireland and Portugal special transition periods apply.

In 2001 all 15 Member States reached the 25% target; seven of them already reached the 2008 target of 55%. Most countries still under the 2008 target have an upward trend in the recycling rate, whereas some countries already above the 2008 target level seem to have problems maintaining this high level.

Recycling does not include energy recovery (the use of waste as a fuel).

### Recycling Rates for Packaging Waste

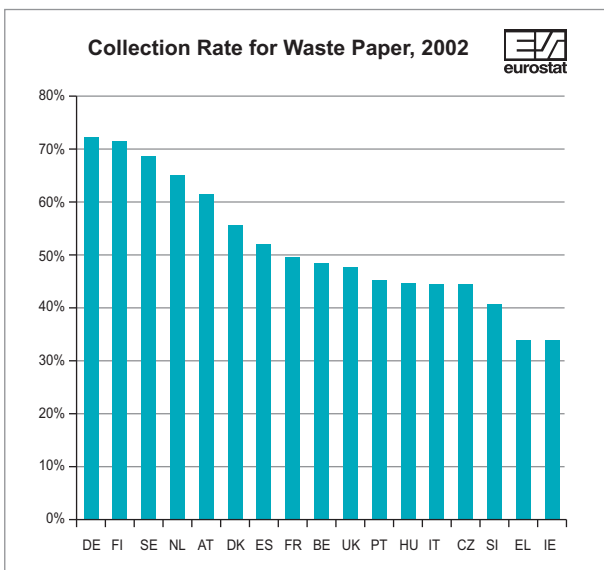


## Collection Rate for Waste Paper

	<b>2002</b>
Belgium	48.1%
Czech Republic	44.5%
Denmark	55.7%
Germany	72.2%
Greece	34.1%
Spain	52.1%
France	49.7%
Ireland	33.8%
Italy	44.9%
Hungary	44.9%
Netherlands	64.8%
Austria	61.4%
Portugal	45.3%
Slovakia	40.3%
Finland	71.7%
Sweden	68.8%
United Kingdom	47.6%
Norway	67.7%
Switzerland	70.2%

*Data Source: Eurostat*





Recycling requires homogeneous waste streams. This homogeneity can be the result of sorting by the waste producers or of sorting by separate sorting businesses. The separate collection of waste paper is a traditional example of sorting by the waste producers. The information on the generation and separate collection of waste paper are based on data provided by the Confederation of European Paper Industries; it does not cover all EU countries.

Countries differ greatly both in the amount of paper waste generated and in the fraction collected separately for recycling. In 2002 Belgium produced over 300 kg of waste paper per person, whereas Slovakia and Hungary produced less than 100 kg. The fraction of paper waste collected separately varies from over 70 percent in Germany and Finland to less than 35 percent in Greece and Ireland.

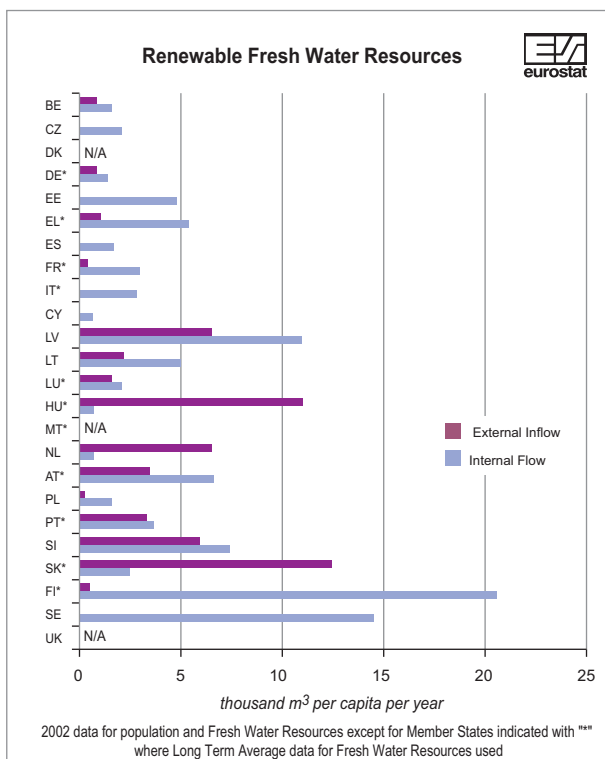
## Renewable Fresh Water Resources

*(billion m<sup>3</sup> per year)*

	1985	1990	1995	2000	2001	2002	LTAVG
BE	:	:	21.6	24.1	28.4	26.1	<b>20.7</b>
CZ	14.1	10.0	18.2	15.0	16.2	24.1	<b>16.0</b>
DK	:	:	:	:	:	:	:
DE	:	:	:	:	:	:	<b>188.0</b>
EE	21.8	27.2	22.6	18.8	23.2	14.4	<b>21.1</b>
EL	:	:	:	:	:	:	<b>72.0</b>
ES	124.6	112.6	73.5	64.4	136.8	71.5	<b>111.1</b>
FR	:	:	:	:	:	:	<b>189.0</b>
IT	:	172.0	:	:	:	:	<b>175.0</b>
CY	0.5	0.3	0.3	0.4	0.4	0.4	<b>0.4</b>
LV	57.3	61.6	50.9	39.9	54.8	:	<b>49.9</b>
LT	27.7	30.2	26.0	24.2	25.2	24.5	<b>24.5</b>
LU	1.5	1.8	1.7	:	:	:	<b>1.6</b>
HU	113.5	78.2	123.0	121.7	121.8	:	<b>120.0</b>
MT	0.1	0.1	0.1	0.1	0.0	:	<b>0.1</b>
NL	80.4	71.3	109.3	102.1	118.6	116.1	<b>89.7</b>
AT	:	:	:	:	:	:	<b>84.0</b>
PL	59.4	43.3	61.6	71.0	70.1	73.4	<b>63.1</b>
PT	:	:	:	:	:	:	<b>73.6</b>
SI	31.9	30.4	31.5	32.0	27.7	26.6	<b>32.1</b>
SK	82.3	71.7	87.5	91.1	90.8	:	<b>80.3</b>
FI	:	90.5	109.0	121.0	102.0	:	<b>110.0</b>
SE	191.8	180.0	167.3	231.3	187.7	130.4	<b>179.0</b>
UK	159.7	182.5	162.6	224.6	160.2	202.1	<b>160.6</b>
IS	:	:	:	:	:	:	<b>170.0</b>
NO	:	:	436.9	471.3	371.1	358.0	<b>381.4</b>
CH	48.8	44.8	63.4	56.3	64.5	:	<b>53.3</b>
BG	:	:	:	:	:	:	<b>19.4</b>
RO	48.4	22.6	37.3	35.5	38.3	39.9	<b>42.3</b>
TR	:	:	:	:	:	:	<b>234.3</b>

\* LTAVG: Long term average ( $\geq 20$  yr)

Data Source: Eurostat



Renewable fresh water resources for any given country are made up of two components: "external inflow", which is the inflow of water from neighbouring territories, be it at the surface (river flow) or subsurface (groundwater flow), and the "internal flow", which is the precipitation (all forms) minus the evaporation from surfaces and the evapotranspiration by plants. The amounts available per capita are a combined effect of a country's climate, its hydrology, its geography, and its population density. The absolute values of this indicator vary among countries over more than one order of magnitude, with the relative share of both constituents being extremely different. The external inflow per capita is high for relatively small countries with large rivers passing through the territory, like for Austria, Slovakia and Hungary in the Danube basin, the Netherlands at mouth of the river Rhine, Portugal with major river inflow from Spain, Latvia with the Daugava or Slovenia with alpine rivers flowing in. In contrast, large amounts of precipitation-fed resources (internal flow) are available in sparsely populated humid countries such as Finland, Sweden and Latvia. At the other end of the scale, some countries are relatively short in water resources due to their dense population (e.g. Belgium, Germany) and/or an unfavourable hydrologic situation (e.g. Spain). The Southern European island states (Malta, Cyprus) face an especially difficult situation due to their semi-arid climate without any river inflow.

