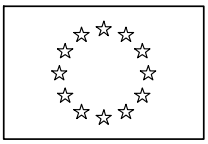

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 24.6.2009
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COMMISSION STAFF WORKING DOCUMENT

accompanying the

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

2008 Environment Policy Review

Part 1

{COM(2009) 304}

TABLE OF CONTENTS

INTRODUCTION

This Commission Staff Working Paper is an annex to the 2008 Environment Policy Review,[1] and gives information on selected EU environment policy issues for 2008.

It includes two parts. Part 1 draws on statistical data relevant to the four priority areas of the 6th Environment Action Programme (EAP). It reviews most significant issues and provides background for the Commission's policy work during 2008 and future initiatives. It also provides evidence on the state of implementation of EU environmental legislation.

Part 2 contains the Commission's review and summary of the major environment policy developments in the Member States during 2008. The policy actions listed are by no means exhaustive but rather present a snapshot of what was done in 2008 and initiatives to be expected in 2009. In order to make a closer link between environmental situation and policy response, a set of data tables with environment indicators is included. When relevant, country rankings of indicators are provided.

Additional information on the environment in Europe is provided by the European Environment Agency (EEA), which regularly update indicators relative to the four priorities of the 6th EAP, the Core Set of Indicators, country assessments and forecasts. The EEA recently published "*EEA Signals 2009*"[2] illustrating the key environmental issues facing Europe, while more complete and analytical reports are *"The European environment, State and outlook 2005"* report (SOER)[3] and the "*Europe's environment. The fourth assessment"*[4].

1 COM(2009) 304 final
2 http://www.eea.europa.eu/publications/signals-2009
3 http://reports.eea.europa.eu/state_of_environment_report_2005_1/en
4 http://www.eea.europa.eu/pan-european/fourth-assessment ; (2007)

PART 1 - ENVIRONMENTAL DATA AND TRENDS IN EU-27

This part presents selected key indicators on the environment and environment policy, including the four priority areas of the 6th EAP. The indicators have been mainly chosen from the EU Sustainable Development Indicators to monitor the EU Sustainable Development Strategy,[5] the EU Structural Indicators employed for reporting for the Lisbon process,[6] and the EEA's Core Set of Indicators,[7] which provide a comprehensive basis for assessment of progress against environment policy priorities.

Wherever possible the information provided describes the full circumstance of the environmental issue – covering all links in the causal chain (DPSIR)[8]:

– showing the *state* of the environment, illustrating what to preserve or regain,

– highlighting aspects of the *pressures* exerted by society and the economy on the state of the environment,

– informing about underlying social and economic *driving forces* behind the pressures,

– reporting what action has been taken as a *response* to mitigate these pressures or driving forces.

Other indicators show the current or projected *performance* of Member States or the *eco-efficiency* of their economy.

Table 1 presents these indicators by priority area of the 6th Environment Action Programme, together with other relevant issues. It describes the type of indicator according to the DPSIR scheme, the data source, the most recent year for which information is available (as of March 2009) and the assessment of EU environment indicators based on criteria mentioned below. The assessment is indicative and meant to improve the understandability of this document. It addresses the performance of the indicator from an environmental perspective.

	Key to assessment of indicators
J	good performance or worrying trend has been reversed or the EU is on track to meet the target
K	average performance or trend not clear, overall problem remains despite some mixed progress
L	poor performance or worrying trend or EU target is unlikely to be met

5 http://ec.europa.eu/eurostat/sustainabledevelopment

6 http://ec.europa.eu/eurostat/structuralindicators

7 http://themes.eea.europa.eu/IMS/CSI

8 DPSIR is a framework for describing the interactions between society and the environment: Driving forces, Pressures, States, Impacts and Response.

Table 1. Environmental indicators in Part 1

	Indicator	DPSIR*	Data Source	Latest available year	EU
1	**Climate change and energy**				
1.1	Global air temperature change	S	EEA, CRU, University of East Anglia	2008	L world
1.2	Natural disasters linked to climate change	S	CRED	2008	L
1.3	Total Kyoto greenhouse gas emissions	P	EEA	2006	J
1.4	Electricity produced from renewable energy	R	EC, Eurostat	2007	L
1.5	Combined heat and power generation	R	EC, Eurostat	2006	L
1.6	Energy intensity	R	EC, Eurostat	2006	K
1.7	Final energy consumption by transport	D	EC, Eurostat	2006	L
1.8	Average CO_2 emissions from passenger cars	D	EC, DG Environment	2007	K
1.9	Cumulative spent fuel from nuclear power plants	D	EC, DG Transport and Energy	2007	L
2	**Nature and biodiversity**				
2.1	Common birds	S	EBCC/RSPB/Birdlife	2006	L
2.2	Landscape fragmentation	P	EEA	2007	L
2.3	Freight transport	D	EC, Eurostat	2007	L
2.4	Area occupied by organic farming	R	EC, Eurostat and FIBL and others	2007	J
2.5	Area under agri-environmental commitment	R	EC, DG Agriculture and rural development	2006	K
2.6	Sufficiency of site designation under the Habitats Directive	R	EEA	2008	K
2.7	Natura 2000 area (% terrestrial area)	R	EC, DG Environment	2008	
3	**Environment and health**				
3.1	Urban population exposure to air pollution by particles	S	EC, DG Environment and EEA	2006	L
3.2	Urban population exposure to air pollution by ozone	S	EC, DG Environment and EEA	2006	L
3.3	Emission projections for air pollutants	P	EEA, UNECE	2006	K
3.4	Air emissions of nitrogen oxides	P	EEA, UNECE	2006	L
3.5	Exposure of ecosystems to acidification	S	EEA, UNECE	2000	K
3.6	Exposure of ecosystems to eutrophication	S	EEA, UNECE	2000	L
3.7	Water exploitation index	P	EEA	2005	K
3.8	Production of toxic chemicals	P	EC, Eurostat	2007	L
3.9	Pesticides residues in food	P	EC, DG Health and consumers	2006	K
4	**Natural resources and waste ****				
4.1	Fish catches from stocks outside safe biological limits	S	EC, DG Marine affairs and fisheries, ICES	2007	L
4.2	Municipal waste generated	P	Eurostat	2007	K
4.3	Recycling of packaging waste	R	EC, Eurostat	2006	J
5	**Environment and the economy**				
5.1	Environmental taxes	R	EC, Eurostat and DG Taxation and customs union	2006	
6	**Implementation**				
6.1	Infringements of EU environmental legislation	Perf.***	EC, DG Environment	2008	

EC: European Commission, DG: Directorate General.

* The causal framework for describing the interactions between society and the environment: driving forces, pressures, states, impacts and response.

** The EC is currently developing other indicators to address the entire life cycle of natural resources, in particular on resource productivity, resource specific impacts and eco-efficiency.

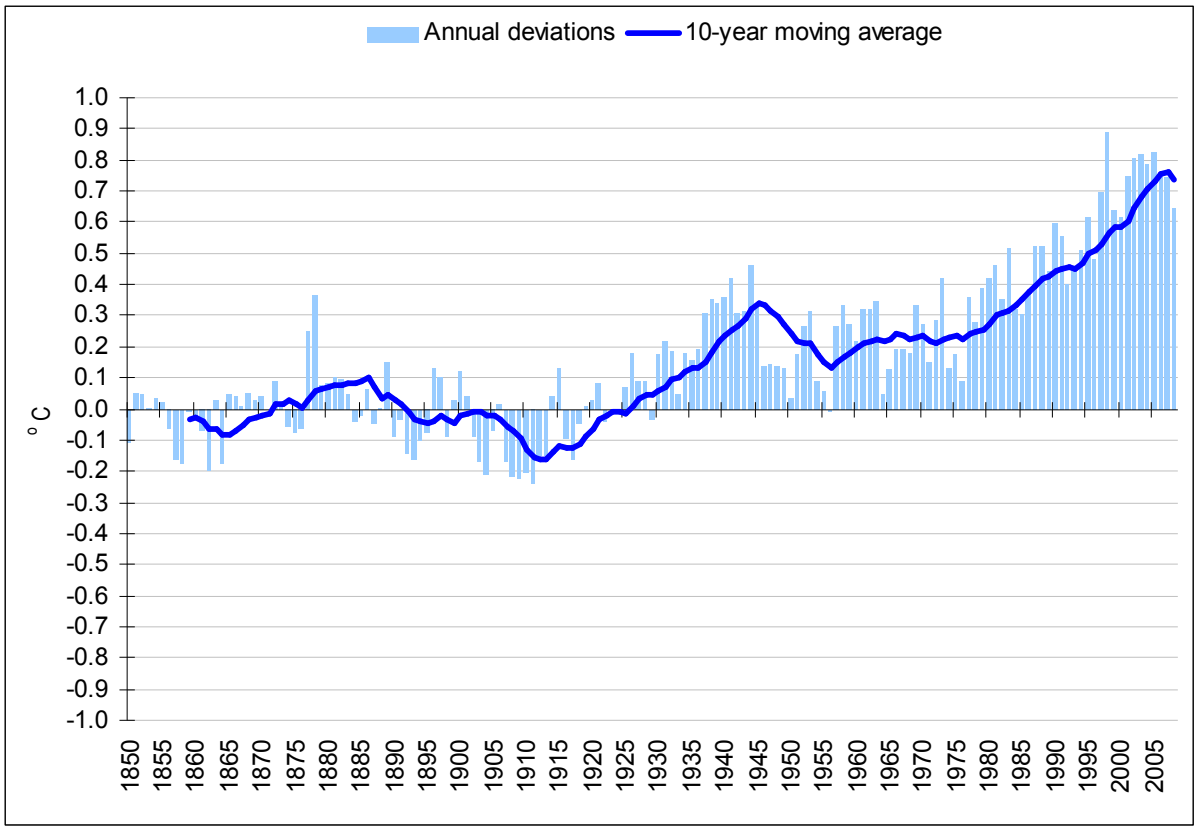
*** Performance indicator.

Country codes used in the document

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom
EU-27	European Union as of 1 January 2007
EU-25	European Union, as of 1 May 2004 but before accession of Bulgaria and Romania
EU-15	European Union , as of 1 January 1995 but before enlargement in 2004
EU-12	The 12 Member States that have joined the EU since 2004
US	United States
JP	Japan

1. CLIMATE CHANGE AND ENERGY

1.1. *State indicator:* Global air temperature change[9] (°C, as a temperature change compared to the mean 1850-1899) during 1850-2008



Source: EEA, based on Climate Research Unit HadCRU3 dataset.

The rise of global air temperature is one of the effects of climate change. As the Intergovernmental Panel on Climate Change (IPCC) states in its Fourth Assessment Report (2007): "Warming of the climate system is unequivocal, as is evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level".

The EU has set the target not to exceed 2°C above pre-industrial levels. The graph shows that the 2008 (smoothed) global mean temperature was 0.74°C above pre-industrial levels.[10]

2008 was the tenth warmest year on record since 1850, with a global air mean temperature of 14.3°C: it was cooler than 2007, partly due to the effects of la Niña - temperature fluctuations in surface waters of the Pacific Ocean - during 2007. The ten warmest years globally have all

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9 Note: The source of the original data is the Climatic Research Unit of the University of East Anglia. The global mean annual temperature deviations are in the original data in relation to the base period 1961-1990. The annual deviations shown in the chart have been adjusted to be relative to the period 1850-1899 to better monitor the EU objective not to exceed 2°C above pre-industrial values. Over Europe average annual temperatures during the real pre-industrial period (1750-1799) were very similar to those during 1850-99.

10 Using 10-year moving averages and relative to the period 1850-1899.

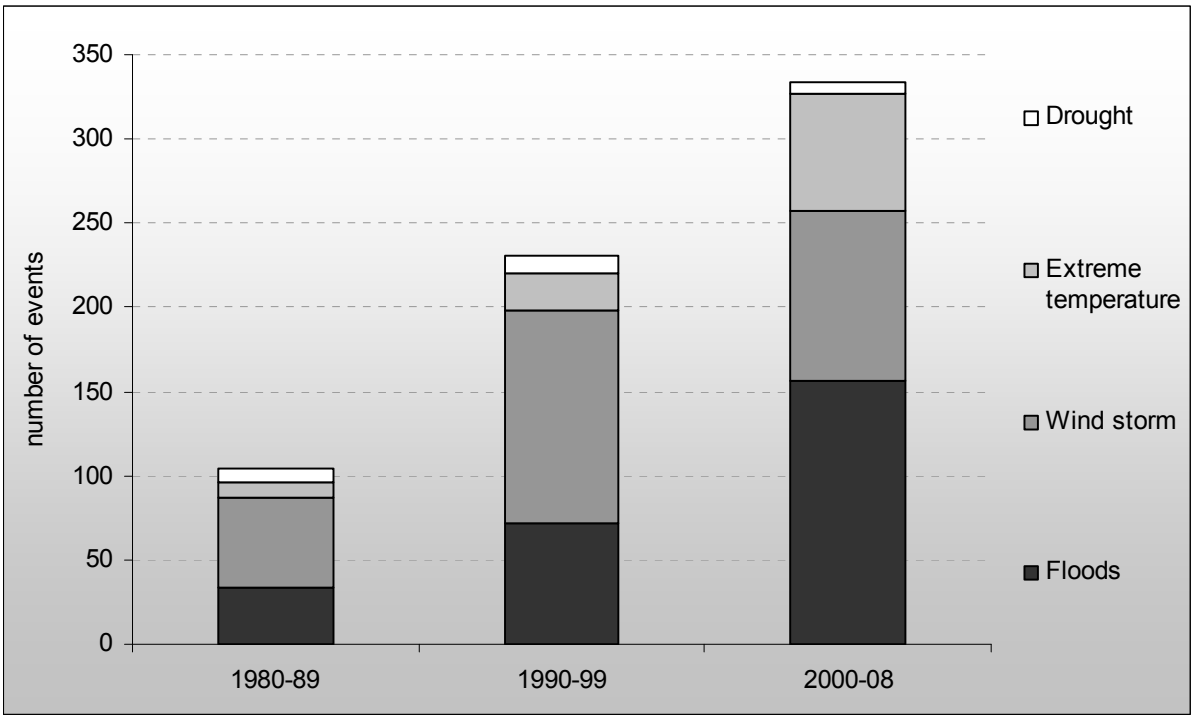
occurred since 1997. Global temperatures for 2000-2008 are almost 0.2°C warmer than the average of previous decade.

New evidence shows that human influence, particularly emissions of greenhouse gases, has greatly increased the chance of having such warm years. Comparing observations with the expected response to man-made and natural drivers of climate change it has been shown that global temperature is over 0.7°C warmer than if humans were not altering the climate."[11] Temperature rises in both polar regions are not consistent with natural climate variability alone and are directly attributable to human influence.[12]

[11] Met Office of Hadley Centre (December 2008)

[12] University of East Anglia (2008).

1.2. *State indicator*: Natural disasters linked to climate change (floods, wind storms, extreme temperatures and droughts) in EU-27[13]



Source: EMDAT database, maintained by CRED (Centre for Research on the Epidemiology of Disasters)

The graph shows the trend in the number of reported natural disasters linked to climate change, i.e. floods, wind storm, extreme temperatures and droughts, in the EU. These natural disasters have much increased during the last decades passing from 104 in 1980-89 to 334 in 2000-2008; in particular the floods have increased considerably, passing from 35 to 157.

In the period 2000-2008 these natural disasters caused more than 1.5 million victims (76 562 deaths and 1 447 936 affected[14]) and economic damage for around US$ 85.3 billion.

During the decade 2000-2008 the floods, which represent 50% of natural disaster linked to climate change, caused 548 deaths, 1.4 million affected and economic damage for around US$ 48 billion damage, in particular in 2000, 2002 and 2007, according to CRED data. Wind storms are the second most frequent event (100), and caused 356 deaths, 45 567 affected and economic damage for around US$ 22.5 billion in the same decade. Extreme temperatures have caused the biggest number of deaths: 75 658 people died during 2000-2008 while economic damage was around US $ 12 billion. This was mainly due to people died in France, Italy and Spain during the heat wave in 2003.

