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**Annex to the**

**Communication from the Commission to the Council and the European Parliament on  
the 2004 environmental Policy Review**

**EU Environmental Policy in 2004: developments, new evidence and outlook for 2005**

{COM(2005)17 final}

## 1. INTRODUCTION

This document is the annex to the second Environment Policy Review and reports on the main environmental policy developments since 2003 in the EU, points to new findings made available in the course of the year and gives indications on the year to come. The past year has been marked by events and debates that will influence environmental policy over the next few years:

- Accession to the European Union by 10 new Member States has considerably enriched the stock and diversity of natural assets of the Union. At the same time, it has an impact on future policy priorities of the new Member States, as mitigating the increased pressures on the environment from rapid economic growth may add to the substantial efforts they have to undertake to implement the acquis. A similar effort will be required by Romania and Bulgaria, following completion of accession negotiations at the end of 2004;
- The debate on the interaction between environmental policy and competitiveness has been intense in the lead up to the mid-term review of the Lisbon Strategy;
- Parallel preparations for and debate on the review and implementation of the EU Sustainable Development Strategy.

Important steps have also been made in 2004 to further and better protect the environment in Europe and globally. The most significant EU environmental policy events over the last year in the 4 main priority areas of the 6<sup>th</sup> EAP include:

- Actions to promote eco-efficient innovations and resource efficiency as part of the long term drive towards more sustainable production and consumption (SPC), including the launch of the Environmental Technologies Action Plan (section 2);
- Climate change policy, in particular the lead up to emissions trading and post-2012 strategies (section 3-1);
- The broad debate on priorities for action to achieve the EU's target of halting biodiversity loss by 2010 as well as progress in international agreements as part of the ongoing review of the Biodiversity Strategy and Action Plans (section 3-2);
- The publication of the Environment and Health Action Plan and the World Health Organisation ministerial conference on Environment and Health in June 2004 in Budapest (section 3-3).

Finally, the document takes stock of this year's progress in implementation of EU legislation and countries performance in this respect (section 4).

## 2. ECO-EFFICIENT INNOVATIONS AND RESOURCE EFFICIENCY KEY TO INCREASED COMPETITIVENESS

### *Highlights*

**Competitiveness concerns have dominated** the EU policy debate in 2004, with implications for environmental policy. A complex mesh of issues including the position of EU companies in world markets, China's and some other emerging economies' ongoing high rate of growth, the influence on commodity prices<sup>1</sup> and availability, evidence of a widening productivity gap with the US, have triggered a debate on the EU's response. It has also highlighted the competitiveness and market opportunities offered by increased resource efficiency, eco-efficient innovations and environmental technologies.

As a result of this debate, a growing **consensus** has developed this year **on the contribution that eco-innovations make to EU competitiveness.**

Work has been ongoing on better regulation both to improve use of impact assessment and to simplify environmental legislation so as to maximise the cost-efficiency of new legislation.

For instance, the report of the high level group headed by Wim Kok produced as part of the preparation of the **mid-term review of the Lisbon** process, whilst advocating greater focus, emphasises the **role of environmental sustainability** and social cohesion in the growth and employment creation processes. It illustrates how Europe can gain from seeking a first mover advantage in supplying eco-efficient products and processes (in a range of sectors) to rapidly growing markets and emphasises the importance of promoting the development and take up of eco-innovations, **building on the EU's lead in the growing markets for eco-efficient goods and services.** In particular it recommends supporting market development by full implementation of the Environmental Technologies Action Plan (ETAP), boosting research, removing environmentally harmful subsidies, providing positive incentives (e.g. risk capital) and greening public procurement in the Member States.

Against this background, the Commission and others have sought to maximise the environmental contribution to GDP growth and employment:

- The Commission's Environment Technologies Action Plan (ETAP), issued in January 2004, was widely welcomed. The Commission, with the support of the Member States and the European Investment Bank, has made **good progress in implementing ETAP** as set out in the report on its implementation (to be adopted in January 2005). In research and development, more priority has been given to environmental technologies in the 6<sup>th</sup> Framework Programme, through a number

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<sup>1</sup> In October 2004, crude oil prices briefly rose to more than US\$55, an increase of 80% over the previous year (about 50% in Euro terms), sparking renewed concerns about the vulnerability of the EU economy to oil market fluctuations. According to analysis by the Commission services, a temporary 50% increase in oil prices should reduce GDP growth in the EU by up to 0.6 percentage points in the first year, before dampening effect on GDP levels fades away, while a more permanent increase could shave up to 0.8 percentage points from GDP over the first three years (SEC (2004) 1418) The EU-25 imported 82% of its oil in 2002.

of technology platforms and action taken to set up networks of testing centres. Initial steps have been taken towards setting performance targets for products, processes and services and to extend the range of EU funding instruments supporting eco-innovations and environmental technologies, including future Cohesion Policy (through the proposed regulations) and the future framework programme for Competitiveness and Innovation.

- The Dutch Presidency, working with business and other stakeholders, developed a **consensus on the importance of eco-innovations for a “Clean, Clever, Competitive” Europe**. The Environment Council called on the Commission and other Council formations in its October conclusions on the Lisbon process to take the steps needed to seize the benefits of eco-innovations, a message reinforced in its December conclusions on the Kok group report.
- The Commission consulted stakeholders on its thematic strategies on management of natural resources and waste prevention and recycling, to set priorities for promoting resource efficiency and minimising the environmental impact of resource use.
- The Commission issued guidelines in August 2004 to help national and local public bodies green public procurement so that environmental opportunities are developed. With around 16% of GDP spent by the public sector on goods and services, public procurement is of sufficient scale to be able to take these technologies to the stage of being fully commercial.
- Two pilot projects, one on mobile phones, with Nokia, and the other on teak garden chairs, with Carrefour, were launched to show how Integrated Product Policy (IPP) can work in practice and minimise the environmental impacts of products, taking into account their whole life cycle.

### *New Findings*

New findings have been published on the **opportunities for economic and employment growth offered by environmental policy and eco-innovations**. As our understanding grows, their relevance to future economic development and competitiveness becomes more obvious (e.g. the increasing interest shown by the insurance industry in climate change, the links between good farming practice and biodiversity, the environment impacts on health and related budget costs).

Assessments published in 2004 provide some updates:

- Eco-industries show outstanding results relative to the rest of economy. In 2002 French eco-business achieved 6.2% turnover growth, as compared to 4% growth in national manufacturing or 3.1% for the whole economy. Exports are also

growing strongly (10.4% in 2002)<sup>2</sup>. This confirms the European wide trend of a growth rate of around 5% per annum for the sector since the mid-nineties<sup>3</sup>.

- In Germany the 1.5 million jobs linked to environmental protection represent more than the jobs in vehicle construction or the food industry. They grew to 3.8% of total employment in 2002.<sup>4</sup>

There are also indications of **promising markets for eco-efficient products from many sectors** in Europe as well as in emerging markets where demand is driven by a combination of rising incomes and increasing environmental pressures. In China, for example, the damage caused by environmental deterioration, such as the poor air quality in urban areas or poor water quality has led the government to recognise the environmental constraints to economic growth, and to take measures, including through dialogue with European authorities, to improve the environment. The EU is well placed to support more sustainable development in emerging countries. The Kok report, for example, points to the promising market for cars meeting European emissions standards in China.

New reviews published in 2004, to inform the debate on competitiveness, also present findings **which counter the view that environmental policy hinders EU competitiveness or employment** growth:

- An OECD review of the available literature suggests that the net impact of environmental policy on jobs is neutral or slightly positive<sup>5</sup>.
- Renewable energy and energy efficient measures increase energy security of supply and reduce the risks of economic losses from oil price volatility.
- Industrial air pollution expenditures as percentages of industrial Gross Value Added appear to be similar in EU-15 and the US but greater in both than Japan. However, since these expenditures are less than 0.5% in all three regions, the competitiveness effects are likely to be limited<sup>6</sup>.
- The World Economic Forum's 2004-2005 Global Competitiveness report's analysis of the impact of environmental responsibility concludes that companies taking a proactive approach to environmental problems turn them to their advantage- by ensuring the supply of raw materials, greater efficiency and new technologies available to respond, opening up new markets, giving themselves more time for adaptation and reducing costs.

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<sup>2</sup> La conjoncture des éco-entreprises, Planistat pour le Ministère de l'Écologie et du Développement Durable, France, 2003

<sup>3</sup> Ecotec "Analysis of the EU Eco-Industries, their Employment and Export Potential", 2001

<sup>4</sup> Hintergrundpapier: „Umweltschutz und Beschäftigung“, Umweltbundesamt, 2004

<sup>5</sup> OECD, 2004 "Environment and Employment"

<sup>6</sup> A comparison of EU Air Quality Pollution Policies and legislation with other countries, AEA Technology and Metroeconomica for the European Commission, 2004

An increasing number of companies and investors are taking a proactive interest in their environmental performance, whilst a number of studies suggest that **good corporate environmental management is linked to better financial performance** and share prices:

- The share price of firms rated “best in class” in terms of environmental and social criteria have outperformed others by 17% since 2001<sup>7</sup>
- A positive link between environmental governance and financial performance was found in 85% of 60 European and North American studies undertaken over the last 6 years, in a recent review of existing research.<sup>8</sup>
- The 50 companies rated best in terms of their corporate sustainability reports have higher credit rating than the average<sup>9</sup>.

### *Outlook for 2005*

The mid-term review of the Lisbon strategy provides the opportunity to ensure that the contribution that environment can make to EU competitiveness is fully seized and consistency between the Lisbon and EU Sustainable Development Strategies.

A number of measures have been called for by the Environment Council, stakeholder meetings and MS working groups, in particular:

- Further EU and national efforts to speed up implementation of the ETAP. These include efforts to mobilise finance and investment for environmental technologies, to establish environmental performance targets for key products and services, to make public procurement greener and to establish a European system for testing and verifying eco-technologies.
- The Commission will present proposals on the further promotion of economic instruments, including taxation, as cost-effective tools for environmental policy alongside legislation. It will start reviewing the guidelines for environmental State Aid.
- The thematic strategies on the sustainable use of natural resources and on waste prevention and recycling, to be published in 2005 will establish a framework to promote life-cycle thinking to minimise environmental damage and maximise environmental benefits, with links to Integrated Product Policy (IPP). Together with eco-design initiatives and ongoing reviews of the IPPC directive and voluntary schemes (EMAS and Eco-label), these will lead to more coherent policies for Sustainable Consumption and Production.

The Commission will continue to work with other countries to promote more sustainable development. It will in particular develop the dialogue with emerging economies such as

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<sup>7</sup> Study by Morgan Stanley and Oekom (2004).

<sup>8</sup> Innovest Strategic Value Advisors study for Environment Agency for England and Wales (2004).

<sup>9</sup> Survey by SustainAbility, the UN's environment programme and credit rating agency Standard and Poors (2004).

China, to take forward international action necessary to address global environmental problems, to avoid competition based on reducing environmental standards and to promote the uptake of eco-innovations and more sustainable products and processes.

The Commission's work to develop better environmental regulation described in section 4 is also important in ensuring that environmental policy contributes fully to the EU's competitiveness at the same time as improving environmental quality. Tackling climate change, reducing the loss of biodiversity and improving our understanding of environment and health can also contribute to providing the conditions for long term economic growth alongside a better environment and quality of life.

### 3. ACHIEVEMENTS, TRENDS AND OUTLOOK IN THREE PRIORITY AREAS

The following section reviews measures taken in 2004 to address three of the main priority areas of the 6<sup>th</sup> EAP, climate change, biodiversity loss and environment impacts on health. It summarises new findings gathered in the course of the year and present an outlook of measures likely to be on the 2005 agenda.

#### 3.1. Climate Change

##### *Highlights*

Russia's ratification of the Kyoto protocol in November 2004 opened the way for further global cooperation to tackle climate change. The move brings the protocol into force, so that the commitments made by the 127 countries party to the protocol become legally binding from early in 2005. This provides necessary certainty to those investing in emissions reductions and the development of global emissions trading.