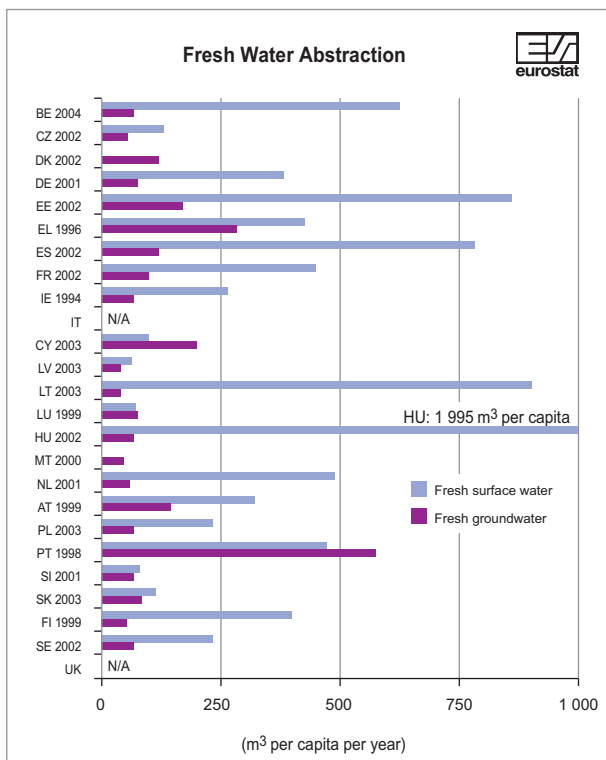
## Fresh Water Abstraction

*(million m<sup>3</sup> per year)*

	1990	1995	2000	2002	L.Av. Year
Belgium	:	:	:	:	7 010
Czech Republic	3 623	2 743	1 918	1 908	1 908
Denmark	1 261	887	723	668	668
Germany	:	43 374	:	:	38 006
Estonia	3 215	1 780	1 471	1 413	1 413
Greece	7 835	7 732	:	:	8 695
Spain	:	33 288	37 071	37 221	37 221
France	:	:	32 715	33 163	33 163
Ireland	:	:	:	:	1 070
Italy	:	:	:	:	41 982
Cyprus	:	:	182	205	215
Latvia	:	418	283	256	254
Lithuania	4 311	4 582	3 578	3 126	3 327
Luxembourg	:	57	:	:	61
Hungary	:	6 054	18 878	21 033	21 033
Malta	21	20	17	:	17
Netherlands	7 800	:	:	:	8 861
Austria	3 807	3 449	:	:	3 668
Poland	15 164	12 924	11 994	11 728	11 548
Portugal	7 288	:	:	:	7 288
Slovenia	444	387	304	899	899
Slovakia	2 116	1 386	1 172	1 094	1 041
Finland	2 327	2 535	:	:	2 328
Sweden	2 968	2 725	2 688	2 676	2 676
United Kingdom	:	:	:	:	13 085
Iceland	:	165	163	165	165
Norway	:	:	:	:	2 025
Switzerland	2 665	2 571	2 564	2 518	2 518
Bulgaria	10 218	6 326	6 132	6 589	6 918
Croatia	:	:	:	:	:
Romania	17 510	10 300	7 967	7 239	6 500
Turkey	28 073	30 112	39 300	:	39 780

\* L.Av. Year: Last Available Year

Data Source: Eurostat



The per-capita-abstraction of fresh groundwater is relatively uniform throughout Europe, with the exception of a few Mediterranean countries (Portugal, Greece, Cyprus) where abstraction is higher, mainly due to the climate-triggered demand.

The picture is completely different for surface water abstraction, which differs widely between countries, even neighbouring countries like Latvia and Lithuania. This is due to the use of surface water for cooling purposes in thermal power stations (generation of electricity, like in Belgium or in Germany) or for agriculture, as in Spain. Depending on the structure of a country's energy supply, water for cooling purposes can be the dominant driving force for surface water abstraction.

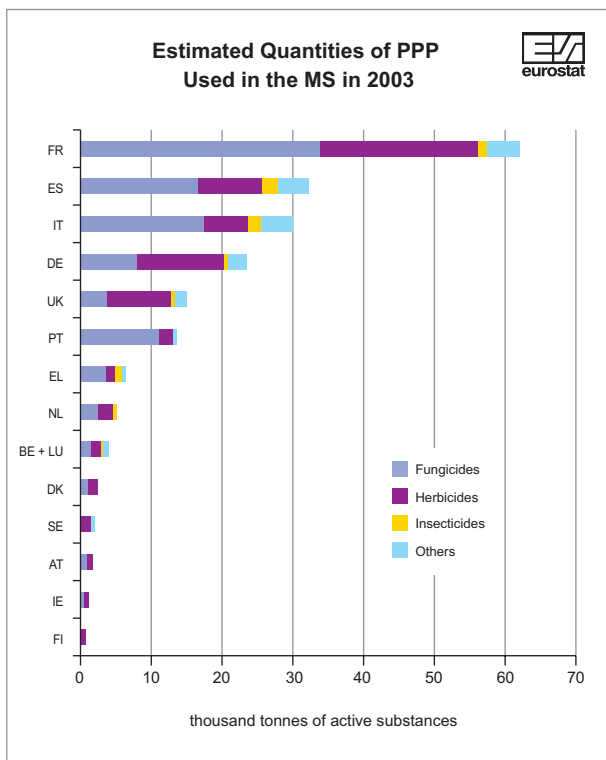
The table of total fresh water abstraction (page 156) shows that over the twelve years covered by the table, there is a clear decrease in total abstraction in new Member States and in Association countries where structural changes in economic sectors and in particular in manufacturing industries have led to reducing the production and using water in a more efficient way. In industrialized countries that experienced fewer structural changes (e.g. Sweden, Switzerland), total abstraction remained relatively stable.