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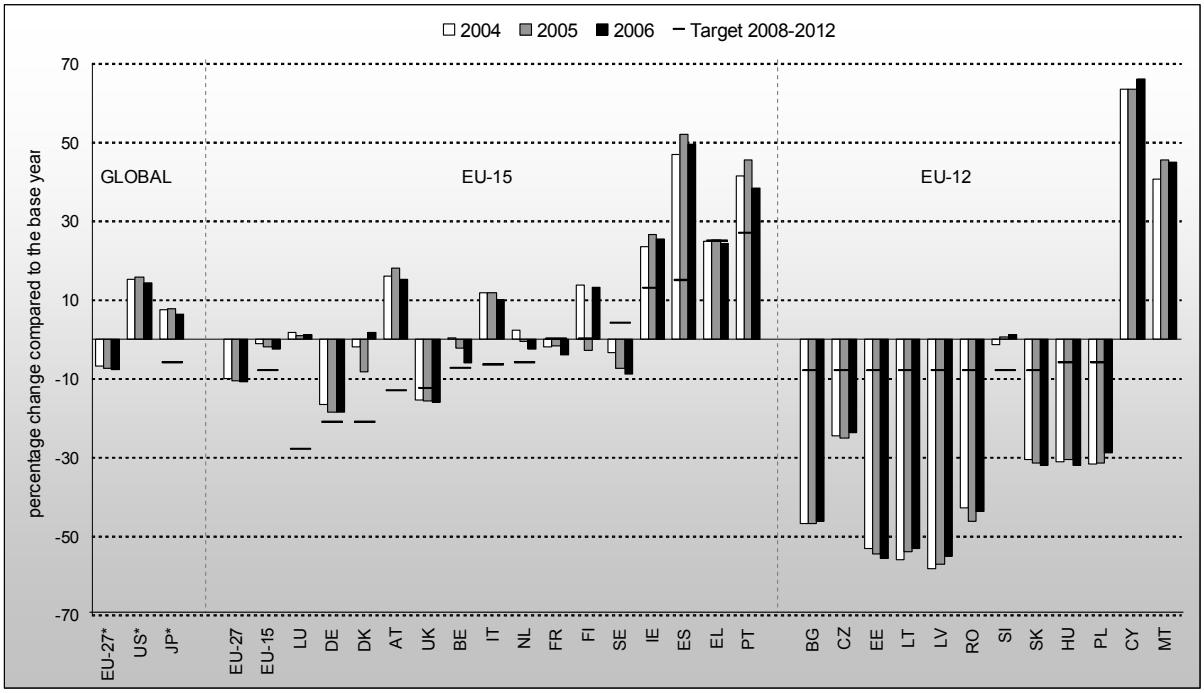
13 CRED defines a disaster as "a situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering". For a disaster to be entered into the database, at least one of the following criteria must be fulfilled: 10 or more people killed, 100 or more people affected, declaration of a state of emergency, call for international assistance.

14 "affected" includes people requiring immediate assistance during a period of emergency, i.e. requiring basic survival needs such as food, water, shelter, sanitation and immediate medical assistance (including injured and homeless)

While part of this increase in the natural disasters is due to climate factors including global warming, better reporting and cheaper telecommunication has also contributed to this increase in the last decades during the last 30 years. Finally, increases in natural disasters are also a consequence of rising physical, social, economic or environmental vulnerabilities as urbanisation, deforestation and high risk land use become more prevalent, in western as well as developing countries. In the last two decades, however CRED estimates that the reporting bias has been significantly minimised, and the EMDAT data therefore indicates an increase in disasters due to both climate factors and population vulnerabilities.

1.3. *Pressure indicator:* Total Kyoto greenhouse gas emissions (in CO_2 equivalents) as a percentage change of Kyoto base year emissions, with Kyoto targets / Burden-sharing agreement targets



Data source: European Environment Agency, European Topic Centre on Air and Climate Change.
*: change compared to 1990, for reasons of comparability of EU-27 with US and Japan.

Under the Kyoto protocol the EU-15 has the objective to reduce its greenhouse gas emissions by 8% compared to base year levels (mostly 1990) by 2008-2012. Almost all Member States (except Cyprus and Malta) have individual targets under the Kyoto protocol.

EU-15 greenhouse gas emissions in 2006 were 2.7% lower than base year levels, further declining compared to previous years (-1.2% in 2004 and -1.9% in 2005). In EU-27 greenhouse gases emissions decreased by 10.8% between base year and 2006 (and by 7.7% during 1990-2006), but only 0.3% between 2005 and 2006. In 2006 Germany and United Kingdom, followed by Sweden, show the most important decrease compared to the base years. The reduction of greenhouse gas emissions in the United Kingdom was driven by restructuring the energy supply industry, energy efficiency improvements and pollution control measures in the industrial sector. Sweden succeeded in decreasing its emissions by improving energy efficiency and increasing the proportion of renewable energy and decreasing the share of organic waste sent to landfill. Belgium has further decreased its greenhouse gas emissions and is among the four Member States in EU-15 which has continuously reduced emissions during the period 2004-2006. Estonia and Slovakia are the only new Member States[15] which have continuously reduced emissions during the period 2004-2006.

[15] i.e. the Member States that have joined the EU since 2004.

The latest projections from Member States indicate that the EU-15 will achieve its 8% reduction target through a combination of policies and measures already taken, the purchase of emissions credits from projects in third countries, and forestry activities that absorb carbon from the atmosphere.[16] Latest data show that eight of the EU-15 (Belgium, Germany, Greece, Ireland, the Netherlands, Portugal, Sweden and the United Kingdom) have projected to achieve their targets using existing policies and measures, carbon sinks and the Kyoto mechanisms.

In addition, four Member States (Austria, Finland, France and Luxembourg) are projected to reach their targets when also accounting for additional policies planned. Denmark, Italy and Spain have projected not to reach their Kyoto targets.[17] The increase in greenhouse gas emissions in Denmark in 2006 was mainly due to increased emissions by transport, where trends were not reversed, despite attempts (e.g. taxes). Even if in most new Member States, emissions are projected to increase between 2006 and 2010, nine of them that have a Kyoto target are projected to meet or even over-achieve their Kyoto targets using only existing policies and measures. Slovenia projects that it will only meet its Kyoto target when also accounting for planned additional policies, the use of Kyoto mechanisms and carbon sinks. This is due to the continuous increase of emissions in most sectors, and by more than 70% in transport (compared to 1990).

Energy use (including transport) accounts for 80% of all greenhouse gas emissions in the EU-15, while transport alone is responsible for a 21% share. Between 1990 and 2006, transport is the only sector where emissions are increasing (+26%); in all other sectors they are decreasing.

Following the agreement at the March 2007 European Council, the EU is committed to achieving at least a 20% reduction in its greenhouse gas emissions by 2020 compared to 1990 and by 30% if other developed countries agree comparable reductions. In 2008, the EU translated these commitments into concrete action and commitments for each Member State by adopting a climate and energy package[18]. Within the revised EU Emission Trading System, an EU-wide emission target for power plants and large industrial emitters is set at 21% below 2005 levels by 2020. Companies will be able to purchase allowances through auctions or get allocated for free a proportion of the overall EU cap according to EU-wide harmonised rules. For sectors not covered by the Emission Trading System like buildings, road transport and farming, the EU has targeted to reduce emissions by 10% by 2020 below 2005 levels. Each Member State has national targets ranging from -20% to +20% by 2020 compared to 2005 levels.

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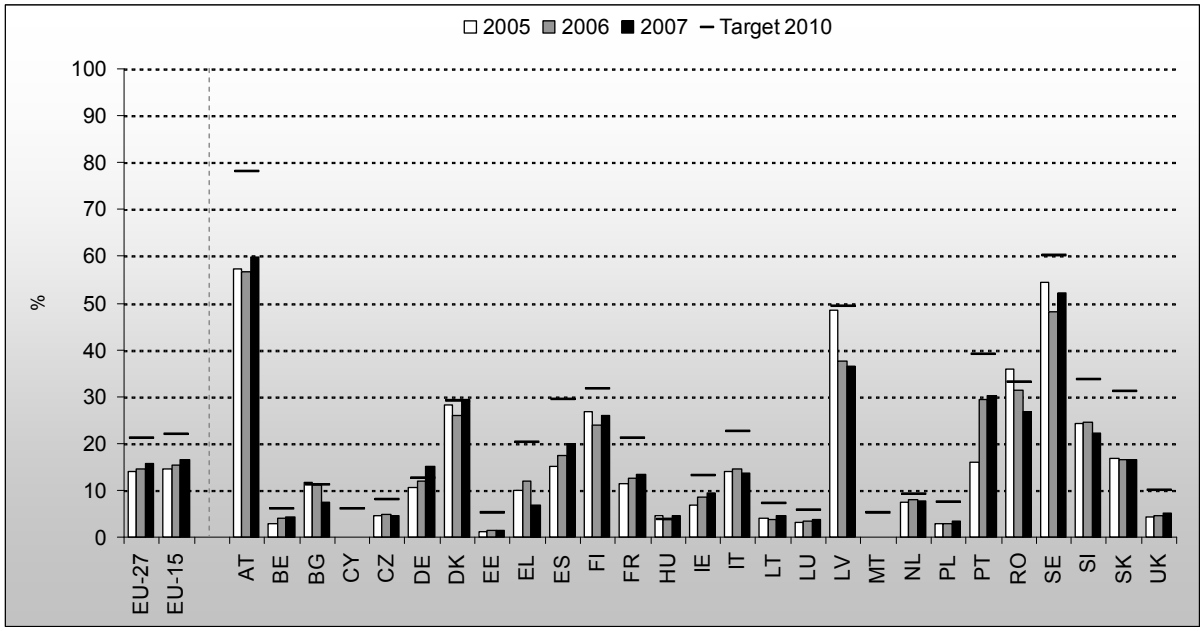
16 *Progress towards achieving the Kyoto objectives*. COM(2008) 651.

17 However, the gaps between these countries' projections and their respective targets have been significantly reduced since last year, in particular for Spain and Italy. Furthermore the EU ETS and its effect on national emissions in Denmark and Spain, not accounted for in projections this year, should make a significant contribution towards helping these countries achieving their target.

18 http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=20081217&secondRef=TOC&language=EN

1.4. ***Response indicator:*** **Electricity produced from renewable energy sources** (% of gross electricity consumption)



Data source: European Commission, Eurostat. 2007 data are provisional. Indicative targets according to Directive 2001/77/EC on the promotion of electricity from renewable energy sources in the internal electricity market.

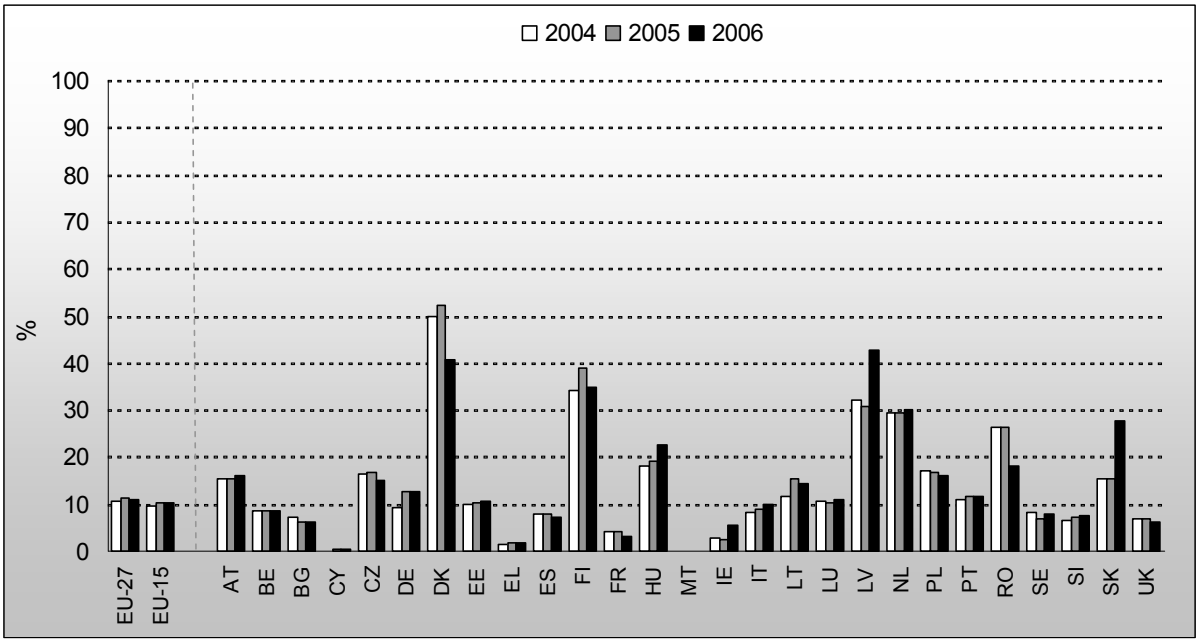
In 2001 the EU set a target that 21% of electricity generated should come from renewable energy sources by 2010. In 2007 the EU produced 15.6% of all electricity from renewable energy sources, increasing compared to 2006 but still far off the EU target According to the 2006 projections[19] the overall share of renewable electricity should reach 19% by 2010, which is just short of the target. Hydropower is the most important renewable energy source in the EU (9.2% of gross electricity consumption), followed by wind (3.1%) and biomass (3.0%).

Austria is the country with the highest share of electricity from renewables, namely 59.8%, followed by Sweden with 52.1% (2007 data). Among the new Member States, Latvia has the highest share: 36.4%, which is a large decrease compared to 2005. Nine countries have less than 5% of electricity produced from renewable energy sources: Belgium, Czech Republic, Estonia, Lithuania, Luxembourg, Hungary, Poland, Cyprus and Malta. 2007 data indicate an important increase compared to 2006 for some Member States: almost 4 p.p. (percentage points) in Sweden, more than 3 p.p in Austria, Germany and Denmark and more than 2 p.p. in Spain. Other country shares decreased e.g. in Romania, Bulgaria and Greece. According to 2007 data, Denmark, Germany and Hungary have reached their 2010 target.

In 2007 the EU committed to achieve by 2020 a share of energy from renewable sources in gross final energy consumption of 20% (compared to 9.2% in 2006). Following the adoption of the climate and energy package in December 2008, Member States agreed to national renewable targets for 2020, ranging from shares in gross final energy consumption of 10% (Malta) to 49% (Sweden).

[19] Based on 2005 data ; Communication COM(2006) 849

1.5. ***Response indicator:*** **Combined heat and power generation** (% of gross electricity generation)



Data source: European Commission, Eurostat.

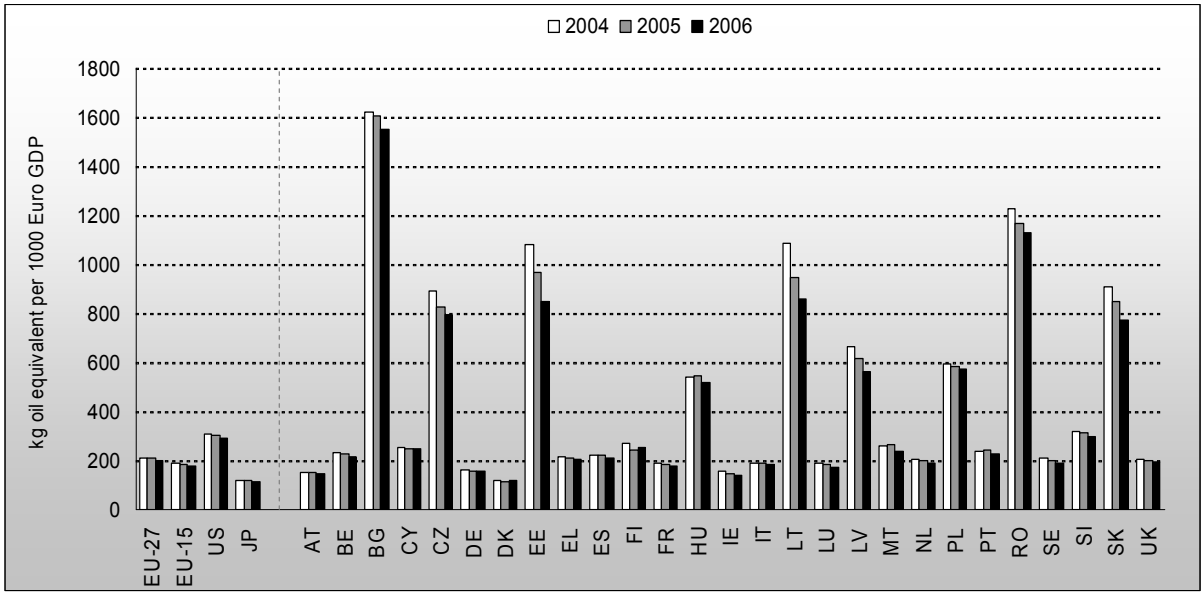
Combined heat and power (CHP) or cogeneration is a technology through which heat and electricity are produced in one process, leading to better resource efficiency and reductions of greenhouse gas emissions.

The Commission in 1997 set a target of doubling the share of cogeneration in total EU electricity production: from 9% in 1994 to 18% by 2010 for EU-15.[20] Little progress has been made since, as the contribution of CHP to electricity generation was 10.1% in 2006 for EU-15, and 10.9% for EU-27. The increases in most countries have been counter balanced by large decreases in a few countries.

There was no substantial change for EU-15 and EU-27 between 2005 and 2006, and only a slight improvement since 2004. The indicator varies a lot among Member States: at the top of the scale, Latvia (42.6%) overtook Denmark (40.7%) in 2006, due to a large increase (+12 percentage point, p.p.) in Latvia and a large decrease in Denmark (-11.4 p.p). Finland and the Netherlands produce more than 30% of electricity by combined heat and power. At the bottom end, CHP accounts for less than 5% in France (3.2%), Greece (1.7%), Cyprus (0.3%) and Malta (0%).