The Commission ensured all the necessary conditions for the launch in January 2005 of the EU greenhouse gas emissions trading scheme (EU ETS). The adoption of the registry regulation and of monitoring and reporting guidelines and the approval of 21 National Allocation Plans (NAPs), leaving four more plans to be approved in early 2005, were key achievements in 2004. The EU ETS will cover more than 12,000 energy and industrial installations across the EU-25, making it the largest multi-country, multi-sector greenhouse gas emission trading scheme in the world, and allow greenhouse gas emissions reductions to be achieved at least cost.

In addition,

- The Commission continued its efforts to make use of economic but as yet unrealised *energy savings* across the EU: it is estimated that the Union's energy consumption is more than 20% higher than can be justified on economic grounds<sup>10</sup>. A directive to promote the use of *co-generation of heat and power* was adopted by the Council and Parliament in February 2004 (2004/8/EC). In December 2003, the Commission presented a proposal to the Council and

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<sup>10</sup> from COM (1998) 246 final Energy Efficiency in the European Community - towards a Strategy for the Rational Use of Energy

Parliament for a directive to promote *end-use energy efficiency*<sup>11</sup>, including proposed energy saving targets for each Member State of 1% per year<sup>12</sup>. The Commission's proposed directive on a framework for setting *eco-design requirements for energy-using products*<sup>13</sup> is also in discussion in the Parliament and Council.

- An EU Strategy to integrate climate change concerns into mainstream EU development cooperation activities was adopted by Council in December 2003, and an action plan to implement the strategy over 2004-2008 was adopted in November 2004.
- The Commission adopted a Communication on the establishment of the EU energy Initiative for ACP countries, to implement the agreement at the World Summit on Sustainable Development in Johannesburg in 2002.

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<sup>11</sup> COM (2003) 739 final

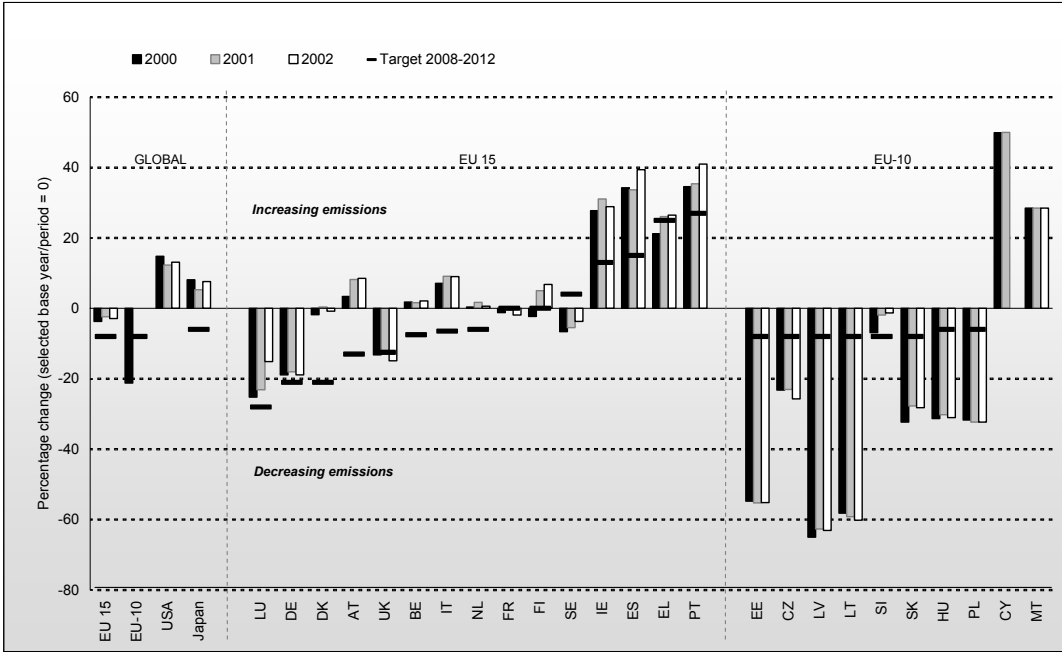
<sup>12</sup> compared to the average energy sales to final customers over the previous 5 years

<sup>13</sup> COM(2003) 453 final

**FIGURE 1: Total greenhouse gas emissions in the EU Member States as a percentage of 1990 levels, and their Kyoto protocol targets**

The graph shows the development in total GHG emissions (in carbon dioxide equivalents) in EU-25 over the years 2000, 2001 and 2002, as a percentage of levels of the selected base year or period<sup>14</sup>. To the left is a global comparison of emissions relative to 2008-2012 Kyoto Protocol targets, while the central and right hand areas provide the breakdown of emissions by Member State, arranged by EU-15 and EU-10 to reflect different Kyoto commitments. The EU-15 has a GHG emissions reduction target of -8% over 1990 levels with national targets are set under a burden sharing agreement<sup>15</sup>. The New Member States are not part of this. All ten have ratified Kyoto but only eight have emissions reductions targets under the protocol; Cyprus and Malta as ‘non-annex I’ parties do not. Most of the eight others have committed to reducing their emissions of greenhouse gases by 8% over 1990 levels by 2008-2012, except Hungary and Poland with a target of -6%.

In 2002, EU-15 emissions were -2.9% below 1990 levels and although there was a slight decrease of 0.5% compared to 2001, further emissions reductions are required if the EU-15 is to reach its Kyoto target of -8% by 2008-2012. Amongst the EU-15, Germany, the UK, France, Greece and Sweden are the only countries currently on path to meeting their targets, although emissions in Greece moved slightly above its target in 2002. Countries currently furthest from their targets are Spain (24.5%), Austria (21.5%), Denmark (20.2%) Ireland (15.9%) and Italy (15.5%). Spain, Portugal and Luxembourg saw significant increases in their emissions in 2002. New Member States were subject to restructuring in the 1990s that led to large emissions reductions. In 2002, only Slovenia had emissions above its Kyoto target level.



Source: EEA and Eurostat (2004)<sup>16</sup> AT – Austria; BE – Belgium; CY – Cyprus; CZ - The 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 –

<sup>14</sup> 1990 is the base year for most Member States for CO<sub>2</sub>, methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) but 1995 for fluorinated gases. The base year for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O for Hungary is the average of 1985-1987, for Slovenia 1986 and for Poland 1988; the base year for fluorinated gases is 1990 for France and Finland

<sup>15</sup> The EU’s and Member States’ greenhouse gas reduction targets were adopted by the Council of 4 March 2002 in a legally binding *Decision on the implementation of the Kyoto Protocol*. The Council’s Decision included the Council conclusions of 16 June 1998, which set out each Member States contribution to the EU’s 8% reduction, often called the ‘Burden Sharing Agreement.’

<sup>16</sup> The emissions for previous years have been recalculated by the EEA and IPCC, so differ slightly from those presented in previous reports.

### *New Findings*

There was a small but insufficient downturn in emissions of greenhouse gases: in 2002 emissions across the EU fell by 0.5% after a rise in both 2000 and 2001. As an indication of how well as Member State is performing in achieving its emission target, the Commission uses a linear interpolation between the Member States' base year emissions and its Kyoto target emissions. The reduction achieved by 2002 is not sufficient to put the EU-15 on this linear path<sup>17</sup> to meeting its Kyoto target of -8% by 2008 to 2012<sup>18</sup>. Overall 12 of the 25 Member States had emissions above the level for a linear path. Three- Ireland, Portugal and Spain- were more than 20% above this path. Most new Member States saw large emissions reductions in the early 1990s and are well on track to meet their Kyoto targets. In 2002, only Slovenia's emissions were above the linear path to its target.

However, ***emissions in 2002 do not reflect the effect of new measures recently or still to be implemented.*** For example, the 2001 directive on promotion of ***renewable electricity*** set an indicative target for the EU-25 of meeting 21% of its gross electricity consumption from renewable sources by 2010. By 2002, 12.7% was from renewable sources. EU-15 Member States' reports on progress, submitted this year, suggest that the EU is only likely to achieve 18 to 19% of electricity consumption from renewables under currently implemented policies by the 2010 deadline. ***Many Member States will need to decide on more active policies to if they are to meet their targets***<sup>19</sup>.

The latest available statistics indicate that ***transport sector's emissions*** of greenhouse gases continued to grow, reaching almost 22% above 1990 levels in the EU-15 by 2002. Inland transport growth (in terms of tonne-km and passenger-km) is still not decoupled from GDP growth. Air transport continues to be the fastest growing transport sector with annual growth rates for European carriers of 6% (in terms of domestic flight-km) over the period 1990 to 2003, steadily increasing its share in EU's GHG emissions.

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<sup>17</sup> 2002 emissions in the old EU-15 member states were 2.9% below 1990 levels rather than down 4.8% as implied by a linear path.

<sup>18</sup> The European Community has a GHG emissions reduction target of -8% over 1990 levels under Kyoto but this applies only to the EU-15 who have a burden sharing agreement. The ten new member states have all ratified Kyoto, but only eight have emissions reductions targets under the protocol; Cyprus and Malta as 'non-annex I' parties do not. Most of the other eight new member states have committed to reducing their emissions of greenhouse gases by 8% over 1990 levels by 2008-2012, except Hungary and Poland with a target of -6%.

<sup>19</sup> COM(2004) 366 final

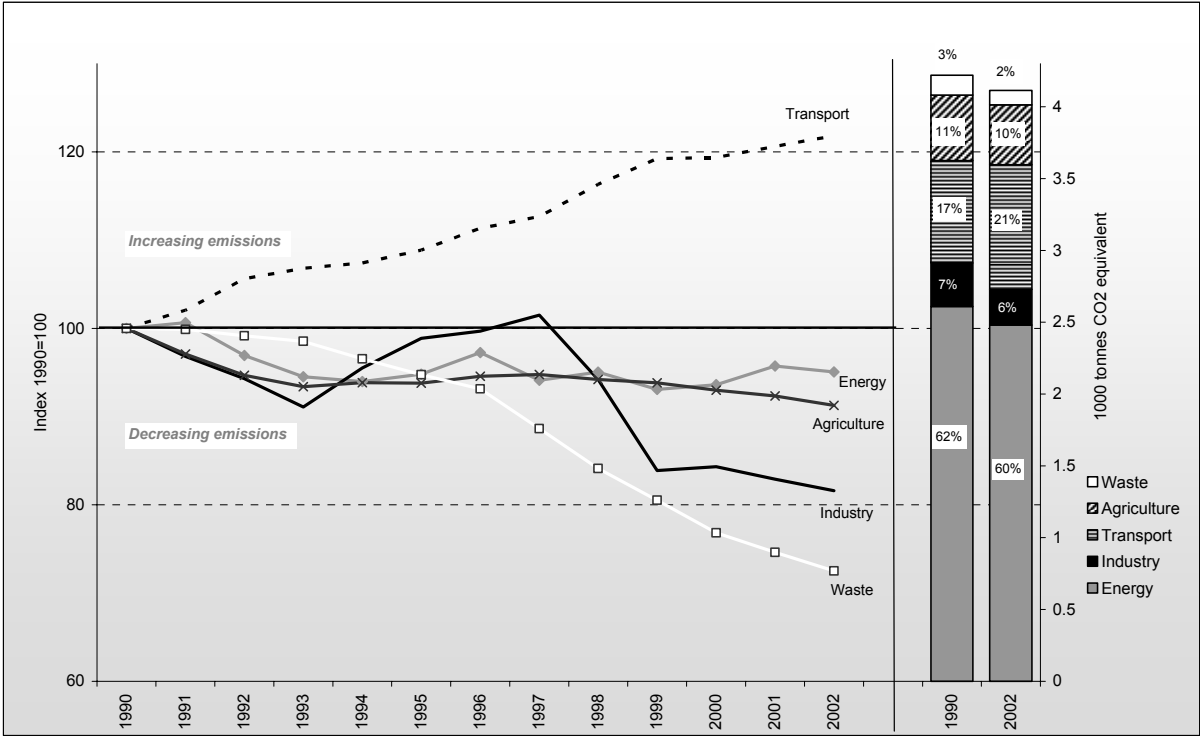
**FIGURE 2: Total EU Greenhouse gas emissions by sector as an index of 1990 levels (left) and in absolute amounts (right)**

The line graph illustrates changes in GHG emissions by sector expressed as an index of 1990 levels for the EU-25. The bars on the right illustrate the contribution of the sectors in absolute amounts as well as their percentage contribution to total emissions.