## EU-15 Estimated Used Quantities of Plant Protection Products

*(tonnes of active substances)*

Type	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Sulphur F	89 574	104 896	95 428	105 067	107 422	109 120	99 069	94 447	79 654	78 630	75 408	57 879
Copper F	7 642	6 568	6 356	6 554	7 150	8 381	9 418	9 544	3 218	3 060	3 465	3 304
Other Fungicides	36 418	36 911	34 761	38 193	36 429	37 544	38 317	36 574	43 991	43 563	44 253	40 967
Herbicides	52 669	49 929	52 189	57 975	58 832	64 958	70 700	64 702	82 374	78 446	81 699	70 476
Oils	1 958	2 437	3 491	3 205	3 056	2 474	2 446	2 462	3 872	3 543	3 761	3 599
Other Insecticides	6 040	5 775	6 382	6 303	5 755	12 782	14 784	16 922	9 291	8 168	8 121	7 094
Growth Reg.						7 218	8 065	7 725	17 537	17 900	17 624	16 068
Total	194 302	206 517	198 608	217 296	218 643	242 478	242 800	232 377	239 937	233 310	234 331	199 388

Data Source: Eurostat



The statistics on pesticides collected by Eurostat relate to plant protection products (PPP) which are mainly used in agriculture. Sales statistics provided by the Member States on a voluntary basis give only a broad picture of PPP use in the Member States.

A proper assessment of the risk associated with PPP can only be done with reliable use data. Thanks to a grant to the European Crop Protection Association detailed estimates of PPP use by country, crop, and category are now available for EU-15 from 1992 to 2003 and for EU-25 from 2000 to 2003. Sales and estimated use data show similar trends with a constant difference of nearly 30% between both sets of data. The huge impact of fungicides -and among them of sulphur used to protect vines- on the overall PPP consumption is evident. A detailed analysis confirms that beside the country size some crops have a clear influence on the total amount of PPP used: grapes for fungicides, cereals for herbicides and olives, citrus or fruit trees for insecticides.

To allow a more in-depth risk analysis, in the context of its Thematic Strategy on the Sustainable Use of Pesticides, the Commission is proposing to adopt a Regulation aiming at regular collection of comparable PPP use data.

## EU-15 Production of Toxic Chemicals by Toxicity Class

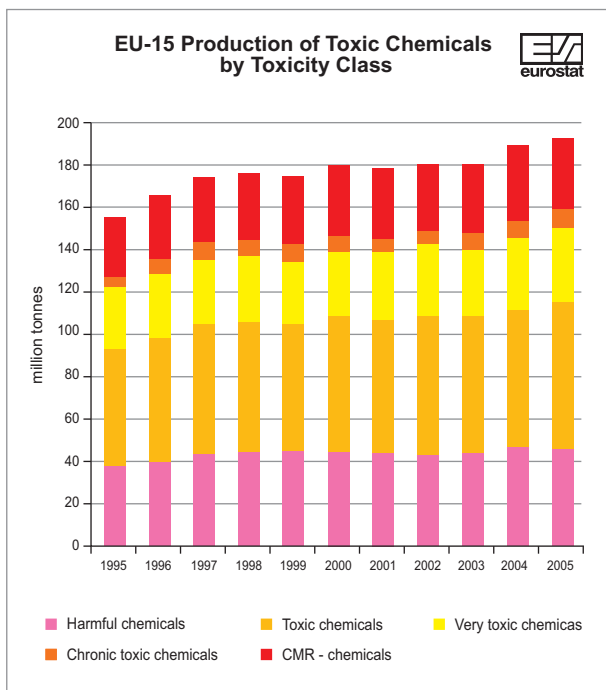
*(million tonnes)*

Toxicity Class	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total chemicals produced	284	294	309	313	332	354	335	330	336	365	373
Toxic industrial chemicals	156	165	173	175	173	181	178	181	181	189	192
CMR - chemicals *	28	30	30	31	31	34	33	32	33	36	35
Chronic toxic chemicals	6	7	8	8	8	8	7	7	7	7	7
Very toxic chemicals	28	29	30	30	29	30	32	33	31	34	36
Toxic chemicals	54	58	63	62	61	62	63	64	64	65	68
Harmful chemicals	39	41	43	44	44	46	44	44	46	46	46

\* Confidential data has been excluded, but makes no significant difference to the result

*Data Sources: Eurostat 2006, derived from Prodcom*





**Definition:** This indicator presents the trend in **aggregated production volumes of toxic chemicals**, broken down into five toxicity classes. The toxicity classes, beginning with the most dangerous, are: carcinogenic, mutagenic and reprotoxic (CMR-chemicals); chronic toxic chemicals; very toxic chemicals; toxic chemicals; and harmful chemicals.

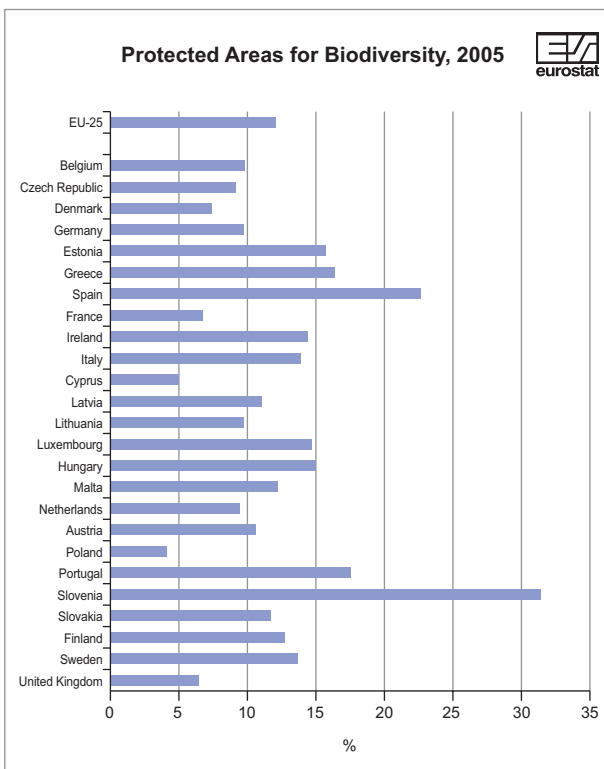
This indicator monitors progress in shifting production from the most toxic classes of chemicals to less toxic classes. There are some 30 000 man-made chemicals currently in use in the EU, which are produced or imported in quantities over 1 tonne per year. For most of them basic information on their toxicological properties, their use patterns and quantities on the market are simply not available. The indicator does not provide information on the risk from the use of chemicals: Production and consumption are not synonymous with exposure, as some chemicals are handled in closed systems, or as intermediates in controlled supply chains. Further detailed information on use patterns of the different chemicals is needed.

Between 1995 and 2005 the total production of chemicals has grown by 31%. The production of toxic chemicals increased by 23.5%, with a 25% growth for CMR chemicals. This shift to the most toxic categories of chemicals represents a worrying trend if continued.