[20] Indicative target of the Community strategy to promote combined heat and power (CHP) and to dismantle barriers to its development, COM(97)514. Targets are not mentioned in the Directive 2004/8/EC on cogeneration.

1.6. ***Efficiency indicator:*** **Energy intensity** (kilogram oil equivalent used per €1000 GDP) K



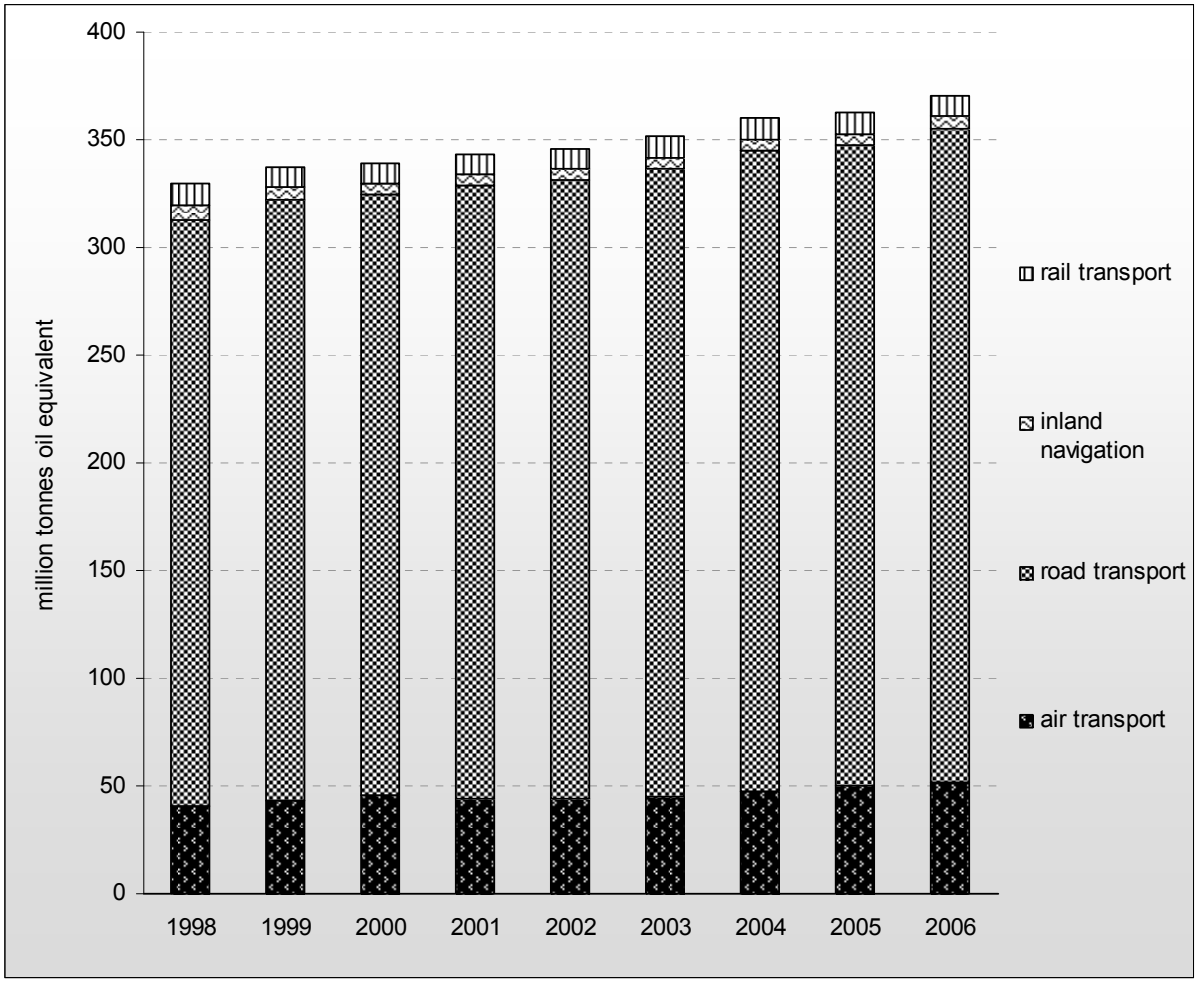
Data source: European Commission, Eurostat

Energy intensity reflects the energy consumption of an economy and its overall energy efficiency. It is calculated as the ratio of gross inland energy consumption divided by the gross domestic product (in constant prices, base year 1995). Improving energy efficiency is not just one of the key ways to cut greenhouse gas emissions: it is also good for the environment in general, it reduces energy bills and increases energy security, it creates jobs, supports low-earning households and may boost exports and innovation. The EU goal of improving energy efficiency by 20% by 2020 is crucial to achieving the 2020 target on greenhouse gas emissions and would cut them by almost 800 million tonnes a year. [21]

Energy intensity in EU-15 is generally lower compared with the new Member States. Denmark is by a long way the Member State with the lowest energy intensity (118 kgoe/€1000 GDP), followed by Ireland and Austria. Denmark has decreased energy intensity by around 25% since 1996 by introducing energy savings measures in various sectors. The large decrease in energy intensity in Ireland (-44% compared to 1991) is chiefly due to improved energy efficiency in the industrial sector (structural shift to less energy-intensive manufacturing) and in households (improvement in the efficiency of the building stock and fuel switching to oil and gas from solid fuels). Bulgaria and Romania have the highest energy intensities, with five times the EU average. Nearly all Member States constantly improved energy efficiency during the 2004-2006 period. In 2006, energy intensity has further decreased compared to 2005 in all Member States except Denmark, Cyprus and Finland. The latter has the highest energy intensity in EU-15, which is partly due to the relatively cold climate, the long distances to be covered, and the presence of energy-intensive industries.

[21] COM(2008) 30

1.7. *Driving force indicator*: Final energy consumption by transport (Mtoeq)



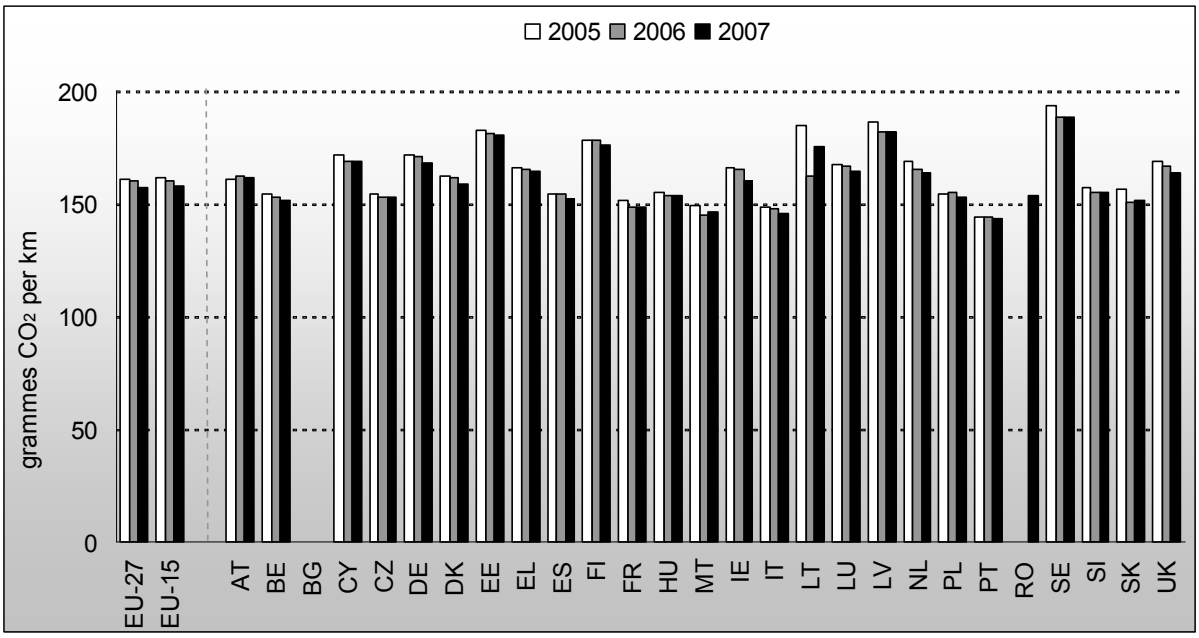
Data source: European Commission, Eurostat

Transport is the only sector in the EU where greenhouse gas emissions have increased each year since 1990. In 2006, transport accounted for 19% of total greenhouse gas emissions.

In 2006 final energy consumption for transport increased by more than 2% compared to 2005 (and by 12.4% compared to 1998), reaching 370 million tonnes oil equivalent. More than 80% is due to road transport, which has been slightly reducing its share since 2002. During the period 1998-2006 the share of energy use by air transport - the second highest consuming sector - increased from 12.4% to 14%, while energy use in inland waterway transport and rail decreased.

As part of the climate and energy package, the Directive on the promotion of the use of energy from renewable sources was adopted in December 2008, where Member States agreed to increase the share of energy from renewable sources in all forms of transport in 2020 to at least 10% of final consumption of energy in transport.

1.8. ***Driving force indicator:*** **Average CO2 emissions from new passenger cars** (grams CO2 per km)

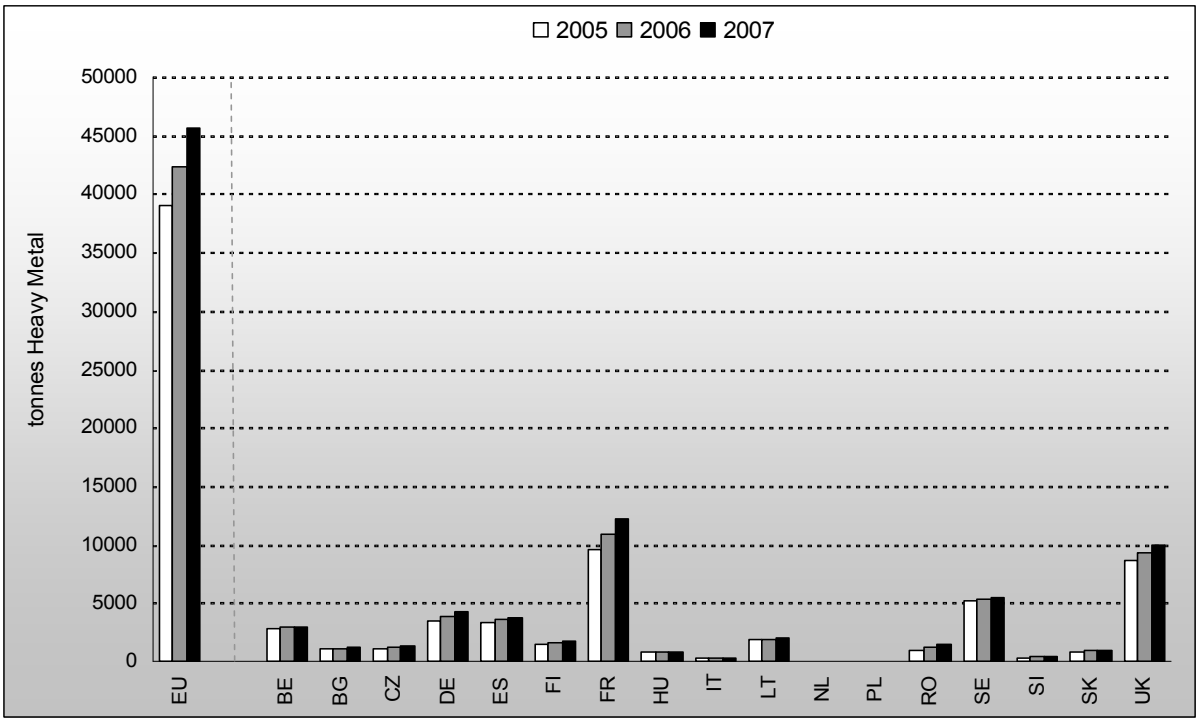


Data source: European Commission, DG Environment, Monitoring Decision 1753/2000/EC. Official EU data are displayed and corrected by 0.7% for cycle change adjustment. No data available for Bulgaria.

Of all transport-related greenhouse gas emissions (including international bunkers) in the EU, 71% comes from road transport and this percentage has been increasing each year since 1990, except in 2005.

The graph shows average greenhouse gas emissions from new passenger cars sold in Member States.
2007 data for Member States range from more than 180 grams/km in Sweden, Latvia and Estonia to less than 150 grams/km in Portugal and Italy. Most Member States show a decrease from 2005, though not always constant over time. Lithuania, Hungary, Malta and Cyprus showed an increase in average grams/km in 2007 compared to 2006.
In December 2008, the EU agreed future targets on CO_2 emissions from cars with an average emission limit of 130 grams/km to be applied to 65 per cent of new cars in 2012, rising by steps to all cars from 2015. It also set a 2020 target for new car average emissions of 95 g CO_2/km.

1.9. *Driving force indicator:* Cumulative spent fuel from nuclear power plants (in te HM – tonnes equivalent Heavy Metal)



Data source: European Commission Data are based on estimation (intrapolation) using Member States official 2004 data and 2020 projections, as included in the 6th Situation report on "Radioactive waste and spent fuel management in the European Union", COM(2008) 542 and SEC(2008) 2416. NL and PL values are very limited.

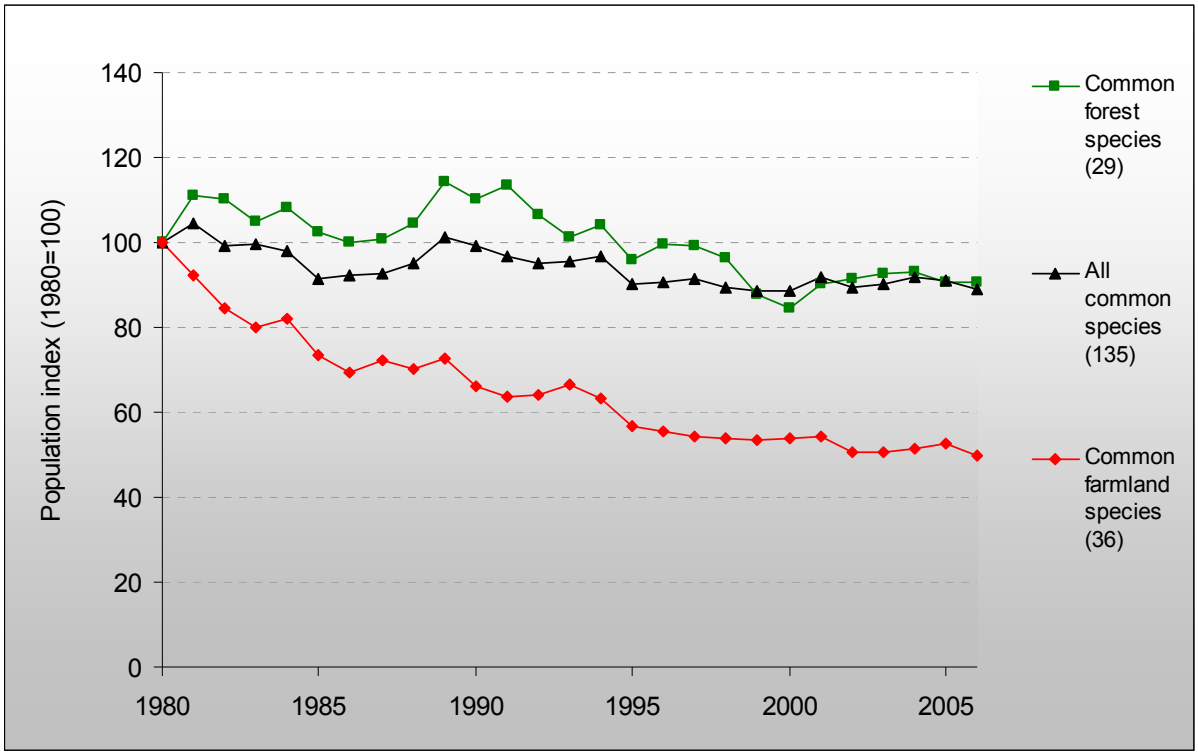
Nuclear energy accounts for about one third of EU electricity production and 14% of EU total energy consumption. Nuclear power is a low-carbon energy source with no direct CO_2 emissions. The indirect CO_2 emissions throughout the fuel cycle (from uranium mining to disposal of radioactive wastes and decommissioning of the nuclear installations) are comparable to those of off-shore wind. However, the nuclear fuel cycle produces significant amounts of radioactive waste which needs to be permanently isolated from the biosphere. Although some EU countries are already disposing of low and intermediate level waste in geological repositories, final solutions for radioactive waste have not yet been implemented anywhere in the EU and therefore this type of waste is currently accumulating in temporary dry or pool storage facilities.

According to official data, the total quantity of spent nuclear fuel in temporary storage at the end of 2004 was 38 000 te HM (Heavy Metal), most of which originating from the UK and France; of these at least 24 000 te (HM) is or will be placed in long-term storage for eventual direct disposal. In 2020, a total of around 90 000 te HM is expected to be in temporary storage waiting for reprocessing or direct disposal in the EU. The graph shows that France has the biggest amount of cumulative nuclear waste in EU, about 25% of total. Around 78% of its electricity is produced from nuclear energy.