Please note that the sector classification has changed from that used in the 2003 Environment Policy Review, to follow the revised IPCC guidelines<sup>20</sup>.

The left hand part illustrates that emissions from the agriculture, industry and waste sectors continue to decline. However these are also the sectors that contribute least to GHG emissions. The energy sector, which accounts for about 60% of all GHG emissions, has remained more or less unchanged, fluctuating around 95% of the 1990 levels.

In contrast transport emissions continue to grow on average by 1% per year, and have steadily increased their share of total emissions, from 17% in 1990 to 21% in 2002. Air transport, continued to be the fastest growing transport sector in the EU-25, with an average growth rate of 6% over the period 1990-2003, steadily increasing its contribution to EU greenhouse gas emissions. Only domestic air travel is included in this figure. All international aviation emissions (including for flights between EU Member States) are excluded.



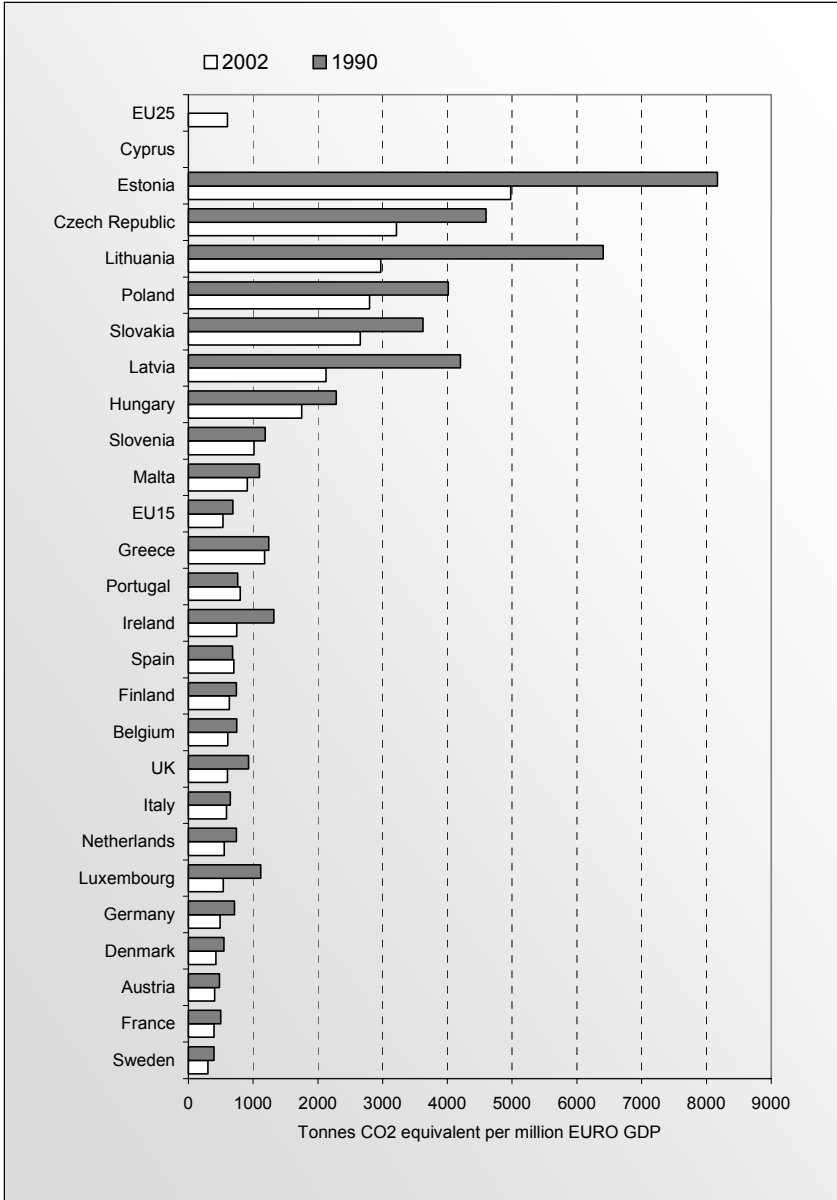
Source: Eurostat and Common Reporting Format of UNFCCC (2004)

<sup>20</sup> The category 'other' has been removed.

**FIGURE 3: EU-25 Greenhouse gas emissions per million Euros of Gross Domestic Product (GDP)**

This figure shows the quantity of greenhouse gases emitted in each EU-25 Member States for every million Euros of output or GDP. All Member States except Spain and Portugal have reduced the ratio of GHG emissions to GDP over this period. While the most dramatic reductions have been in the new Member States the graph shows that even the most efficient economies, such as Sweden, have managed to make further improvements.

It also shows a marked difference in greenhouse gas intensity of economic activity in different Member States, with very large greenhouse gas emissions per unit of economic output in a number of new Member States, suggesting a significant potential for further improvements. Fig. 5 shows that part of the difference is due to their greater relative use of coal rather than less polluting energy sources.



Source: Eurostat and Common Reporting Format of UNFCCC (2004)

*New findings has emerged over the year of potential costs of failure to address climate change:*

- The summer 2003 heatwave in Europe is estimated to have resulted in over 26,000 premature deaths in the UK, France, Italy and Portugal<sup>21</sup>. Extreme weather events are expected to rise with climate change.
- By 2050 climate change could lead to 15% to 37% of all species being on a path to extinction.<sup>22</sup>
- Glaciers in eight of nine European glacier regions are in an accelerated retreat, reduced to levels not seen in the past 5000 years. By 2050 75% of the glaciers in the Swiss Alps are likely to have disappeared. Changes in the ice cover will change the Alpine water cycle with impacts on drinking water supply, irrigation, and hydropower across Europe<sup>23</sup>. The retreat of glaciers in the Alps could also lead to a significant drop in winter tourism in the region. Environment Ministers of Austria, Germany, Lichtenstein and Switzerland agreed in September 2004 to intensify cooperation to protect the ecosystems of the Alps<sup>24</sup>. This contributes to raising insurance costs and uninsured damages. 64% of all catastrophic events in Europe since 1980 are directly attributable to weather extremes, and these account for 79% of economic losses. Economic losses from extreme weather events have risen from an annual average of less than US\$5 billion to about \$11 billion over the last 20 years.

#### *Outlook for 2005*

Policy developments on the 2005 agenda aim at three broad goals:

##### (1) Stepping up the implementation of measures to meet Kyoto commitments, in particular:

- The Commission will mobilise all concerned actors to ensure an effective EU greenhouse gas emissions trading scheme from January 2005 and full implementation of European Climate Change Programme (ECCP).
- The Commission will continue to push for the implementation by Member States of effective measures to promote the use of electricity and fuel from renewable sources, building on good practice. The Commission is planning to produce action plans on energy from biomass and on offshore wind energy. Proposals should also be investigated on the promotion of heat energy production from renewable sources.
- It will endeavour to speed up Council and Parliament discussions with a view to reaching agreement as soon as possible on the proposed directive on end-use

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<sup>21</sup> WHO (2004) Heat Waves: risk and responses.

<sup>22</sup> Thomas *et al*, *Nature* 2004

<sup>23</sup> EEA (2004) Report 2/2004

<sup>24</sup> [www.bmu.de/de/800/js/presse/2004/pm271/](http://www.bmu.de/de/800/js/presse/2004/pm271/)  
& [www.umwelt-schweiz.ch/buwal/de/medien/presse/artikel/20040916/01120/index.html](http://www.umwelt-schweiz.ch/buwal/de/medien/presse/artikel/20040916/01120/index.html)

energy efficiency, including mandatory targets for year on year energy savings going beyond business as usual.

- The Commission will push for more action at EU and Member State level to create price incentives to reduce the environmental impacts of transport by better internalising external costs. This includes adoption of the Eurovignette proposal and further measures. Passenger vehicles taxation can be differentiated to encourage fuel efficiency, as in a number of Member States, including Austria, Belgium, Denmark, France, Hungary and the UK<sup>25</sup>. The Commission is currently working on a legislative proposal on this subject.
- It will examine with European, Japanese and Korean car maker associations measures to further reduce CO2 emissions to reach the Community's target of 120g/km by 2010.
- Finally, it also will examine options for economic instruments addressing the climate change impacts of aviation (e.g. taxes on kerosene, emissions charges or including aviation in the EU emissions trading scheme) and propose a way forward.

#### (2) launching the international discussion on global emissions reduction measures necessary after 2012

- Achieving the overall objective of the UN Framework Convention on Climate Change (UNFCCC) will require greater efforts to reduce greenhouse gas emissions beyond the 2012 Kyoto deadline. Since 2001 several Member States have conducted additional model analyses and outlined specific proposals for future national targets, e.g. the UK (- 60 % by 2050), Germany (- 40 % by 2020) and France (-75% by 2050). The EU therefore has started to develop its approach for the period after 2012. Within this framework, the Commission is due to report on the costs and benefits of climate actions and to contribute to the definition of medium and long term strategies for the 2005 Spring Council. The EU will also continue to engage others, including less developed countries, in action and work towards preventing dangerous man-made effects on climate change.

#### (3) Preparing adaptation to unavoidable climate change:

- The Commission's work to identify actions needed to adapt to the inevitable consequences of climate change, to limit the social, business and public sector costs in the EU and other vulnerable countries will be stepped up.

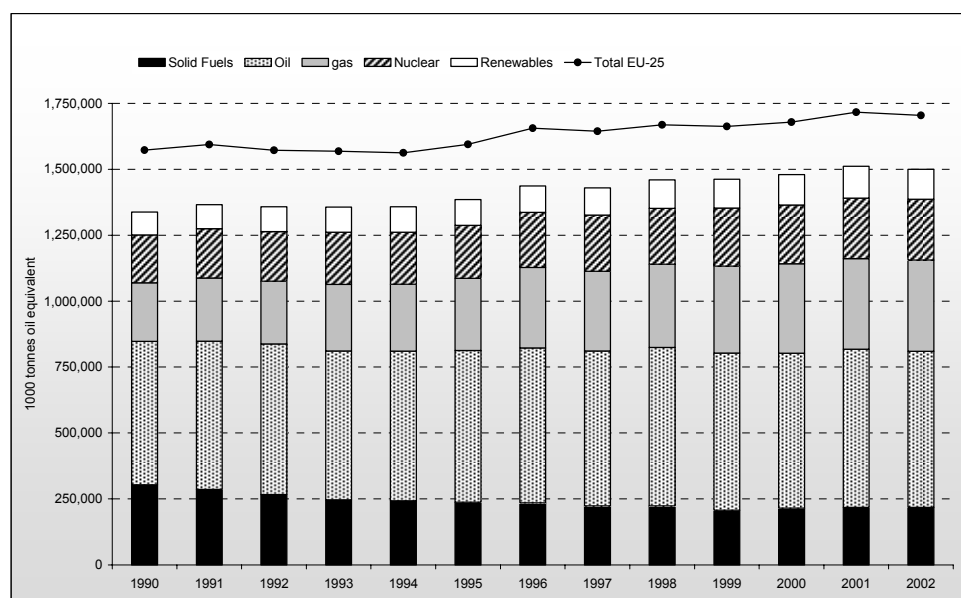
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<sup>25</sup> EEA (2004) TERM 2004 report

**FIGURE 4a: Gross inland energy consumption by fuel in the EU-15 from 1985 to 2002 (bars) and total inland energy consumption in the EU-25 from 1990 to 2002 (line above)**

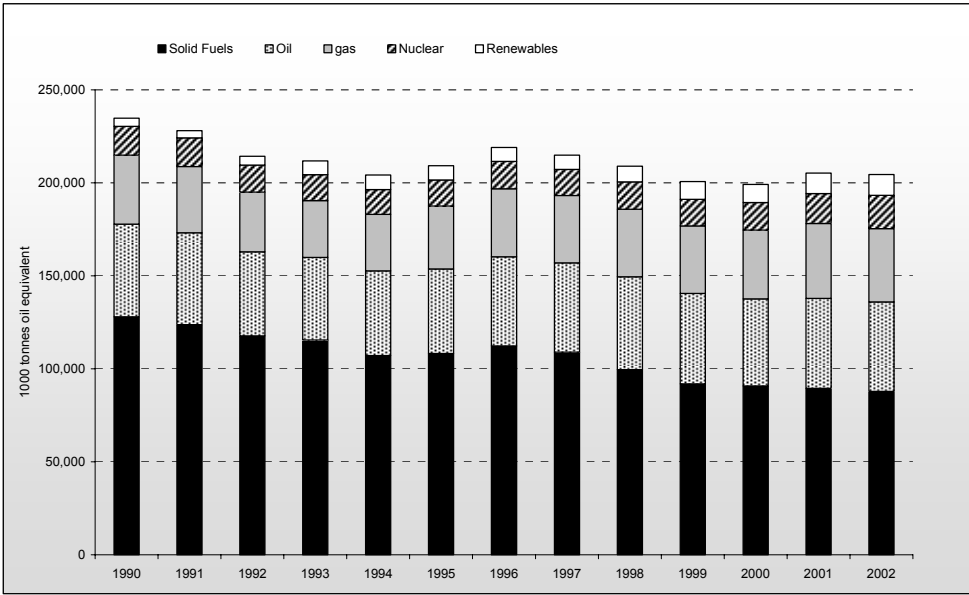
The EU-15's total inland energy consumption has shown an increasing trend since 1990, although there was a slight drop in consumption in 2002 over 2001 levels. The increase in consumption for the EU-25 is less as the trend in the EU-10 has been for a fall in total inland energy consumption over this period as shown in Figure 4b below.