## Protected Areas for Biodiversity

	% of total country area				Total country Area (km <sup>2</sup> )
	2002	2003	2004	2005	
<b>EU-25</b>	<b>12.49</b>	<b>12.53</b>	<b>12.40</b>	<b>12.07</b>	<b>3 944 260</b>
Belgium	9.87	9.88	9.96	9.96	30 528
Czech Republic				9.19	78866
Denmark	7.37	7.37	7.37	7.37	43 093
Germany	6.99	6.99	6.99	9.83	357 031
Estonia				15.86	45226
Greece	16.40	16.40	16.40	16.40	131 940
Spain	21.81	22.61	22.57	22.57	504 782
France	6.35	6.77	6.79	6.90	549 192
Ireland	9.47	10.74	10.21	10.21	70 280
Italy	14.67	14.66	13.86	13.86	301 333
Cyprus	:	:	:	4.96	9250
Latvia	:	:	:	10.98	64589
Lithuania	:	:	:	9.96	65200
Luxembourg	14.76	14.76	14.75	14.75	2 597
Hungary	:	:	:	14.97	93030
Malta	:	:	:	12.45	316
Netherlands	8.21	9.52	9.52	9.52	41 526
Austria	10.61	10.58	10.59	10.59	83 859
Poland				4.20	312685
Portugal	16.43	17.41	17.41	17.41	91 990
Slovenia	:	:	:	31.37	20273
Slovakia	:	:	:	11.75	48845
Finland	12.65	12.65	12.65	12.65	338 145
Sweden	13.88	13.94	13.62	13.62	414 864
United Kingdom	6.65	6.53	6.52	6.53	244 820

Data Source: Eurostat



The EU policy on nature conservation is mainly based on the two Directives 92/43/EEC on the conservation of natural habitats and of wild fauna and flora and 79/409/EEC on the conservation of wild birds. This indicator is based on territories which countries propose should be designated for the protection of natural and semi-natural habitats, wild fauna and flora according to the Habitat Directive.

The assumption for this indicator is that the establishment of Natura 2000, the network of protected sites in the EU, will increase the protection of natural habitats and wild plants and animals of Community interest. The indicator shows the progress in proposing sites under the Habitats Directive; it does not show the conservation status of habitats and species within the sites and does not cover nationally designated areas unless proposed under the Habitat Directive.

The site proposal phase, now close to finalisation, will be concluded with the adoption of lists of sites of community interest for all bio-geographical regions. Until then, updates of information are provided from time to time by Member States and consolidated at least yearly by the European Environment Agency (European Topic Centre for Biological Diversity).

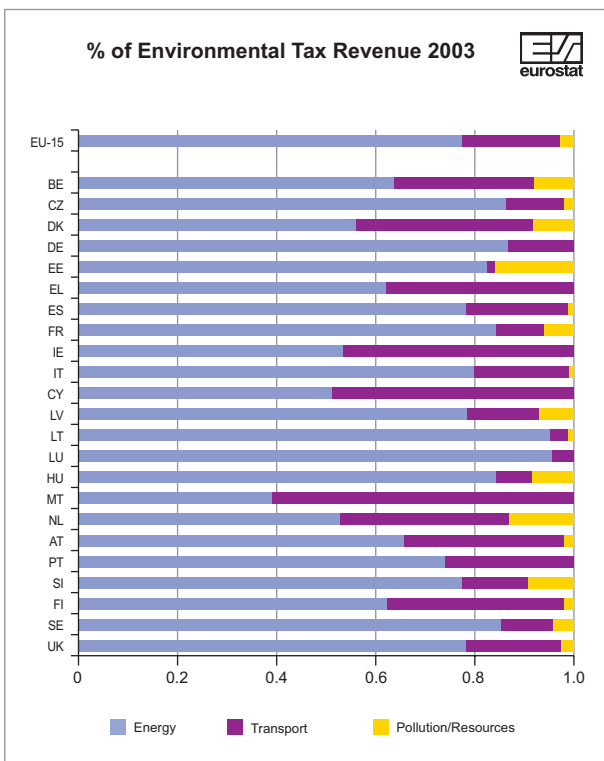
## ENERGY, TRANSPORT AND ENVIRONMENT INDICATORS

### Environmental Taxes by Revenue Type in 2003

*(Millions of euro)*

	Total environmental	Energy taxes	Transport taxes	Taxes on Pollution Resources
<b>EU-25</b>	:	:	:	:
<b>EU-15</b>	<b>247 622</b>	<b>192 524</b>	<b>48 688</b>	<b>6 410</b>
BE	6 320	3 975	1 858	487
CZ	2 131	1 851	245	34
DK	8 763	4 907	3 242	614
DE	57 349	50 009	7 340	-
EE	159	132	3	23
EL	3 780	2 357	1 423	-
ES	16 100	12 762	3 124	214
FR	29 239	24 719	2 983	1 537
IE	3 195	1 697	1 492	5
IT	40 062	31 934	7 881	247
CY	442	227	215	-
LV	249	197	36	16
LT	351	336	12	3
LU	719	690	29	-
HU	1 979	1 679	136	164
MT	144	56	87	-
NL	17 013	9 033	5 973	2 007
AT	6 093	4 009	1 987	97
PL	:	:	:	:
PT	4 070	3 014	1 056	-
SI	846	655	117	74
SK	:	:	:	:
FI	4 615	2 882	1 680	53
SE	7 992	6 859	872	261
UK	42 312	33 677	7 748	887

Data Source: Commission Services



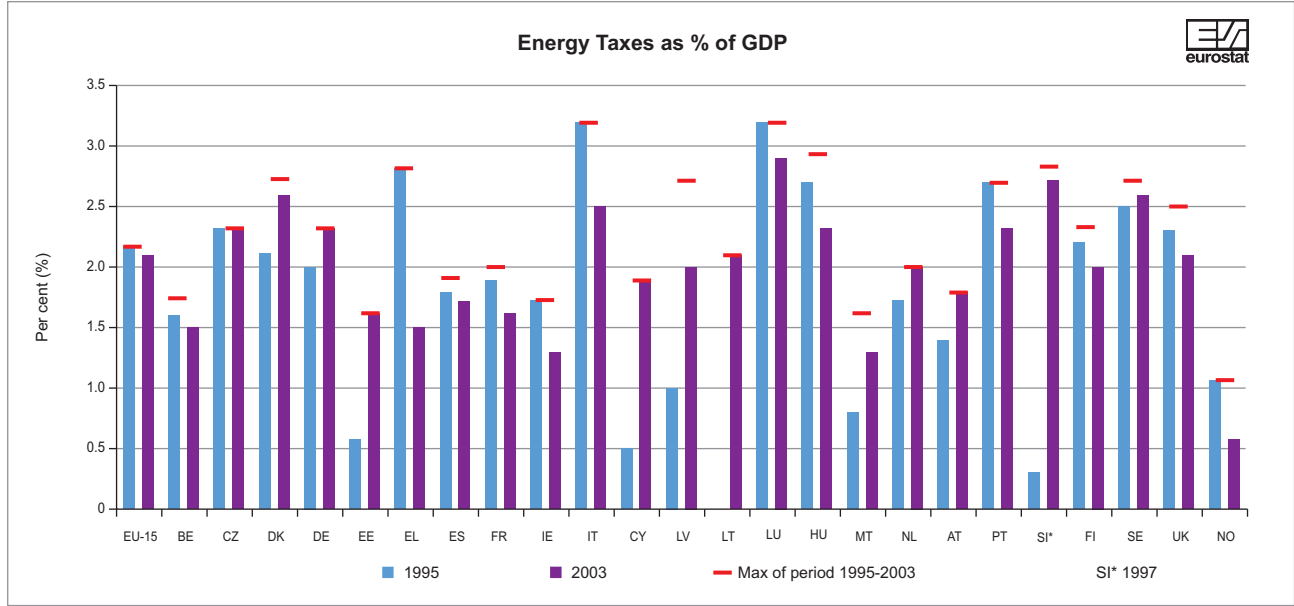
Environmental taxes are a market-based instrument that aims to integrate the cost of adverse environmental impacts into prices. Through them, producers and consumers are given an incentive to assess the environmental consequences of their behaviour in their production and consumption decisions and thus encouraged to limit environmental pressures and use natural resources responsibly. However, environmental interests also have to be weighed against other concerns, such as competitiveness, regional policy and employment. Levels of environmental tax are therefore adjusted to reflect these other concerns. The concept of environmental taxes includes four categories; energy, transport, pollution and resource taxes. In 2003, energy taxes accounted for 78% of total environmental taxes in EU-15. The second largest contributor to total environmental taxes in the EU comes from transport taxes. They include mainly taxes on the ownership of vehicles, such as tax on vehicle registration, road tax and tax on imports of vehicles. Only Malta has higher tax on transport than on energy, but the share is also high in Cyprus and in Ireland.