While some countries have official phase-out policies (e.g. Belgium and Germany), others have started building new nuclear power plants (e.g. Bulgaria, Finland, France and Romania). However, according to model projections used for the climate and energy package, overall nuclear production share may decrease during the coming decade, down to 23% of the EU's electricity production in 2020 (compared to 30% today).

2. NATURE AND BIODIVERSITY

2.1. *State indicator:* Common birds[22]



Source: EBCC/RSPB/BirdLife/Statistics Netherlands

The EU set itself the target to halt the loss of biodiversity by 2010, but it will fail unless there is a significant effort over the next two years.[23] The numbers of common birds, which are highly representative of biodiversity and the integrity of ecosystems, have declined in the EU by more than 10% between 1980 and 2006, and there is no sign of the trend reversing.

Common *farmland* birds are highly threatened. They have declined by 50% since 1980. The trend in EU-15 is even more worrying than in the new Member States. During 1996-2006 the decline has been less sharp compared to the previous decade, which can be partly explained by the introduction of set-aside areas in the EU-15, and well-designed agri-environmental measures.

Common *forest* birds have declined by almost 10% since 1980, mainly in EU-15.

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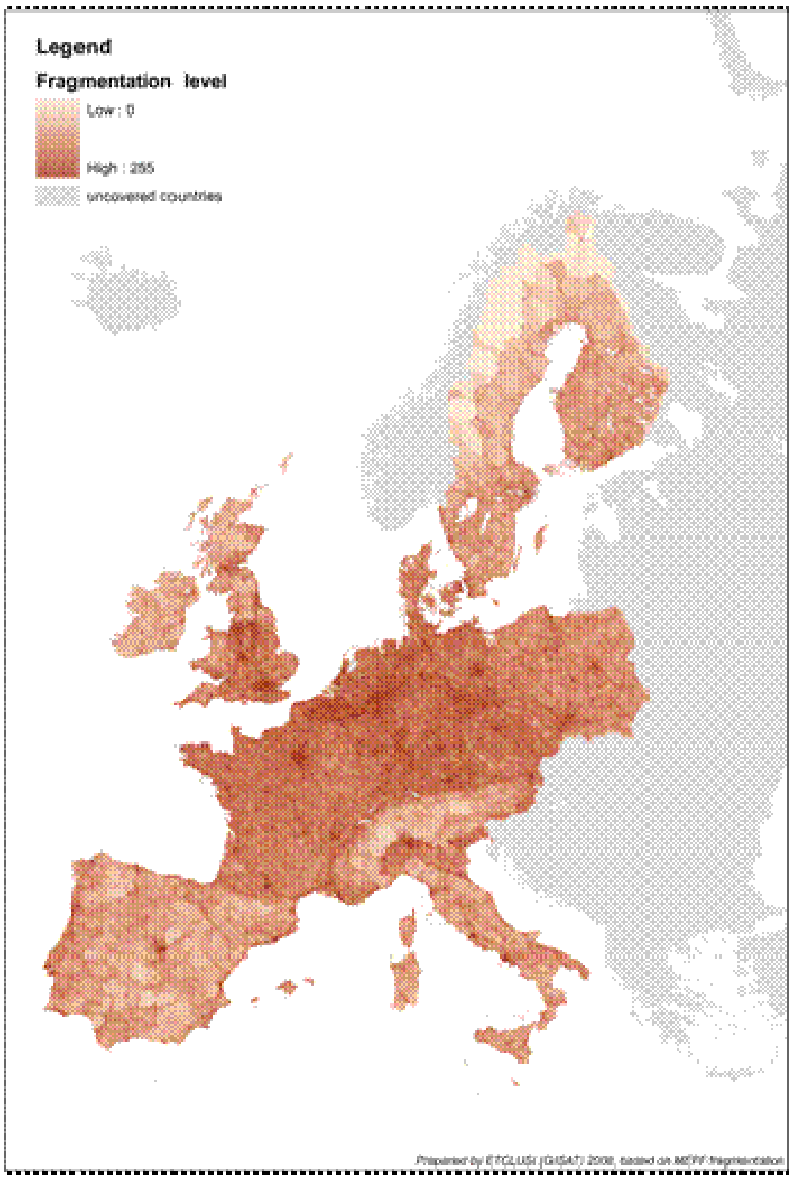
22 The Common birds index is based on data from the European Bird Census Council (EBCC, http://www.ebcc.info), the Pan-European Common Bird Monitoring scheme (PECBM), BirdLife International and Statistics Netherlands. The methodology has recently improved and the index covers 135 species of common birds, among which 36 species of common farmland birds and 29 species of common forest birds, from 21 countries (Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom). The list of species is available at: http://www.ebcc.info/index.php?ID=340.

23 COM(2008) 864.

2.2. *Pressure indicator:* Landscape fragmentation in 2007[24]

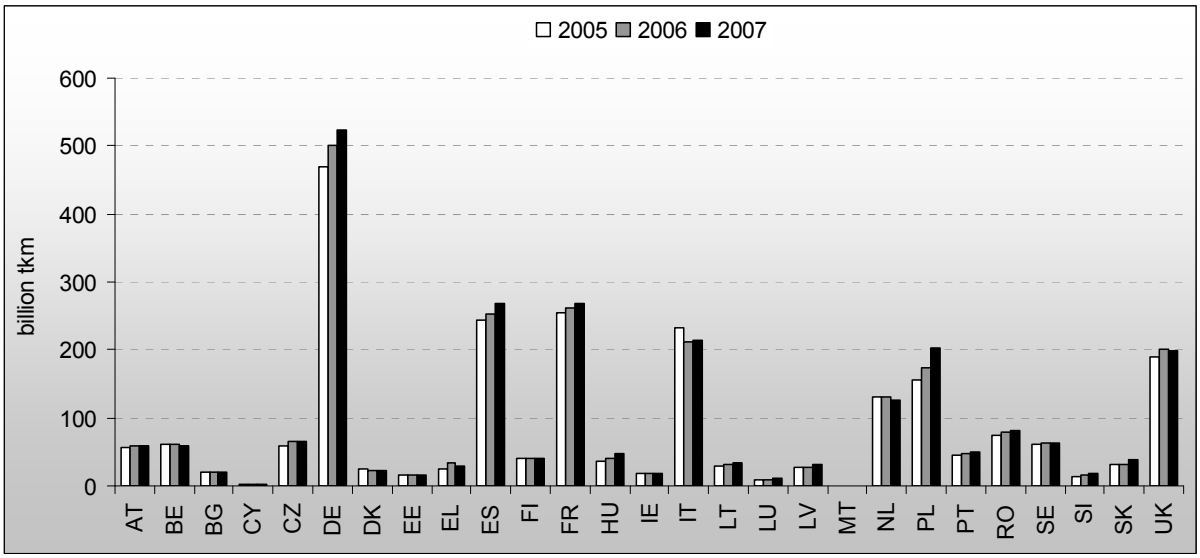


Source: European Environment Agency, based on Teleatlas 2007 (areas of high fragmentation are dark; areas of high connectivity are bright)

The map illustrates the fragmentation of habitats and ecosystems, due to human settlements and transport infrastructure. Areas which are highly fragmented are marked by a dark colour, while areas with low fragmentation are marked by a light colour. The increasing fragmentation of EU territory affects the integrity of habitats and ecosystems, with negative effects on biodiversity conservation.

[24] The map shows the Effective Meshsize (MEFF), a geo-statistical measure, which converts the probability that randomly selected points in an area are connected into the size of an unfragmented patch, measured in km^2. The smaller the meshsize, the higher the landscape fragmentation and vice versa. MEFF measures landscape "connectivity" that is the inverse of fragmentation.

2.3. ***Driving force indicator:*** **Freight transport** (by road, rail and inland waterways) in billion tkm



Data source: European Commission, Eurostat. Data for Malta are not available, estimates for IT in 2006 and 2007 and FR in 2007.

Freight transport is a cross-cutting issue with implications for climate change, human health and biodiversity. Freight transport is a *driving force* behind the demand for more transport infrastructure (causing habitat fragmentation) and can result in negative impacts on biodiversity due to soil sealing, pollution and noise.

In EU-27 most freight transport is by road (77%) while rail accounts for 17% and inland waterways for 6%. During 2005-2007 freight transport in EU-27 increased by 7.5% expressed in tkm: road transport increased by 7.6%; rail by 9% (increase by 11% in EU-15) while inland waterway shipments increased by 2% (both in EU-27 and EU-15). Germany has the highest volume of freight transport, followed by Spain, France and Italy.

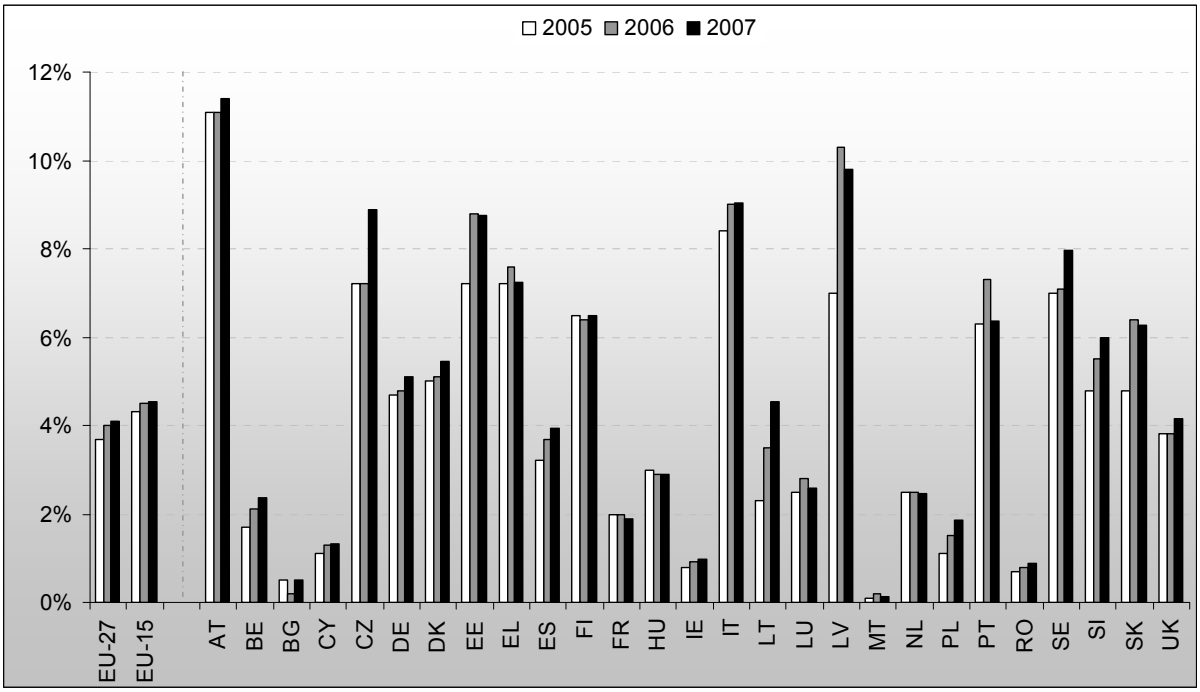
The modal split of freight transport and trends are very different between Member States.[25] Most Member States with a 90% (or more) share of road transport in total freight transport are situated in EU-15 (Ireland, Italy, Luxembourg, Denmark, Portugal, Spain, United Kingdom, Greece); and there are Malta and Cyprus from the new Member States.

In some old Member States the share of road transport decreased (i.e. in Belgium, Austria, Sweden, the Netherlands, Finland, United Kingdom and Germany) during 2005-2007. In EU-15, Austria and the Netherlands have the lowest share of road freight (62-64%). Moreover, Austria is making extensive use of the railway system (more than 30%) and the Netherlands of inland waterways (33%).

During the period 2000-2007, road freight transport intensified in the new Member States, which traditionally had a lower share of road transport compared to EU-15. For example, the share of road transport in total freight transport has increased by more than 60% in Latvia and Romania, and more than 30% in Slovakia, Bulgaria and Poland.

[25] More details on inland freight transport are available in Part 2.

2.4. ***Response indicator:*** **Area occupied by organic farming** (percentage of organic farming in Utilised Agricultural Area)[26]



Data source: European Commission – Eurostat, and Institute of Rural Sciences, University of Wales, Aberystwyth, Eurostat, Research Institute of Organic Agriculture FiBL, CH-Frick and Central Market and Price Report Office ZMP, DE-Bonn.

Organic farming is part of the EU's Common Agricultural Policy. The EU standard for organic production is fixed by the EU legislation. Organic production methods have a positive impact on environment, in particular on biodiversity, using less inputs of chemically-synthesised nutrients and pesticides, thereby saving energy, and protecting soil and water resources.

In 2007 around 7.2 million ha were under organic farming in EU-27, which represents about one quarter of the total area cultivated organically in the world. This is a slight increase compared to 2006 and represents 4.1% of total agricultural utilised area (UAA) of EU-27. This share is higher in the EU-15 Member States where organic farming accounts for about 4.6% of total UAA compared to 2.9% in the new Member States. However, while in EU-15 organic farming grew more slowly in recent years than in the past, itis increasing rapidly in EU-12.

Member States can design measures targeting the organic sector in their Rural Development Programmes. Agri-environment is widely used by almost all Member States to help farmers in the conversion period and/or to maintain organic production compensating for extra costs or income losses, due in particular to lower yields.

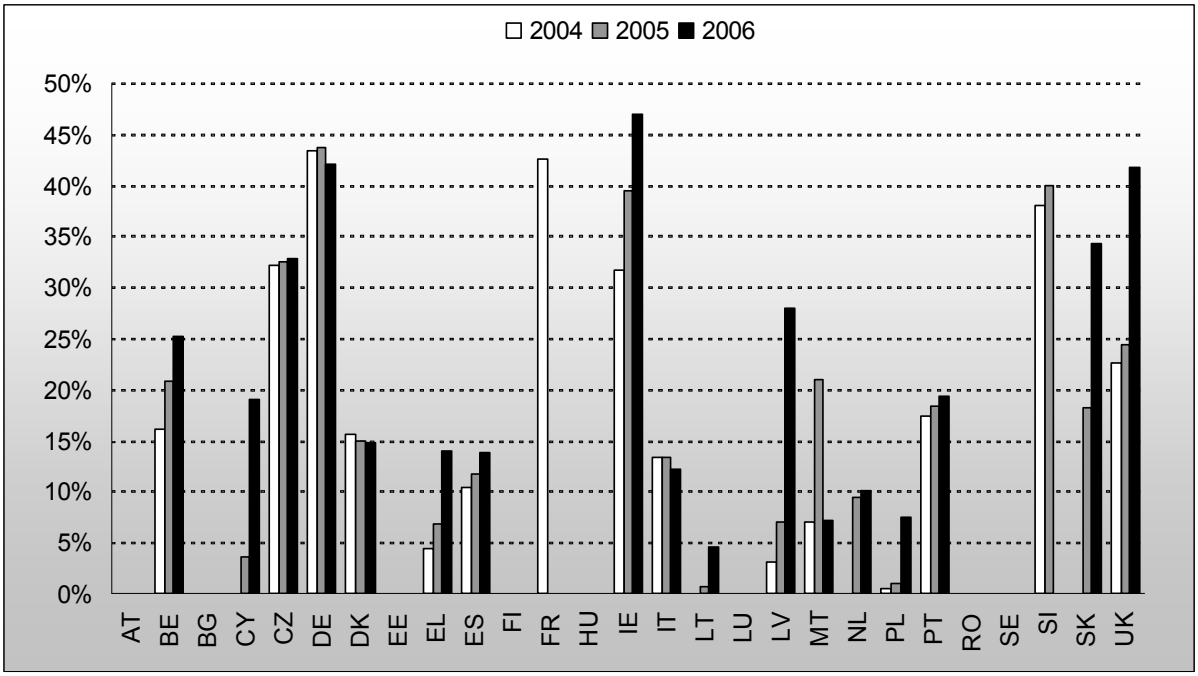
[26] Farming is only considered to be 'organic' if it complies with Council Regulation (EC) No 834/2007. The organic area in the graph does not include Alpine pastures.

Austria has the highest share of organic farming in the EU (11.4%), Latvia is in second place (10%) and Italy third (9%). With around 1.2 million ha, Italy represents 16% of total organic farming area in EU-27.

France, Poland, Ireland, Romania and Malta have less than 2% of UAA under organic farming, and this percentage remains virtually static. However some new Member States are boosting organic farming, in particular the three Baltic countries, the Czech Republic, Slovenia and Slovakia.