The energy mix continued to change, with a slight decrease in use of solid fuels, and an increase in oil and gas, and slight increase in renewable energy sources.



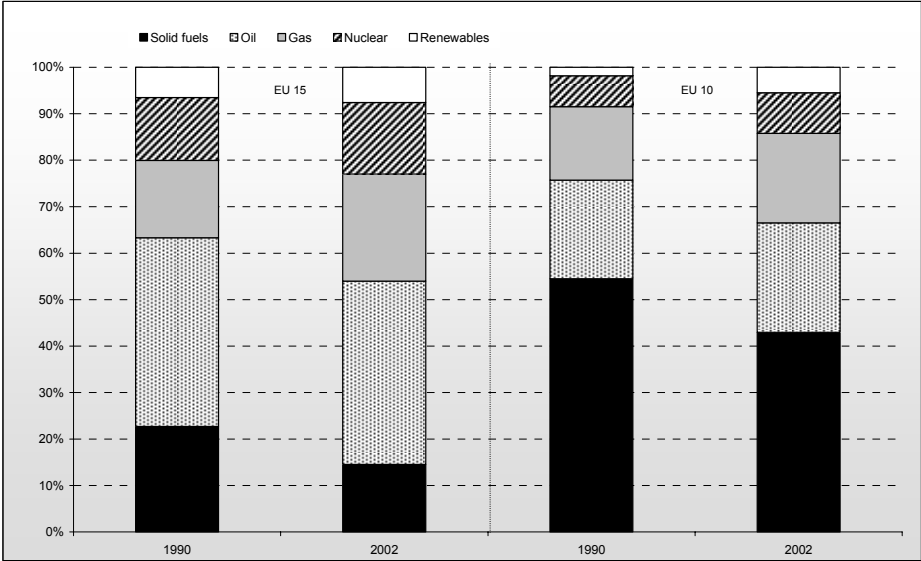
Source: Eurostat (2004)

**FIGURE 4b: Gross energy consumption by fuel in the EU-10 from 1990 to 2002**



Source: Eurostat (2004)

**FIGURE 5: Share of energy source for total inland energy consumption in the EU-15 and EU-10 in 1990 and 2002**



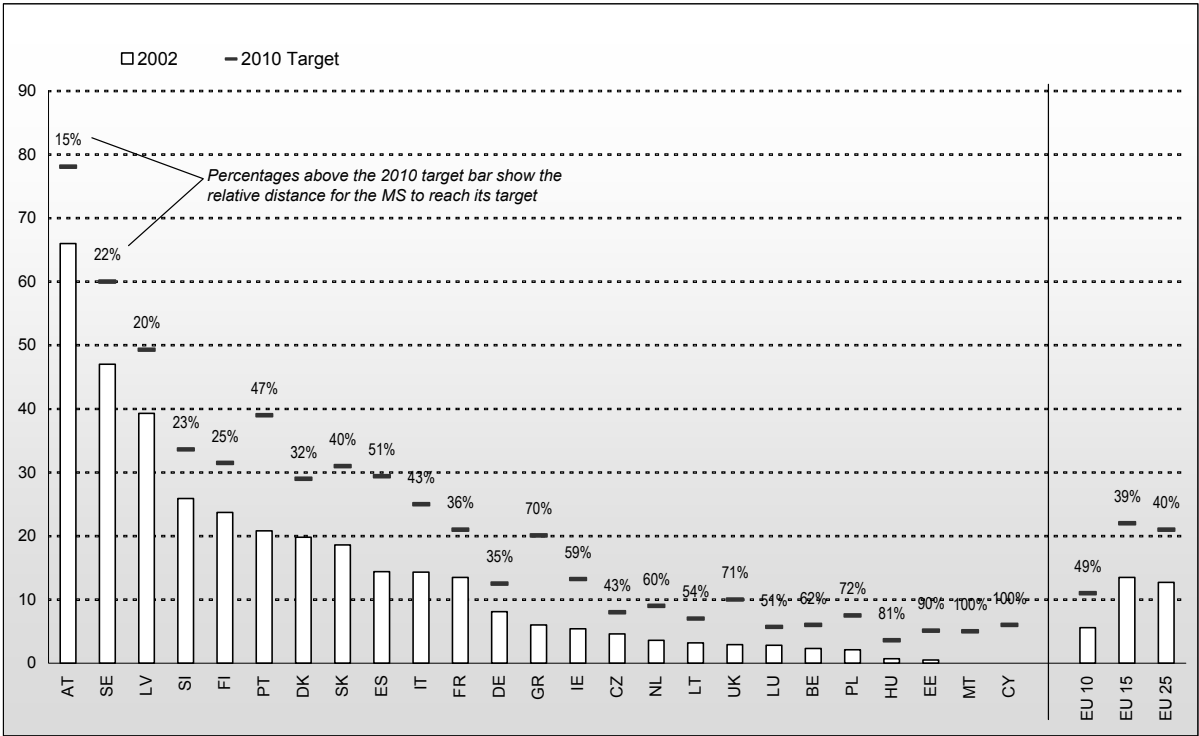
Source: Eurostat (2004)

**FIGURE 6: Share of electricity from Renewable Energy Sources in percentage of national electricity consumption in 2002 and 2010 target (line above bars).**

This figure shows the amount of electricity consumed across the EU-25 which comes from renewable sources as a percentage of total electricity consumed. The lines shown as the line above the bars are the reference values for the Member States from the Annex of the EU Directive on the promotion of renewable electricity (Directive (2001/77/EC)) which have been used to set national indicative targets. These are intended to allow the EU to meet its indicative target of meeting just over 22% of its gross electricity consumption from renewable energy sources by 2010. This is consistent with the EU’s general target of achieving 12% of total gross energy consumption from renewables.

The figures above these lines show how far each still has to go to meet its indicative target for 2010.

An assessment of the likelihood that each Member State will meet its target has been undertaken as part of the Commission’s report on progress under the Directive<sup>26</sup>. Four countries- Denmark, Germany, Spain and Finland- are on track to meet their targets. In fact Denmark is likely to achieve its 2010 target of 29% renewable electricity by 2005. Seven other member states (the Netherlands, UK, Sweden, Austria, Belgium, Ireland and France) have started to implement appropriate policies, but it is not yet clear whether these will be sufficient. Greece and Portugal are not on track to meet their targets, whereas Italy and Luxemburg both adopted new laws in March 2004.



Source: Eurostat (2004)

<sup>26</sup> Commission report on the share of renewable energy in the EU-15- in accordance with Article 3 of Directive 2001/77/EC, COM (2004) 366

## 3.2. Biodiversity

### *Highlights*

2004 was a year both of consolidation for EU biodiversity policy and of important developments at international level. In the EU, further steps have been taken towards full implementation of the Birds and Habitats Directives, and a large programme of background work and consultation to review the implementation, effectiveness and appropriateness of the EU's Biodiversity Strategy was completed. In particular:

- Substantial progress was made towards full establishment of the Natura 2000 network in the EU15, with the adoption of lists of protected sites for the Atlantic and Continental regions, Commission decision on one remaining bio-geographic region (Mediterranean) is expected by early 2005<sup>27</sup>. The sites, selected to cover habitats and species of EU conservation concern, cover more than 17% of the EU15 territory. The challenge of implementing measures to protect biodiversity has increased with enlargement, which greatly increased the EU's environmental assets, particularly in terms of biodiversity. The new Member States brought species and habitat types that had disappeared in the EU-15 or which are entirely new to the EU.
- The Commission launched a debate on adequate financing for the implementation of Natura 2000.
- The Malahide conference in May 2004 was the culmination of a very broad stakeholder consultation for the review of the EC's Biodiversity Strategy, and the four underlying Biodiversity Action Plans (BAPs)<sup>28</sup>. It produced a set of recommendations on priority objectives and targets for meeting the 2010 commitments<sup>29</sup>, on which progress is needed as reflected by the European Council in June.
- Signature of an agreement between BirdLife International and the Federation of Associations for Hunting and Conservation of the EU on sustainable hunting in October 2004 marked the end of a long-standing conflict on the management of hunting under the Birds Directive.
- Endorsement of the first set of headline indicators for biodiversity by stakeholders at Malahide and inclusion of the farmland bird index, the best available proxy indicator for species diversity, in the database of structural indicators in 2004, are steps towards better awareness of the issue and its impacts.

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<sup>27</sup> required under the 1992 Habitats Directive

<sup>28</sup> on conservation of natural resources, agriculture, fisheries, and development and economic cooperation

<sup>29</sup> "To halt the decline of biodiversity by 2010" as agreed by the European Council in Gothenburg in 2001 and "To significantly reduce the current [global] rate of loss of biodiversity by 2010" as agreed at WSSD in 2002.

- The 2003-2004 reform of the Common Agricultural Policy introduced several changes under both pillars 1 and 2, which will benefit biodiversity in the agricultural environment. Proposals for the rural development policy post-2006 will give higher priority to the environmental services of agriculture. Several new measures on fisheries and aquaculture – including decisions to reduce fishing effort and new recovery plans - should benefit biodiversity of harvested fish stocks and of non-target marine species and ecosystems. In development cooperation, a requirement was introduced for a ‘country environmental profile’ – including biodiversity issues - to be included in the preparation of Country Strategy Papers.
- The Environmental Liability Directive adopted in April 2004 will be an important instrument for the preservation of the natural environment and biodiversity. It introduces new requirements for polluters to pay for damage caused. The Directive also requires preventive action from those whose activities cause an imminent threat of environmental damage.

At international level, 2004 was marked by several important decisions on global action to limit the decline in biodiversity:

- In February 2004, the 7th conference of the parties (COP7) to the UN Convention on Biological Diversity (CBD) succeeded in getting agreement on a number of important implementation measures. These include decisions on an ambitious work programme to establish national and regional systems of protected areas on land by 2010 and at sea by 2012, and on a draft framework to assess progress towards the global target of significantly reducing the rate of biodiversity loss by 2010<sup>30</sup>.
- The first meeting of the parties to the Cartagena Protocol on Biosafety set the scene for full implementation of the Protocol, including decisions to allow importing countries to take informed decisions on the import of GMOs and the adoption of strong compliance mechanisms. The Protocol has become the international framework for the management of trans-boundary movements of Genetically Modified Organisms (GMOs).
- The EU played an active role in negotiations at the 13<sup>th</sup> conference of parties to the Convention on International Trade in Endangered Species (CITES). The parties agreed to strengthen controls on trade in a number of endangered species<sup>31</sup>. An action plan to control illegal trade in ivory was adopted.
- After more than 10 years of work within the International Maritime Organisation framework, representatives of 74 states adopted the International Convention for the Control and Management of Ships Ballast Water and Sediments. The

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<sup>30</sup> Agreed in 2002 at the World Summit on Sustainable Development

<sup>31</sup> E.g. agar wood, the ramin tree (for which the EU as a significant importer was keen, to prevent illegal logging), the great white shark and the humphead wrasse. The irrawaddy dolphin was added to the list of species for which commercial trade is banned.