## Energy Taxes as a % of GDP

	1995	1997	1999	2001	2003	Max of period 1995-2003 (%)
<b>EU-15</b>	<b>2.2</b>	<b>2.1</b>	<b>2.2</b>	<b>2.1</b>	<b>2.1</b>	<b>2.2</b>
BE	1.6	1.7	1.6	1.5	1.5	1.7
CZ	2.3	2.2	2.2	2.3	2.3	2.3
DK	2.1	2.2	2.6	2.7	2.6	2.7
DE	2.0	1.8	2.0	2.2	2.3	2.3
EE	0.6	1.3	1.4	1.6	1.6	1.6
EL	2.8	2.5	2.0	1.7	1.5	2.8
ES	1.8	1.8	1.9	1.7	1.7	1.9
FR	1.9	1.9	1.9	1.6	1.6	2.0
IE	1.7	1.7	1.6	1.2	1.3	1.7
IT	3.2	3.0	2.9	2.5	2.5	3.2
CY	0.5	0.5	0.6	1.0	1.9	1.9
LV	1.0	1.8	2.1	1.7	2.0	2.7
LT	:	:	:	2.0	2.1	2.1
LU	3.2	3.0	2.8	2.8	2.9	3.2
HU	2.7	2.4	2.8	2.3	2.3	2.9
MT	0.8	1.3	1.6	1.6	1.3	1.6
NL	1.7	1.9	2.0	2.0	2.0	2.0
AT	1.4	1.7	1.5	1.7	1.8	1.8
PL	:	:	:	:	:	:
PT	2.7	2.5	2.4	1.9	2.3	2.7
SI*	0.3	0.3	1.7	2.8	2.7	2.8
SK	:	:	:	:	:	:
FI	2.2	2.3	2.3	2.0	2.0	2.3
SE	2.5	2.6	2.5	2.5	2.6	2.7
UK	2.3	2.3	2.5	2.3	2.1	2.5
NO	1.1	1.0	0.8	0.6	0.6	1.1

Data Source: Commission Services

In 2003 the members of EU-15 collected revenues from environmental taxes of 247 billion euro. This is about 2.7% of GDP within EU-15. The percentage of energy taxes was 2.1% of GDP. Between 1995 and 2003 half of Europe has increased the revenues from energy taxes in relation to GDP. Taxes on energy consist of taxes on fuel, mineral products and production of electricity. With the exception of Malta and Cyprus the increase of energy taxes takes place in countries located in the north of Europe such as in Estonia, Denmark, and in Germany. Luxembourg has the highest share of energy tax in GDP with 2.9%, but this has come down from 3.2% in the middle of the 90s. The second EU member of high energy taxes is Slovenia with revenues accounting for 2.7% of GDP in 2003.



## EU-15 Greenhouse Gas Emissions by Economic Activity in 2000

	GHG* (kilotonnes CO <sub>2</sub> equivalent)	GVA** (Million euro)	GHG* (tonnes CO <sub>2</sub> equivalent / million euro)	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
<b>Total</b>	<b>3 420 109</b>	<b>7 767 953</b>	<b>440</b>	<b>354</b>	<b>45</b>	<b>41</b>
<b>NACE sections</b>						
<b>A-B</b>	555 607	173 316	3 206	768	1 178	1 260
<b>C</b>	75 864	68 561	1 107	695	402	10
<b>D</b>	910 087	1 510 452	603	556	4	42
<b>E</b>	1 090 708	144 542	7 546	7 300	155	91
<b>F</b>	35 359	429 994	82	77	4	2
<b>G</b>	81 286	896 879	91	87	2	2
<b>H</b>	18 794	231 175	81	80	0	1
<b>I</b>	361 799	535 910	675	660	2	13
<b>J</b>	13 096	379 344	35	34	0	1
<b>K</b>	47 235	1 664 898	28	28	0	1
<b>L</b>	30 736	490 240	63	62	0	1
<b>M</b>	28 412	393 461	72	71	0	1
<b>N</b>	30 140	511 725	59	53	0	6
<b>O</b>	121 985	299 103	408	123	259	26
<b>Subsection D</b>						
DA	55 288	171 505	322	310	8	4
DB	13 516	67 656	200	189	7	4
DC	1 255	13 250	95	76	16	2
DD	14 762	33 533	440	418	13	10
DE	66 174	147 914	447	439	2	6
DF	137 165	29 019	4 727	4 649	15	62
DG	158 323	156 476	1 012	651	7	354
DH	10 857	65 820	165	161	1	2
DI	194 602	68 710	2 832	2 796	9	27
DJ	210 649	190 517	1 106	1 092	5	9
DK	10 327	158 191	65	64	0	1
DL	9 356	193 186	48	48	0	1
DM	15 620	153 910	101	100	0	1
DN	12 194	60 767	201	196	1	4

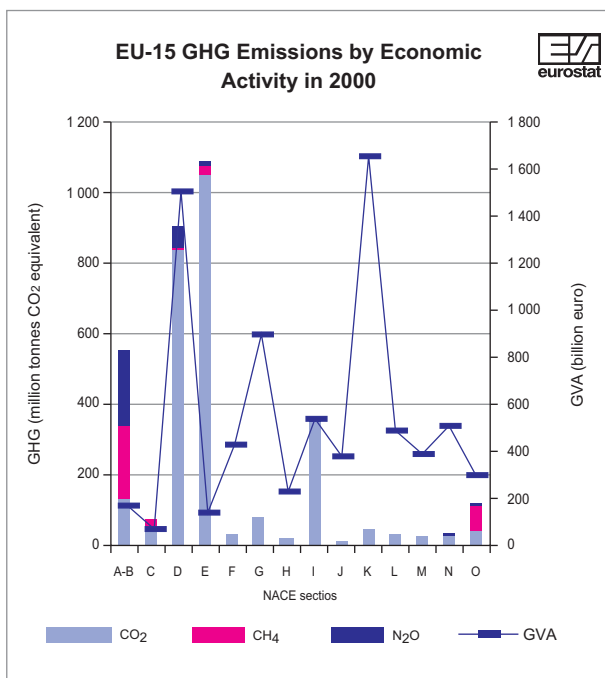
\* GHG comprises CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O; no data for the other Kyoto GHG

\*\* GVA at current prices, date of extraction: Feb 2006

Data Source: Eurostat

**Note:** NACE: "Nomenclature statistique des Activités économiques dans la Communauté Européenne". For definitions of the sections see Glossary.