K

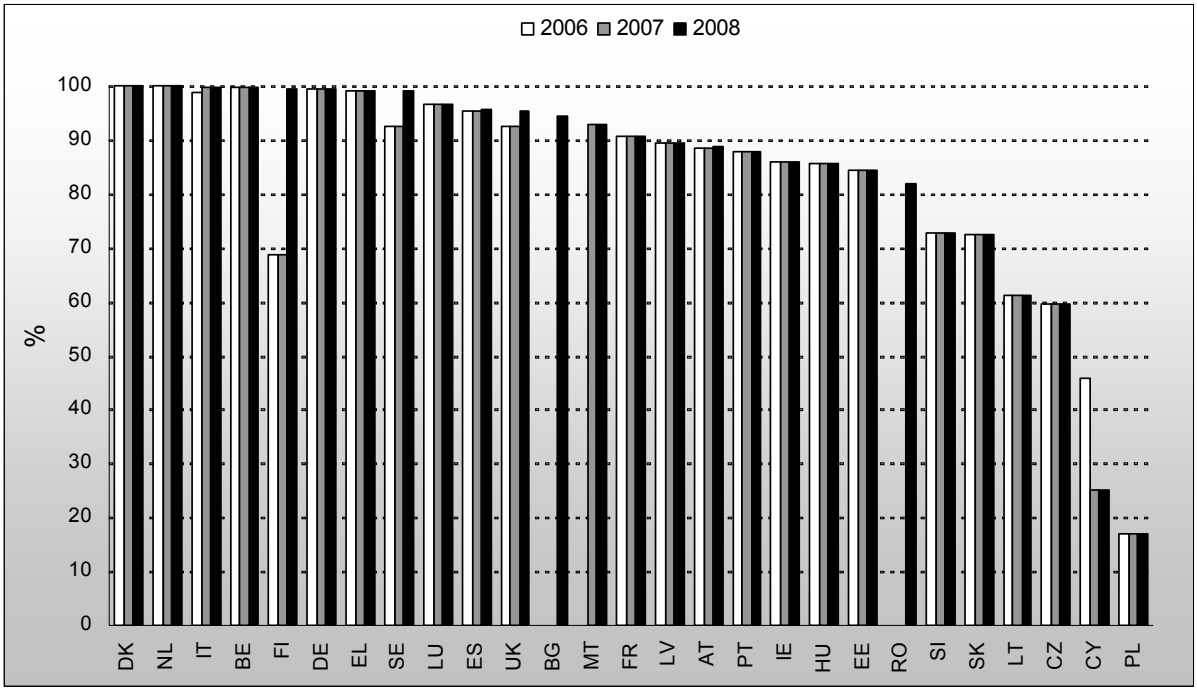
2.5. ***Response indicator:*** **Area under agri-environmental commitment** (percentage of Utilised Agricultural Area)



Data source: European Commission, DG for Agriculture and Rural Development. Data not available for Austria, Bulgaria, Estonia, Finland, Hungary, Luxembourg, Romania and Sweden. 2004 data for Spain refers to 2003.

The graph shows the share of UUA (Utilised Agricultural Area) to which agri-environmental measures are applied. This varies widely among Member States: from 47% (Ireland) and 42% (United Kingdom and Germany) to 4% (Lithuania) and 7% (Poland and Malta). This can be partly explained by the fact that the scheme is relatively new for the EU-12 Member States. Slovakia and the Czech Republic are performing among the best of the EU-12 with more than 30% shares of UUA using agri-environmental measures. Moreover, Latvia achieved a remarkable increase, from a 3% to 28% share between 2004-2006, followed by Ireland (from 32% to 47%). In Italy, Germany and Denmark this share declined during the same period.

2.6. *Response indicator:* Sufficiency of site designation under the Habitats Directive (percentage)[27] K



Data source: European Environment Agency, European Topic Centre on Biological Diversity. Only terrestrial habitats and species are evaluated because marine areas are still under consideration. Data for some countries have been revised. Data for Poland for 2007 and 2008 are under revision. 2006 data for Cyprus are not fully comparable with 2007 and 2008.

The indicator measures the level of sufficiency in designating Natura 2000 sites, in terms of representativeness of species and habitats in each Member State. All Member States should fulfil the minimum standards required by the Habitats Directive.[28]

Sites proposed by Denmark and the Netherlands are sufficient to cover habitats and species present in these countries according to the Directive. Six other countries (Italy, Belgium, Finland, Germany, Greece and Sweden) almost fully comply with the minimum standards of the Habitats Directive. In 2008, in total 14 Member States complied or were close to complying with these standards (at least 90% sufficiency). Sites proposed by the Czech Republic and Lithuania cover only 60% of species and habitats from the Directive present in these countries. Poland and Cyprus are far from complying with the Habitats Directive.

In 2008 Bulgaria and Romania made their first proposals. Finland, Sweden and United Kingdom also proposed new sites. From the old Member States, Ireland, Austria, Portugal and France, remained unchanged since 2006 on "90% fulfilment" of the minimum standards according to the Habitats Directive.

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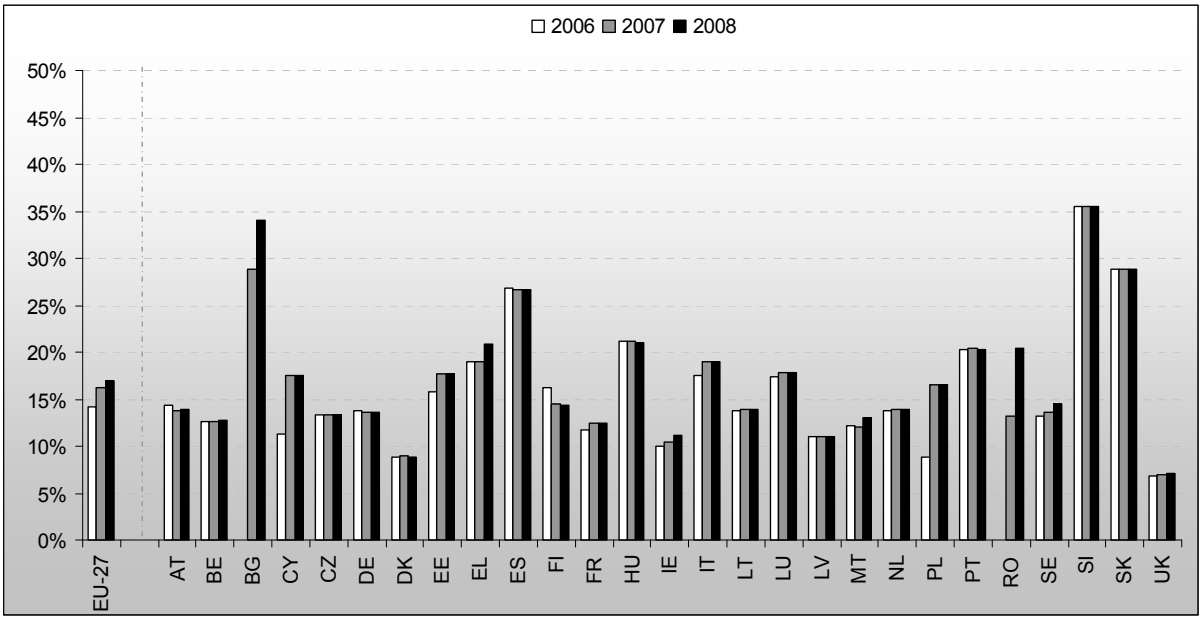
27 State of progress by Member State in reaching sufficiency for the Habitats Directive Annex I habitats and Annex II species (percentage)

28 The aim of the Habitats Directive (92/43/EEC) is the conservation of natural habitats and of wild fauna and flora, through the creation of a European-wide network of special conservation areas, Natura 2000.

2.7. **Response indicator: Natura 2000 area** (sites designated under Habitats and Birds Directives) as % of terrestrial area[29]



Source: European Commission, DG Environment. Data based on GIS (Geographical Information System), without overlapping surfaces of SPAs and SICs. 2006 data for EU refers to EU-25 (it excludes Bulgaria and Romania)

Under the Habitats and Birds Directives, Member States have to designate nature sites, "Special Protected Areas" under the Birds Directive and "Sites of Community Importance" under the Habitats Directive, for inclusion in the Natura 2000 network. The sites can be terrestrial or marine areas, and cover the different biogeographical zones across Europe. The graph shows the Natura 2000 area as a percentage of total terrestrial area, according to GIS.

In 2008, two extensions added 114.306 km² to the Natura 2000 network, including for the first time Bulgaria and Romania. At the end of December 2008, 17% of the terrestrial area in EU-27 was part of Natura 2000, i.e. around 730 thousand km^2. The 2008 data show that Slovenia has the largest share of Natura 2000 areas compared to total terrestrial area (35.5%), followed by Bulgaria (34%) and Slovakia (29%). 18% of the EU`s Natura 2000 area (i.e. almost 135 thousand km^2) is in Spain.

It is not just only the quantity of protected areas that is important: it must be managed effectively. According to the European Environment Agency,[30] only less than half of the protected species and habitats in Europe are considered to be in a 'favourable conservation status', while most of them are considered to be in either inadequate or bad. Wetlands, dunes and grasslands are among the less-preserved habitats.

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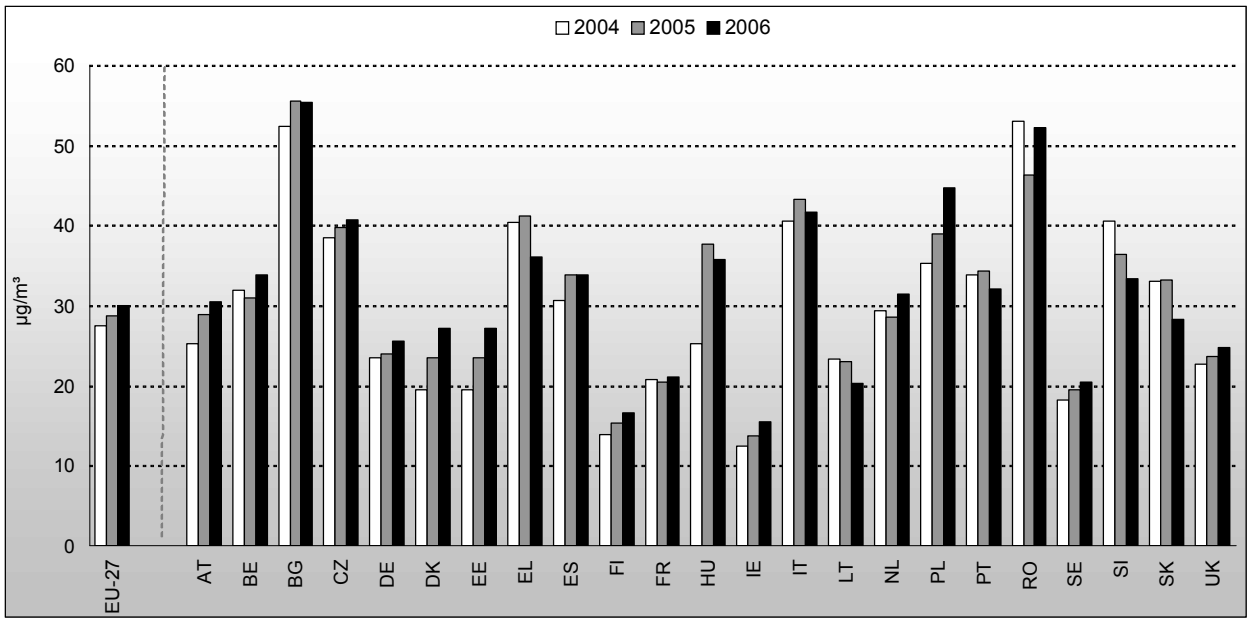
29 This indicator has not been assessed as there is no target percentage of national territory to be included in Natura 2000. This depends on the biological richness of each Member State, which must contribute to the Natura 2000 network in proportion to its responsibility for the protection of species and habitats of EU conservation concern.

30 EEA, October 2008, report based on the 2007 country reports submitted to the European Commission. http://www.eea.europa.eu/highlights/europe-is-losing-biodiversity-2013-even-in-protected-areas

3. ENVIRONMENT AND HEALTH

3.1. *State indicator:* Urban population exposure to air pollution by particles (µg PM_{10}/m^3)[31]



Source: European Commission, DG Environment and EEA. Mandatory reporting by Member States under the Air Quality Framework Directive 96/62/EC, its daughter directives and on the Council Decision 1997/101/EC on the Exchange of Information and data on ambient air quality. Data not available for Cyprus, Luxembourg, Latvia and Malta.

Particulate matter (PM_{10}) or fine particles come from various sources. They have negative effects on human health, cause illness and reduce life expectancy. When these particles are inhaled, they penetrate into the lungs where chemicals and physical interactions can lead to irritation or damage. In order to improve air quality in urban areas, Member States must therefore considerably reduce the particulate matter in air. Traffic is the main source of PM_{10} emissions, followed by industry, commercial and residential sources.

Despite progress in some European cities, the overall situation in EU is worsening and there is no sign of this trend reversing. Information from the last three years confirms the trend during the last decade. The graph shows that Bulgaria and Romania have the highest levels of urban population exposure, and Finland and Ireland the lowest. 13 Member States have a value higher than 30 µg/m^3 (upper interim target "IT-3" as suggested by the World Health Organisations). This target also roughly reflects the ambition of EU policies tackling air pollution.

In 2006 the exposure of urban population to particulate matters increased in most countries compared to 2005, while it decreased in Bulgaria, Greece, Hungary, Italy, Lithuania, Portugal, Slovenia and Slovakia.

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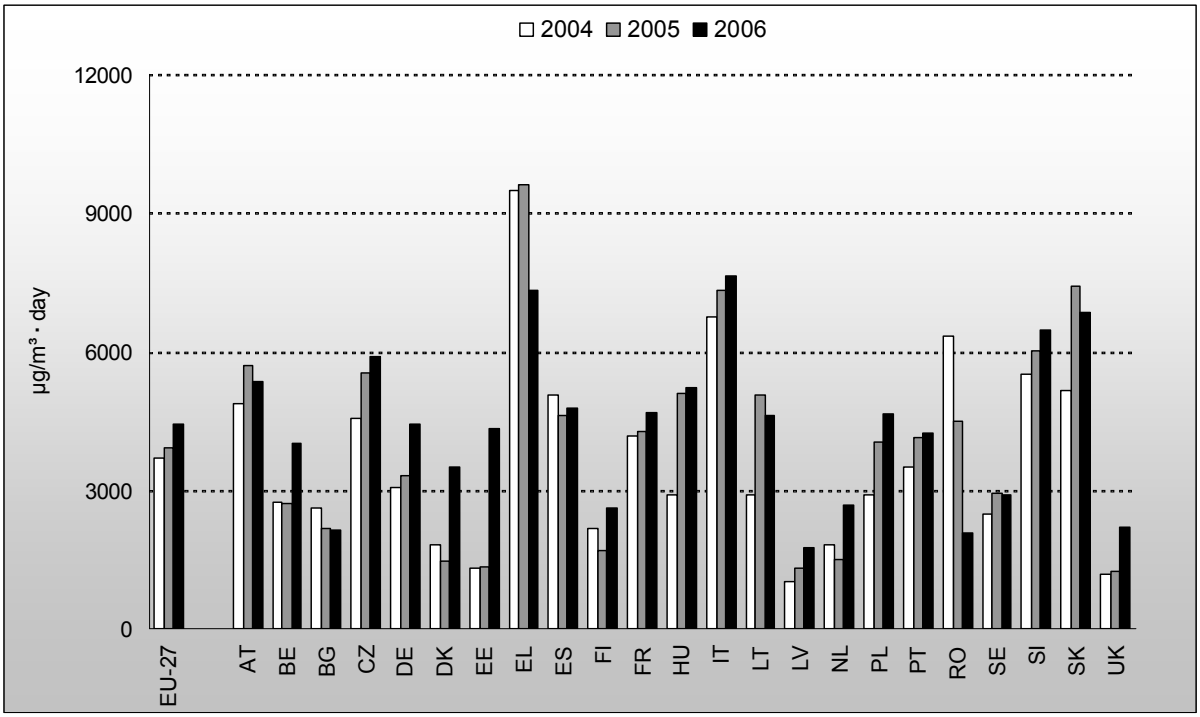
[31] Population weighted annual mean concentration of particulate matter (PM_{10} or particulate matter with a diameter smaller than 10 µm) at urban background locations in agglomerations. To ensure comparability only data from measurement stations operating in all three years is used. This requirement limits the coverage to only 23 Member States.