Commission promoted the use of the precautionary principle and compatibility with the UN CBD.

### *New Findings*

The loss of biological diversity in Europe and worldwide is ongoing, as a result of human activities, with tens of thousands of species become extinct each year globally- 1000 to 10000 times higher than the natural background rate of loss<sup>32</sup>. Many species are becoming extinct before they can be recorded. Most biologists now believe that if current trends continue we could soon be facing the sixth major extinction event in the history of our planet.

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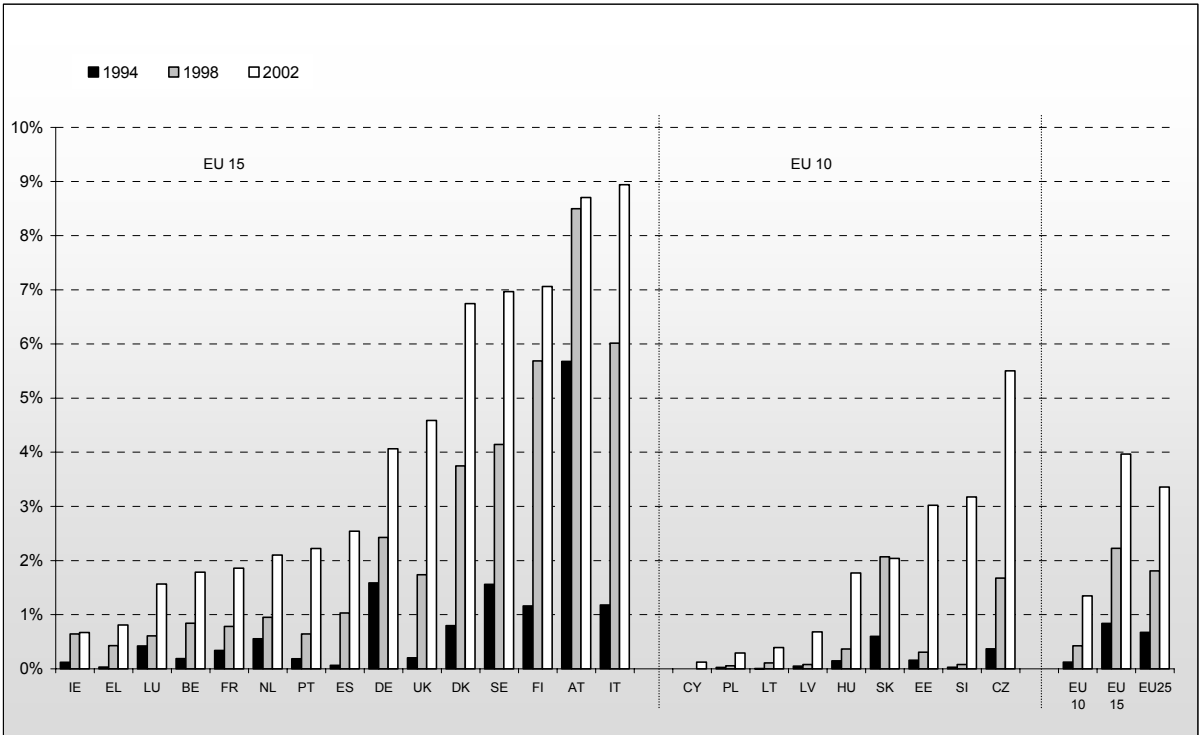
<sup>32</sup> <http://www.iucn.org/news/mbspeciesext.pdf>

**FIGURE 7: Certified organic agricultural area as percentage of total utilised agricultural area**

The graph illustrates the change in agricultural area certified as organic in the EU-25 Member States from 1994 to 2002 shown as the percentage of total utilised agricultural area (in 2002). The left and central section of the graph give an overview of the development in the individual countries of the EU-15 and EU-10 while the right hand side shows the aggregate picture in the EU-15, EU-10 and EU-25.

Organic agricultural area in the EU-25 continues to increase albeit at a slower rate from year to year going from 40-50% growth in the 1990s from an initially very limited area, to 10-20% after 2000. Agri-environment support has been an important factor. In recent years the additional organic agricultural area registered yearly has levelled out, and is currently still fluctuating around 650000 new hectares per year in the EU-25.

Organic agricultural accounts for 3.4% of the total utilised agricultural area in the EU-25 (1.4% in the EU-10 and 4% in the EU-15). Italy has both the highest percentage and absolute area of organic agricultural area amongst EU Member States. Austria, Finland, Sweden and Denmark follow suit, climbing towards 7-9% organic agriculture.



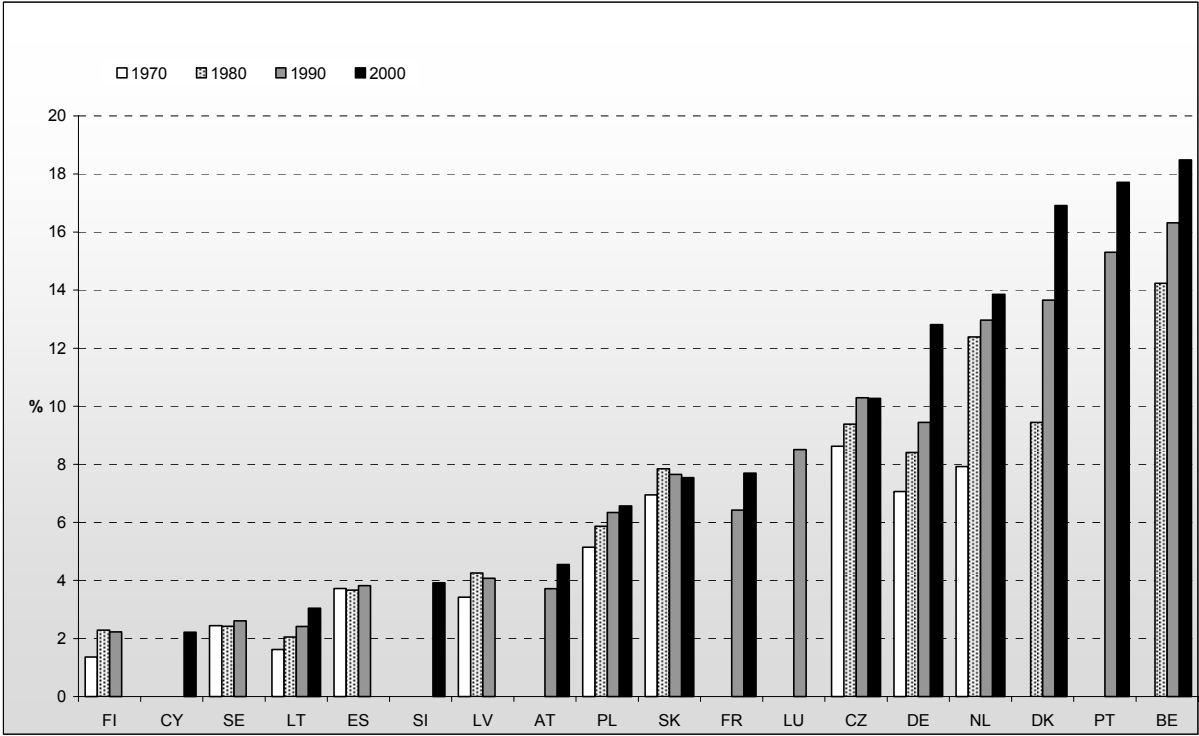
Source: EEA and Institute of Rural Sciences, Aberystwyth (2004)

**FIGURE 8: Trend in built up area as a percentage of country size**

The graph shows the trend in built up area relative to country size from 1970 to 2000 in a number of EU Member States (subject to data availability).

Across Europe, the area that is built up is growing at a faster rate than the population<sup>33</sup>. Since 1970, the share of land area dedicated to infrastructure has almost doubled in Denmark, Germany and the Netherlands who together with Belgium and Portugal have built up more than 12% of their land area.

This can be linked to growing problems of soil remediation if construction is removed



Source: Eurostat (2004). No data available for Greece, Ireland, Italy, UK, Estonia, Hungary and Malta.

<sup>33</sup> EEA Signals 2004

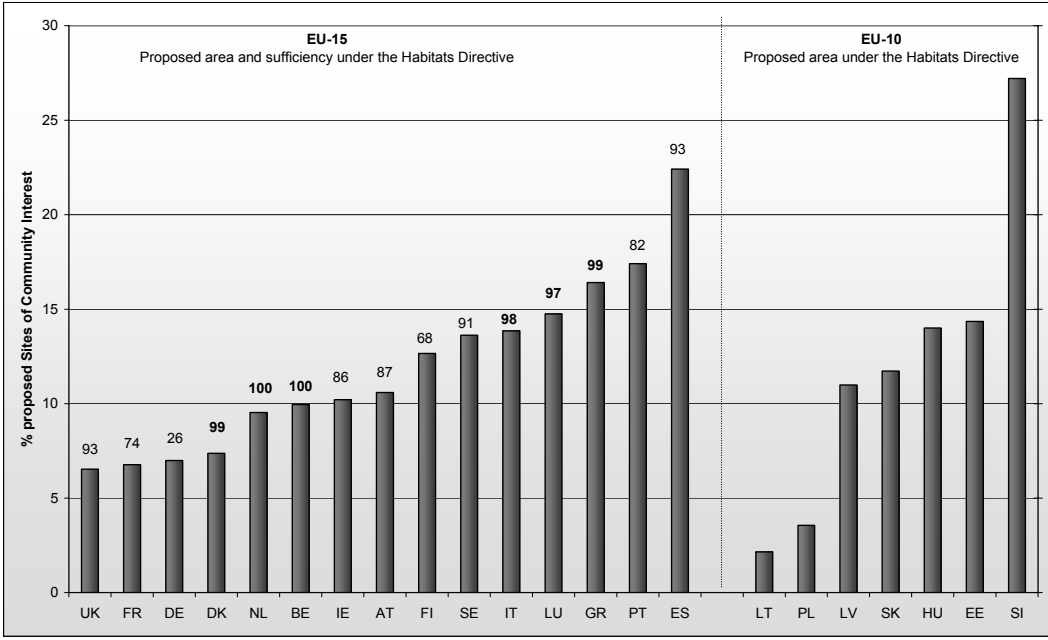
**FIGURE 9: Proposed sites under the Habitats Directive as percentage of terrestrial area in the EU-25 and the sufficiency of EU-15 Member States Proposals (as of September 2004)**

The Habitats and Birds Directives require Member States to propose sites for the protection of a list of species and habitats determined to be of Community interest. EU-15 Member States have agreed on sufficiency targets, while new Member States have not. The network of sites is generally referred to as NATURA 2000. The graph shows the situation for terrestrial areas under the Habitats Directive.<sup>34</sup>

The bars in the graph show the area covered by proposed sites as a percentage of the terrestrial area of the Member State. The number above each bar is the percent of species and habitats that are sufficiently covered<sup>35</sup> by sites as of September 2004.

The Netherlands and Belgium are the only two Member States who have proposed sufficient sites for their species and habitats under the Habitats Directive. Most other Member States are less than 10% short of reaching their sufficiency target except for Austria, France, Finland, Ireland and Portugal. Countries such as Spain and Portugal, home to a relatively large number of endangered species have committed to designating a relatively large proportion of their land area to NATURA 2000, with Spain being on track to meet its target but Portugal falling behind. Amongst the EU-10, Slovenia stands out by having proposed more than 25% of its terrestrial area to be included.

NB: Germany is currently following an agreed procedure for designating further sites. The Commission has received a set of proposals that are likely to significantly reduce the gap identified here. The final designations and fulfilment of Germany's commitment to the Habitats Directive are expected in January 2005.