Greenhouse gas [GHG, which includes carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>)] emissions and environmental pressure can be analysed by economic activity given by NACE sections. NACE is the statistical classification of economic activities in the European Community.

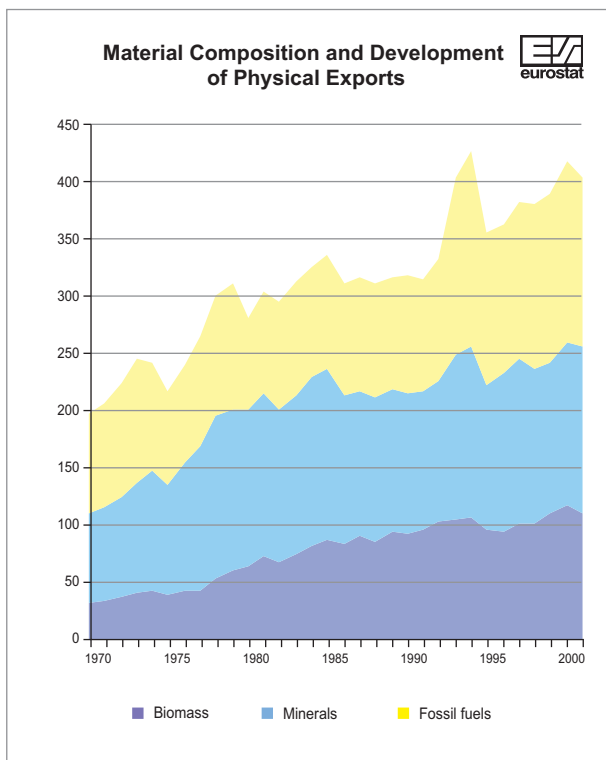
In 2000, section E (Electricity, gas and water supply) represented 32% of GHG emitted by economic activities. Together with section D (Manufacturing), these economic activities accounted for 58.5% of GHG emissions. The environmental pressure due to GHG emissions from economic activities can be measured by the ratio between the GHG emissions and the Gross Value Added (GVA). It was considerably higher for section E than for all other sections: 7 546 tonnes of CO<sub>2</sub> emissions per million Euro of GVA, followed by sections A-B (Agriculture, hunting and forestry, and Fishing) with 3 206 tonnes, section C (Mining and quarrying) with 1 107 tonnes, section I (Transport, storage and communication) with 675 tonnes and section D with 603 tonnes of CO<sub>2</sub> emissions per million Euro of GVA. The environmental pressure due to methane (CH<sub>4</sub>) is more important in sections A-B, C, O (Other community, social and personal service activities) and E; for nitrous oxide (N<sub>2</sub>O), the environmental pressure concerns almost exclusively the sections A-B. On the other hand, the economic performance in relation to the environmental pressure due to GHG emissions is quite favourable in sections F to N (excluding section I). In all these NACE sections, the environmental pressure is relatively small and the GVA is relatively high. For further information about GVA and NACE including a description of the NACE sections, please consult the Glossary in page 176.

## Material Composition and Development of Physical Exports

*(million tonnes)*

EU-15: extra EU trade volume		1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	Total	197	215	281	334	316	313	332	401	425	355	362	381	379	388	416	403
<b>Biomass</b>	food	15	20	33	46	54	53	58	58	55	50	47	49	48	52	56	47
	feed	1	2	3	4	3	3	3	4	4	3	3	4	4	4	4	4
	animals	2	3	7	7	8	9	9	9	9	10	9	11	11	11	11	10
	forestry	11	12	17	25	23	26	26	27	31	25	27	31	31	34	37	39
	non edible biomass	2	3	4	5	5	5	6	7	7	6	7	7	8	9	9	9
<b>Minerals</b>	construction minerals	20	29	42	44	36	34	33	35	42	39	40	42	41	39	40	41
	industrial minerals	13	14	26	25	25	22	24	25	26	21	23	24	23	23	22	24
	ores	45	53	69	80	60	65	65	83	81	67	76	78	71	69	80	80
<b>Fossil fuels</b>	coal	12	9	7	8	5	2	2	1	2	1	1	1	1	1	1	1
	crude oil	64	53	49	62	69	64	73	114	127	94	88	94	100	101	108	100
	natural gas	1	1	1	3	1	2	2	4	4	3	4	3	3	3	4	3
	products from fossils	11	16	22	25	28	30	30	34	37	34	37	38	38	40	44	44

Data Source: Eurostat



Unlike the import structure, the composition of exports is not dominated by just one material category. Export categories of quantitative importance are fossil fuels, construction minerals, ores, wood, and food. Exported commodities are generally in a higher stage of processing than imported commodities.

Domestic extraction in the EU-15 cannot fully supply the raw materials needed to produce export commodities made from fossil fuels and metal ores. These commodities are to a large extent produced from imported raw materials. Exports in all categories increased substantially over the whole period with the sole exception of coal exports, which dropped to half of their 1970 volume in the year 2001.

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

### **Abstraction (of water):**

Withdrawal of water from groundwater or surface water resources by technical means (e.g. pumping).

### **Acidifying substances:**

The acidifying substances considered in this publication are sulphur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>). Emissions of these gases are associated with the formation of acid rain.

### **Acid Equivalent:**

In the concept of Acid Equivalents weighting factors are used to aggregate the emissions of acidifying substances and present a single figure for this in kilo tonnes acid equivalents. 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.

### **Carcinogenic Substance:**

A carcinogenic substance is a chemical which is capable of causing cancer. A cancer is a malignant tumour which can spread to other organs of the body.

For the purpose of classification and labelling, and having regard to the current state of knowledge, such substances are divided into three categories:

*Category 1:* Substances known to be carcinogenic to man. There is sufficient evidence to establish a causal association between human exposure to a substance and the development of cancer.

*Category 2:* Substances which should be regarded as if they are carcinogenic to man. There is sufficient evidence to provide a strong presumption that human exposure to a substance may result in the development of cancer, generally on the basis of:

- appropriate long-term animal studies,
- other relevant information.

*Category 3:* Substances which cause concern for man owing to possible carcinogenic effects but in respect of which the available information is not adequate for making a satisfactory assessment. There is some evidence from appropriate animal studies, but this is insufficient to place the substance in Category 2.