3.2. *State indicator:* Urban population exposure to air pollution by ozone (µg/m³.day)[32]



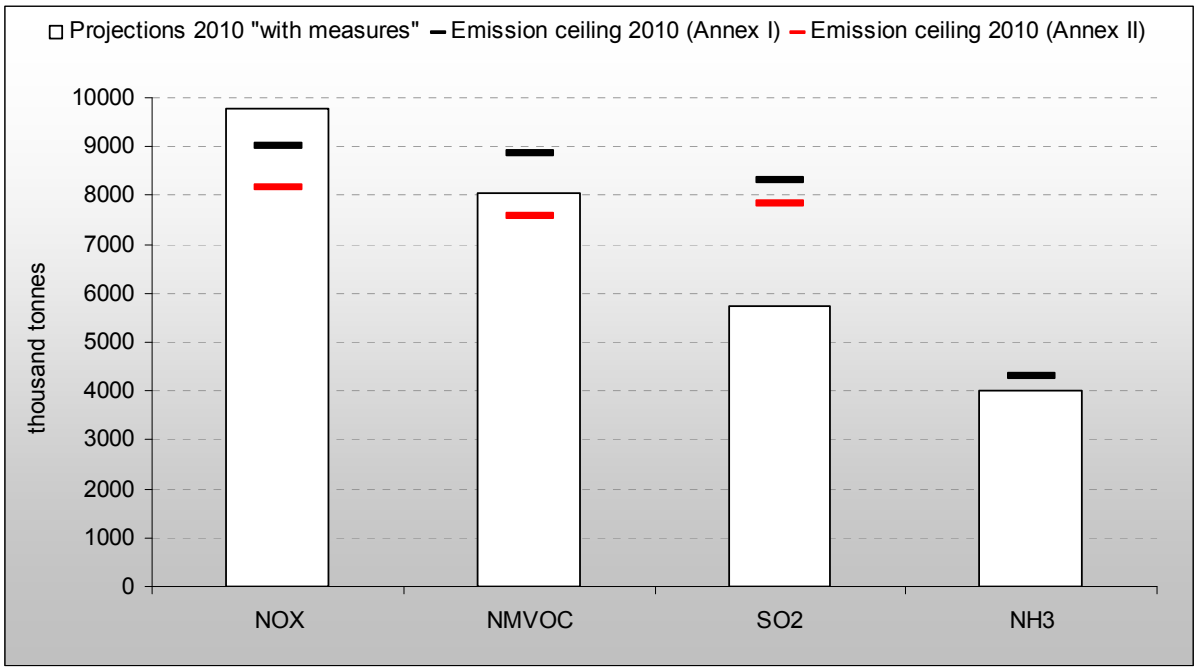
Source: European Commission, DG Environment and EEA. Mandatory reporting by Member States under the Air Quality Framework Directive 96/62/EC, its daughter directives and on the Council Decision 1997/101/EC on the Exchange of Information and data on ambient air quality. Data not available for Cyprus, Ireland, Luxembourg and Malta.

Ozone is a secondary pollutant formed in the air from chemical reactions of nitrogen oxides and volatile organic compounds. Weather conditions also influence ozone pollution. It causes serious health effects, including lung inflammation, lung permeability, morbidity and mortality. It is a major concern for vulnerable groups such as asthmatics, children and the elderly. Ozone also causes damage to ecosystems, materials and agricultural crops.

In 2006 public exposure to ozone in the EU increased further compared to previous year, even if the emissions of precursors are declining. Italy and Greece have the highest values, followed by Slovakia and Slovenia; Latvia the lowest. In 2006 ozone concentrations in most Member States increased compared to 2005.

[32] Population weighted annual mean concentration of ozone (SOMO35: Sum of Means Over 35 ppb ozone) at urban background locations in agglomerations. To ensure comparability only data from measurement stations operating in all three years is used. This requirement limits the coverage to 23 Member States.

3.3. *Pressure indicator:* Emissions projections for certain atmospheric pollutants: nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs), sulphur dioxides (SO2) and ammonia (NH3)



Source: EEA, UNECE – Coordination Center for Effects.

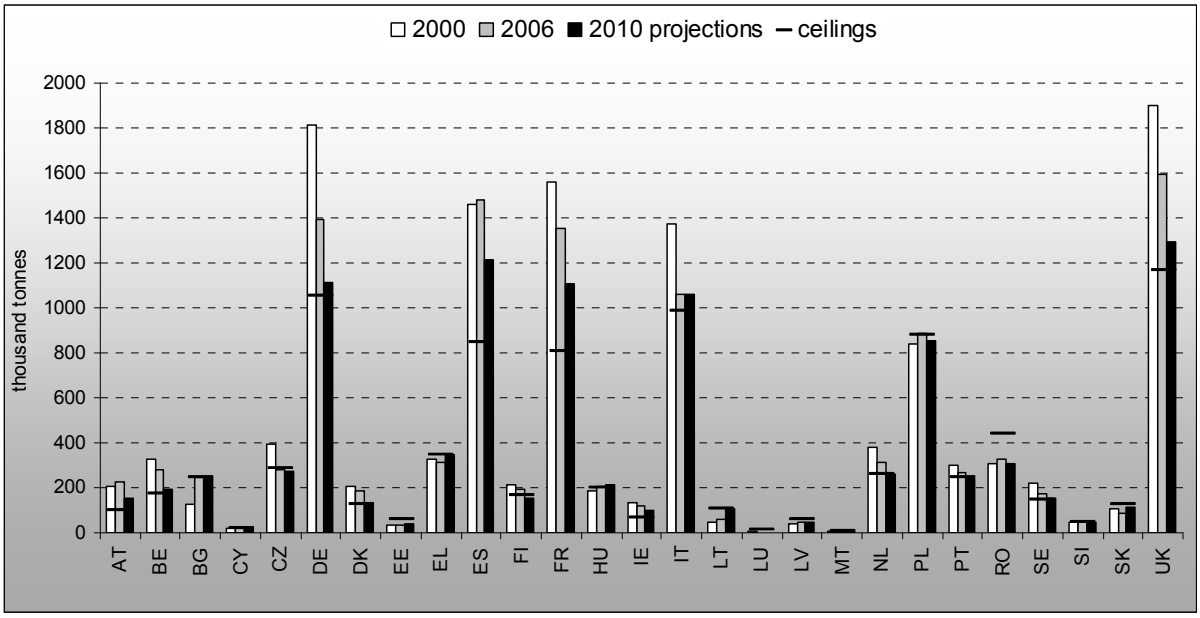
The atmospheric pollutants - nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOC), sulphur dioxides (SO_2) and ammonia (NH_3) – have harmful effects on human health, increasing sickness and premature death. When deposited in soils and water, they contribute to acidification, eutrophication and ground-level ozone. The EU and the Member States must reduce air emissions of noxious gases to reach the 2010 targets set by the National Emission Ceilings (NEC) Directive.

According to the latest projections, EU will not fully comply with the NEC targets. Taking into account NOx control measures in place within the Member States, the NOx emissions for the EU are projected to be 9% above the aggregated Member State limits (known as the Annex I ceiling) and 20% above the stricter ceiling for the European Community as a whole (the Annex II ceiling) set for 2010. One of the reasons is that road transport has grown faster than anticipated.

For the other three pollutants (SO_2, NMVOC, NH_3), the EU is expected to achieve substantial reductions. In the case of NMVOC, EU emissions are projected to be 9 % below the Annex I ceiling, but 6 % above the stricter Annex II ceiling. The SO_2 projections are expected to be 31% below Annex I and 27% below Annex II ceilings. Concerning NH_3 emissions: 19 Member States are already now below the ceilings, and the EU as a whole is also projected to 'overachieve' the target (7% below the aggregate ceiling). Despite significant emission reductions in recent years, only 11 Member States expect to remain below the emission targets for all four air pollutants.

The 2005 EU Thematic Strategy on Air Pollution aims to reduce levels of these and other air pollutants further by 2020.

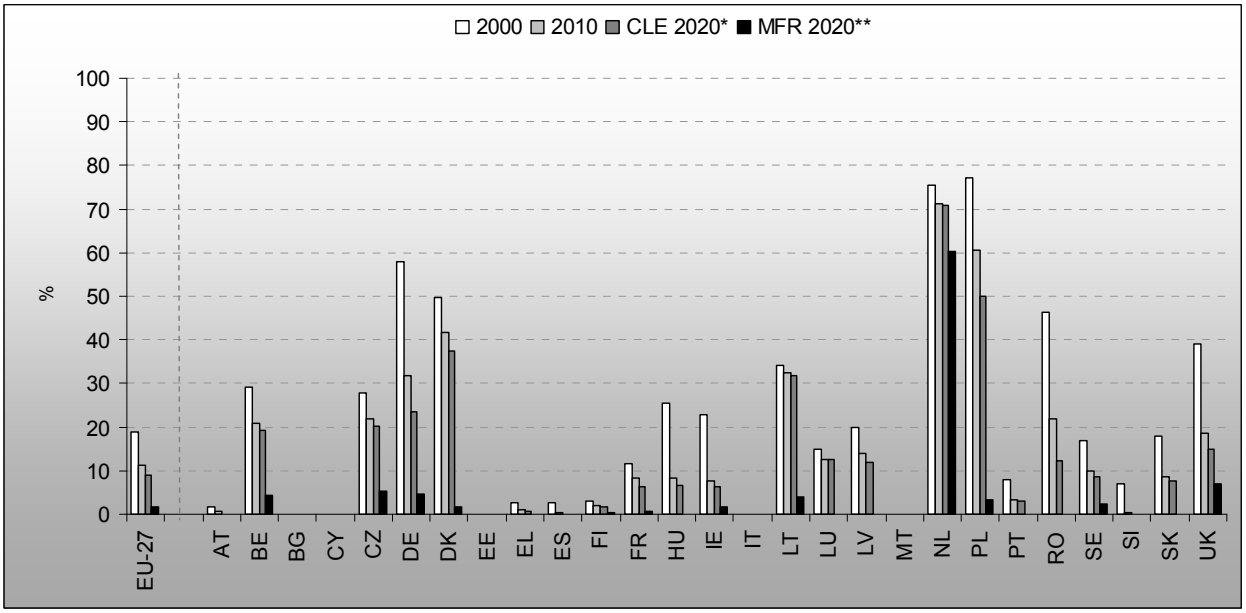
3.4. *Pressure indicator:* **Air emissions of nitrogen oxides (NOx)** (thousand tonnes)



Data source: EEA, UNECE – Coordination Center for Effects. EEA Technical report No 9/2008 "NEC Directive status report 2007".

In 2006 the EU emitted 11.2 million tonnes of NOx. According to Member States` projections, the EU will miss the target of 10 million tonnes by 2010. Although significant efforts have been made in some Member States, road transport has grown faster than anticipated, causing more emissions. 2006 data show that most Member States are above their 2010 ceilings, in particular Austria, Ireland, Spain, France and Belgium.

3.5. *State indicator:* **Exposure of ecosystems to acidification** (as % of total area)

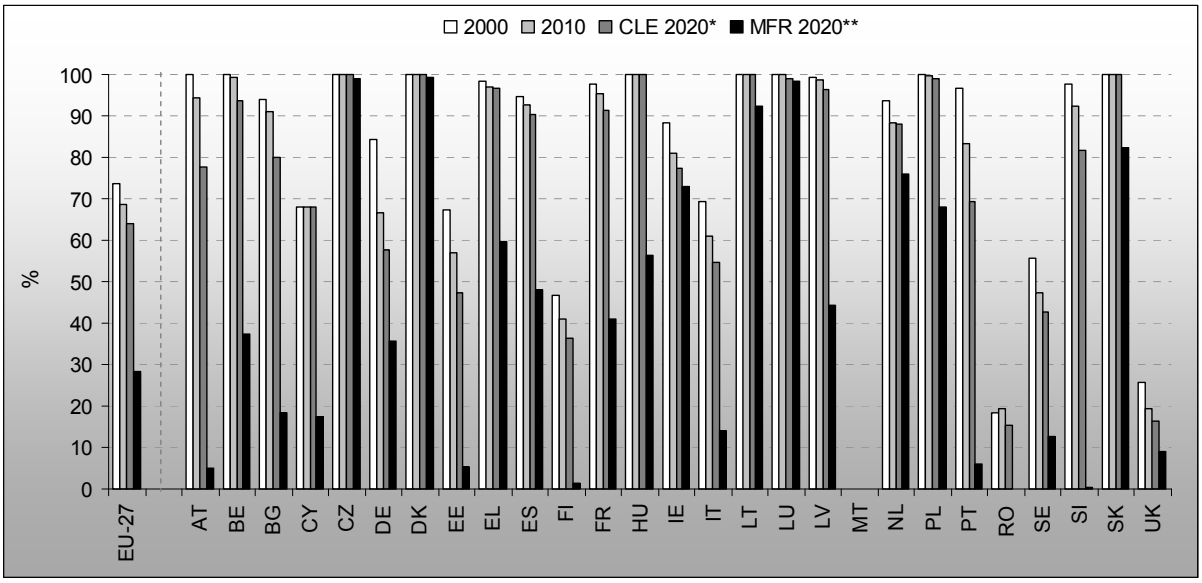


Data source: EEA, UNECE – Coordination Centre for Effects. 2008 critical data loads.
Data source of deposition data to calculate exceedances provided by Centre for Integrated Assessment Modelling in 2007. Preliminary data.
* CLE 2020 – current legislation scenario for 2020
** MFR 2020 maximum feasible reduction scenario for 2020. Data for MT not available

Air pollutants from human activities are deposited in soils and waters causing acidification and eutrophication, which damage ecosystems.

In 2000 around 19% of the EU area was exposed to acidification. 2010 projections indicate a decrease in exposure to acidification; however, exceedance of acidity critical loads will remain a major problem in North-west and Central Europe, in particular Denmark, Germany, Lithuania, the Netherlands and Poland are affected.

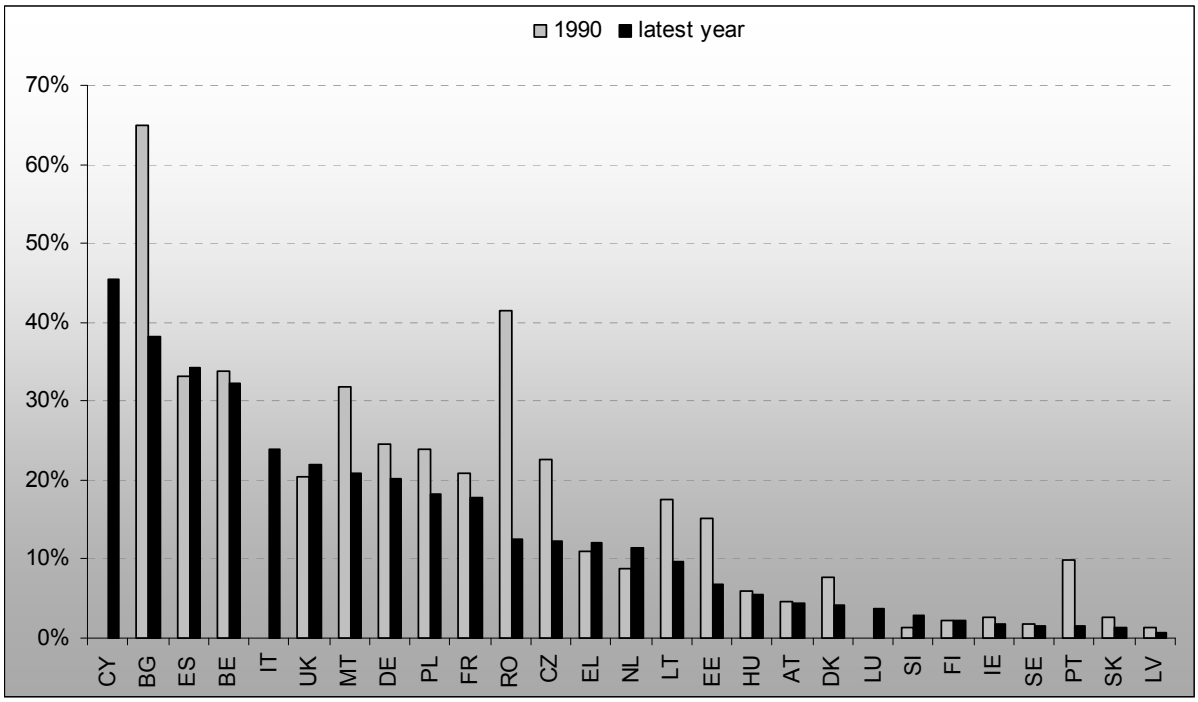
3.6. *State indicator:* **Exposure of ecosystems to eutrophication** (as % of total area)



Data source: EEA, UNECE – Coordination Centre for Effects. 2008 critical data loads.
Data source of deposition-data to calculate exceedances provided by Centre for Integrated Assessment Modelling in 2007. Preliminary data.
* CLE 2020 – current legislation scenario for 2020
** MFR 2020 maximum feasible reduction scenario for 2020. Data for MT not available

Eutrophication remains an important problem in EU; it affected more than 70% of the EU area in 2000. According to projections, slight progress is expected by 2010 with current measures. However, the problem is more widespread than acidification affecting more than 80% of national territory of 18 Member States. The same projections show that Romania and United Kingdom are the Member States least affected, with less than 20% of territory exposed to eutrophication.

3.7. *Pressure indicator:* Water exploitation index[33]



Source: EEA. UK only refers to England and Wales. Latest available year varies among Member States (see also part 2).