Source: EEA and European Topic Centre on Nature Protection and Biodiversity (2004)

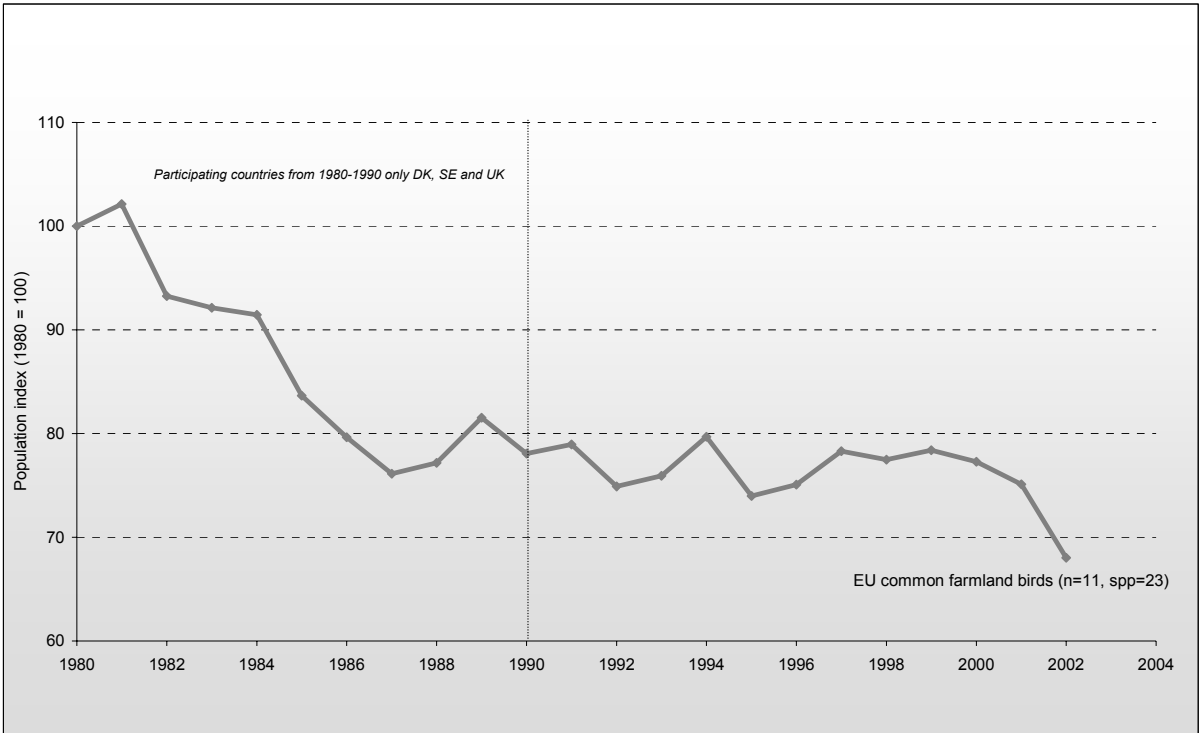
<sup>34</sup> It does not include marine sites or sites designated under the Birds Directive  
<sup>35</sup> The criteria for deciding which species and habitats should be protected are in Annex 3 of the Habitats Directive. The final list to meet these criteria is drawn up for each Member State in consultation with Member States and stakeholders. The process ensures coverage of all six of the major biogeographic zones of the EU (Macaronesian, Alpine, Atlantic, Mediterranean, Boreal and Continental)

**FIGURE 10: Indicator of populations of selected farmland birds in Europe from 1980 to 2002**

The present indicator on European bird populations is an updated version of that presented in the 2003 Environment Policy Review. The data has been revised and one more Farmland species has been added to the index.

The index is now based on data for 24 Farmland species from 18 European countries of which 16 EU Member States: Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Ireland, Italy, Latvia, Netherlands, Poland, Spain, Sweden and the United Kingdom, and two EFTA countries: Norway and Switzerland.

Farmland birds show a more alarming rate of decline than previously assumed, reaching a level of just 68% of the 1980 level, while woodland, park & garden birds appear to recover and possibly even increase. Birds are considered good proxies for biodiversity as they tend to be at, or near the top of the food chain, have large ranges and can migrate and thus tend to reflect changes in ecosystems rather rapidly. Furthermore, they are relatively abundant and sizeable enough to be monitored accurately.



Source: Pan-European Common Bird Monitoring scheme led by the Royal Society for the Protection of Birds, the European Bird Census Council, BirdLife International, the Czech Society for Ornithology, and Statistics Netherlands (2004)

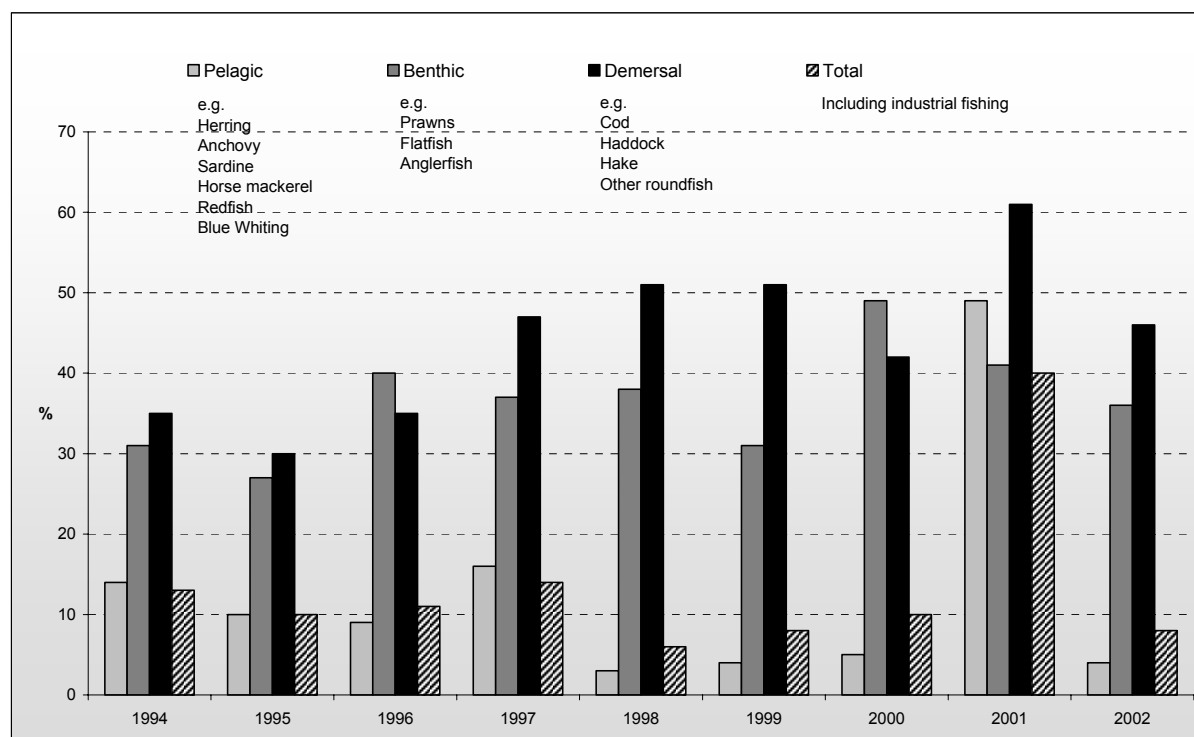
**FIGURE 11: Trend in the proportion of catches from Atlantic fish stocks under EC management considered to be outside safe biological limits**

The graph shows the trend in percentage of fish catches in Atlantic waters taken from stocks that are considered to be outside safe biological limits<sup>36</sup> between 1994 and 2002, referred to the total catches made on all stocks under the management responsibility of the EU.

The graph covers the total catch and three different ecological categories of fish: pelagic, benthic and demersal stocks. The remainder of the catch is taken from “industrial stocks”, i.e. fish which are caught for purposes other than human consumption, and that makes up to about 30% of the total catch; these stocks were considered within safe biological limits for the whole period.

On average, 37% and 44% of catches taken from benthic and demersal stocks respectively were from stocks below safe biological limits. The overall trend is for an increase in the proportion from stocks below safe biological limits, although the value for 2002 may indicate a change in this trend. Whilst demersal and benthic stocks together constitute just 15% of the total catch, they are the most important in economic terms.

Catches of Pelagic fish account for about 60% of total catches in EU waters. 13% of these on Pelagic catches, on average, were from stocks outside safe biological limits. In 2001, the stock of blue whiting was considered to be outside of safe biological limits. Since the catches of this species are very large, this had a big impact on the indicator for that year, explaining the jump in the indicator for both Pelagics and the total catch in 2001.<sup>37</sup>



Source: International Council for the Exploration of the Sea, ICES (2002); European Commission, DG Fisheries (2004); Eurostat (2004)

<sup>36</sup> Stocks are considered to be within safe biological limits if the fishing pressure (catches) and other causes of mortality (predation etc) do not exceed the rate of recruitment and growth of the stock. If this does occur, then the spawning stock biomass will fall below what are considered “safe” limits.

<sup>37</sup> Blue whiting can be classified as both Pelagic and Demersal. ICES classifies the species as Pelagic because most catches of the species are from Pelagic waters (i.e. open waters).

***Studies published last year point to new findings of potentially catastrophic species loss:***

For example populations of half of the 5,743 known amphibian species across the planet are in decline and a third face extinction, according to the first global survey<sup>38</sup>. Amphibians are considered as ‘canary species’ – a good indicator of overall environmental health, as they are particularly sensitive to environmental degradation. 1200 or 10% of bird species could disappear by the end of this century as a result of climate change and urbanisation amongst other factors, with impacts on important biological processes that birds play a role in such as pollenisation, biological decomposition and dispersal of seeds.

***Loss of biodiversity means loss of future economic and social opportunities.*** Taking a look at past industrial and medical innovations based on biodiversity provides an idea of these opportunity costs:

- In the US, 56% of the 150 most prescribed drugs, with a value of \$80 billion are linked to discoveries made in the wild<sup>39</sup>.
- Much effort is put into searching for discoveries from nature. Japan invests close to a billion dollars per year on marine bioprospecting, 80% from the private sector. Substances isolated from marine organisms are used in cosmetics, ceramics, food, pigments, surgical materials, anti-viral and antic-cancer drugs now on the market.<sup>40</sup>

The latest findings<sup>41</sup> indicates that 43% of Europe’s birds are now of conservation concern. The European indicator of bird populations shows common farmland bird populations in particular are continuing to decline across Europe. However, targeted action in the EU has resulted in reversing the trends for some threatened species.

***Integration of biodiversity concerns in other policy areas is slowly progressing:***

Decisions have been taken to address the causes of biodiversity decline in a number of sectors, but commitment demonstrated to the implementation of these decisions varies considerably across issues and between Member States.

For example, more environmentally-friendly farming practices are being taken up. **Organic farming** continues to grow although at a much slower rate, increasing by 9% in 2002 in EU25. It now accounts for 3.4% of agricultural area in the EU25 (4% for EU-15 and 1.4% for EU10). One factor limiting growth rates is consumers unwillingness to pay premium prices.

The proportion of agricultural spending dedicated to **rural development and agri-environment schemes** is also rising. By 2000-2002 13% of the total CAP spending was on rural development, of which a third on agri-environment schemes across the EU. 27.5% of planned rural development for 2000-2006 is intended for agri-environmental measures. The

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<sup>38</sup> <http://www.globalamphibians.org/>

<sup>39</sup> UNEP (2001) World Atlas of Biodiversity

<sup>40</sup> US Commission on Ocean Policy (2004)

<sup>41</sup> BirdLife international 2004 “Birds in the European Union- a status assessment” [www.birdlife.net/action/science/birds\\_in\\_europe/birds\\_in%20the\\_eu.pdf](http://www.birdlife.net/action/science/birds_in_europe/birds_in%20the_eu.pdf)

take-up of agri-environment schemes though varies greatly between Member States<sup>42</sup>. More than 70% of the farming area in Finland and Austria were under agri-environment schemes in 2000-2002, but only about 5% in Spain and Greece.<sup>43</sup>

Over-fishing remains a problem, and many fish stocks in European waters continue to be outside safe biological limits. New approaches to the management of fish stocks based on multi-annual plans are being applied under the new Common Fisheries Policy<sup>44</sup>. However, recovery of some stocks is proving more difficult than expected, and further substantial reductions of fishing effort are still needed including, in some cases reduced fishing opportunities. In October 2004, the International Council for the Exploration of the Sea (ICES) gave strong advice for fishing pressure to be reduced, and for cod fishing to be banned in the North Sea, the Irish sea and west of Scotland.