For more details, see: Dangerous Substances Directive (67/548/EEC, as last amended in 2001), <http://ec.europa.eu/environment/chemicals/>

### **CHP:**

See "Combined Heat and Power"

### **CO<sub>2</sub> Equivalent:**

Emissions of some substances resulting from burning of fossil fuels and other activities like industrial processes or agriculture significantly change the composition of the atmosphere and cause the anthropogenic greenhouse effect: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). These substances have individual global warming potentials (GWP) ranging from 1 (CO<sub>2</sub>) to 23 900 (SF<sub>6</sub>). 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<sub>2</sub> 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.

### **CMR Chemicals:**

Carcinogenic substances (C), Mutagenic substances (M) and substances that can harm Reproduction (R) are called CMR-substances. Some substances in this group can cause several of these effects. Substances assigned CMR are jointly decided upon in the EU. In the work to reach a non-toxic environment CMR-substances are given priority. The long-term goal is that they must not be used at all.

### **Constant Price:**

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

### **CORINAIR – CORE INVENTORY of AIR emissions:**

This is a project performed since 1995 by the European Topic Centre on Air Emissions under contract to the European Environment Agency. The aim is to collect, maintain, manage and publish information on emissions into the air, by means of a European air emission inventory and database system. Before 1995 the CORINAIR project was developed under the CORINE programme of the EU (CO-ordination d'INformation Environnementale, a programme established by Council Decision 85/338/EEC).

### **CRF – Common reporting format for source and sink categories:**

The CRF is used by countries for reporting of greenhouse gas inventories since 2000 under the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, and EU GHG Monitoring Mechanism (Decision 280/2004/EC). It is in line with the 1996 IPCC Guidelines (IPCC 1997), and is described in the Reporting guidelines (<http://www.unfccc.int/resource/docs/cop5/07.pdf>). The sources categories in the highest aggregated levels are the following:

CRF 1 Energy

CRF 2 Industrial Processes

CRF 3 Solvent and Other Product Use

CRF 4 Agriculture

CRF 5 Land-Use Change & Forestry

CRF 6 Waste

CRF 7 Other

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

### **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.

**Environmental taxes**

An environmental tax is defined as a tax on an environmentally harmful tax base. The concept consists of the revenues from four types of taxes: energy-, transport-, pollution- and resource taxes. Carbon dioxide taxes are included under energy as they are often an integral part of general energy taxes. Excluded are general Value Added Tax (VAT) on environmentally harmful tax bases as well as royalty payments and other special taxes related to oil and gas extraction.

**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.

**Fluorinated gases (F-gases):**

Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>) are greenhouse gases with a very high global warming potential. The main uses of HFCs are as refrigerants, cleaning solvents and foam blowing agents. PFCs are used in semi-conductor manufacture and as cleaning solvents, and SF<sub>6</sub> is used in high-voltage switch gear and magnesium production.

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

**Greenhouse Gases (GHG):**

These emissions are reported under 1992 United Nations Framework Convention on Climate Change and for the EU member states under the Decision 280/2004/EC. According to the Kyoto Protocol anthropogenic emissions of the six greenhouse gases (the 'Kyoto basket') are aggregated using the global warming potential: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>).

**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).

**Gross Value Added (GVA) (ESA 1995, 9.23):**

It is the net result of output valued at basic prices less intermediate consumption valued at purchasers' prices. GVA is calculated before consumption of fixed capital. Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process (ESA 1995, 3.69). Data extraction: Gross value added at current prices; Million euro; New Cronos 28.02.2006.

**Hard Coal and Derived Products:**

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

**IPCC – Intergovernmental Panel on Climate Change****Kyoto base year:**

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

**Kyoto reduction targets:**

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

**Lignite and Derived Products:**

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

**Mutagenic Substance:**

A mutagenic substance is a chemical capable of producing a mutation or a chemical which gives rise to an enhanced occurrence of mutations. A mutation is a permanent change in the genetic material of cells. Effects on whole chromosomes may involve structural or numerical changes. A

mutation in the germ cells in sexually reproducing organisms may be transmitted to the offspring.

For more details, see: Dangerous Substances Directive (67/548/EEC, as last amended in 2001), <http://ec.europa.eu/environment/chemicals/>

### **NACE:**

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

#### Sections

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

#### Sub-sections

DA	Manufacture of food products, beverages and tobacco
DB	Manufacture of textiles and textile products
DC	Manufacture of leather and leather products
DD	Manufacture of wood and wood products
DE	Manufacture of pulp, paper and paper products; publishing and printing
DF	Manufacture of coke, refined petroleum products and nuclear fuel
DG	Manufacture of chemicals, chemical products and man-made fibres
DH	Manufacture of rubber and plastic products
DI	Manufacture of other non-metallic mineral products
DJ	Manufacture of basic metals and fabricated metal products
DK	Manufacture of machinery and equipment n.e.c.
DL	Manufacture of electrical and optical equipment
DM	Manufacture of transport equipment
DN	Manufacturing n.e.c

### **NAMEA – National Accounts Matrix including Environmental Accounts:**

Data in page 168 are extracted from the New Cronos database, sub-theme Environmental Accounts in Eurostat. The central framework of NAMEA is the national accounts. The national accounts present the development of an economy over time. It shows not only economic activities but also the



levels of an economy's productive assets and the wealth of its inhabitants at particular points in time. If environmental aspects were directly included in national accounts these would be overburdened with information. A satellite approach is therefore applied, where some conceptual freedoms exist for compiling the accounts. The satellite accounts, in this case the environmental accounts, can therefore be linked directly with relevant economic and environmental statistics and classifications and provide harmonised comparable accounts across any country applying this methodology. The NAMEA Air methodology follows the national accounts principle that all air emissions from the production processes (both mobile and stationary sources) should be allocated to the producer who creates value added with his products. NAMEA Air therefore follow the residential principle of the national accounts while the UNFCCC reporting presented in previous pages follows the territorial principle.

**Natural Gas:**

See "Net Calorific Value"

**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.

**Nitrogen oxides (NO<sub>x</sub>):**

Nitrogen oxides (NO<sub>x</sub>) mean nitric oxide and nitrogen dioxide, expressed as nitrogen dioxide.

**NMVOC – Volatile organic compounds without methane:**

Non-methane volatile organic compounds (NMVOC) are to be understood as all hydrocarbons which are volatile under ambient air conditions, excluding carbon monoxide, carbon dioxide, methane, halogenated carbons. It is a collective term comprising a large variety of compounds with widely diverging characteristics. Often is named also VOC (Volatile organic compounds).

**NMVOC equivalent:**

The emissions of ozone precursors can be aggregated using their ozone forming potential in NMVOC equivalent. This represents an oversimplified approach to a very complex process of chemical interactivity. The following weighting factors are applied to estimate the emissions in NMVOC equivalents: nitrogen oxides=1.22, volatile organic compounds without methane=1, carbon monoxide=0.11, methane=0.014 (de Leeuw 2002).