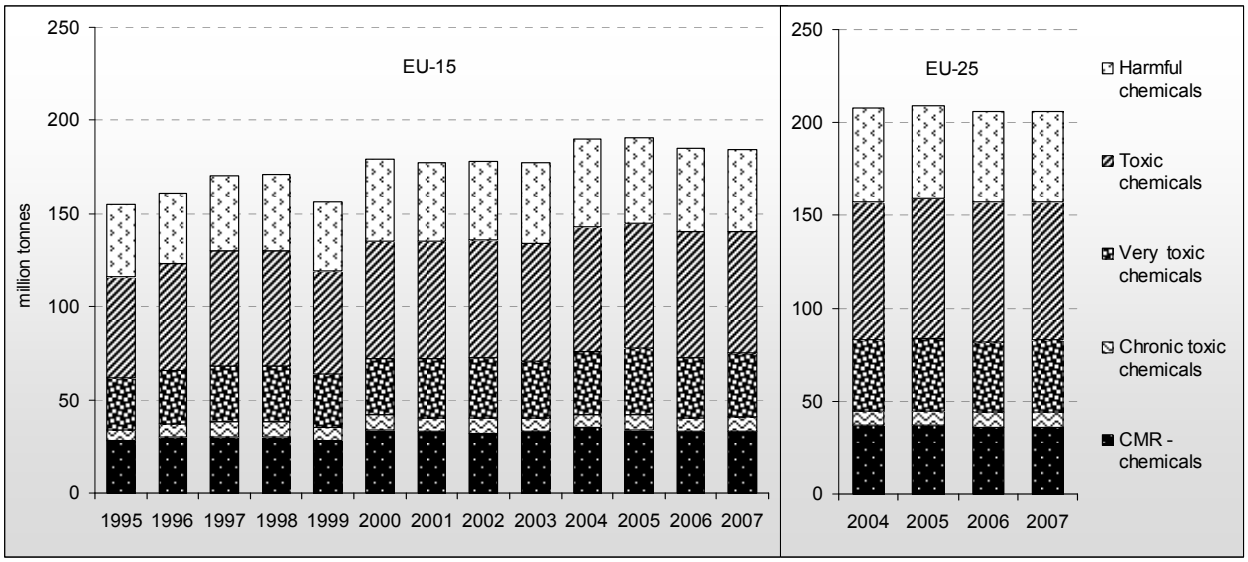
The water exploitation index (WEI) measures the amount of water used compared to the available long-term freshwater resource in a country or region. An index of 20% or more indicates water scarcity, while a value of over 40% signals a severe problem.

The graph shows that eight Member States are facing a problem of water scarcity (in decreasing order of severity): Cyprus, Bulgaria, Spain, Belgium, Italy, United Kingdom (England and Wales), Malta and Germany. In general the southern Member States are more affected by this problem as they suffer more from droughts and high temperatures (exacerbated by climate change), however the graphs shows also that northern countries are affected. Climate change will also affect the water supply from the Alps, which is currently feeding many of the major rivers of continental Europe.

It should be noted that WEI values - as shown in the graph - mask regional and seasonal variations. Some countries with a WEI less than 20% have regions subject to very high levels of water scarcity, in particular in Southern Europe. Furthermore, during summer in southern Europe, agricultural and tourist water-demand peaks exactly when water resources become scarce. In addition, the analysis of the totals of water resources and water abstraction may mask problems that are specific to surface or groundwater resources.

[33] The indicator is defined as annual total water abstraction as a percentage of the available long-term freshwater resources.

3.8. ***Pressure indicator*: Production of toxic chemicals (million tonnes),** by toxicity class[34]



Source: European Commission, Eurostat

The graph presents the aggregated production volumes of toxic chemicals, divided into five toxicity classes. The most dangerous ones are the CMR chemicals (carcinogenic, mutagenic and reprotoxic), followed by chronic toxic chemicals, very toxic chemicals, toxic chemicals and harmful chemicals.[35] The indicator monitors progress in shifting production from the most toxic to less toxic chemicals.

Between 1995 and 2007 the total production of toxic chemicals (all five classes) grew by 28% (EU-15). In total it reached 206 million tonnes in 2007, which is a slight decrease compared to 2006. During the same period the volume of the two most toxic chemicals increased by more than 20%; they account for approximately 30% of toxic chemicals (2007).

The EU share of toxic chemicals in the total production of chemicals (toxic and non-toxic) is 58% (2007). While the 10 new Member States produce only 10% of all toxic chemicals in EU-25, there has been a steady growth of toxic chemicals production in these countries: up by 18% between 2004 and 2007, with a 33% increase for the most toxic chemicals.

In 2008, the chemicals legislation REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals - entered into operation. It is expected that in the coming years its implementation will speed up the substitution of the most dangerous substances with safer alternatives where these are economically and technically viable.

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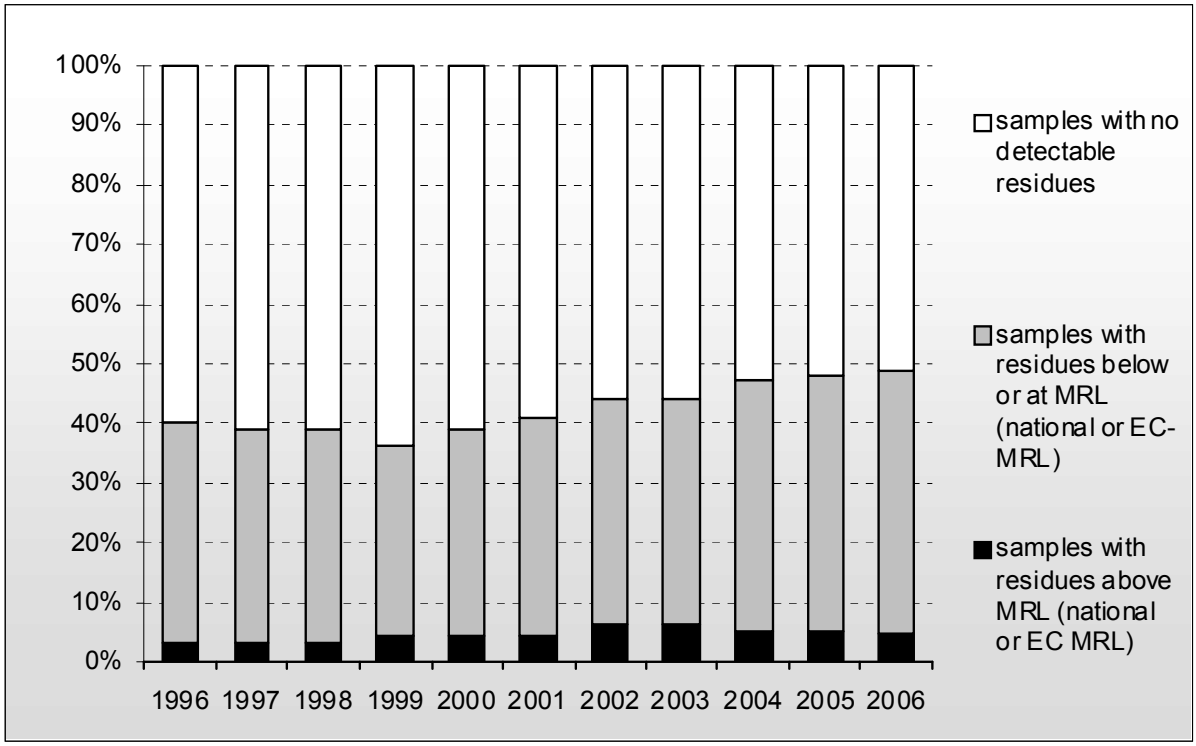
34 The classes are derived from the Risk Phrases assigned to the individual substances in Annex 6 of the Dangerous Substance Directive (Directive 67/548/EEC as last amended in 2001). The substances making up this index comprise a wide range of uses: from intermediates – used for the production of even non-toxic chemicals, products and articles (with potential human exposure limited to workers during their production and subsequent synthesis, and to the environment through potential releases during processing or transportation) – to household chemicals intended for consumer use.

35 The indicator does not provide information on risks 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.

3.9. *Pressure indicator:* Pesticides residues in food[36]



Data source: Commission Staff Working Document SEC(2008) 2902 "Monitoring of pesticides residues in products of plant origin in the European Union, Norway, Iceland and Liechtenstein 2006", in line with provisions under Regulation (EC) No 396/2005 on maximum residue level of pesticides in food products for human consumption and animal feedingstuffs.

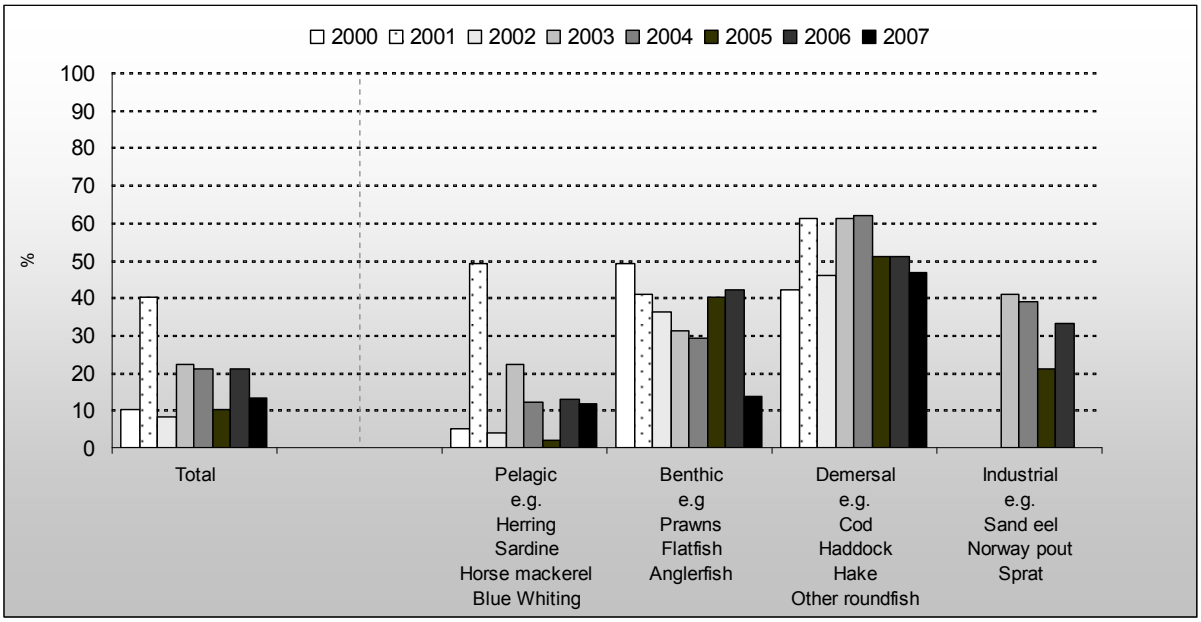
When pesticides are used to protect crops from infestation by pests and plant diseases, some residues may be present in the treated products. A maximum residue level (MRL) is the highest possible level of a pesticide residue that is legally tolerated in food and feed. MRLs help to protect consumers from exposure to unacceptable levels of pesticides residues in food and feed.

The percentage of food and feed samples in which unwanted residues of pesticides exceed maximum residue levels has remained around 5% in recent years. However, the number of samples without any residues of pesticides has decreased since 1999 as shown by the graph. Moreover, an increased number of samples contains multiple residues i.e with residues of more than one pesticide (from 15.5%in 1997 to 27.7% in 2006). In 2006 10% of samples of fresh fruit, vegetables and cereals contained residues of more than three pesticides. Farmers increasingly vary pesticides to control pests, weed and diseases, which can lead to a reduction the total amounts each pesticide used and thus avoid MRL exceedance.

[36] The comparability of the total data between years is limited because increased number of countries and samples analysed over the years.

4. NATURAL RESOURCES AND WASTE

4.1. *State indicator:* Percentage of fish catches from stocks outside safe biological limits[37]



Data source: European Commission, Maritime Affairs and Fisheries DG, International Council for the Exploration of the Sea (ICES)

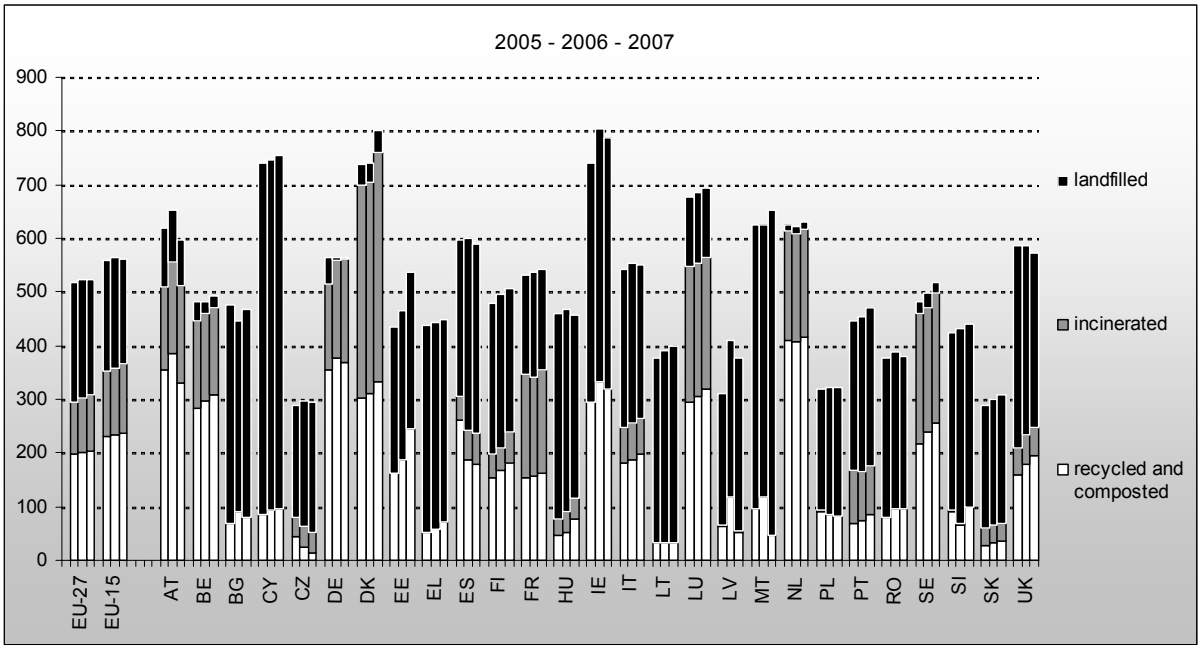
In 2007 13% of total catches were outside safe biological limits, which is better than in 2006 but not an improvement compared to 2000. Demersal and benthic stocks were generally in poor condition throughout the observed period, even if the situation improved in 2007 compared to 2006 especially for benthic stocks.

In 2003 some important pelagic stocks, which normally sustain large catches, fell outside safe biological limits for the first time, causing the large variation in the indicator for this year. The fall in industrial stock catch in 2007 is due to a ban on fishing for sand eel.

One should also be aware of the limitation of this indicator which, in some cases, may become misleading. For instance, when fish stocks are fished dramatically down and there would be so few fish left to catch that a larger fraction of the total (overall reduced) catch comes from stocks in safe biological conditions, this indicator may seem to improve, while the underlying cause for the reduction in catches from threatened stocks actually still indicates a very severe situation.

[37] It is considered that a stock is *within* safe biological limits if its current biomass is above the precautionary level advocated by the International Council for the Exploitation of the Sea (ICES), which ensures a high probability that the stock will be able to replenish itself.

4.2. *Pressure indicator:* **Municipal waste** (kg per person)



Data source: European Commission, Eurostat. Note: the amount of recycled and composted waste is estimated as the difference between the amount of municipal waste generated and the amount landfilled and incinerated.

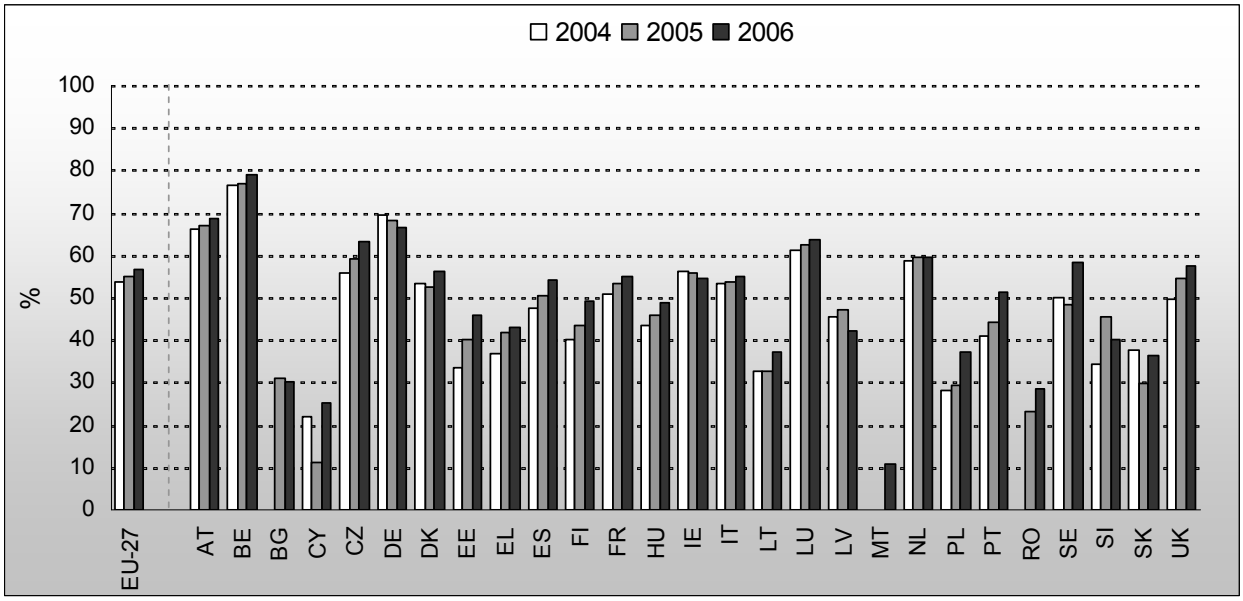
EU waste management policy is based on a hierarchy of principles: best is waste prevention, followed by re-use, recycling and other recovery, with disposal as least favourable. Waste that cannot be recycled or reused should be safely incinerated, with landfill used only as a last resort. Regular annual EU-wide statistics on waste treatment are available only for municipal waste,[38] which represents about 14% of all waste produced. In 2007 the EU-27 produced 258 million tonnes of municipal waste, which was an increase of 1.6% compared to 2005. 220 million tonnes or 85% of total comes from EU-15. On average each citizen in the EU produced 522 kg of municipal waste in 2007.