In many fisheries, enforcement remains a problem and all management tools need to be used, including spatial and temporal closures. Some steps have been taken to improve environmental protection, such as measures to protect non targets species and habitats (e.g. to avoid by-catches of small cetaceans or to avoid damage to valuable sea bed habitats), and these should be extended.

#### *Outlook for 2005*

- The Commission will publish a Communication on Biodiversity policy in 2005. The Communication will define priorities for action to stem biodiversity loss in the EU, including a road map building on the recommendations from the Malahide and Bergen-op-Zoom conferences.
- The Commission intends to continue supporting the new Member States efforts to protect their biodiversity assets. For example to help them avoid the loss of semi-natural habitats of high biodiversity value, the result of centuries of extensive farming. This includes completion of the Natura 2000 network for new Member States, following dialogue with the Member States and stakeholders.
- Discussions on the financial perspectives (2007-2013) will provide the opportunity to consolidate funding for the management of the Natura 2000 network. The Commission proposal<sup>45</sup> allows for Community co-financing integrating Natura 2000 funding into cohesion programmes and continued funding in rural development programmes, with complementary support to be provided through the new LIFE + programme.

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<sup>42</sup> The 2003 reform of the Common Agricultural Policy (CAP) increased funds available for rural development, including for agri-environment and Natura 2000 schemes and introduced cross-compliance, requiring beneficiaries of direct payments to respect 19 EU statutory standards, including the Birds and Habitats Directives and to keep their land in good agricultural and environmental condition

<sup>43</sup> EEA Signals 2004.

<sup>44</sup> There are now 5 recovery plans adopted- Cod in Kattegat, Cod in Skagerrak, the North Sea and the Eastern Channel, Cod in the West of Scotland, Cod in the Irish Sea and Northern stock of hake

<sup>45</sup> COM (2004) 101

- The implementation of the Commission Communication “ European Action Plan for Organic Food and Farming” will begin, with a view to providing conditions that will allow the organic sector to develop.
- The forthcoming Marine Thematic Strategy will propose a framework for the elaboration and implementation of an ecosystem based approach for the management of the seas and oceans. In addition, more focus will be placed on the conservation of **marine** biodiversity, including investigating extension of the Natura 2000 network to cover marine areas.
- The review of EU development policy now underway is likely to include environment and sustainable management of natural resources as one of its overall themes.

Action will be pursued in 2005 in order to make progress towards achieving the global WSSD target of significantly reducing the rate of biodiversity loss by 2010, including the EU’s contribution to the implementation of the decisions and work programmes approved by the Conference of the Parties to the Convention on Biodiversity and the Meeting of the Parties to the Cartagena Protocol and further strengthening the integration of biodiversity concerns into key sectors relevant to global biodiversity, notably trade and economic and development cooperation.

### 3.3. Environment and Health

#### *Highlights*

A better understanding of human exposure to environmental hazards and of how exposure impacts on health is necessary to target actions and to respond effectively to growing public concerns, notably about the impacts of prolonged exposure to low doses of substances, the effects of cocktails of substances and cumulative effects. This is not just a question of well-being, damage to health also implies loss of work time and productivity and extra health-care costs.

Important developments in 2004 include:

- The European environment and health action plan<sup>46</sup>, presented by the Commission in June 2004, which sets out actions to improve the information chain on the complex pathways between pollution sources and ultimate effects on human health. It aims to fill knowledge gaps, identify emerging issues and to improve communication so that individuals and policy makers can make informed risk-based decisions.
- This action plan was presented to the WHO Conference on Environment and Health in Budapest this June, where Environment and Health Ministers from 52 countries adopted the Children’s Environment and Health Action Plan for Europe (CEHAPE), alongside a Ministerial Declaration. The Commission expressed

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<sup>46</sup> COM (2004) 416 final

support for both. Most EU25 countries have developed National Environmental and Health Action Plans (NEHAPs), except Cyprus, Ireland, Italy, Luxembourg and Spain. A number of Member States have been or are in the process of revising their NEHAP.

- The debate on REACH, the Commission proposal for a new regulatory framework for chemicals moved on in Council and the Parliament. A workshop organised by the Presidency on the extended impact assessment of REACH concluded that the cost of the system is greatly outweighed by the benefits, confirming the overall conclusion of the Commission's impact assessment. The debate has allowed the identification of measures to facilitate implementation and thus reduce costs whilst achieving the full benefits of an increased level of protection of human health and the environment. Preparations for implementation have started including working in partnership to establish workability, setting up the REACH IT system and preparation of guidelines for industry and Member States. Detailed process descriptions have been completed.
- The launch of the European Pollutant Emission Register (EPER), the first Europe-wide public register of emissions into air and water, in February 2004 enhanced public access to environmental information. It covers 10,000 large and medium-sized industrial facilities.

In the meantime, steps continue to be taken to limit the release into the environment of substances known to pose a danger to health:

- In April 2004, the Community ratified an international agreement<sup>47</sup> aimed at eliminating pollution by Persistent Organic Pollutants (POPs), toxic substances that can travel long distances, persist in the environment and bioaccumulate through the food chain. In November 2004 the Community joined a second global convention on POPs.<sup>48</sup> The necessary implementation measures came into force in May 2004<sup>49</sup>. The Commission has proposed the inclusion of nine more POPs, now strictly controlled in the EU, in the list of chemicals to be banned under these agreements.

In addition, financing was made available for EU water initiative for ACP countries, with a Council decision in March committing an initial €250 million. The benefits will include promotion of integrated water resources management and improved health amongst other things.

### *New Findings*

Studies issued this year give new indications of the possible scale of links between pollutants in the environment and human health:

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<sup>47</sup> UNECE Convention on Long-range Transboundary Air Pollution Protocol on POPs

<sup>48</sup> The Stockholm convention on POPs

<sup>49</sup> Regulation 850/2004

- Approximately 2 to 8% of disease in the EU25 can be attributed to environmental factors, and to a large extent to air and noise pollution associated with transport. The burden is higher in the EU10 linked to indoor and outdoor air quality, housing and water and food-borne diseases as problems<sup>50</sup>.
- The noted increase in respiratory diseases is thought to be largely due to degraded air quality and high level of ozone. In the EU-25 7.2% of children have asthma and 12.3% wheeze (an indication of asthma)<sup>51</sup>, estimated to cost a total of roughly €3,000 million a year.
- 7 to 20% of cancers in France can be linked to environmental factors<sup>52</sup>
- Despite reductions in many air pollutants, urban populations are frequently exposed to concentrations of air pollutants such as fine particulates and ozone above EU limit values. Fine particulate matter in outdoor air is estimated to lead to about 100 000 deaths and 725 000 years of life lost each year in Europe<sup>53</sup>.
- Stress related blood pressure and heart problems due to traffic noise are estimated to cause 200 to 500 premature deaths in Denmark annually, with an estimated cost of €248 to 700 million per year<sup>54</sup>
- There is also recent findings of exposure to mercury at or above accepted safe levels amongst high-level consumers of fish and seafood, especially in Mediterranean fishing communities and the arctic. This is a particular risk from such exposure of children and women of child-bearing age<sup>55</sup>.
- Community funded research shows for example that higher exposure to some air pollutants (in particular NO<sub>2</sub>) can increase the risk of lung-cancer in non-smokers.

Research and data gathering efforts are being stepped up both at EU and national levels. For example, substantial research and survey work is undertaken in Member States to improve understanding of the links, although the emphasis and methodologies used vary substantially. For example, human biomonitoring is undertaken to measure chemical concentrations in the body, to determine actual environmental exposure. An initial inventory<sup>56</sup> shows that there are substantial biomonitoring data collected in Member States and significant resources allocated to this (reported budget of at least €57 million, covering 480,000 children). Most projects focus on measuring heavy metal exposure, dioxin or PCB exposure, endocrine disrupters and

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<sup>50</sup> RIVM & EEA (2004) Outstanding environmental issues. A review of the EU's environmental agenda  
<sup>51</sup> TNO (2004) Evaluation of the cost of disease : assessing the burden to society of asthma in children in the EU. 2004-087  
<sup>52</sup> Rapport final de la commission d'orientation pour le plan national environnement santé- France 2004  
<sup>53</sup> WHO Working Group (2003) Health Aspects of Air Pollution with particulate matter, ozone and Nitrogen Dioxide (Bonn 2003)  
<sup>54</sup> Danish national institute of occupational health , 2004 www.ami.dk  
<sup>55</sup> Barregård, L. (2004). Exposure to mercury in the general population of Europe and the Arctic Circle. in: Dynamics of Mercury Pollution on Regional and Global Scales – Atmospheric Processes and Human Exposures around the World (eds.: Pirrone and Mahaffey), Kluwer Academic Publishers  
<sup>56</sup> Baseline report by SCALE Technical working group on biomonitoring of children [http://www.brussels-conference.org/Download/baseline\\_report/BR\\_Biomonitoring\\_final.pdf](http://www.brussels-conference.org/Download/baseline_report/BR_Biomonitoring_final.pdf)

look at asthma and allergies. But as they generally do not use the same methodological approach, the outcomes are difficult to compare.

### *Outlook for 2005*

The Commission will continue to focus its efforts on enhancing the knowledge base whilst continuing to tackle known threats.

The measures that will gradually deliver the information needed to properly address concerns about threats posed by the wide range of substances in the environment on human health are actively prepared. In 2005, this will involve:

- Seeking agreement in Council and Parliament on the REACH directive to ensure more rigorous assessment and control of the chemicals used in the EU (1<sup>st</sup> reading).
- Taking forward implementation of the EU Environment and Health Action Plan, notably actions on human biomonitoring, indoor air quality, research, and information on environment and health. For example agreement will be sought on a voluntary pilot project to better coordinate human biomonitoring methodologies in the Member States. A review will be launched of the effectiveness of environment, food and health monitoring in tracking human health problems, to get more integration.

Meanwhile, the Commission will continue to propose measures to limit exposure to substances where there is findings of a threat to human health. In particular:

- The Community Strategy on Mercury will be issued in early 2005 proposing measures to reduce use and emissions of mercury, to address stocks of mercury found in society and to protect against exposure. The strategy will inform the European Community's participation in the debate on mercury at UNEP in February 2005.
- The Commission will publish a strategy on the sustainable use of pesticides in 2005, following the broad stakeholder consultation and impact assessment carried out in 2004
- Following almost four years of in-depth technical analysis and policy development, with stakeholders, the CAFE programme will culminate in a thematic strategy on air quality presenting integrated policy recommendations to protect against significant negative effects of air pollution on human health and the environment.

## **4. MEETING THE IMPLEMENTATION AND BETTER REGULATION CHALLENGES**

### *Highlights*

While EU legislation contributes significantly to improving environmental quality, and aims to secure a level playing field for companies across the EU, its full benefits cannot be reaped if it is not properly implemented. The need to improve competitiveness also implies further

efforts to ensure cost-effectiveness, notably through the use of market-based instruments, and to reduce the administrative burden on public authorities and companies whenever possible.

#### **4.1. Full implementation of EU environmental legislation remains a challenge**

Implementation is a challenge that falls primarily to Member States to address. It is a multifaceted challenge, with a range of activities required for proper implementation, from the timely adoption of appropriate national legislation, to making sure that the necessary infrastructure (e.g. for waste water treatment) is in place, that regulated activities are properly inspected and action taken against those acting illegally.

Despite improvements in implementation, environment cases continue to account for a third of all open cases for non implementation of EU law for the EU15, although Member States' performance varies considerably. At the end of 2004 most open infringement cases were for legislation on Nature (28.9%), Water (19%), Waste (18.6%), Air (17.4%) and Environmental Impact Assessment (11.9%).