**NFR – Nomenclature For Reporting:**

The NFR is used by countries for reporting of air emissions under the United Nations Convention on Long-Range Transboundary Air Pollution (CLRTAP), the 1999 Gothenburg Protocol, and the EU national emission ceilings directive (NEC Directive 2001/81/EC). This nomenclature is based on SNAP (selected nomenclature for air pollution). In 1995, the European Topic Centre on Air Emissions (ETC/AE) developed the CORINAIR nomenclature further resulting in SNAP94 and in 1998 ETC/AE developed

the nomenclature still further, resulting in SNAP97. The new NFR and the CRF are now widely compatible.

### **PM10 – the medium fraction particulate matter:**

Particles which passes through a size-selective inlet with a 50% efficiency cut-off at 10  $\mu$ m aerodynamic diameter (diameter of a spherical particle having a density of 1 gm/cm<sup>3</sup> that has the same inertial properties in the gas as the particle of interest).

### **PM10 equivalent:**

To obtain the total particulate formation potential of air emissions, the sum of primary (direct emissions) and secondary (formation by photo-chemical reactions in the atmosphere) aerosols is calculated. The emissions are aggregated in the PM10 equivalent. The following weighting factors are used for aggregation: PM10=1, sulphur oxides=0.54, nitrogen oxides=0.88, ammonia=0.64 (de Leeuw, 2002).

### **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.

### **Reprotoxic Substance:**

This category of chemicals includes substances that cause reproductive impairment in adults and developmental impairment or death in the unborn child. Reproductive impairment can include infertility, impotence, menstrual irregularities, spontaneous abortion and damage to offspring. Individuals may vary widely in their exposure and susceptibility to reproductive hazards.

For more details, see: Dangerous Substances Directive (67/548/EEC, as last amended in 2001), <http://ec.europa.eu/environment/chemicals/>

### **RES:**

See "Renewable Energy"

### **Renewable Energy:**

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

### **SNAP – Selected Nomenclature for sources of Air Pollution:**

This nomenclature was designed by the ETC/AE (European Topic Centre on Air Emissions) to estimate not only emissions of greenhouse gases but all kind of air pollutants.

### **Sulphur oxides (SO<sub>x</sub>):**

Sulphur oxides (Sulphur dioxide-SO<sub>2</sub> and sulphur trioxide-SO<sub>3</sub> are reported as SO<sub>x</sub>) are estimated and reported under the Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP), the Gothenburg Protocol and National Emission Ceilings Directive (NEC Directive 2001/81/EC).

### **Tropospheric Ozone Forming Potential (TOFP):**

The emissions of ozone precursors can be aggregated using the ozone forming potential of four gases (nitrogen oxides, volatile organic compounds without methane (NMVOC), carbon monoxide, methane) and presented in a single figure in kilotonnes NMVOC equivalents.

### **Tropospheric Ozone Precursors (TOP):**

The ozone precursors considered in this publication are nitrogen oxides (NO<sub>x</sub>), volatile organic compounds without methane (NMVOC), carbon monoxide (CO), and methane (CH<sub>4</sub>). Emissions of these four gases are associated with the formation of tropospheric ozone (or ground-level ozone) which means ozone in the lowermost part of the troposphere.

### **VOC – see NMVOC**

## Annex B: Terms and Methodology used in the Transport Section

The main terms used in the field of transport statistics are defined in the "Eurostat concepts and definitions database (CODED)" accessible under the Eurostat web site at

["http://forum.europa.eu.int/irc/dsis/coded/info/data/coded/en/Theme7.htm"](http://forum.europa.eu.int/irc/dsis/coded/info/data/coded/en/Theme7.htm)

The indicators presented in the transport section of this pocket book represent a small part of the very detailed data collected by Eurostat in the framework of legal acts and voluntary data agreements.

According to a commonly agreed breakdown, the indicators are presented on the one hand by domains of interest (infrastructure, equipment, quantity and performance for the transport of freight and passengers, safety) and on the other hand, by modes of transport (rail, road, inland waterways, pipelines, maritime and aviation).

Most of the tables show figures covering a six-year period up to 2004. Data for up to 33 countries are included in this publication: members of the European Union (EU-15 or EU-25), of the European Free Trade Association (EFTA) and candidates for EU membership. 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 ten new countries 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's on-line database has been used as the main source for the indicators, while figures from the DG for Energy and Transport have been used as an additional source. For some missing data, figures from miscellaneous international or national bodies have been used and some estimates (put in italics) have been made.

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

1. Legal acts on transport statistics which cover detailed data collections for all the main modes of transport:

- Rail freight: Council Directive 80/1177/EEC of 4 December 1980 (O.J. L 350 of 23.12.1980) replaced by Regulation (EC) No 91/2003 of the European Parliament and of the Council of 16 December 2002 (rail freight, passengers, traffic and accidents) **(O.J. L 14 of 21.1.2003)**
- Road freight: Council Regulation (EC) 1172/98 of 25 May 1998 **(O.J. L 163 of 6.6.1998)**
- Inland waterways: 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 on-line database which covers, from the early eighties, millions of transport figures from EU countries plus, to a lesser extent, statistics from EFTA, Mediterranean and Candidate countries. Some miscellaneous publications in paper and electronic formats are also available, such as the "Panorama of transport" and several "Statistics in Focus".

## Annex C: 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 1<sup>st</sup> 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<sup>2</sup> 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 2005 and 2006 but consumption data is not, the prices for 2005 and 2006 have been weighted by 2004 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 1 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 2005 and 2006 but consumption data is not, the prices for 2005 and 2006 have been weighted by 2004 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 15<sup>th</sup> 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 weighing the prices from each country by the national final energy consumption of each product.

Price data for heating gas oil in households and for residual fuel oil in industry are available until 2005. The 2005 data are weighted with 2004 consumption figures.

Price data for the two automotive fuels are available until 2006. The 2005 and 2006 data are weighted with 2004 consumption figures.

## Annex D: Calorific Values and Conversion Factors

### Calorific Values

		<b>kJ (NCV)</b>	<b>kgoe (NCV)</b>
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
<b>Oil equivalent*</b>	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 co-efficients 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 <sup>3</sup>
mega (M)	=	1 000 000	or	10 <sup>6</sup>
giga (G)	=	1 000 000 000	or	10 <sup>9</sup>
tera (T)	=	1 000 000 000 000	or	10 <sup>12</sup>
peta (P)	=	1 000 000 000 000 000	or	10 <sup>15</sup>

### Conversion Factors

Energy	To	<i>TJ</i>	<i>Gcal</i>	<i>Mtoe</i>	<i>MBtu</i>	<i>GWh</i>
<i>From</i>						
<i>TJ</i>		1	238.8	2.388 x 10 <sup>-5</sup>	947.8	0.2778
<i>Gcal</i>		4.1868 x 10 <sup>-3</sup>	1	1 x 10 <sup>-7</sup>	3.968	1.163 x 10 <sup>-3</sup>
<i>Mtoe</i>		4.1868 x 10 <sup>4</sup>	1 x 10 <sup>7</sup>	1	3.968 x 10 <sup>7</sup>	11 630
<i>Mbtu</i>		1.0551 x 10 <sup>-3</sup>	0.252	2.52 x 10 <sup>-8</sup>	1	2.931 x 10 <sup>-4</sup>
<i>GWh</i>		3.6	860	8.6 x 10 <sup>-5</sup>	3 412	1