The quantity of municipal waste produced is very different between countries: Denmark, Ireland and Cyprus produce more than 750 kg per capita while the Czech Republic, Slovakia and Poland produce less than 350 kg of municipal waste per capita. Between 2005 and 2007, most countries saw an increase in municipal waste, only a few showed stabilisation (Germany) or a downward trend (Spain and the UK).

In 2007, almost 40% of municipal waste was recycled or composted, 20% was incinerated while the largest part (more than 40%) was still disposed of in landfill sites. Waste management varies a lot among Member States. Landfill sites are by far the main destination in some countries (more than 85% in Latvia, Lithuania, Cyprus and Malta), while they are only a last resort in other Member States: e.g. less than 5% share in the Netherlands, Sweden and Belgium and only 0.5% in Germany. Denmark has the highest share of incineration, with more than 50% of total municipal waste production.

[38] Municipal waste consists of waste collected by or on behalf of municipal authorities. The bulk of this waste stream is from households, though similar waste from sources such as business, offices and public institutions are included.

4.3. ***Response indicator:*** **Recycling rates of packaging waste** (as percentage of total packaging waste) J



Data source: European Commission, DG Environment. Mandatory reporting by Member States under Commission Decisions 97/138/EC and 2005/270/EC; EU data for 2004 refer to EU25; Malta has not reported data for 2004 and 2005.

Recycling helps to manage natural resources more responsibly: on the one hand it saves material from being put in landfills or incinerators, on the other hand, by replacing virgin materials, recycling can reduce environmental impacts. Packaging waste is roughly 5% of total waste generation.

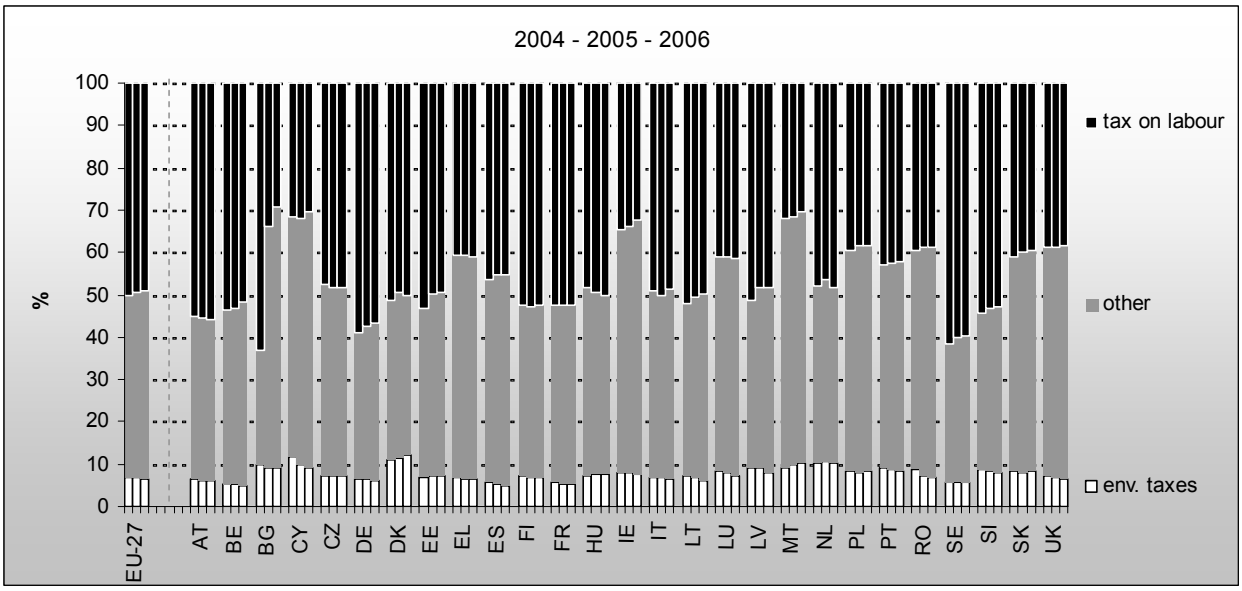
Following the Directive on packaging and packaging waste,[39] Member States agreed to recycle 55 to 80% of packaging waste by 2008.[40] In 2006, the EU as a whole reached this target by recycling 56.5% of packaging waste (compared to 55% in 2005). 2006 data show that Belgium ranks first, with 79% of packaging waste recycled and has already achieved the target together with eight other Member States: Austria, Czech Republic, Denmark, Germany, Luxembourg, the Netherlands, Sweden and United Kingdom. At the bottom end, Cyprus, Malta and Romania have recycling rates of less than 30%. Overall, the recycling of packaging waste is increasing in EU and most Member States. A few countries show an opposite – decreasing – trend, i.e. Germany and Ireland.

[39] Directive 94/62/EC as amended by Directive 2004/12/EC

[40] Some Member States are allowed to achieve this by a later year. See in Part 2 the target year for each country.

5. ENVIRONMENT AND THE ECONOMY

5.1. *Response indicator:* Environmental taxation: share of environmental taxes in total tax revenue compared to taxes on labour (percentage)[41]



Data source: European Commission, Eurostat 2008[42], DG Taxation and Customs Union

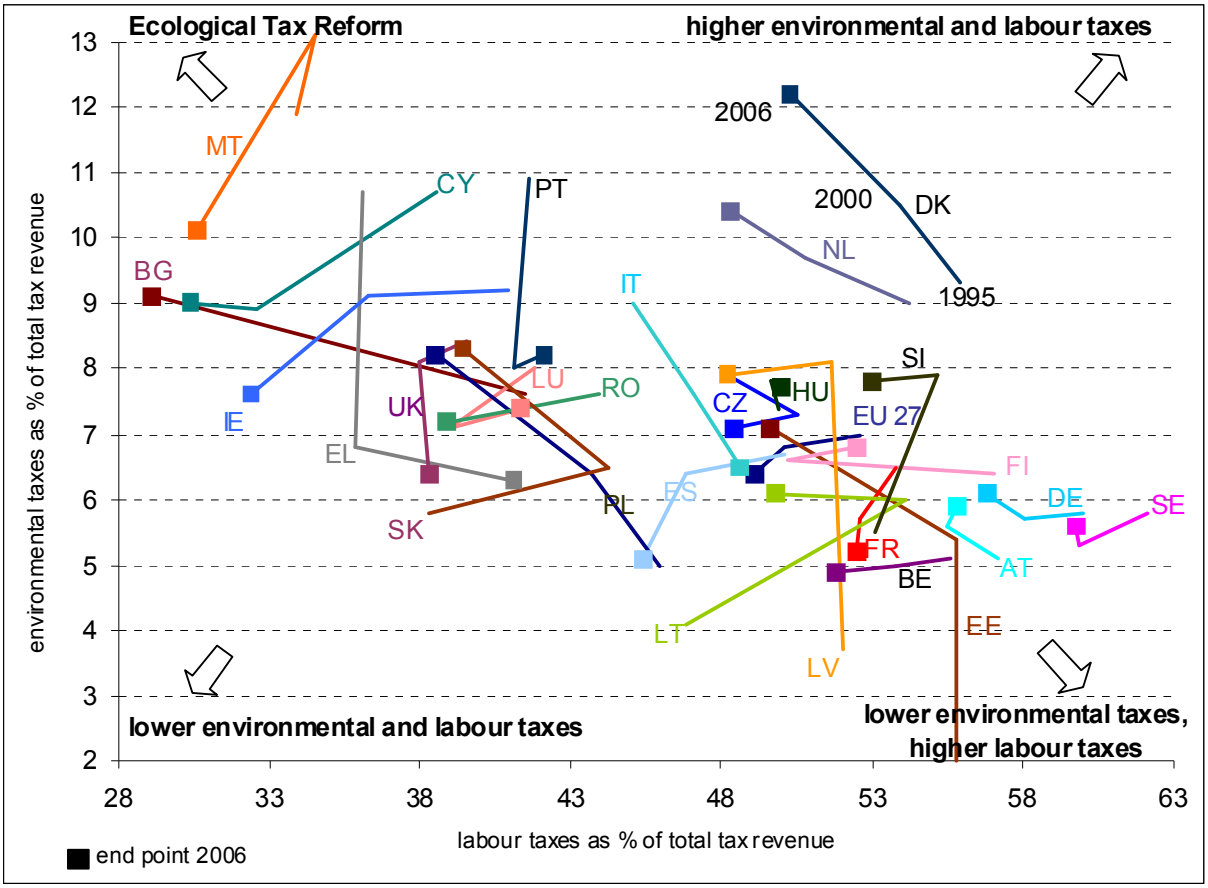
Environmental taxes are an efficient market-based instrument to achieve environment policy objectives. Notwithstanding efforts in some Member States to make effective use of this policy instrument in recent years, the EU share of environmental taxes in total tax revenue decreased slightly in both 2004 and 2005, reaching 6.4% in 2006. At the same time the share of taxes on labour also decreased slightly (from 50.1% in 2004 to 49.1% in 2006).

Member States make very different use of environmental taxes: e.g. in 2006 the share was more than 10% in Denmark, the Netherlands and Malta, while it is less than 6% in Belgium, Spain, France, Sweden and Austria. During 2005-2006 trends were also different among countries: Latvia accounted for the greatest decrease in the share of environmental taxes (from 9.2% to 7.9%), while in Denmark the share increased (from 11.5% to 12.2%).

41 This indicator has not been assessed as it is not related to a high or poor environmental performance in an unambiguous way.

42 Taxation trends in the European Union. Data for the EU Member States and Norway. 2008.

The graph below shows changes in the share of environmental and labour taxes in total tax revenue in the Member Sates since 1995.



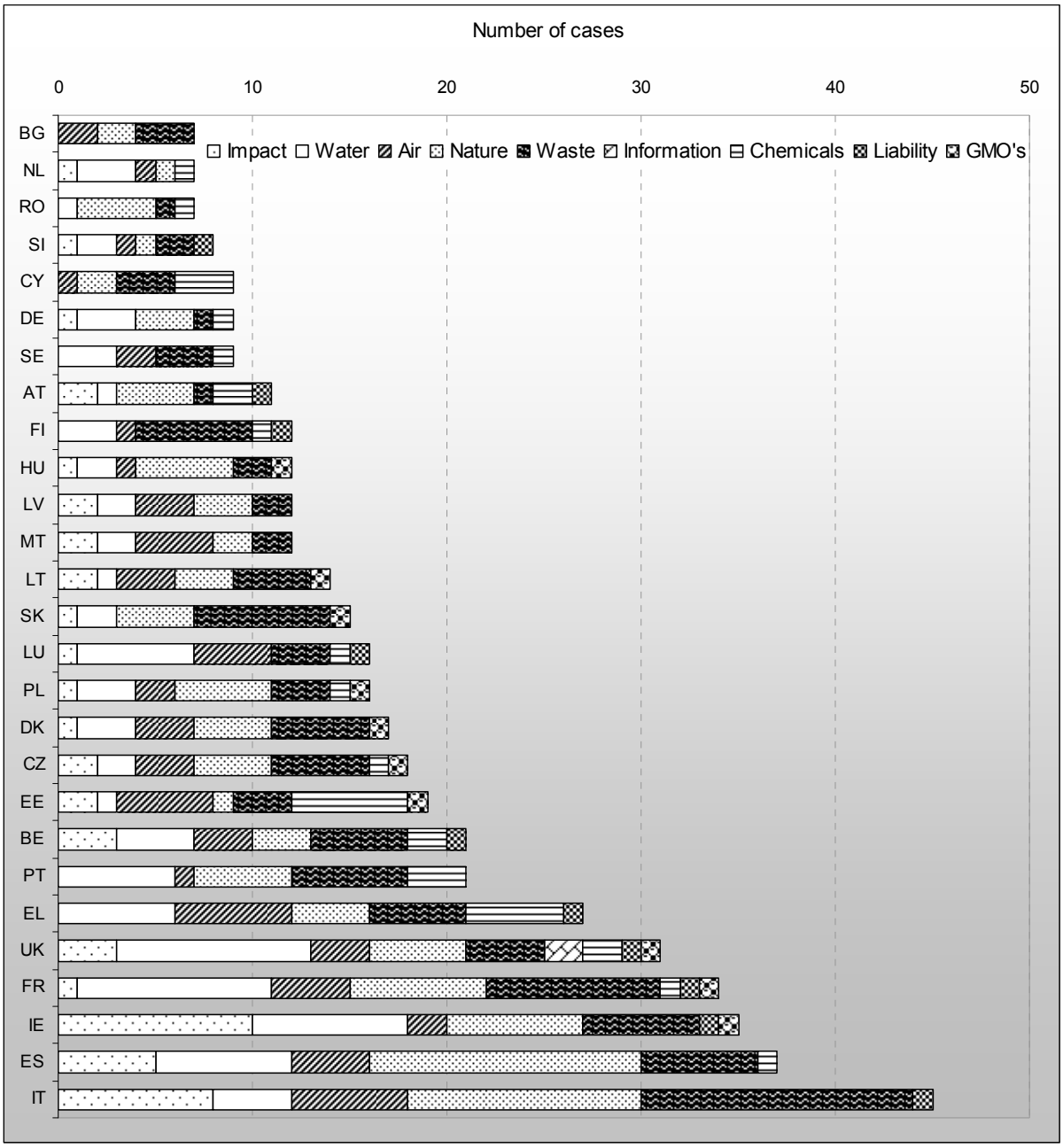
Data source: European Commission, Eurostat, DG Taxation and Customs Union. Data for all countries: 1995, 2000 and 2006, except Bulgaria (2000 and 2006), Romania (2002 and 2006) and Slovenia (1999, 2000 and 2006).

Some countries considerably changed their tax structure between 1995 and 2006. Several Member States redirected taxation from labour to environmental impact (Austria, Bulgaria, Denmark, Estonia, Latvia, Germany, Poland and the Netherlands), while other countries followed the opposite direction (Italy and Greece).

Some Member States lowered both environmental and labour taxes as a share of the total tax revenue, i.e. Cyprus, Ireland, Malta, Romania and Spain. Only Lithuania and Slovakia increased the shares of both taxes in the period 1995-2006, although since 2000 they have redirected taxation to a greater or lesser extent from labour to environmental impact. Some countries have reduced the share of environmental taxes, while keeping around the same level of labour taxes (Czech Republic, France, Luxembourg, Portugal and United Kingdom), while others have kept the same share of environmental taxes, but have reduced labour taxes (Belgium, Sweden and Finland). Slovenia increased environmental taxes but kept labour taxes at the same level while Hungary remained stable overall. The EU as a whole lowered shares of both environmental and labour taxes over the period.

6. IMPLEMENTATION

6.1 *Performance indicator:* **Infringements of EU environmental legislation by Member State and by sector** (as of 31 December 2008)[43]



Data source: European Commission, DG Environment (Impact = Environmental Impact Assessment and Strategic Impact Assessment)

[43] This indicator has not been assessed since each infringement procedure is in itself an indicator of unsatisfactory or likely unsatisfactory performance.

At the end of 2008, there were a total of 2044 infringements[44] of EU legislation. Of these, 481 (23.5%) related to EU environment legislation (compared to 479 at the end of 2007). 64 cases concern possible non-implementation of European Court of Justice judgements, compared to 77 at the end of 2007.

Waste and nature account for 111 and 105 cases respectively. There are 95 open infringements on water matters, 65 on air and 50 on environmental impact assessment.

At the end of 2008, Italy had the highest number of ongoing infringements cases (45), most relating to waste legislation (14) followed by nature protection legislation (12). Spain, Ireland, France and United Kingdom have more than 30 open infringements each. The Netherlands has the lowest number of infringements in EU-15.

[44] This means that the Commission sent an official letter of formal notice to the Member State.