At the EU level, achieving proper implementation requires a set of complementary measures: from **enforcement of compliance** with EU environmental law through **financial support for investment** in the Member States, to **measures to improve the clarity and focus** of both existing and future legislation.

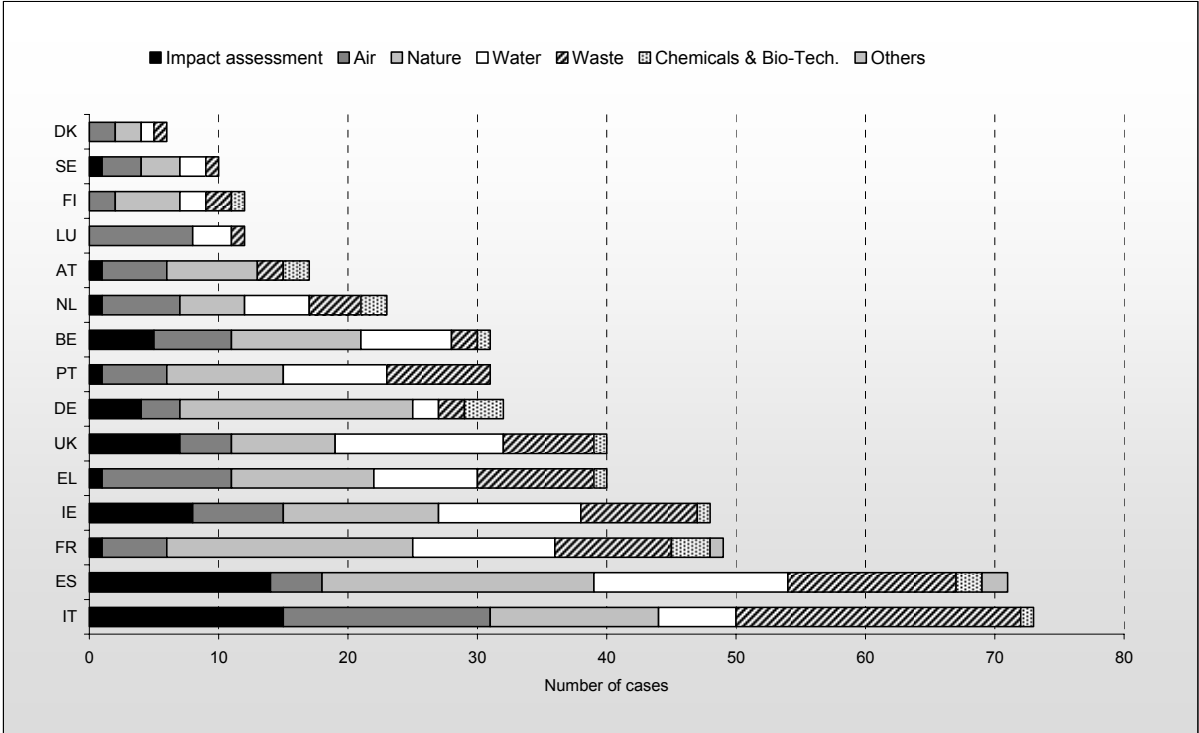
As regards enforcement of compliance, a total of 432 new cases were opened in the 11 months up to the end of November 2004: 311 relating to new complaints from outside the Commission (38% fewer than the previous year), 96 own initiative cases brought by the Commission for non conformity of national legislation or failure to implement legislative requirements (down 19%) and 25 cases for non-communication of national measures taken to transpose Community legislation (down 64%). 572 cases were closed in 2004, about the same number as the previous year.

**FIGURE 12: Open infringement cases in EU-15 Member States (as of 26th November 2004)**

The figure illustrates the wide range in open infringement cases related to environmental legislation against Member States as of 26<sup>th</sup> November 2004. The graph should be considered a “snap-shot” of the current status, which changes continuously as cases are closed and new cases brought forward.

Infringement procedures for non compliance with European Community (EC) legislation are initiated by the Commission when Member States do not respect the deadlines for transposition into national legislation, in cases where the transposition does not fully correspond with the provisions of EC law; or when the different obligations -other than transposition- have not been fulfilled, for example plans and programmes not produced, insufficient designation of protected sites, lack of monitoring and reporting. The Commission can also initiate infringement procedures in cases of non compliance on the request of the European Parliament, or following complaints from NGOs, other bodies and institutions and individuals.

The main problem areas in terms of infringement cases are nature, water, waste, air and Environmental Impact Assessment. The situation in terms of the relative status of Member States has not changed significantly since 2003. Italy and Spain face almost twice as many infringement cases as the majority of EU-15 Member States, followed by France and Ireland. Denmark, Sweden, Finland and Luxembourg continue to face the fewest cases.



Source: European Commission, DG Environment (2004)

The European Court of Justice and Advocate General have also contributed with some important decisions in 2004, including:

- clarification of existing law: for example the court offered an interpretation on how conservation safeguards should be applied to plans and projects that might affect EU nature sites<sup>57</sup>
- steps towards stricter enforcement: for example, the Advocate-General (still subject to final Court decisions) recommended the first lump sum penalty to be imposed to deter protracted non-compliance by a Member State<sup>58</sup>, and proposed a test for determining whether a Member State was structurally non-compliant in its implementation of environmental legislation<sup>59</sup>.

The implementation of the “Aarhus package” will open new possibilities for citizens, NGOs and other stakeholders to gain access to environmental information and participate in decision making to make their voice heard and to support national efforts to implement environmental legislation. Agreement on the proposed Directive on access to justice is needed to complete the package. By giving environmental NGOs recourse to justice in cases where environmental law is violated, it will create additional incentives for compliance.

The financial burden of implementation is not negligible and Member States need to devote the necessary resources to it. Implementation will become more demanding particularly in new Member States and Accession Countries.

Member States must give priority to mobilising the resources necessary, to ensure that the infrastructure needed for implementation of EU environmental law and to allow for economic development is put in place. This includes developing the institutional frameworks needed, for example making use of cost recovery (as for instance required in the water framework directive).

The Community funds needs to be mobilised to ease the burden on the new Member States as part of measures to promote convergence. Therefore, in 2004, steps were taken by the Commission to make sure that **Community funds continue to provide a catalyst to mobilise investment needed in Member States**. The proposed package of regulations for cohesion policy for the period 2007-2013 includes amongst its suggested priorities environmental investments required under the *acquis*, in particular for urban wastewater treatment, water supply, waste management and Integrated Pollution Prevention and Control, especially in the new Member States.

Funding for demonstration and development of methods to support the implementation of the *acquis* and protect the environment will be made available until end 2006 with the extension of the current Life Programme. The Commission proposed a new Life Plus programme from 2007 to support implementation of 6<sup>th</sup> EAP.

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<sup>57</sup> response to questions from a Dutch Court in the Waddensea Case C-127/02

<sup>58</sup> in a case brought the Commission against France on fisheries legislation, Case C-304/02

<sup>59</sup> in a case against Ireland, Case C-494/01

The IMPEL<sup>60</sup> network of inspectors from environmental authorities involved in enforcement in the Member States published two reports to support inspection and enforcement, the first on good practice in the management of environmental inspectorates, the second making recommendations on how independently verified Environmental Management Schemes (such as EMAS or ISO 1400) by companies can support regulation. The network also published its recommendations on improving legislation, building on their practical experience of enforcing environmental law.

Ultimately, actual implementation is made easier when future implementation implications are taken into consideration from the earliest stages of design of new legislation. This is why this is an increasingly an essential element of EU environment policy making. It is part and parcel of better regulation.

#### **4.2. The Commission's ongoing commitment to better regulation is intended to lead to EU legislation that is clearer and more easy to implement, and which encourages the most cost-effective solutions.**

The Commission is taking steps to better anticipate problems in implementation when designing new legislation. While maintaining high environmental standards, the Commission is also looking at how to be more clever in its regulation, to minimise administrative burdens, to provide least cost options for compliance and to maximise new opportunities driven by regulation, including by encouraging innovation. This implies improving the scientific and economic knowledge base on which policy decisions rest. It also involves extensive consultations with stakeholders and dedicated efforts to simplify legislation and streamline monitoring and reporting requirements. For example, during 2004:

- Full Impact Assessments were completed for five environmental policy proposals. This work led to significant changes being brought to several proposals compared to initial plans. Impact assessment work also led to the reconsideration of the need for one proposal. Work is currently ongoing on a further ten proposals.
- The Commission launched eleven public consultations on environmental policy issues, covering a range of issues from including climate change strategies post 2012 and the EU's Sustainable Development Strategy. The latter generated 900 responses.
- Waste legislation is being screened as part of the Commission's work to develop the thematic strategy on waste management, and as part of its commitment to simplify and update the aquis<sup>61</sup>. This will be completed in 2005. A similar process is being carried out as part of the preparation for the thematic strategy on air quality to be presented in 2005.
- It is widely accepted that the current situation in relation to monitoring and reporting needs to be overhauled. On the one hand, Member States face an increasing and significant administrative burden associated with monitoring and

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<sup>60</sup> EU Network for the Implementation and Enforcement of Environmental Law (IMPEL)

<sup>61</sup> COM(2004)432

reporting requirements. On the other hand, despite the considerable effort that goes into monitoring and reporting there remain serious gaps in information needed for policy-making. In order to address these concerns the Commission is working together with the European Environment Agency (EEA) towards the setting up, with the Member States, over the medium term, of a coherent shared information system which would meet the needs of our policies and of the public, while minimising the burden on national administrations and business.

- The Commission carried out preparatory work on a communication on strengthening the use of market based instruments as cost-effective tools for environmental policy. The EEA commissioned a review on the use of economic instruments in the Member States, to be published in 2005. Intermediary results indicate a growing use of these instruments alongside regulation as part of the environmental policy tool box. Recent examples include the NO<sub>x</sub> emission trading scheme to be implemented in the Netherlands in 2005, as well as, in several Member States, differentiated taxation regimes to favour low sulphur fuels or moves towards making car taxation dependent on emissions.

## Integration

- It is also necessary to get other sectors to further integrate environment considerations. Environmental policy alone is not sufficient. The Kok report emphasised the need to embed environmental sustainability into the growth and employment processes. The first stocktaking of environmental integration in June 2004 put forward a number of recommendations for reviving the process of integration, including to improve delivery under the Cardiff process<sup>62</sup>. It also pointed to a series of additional measures needed to engage other sectors to put environment in the mainstream of their decisions:
- Identifying and exchanging experience on win-win solutions;
- Demonstrating the feasibility of integration and the policy tools available to achieve it, such as impact assessment and market based instruments to promote least cost solutions;
- Illustrating the need for integration, for example through the use of indicators;
- Ensuring full implementation of Community legislation, to ensure that sectoral policies that integrate the environment feed through into real changes, and of the Directives on Strategic Environmental Assessment ( which came into force this year) and on Environmental Impact Assessment which allow integration at the level of strategies plans, programmes and projects in Member States.

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<sup>62</sup> COM (2004)394

## *Outlook for 2005*

- The Commission is developing a comprehensive strategy for effective implementation of environmental legislation in the EU25. The Commission will focus in particular on areas such as waste, nature and EIA where most problems are encountered.
- As part of the review of monitoring and reporting requirements, the Commission and Member States, together with the EEA, will develop a roadmap towards the establishment of a shared information system on the environment in Europe, notably with a view to reducing the burden on Member States.
- The Commission will assess the completeness and correctness of measures communicated by new Member States for national transposition of 25 environmental directives by summer 2005.
- The Commission will continue with the process of simplification to reduce the administrative burden on public administrations and companies, without compromising environmental objectives and whilst ensuring a level playing field in the internal market. The thematic strategies to be published in 2005 provide a means to ensure both simplification and increased coherence.
- The Commission will propose options to strengthen the use of market based instruments in environmental policy.
- The Commission intends to produce guidelines for implementation, monitoring and review of sectoral integration strategies in 2005. It will foster the exchange of good practice in environmental integration between Member States.

## **5. CONCLUSIONS**

Over 2004, a number of key advances have been made towards the implementation of the 6<sup>th</sup> EAP. There are many challenges ahead. In 2005, the Thematic Strategies will offer opportunities to strengthen the environmental policy mix.