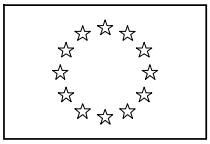

COMMISSION OF THE EUROPEAN COMMUNITIES

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# COMMUNICATION FROM THE COMMISSION

## Europe's Environment: What directions for the future?

## The Global Assessment of the European Community Programme of Policy and Action in relation to the environment and sustainable development, 'Towards Sustainability'

# Preface

The Fifth Environmental Action Programme was produced as the Community's main response to the 1992 Rio Earth Summit which called on the international community to develop new policies as outlined in Agenda 21, to take our society towards a sustainable pattern of development. The Programme was to start this process within the Community identifying objectives which required action at Community, national and local levels. Central to the Programme was the recognition that environmental legislation in itself is not sufficient to improve the environment. Developments in areas that create environmental pressures, such as transport, energy or agriculture often outweigh the benefits of new regulations. Economic activities therefore have to take better account of environmental objectives in addition to a strengthening of environmental policy. This requires commitment by societal stakeholders and citizens as well as by the Member States and regional and local authorities. A broader range of instruments should provide information, incentives and support with a view to influencing decisions which affect the environment. In order to focus action, the 5th Programme identified a number of environmental priority themes and objectives up to the year 2000, and pointed to five key sectors with an important impact on the environment and to which particular attention should be given in terms of integrating environmental concerns.

As the period covered by the 5th Action Programme is coming to an end, the Commission is now presenting a Global Assessment on the implementation and success of this programme in response to a request from the Council and the European Parliament.[1] It does so also with the intention to launch a debate with the other Institutions, stakeholders and citizens on the priorities for a 6th Programme to be put forward in 2000.

**The main results of this Global Assessment**

This Global Assessment shows that the Community has made progress in putting into place new and improved instruments to protect the environment and ensure the safety and quality of life of European citizens. This includes the better targetting of measures through scientific and economic studies and stakeholder dialogue as well as new market-based and financial instruments. Community policies have brought about for example a reduction in trans-boundary air pollution, a better water quality and the phase-out of ozone-depleting substances, and will lead to further improvements over the next few years. At the same time, the implementation of EC environmental law in the Member States is not as good as it should be and the Commission will have to continue exercising its powers in this respect.

Despite some improvements, however, the state of the environment overall remains a cause for concern and pressures on the environment are predicted to grow even further in some areas, as highlighted in the European Environment Agency's recent state-of-the-environment report.

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[1] Article 1 of the Decision No 2179/98/EC of the European Parliament and of the Council of 24 September 1998 on the review of the European Community programme of policy and action in relation to the environment and sutainable development 'Towards sustainability'.

Although the 5th Programme raised awareness of the need for stakeholders, citizens and decision-makers in other sectors to actively pursue environmental objectives, less progress has been made overall in changing economic and societal trends which are harmful to the environment. The commitment by other sectors and by Member States to the Programme is partial, and the patterns of production and consumption in our countries prevent us from achieving a clean and safe environment and protecting the world's natural resources. The outlook is that new environmental standards will not keep pace with the growing demand for example for transport, consumer goods or tourism. The perspectives are particularly bleak for climate change if trends in the main energy-consuming sectors cannot be reversed. At the same time, it is increasingly clear that damages to the environment have costs to society as a whole, and conversely that environmental action can generate benefits in the form of economic growth, employment and competitiveness.

In the last decade, along with economic globalisation, the international nature of environmental problems has become clear. The EU has taken the leadership in the quest for common international action, for instance on reducing emissions of greenhouse gases, combating ozone depletion or protecting the Planet's biodiversity.

**The way forward**

The future of environment policy has therefore to be seen in this wider context, where environmental, social and economic objectives are pursued in a co-ordinated and mutually compatible way. Sustainable development, now enshrined as an objective in the Treaty of the European Union, should aim at the welfare of present and future generations both in European and worldwide in terms of economic prosperity, social justice and security, and high environmental standards and the sound management of our natural resource base. The 5th Environment Action Programme first sign-posted the way to a policy approach based on this concept. Its principles are still valid, but the analysis in this Communication indicates that they have to be put into practice more fully.

A 6th Environment Action Programme should in the first place address the shortcomings in the implementation of the 5th Programme as well as new issues which have emerged since then. Based on its analysis, this Global Assessment suggests a number of orientations for future environmental policy in order to provide a basis for a debate. The 6th Programme will also need to be seen in the broader context of an enlarged European Union, taking account of the specific issues in the candidate countries. The full implementation of the environmental *acquis* remains another urgent priority.

However, without a reinforced integration of environmental concerns into economic sectors to address the origins of environmental problems and without a stronger involvement and commitment by citizens and stakeholders, our development will remain environmentally unsustainable overall despite new environmental measures. The current momentum for integration following the mandates of the Cardiff and subsequent European Councils therefore needs to be maintained and translated into concrete decisions and new instruments to promote integration should be put into place. Better information and citizens' involvement in environmental decisions as well as more accountability for actions which might harm the environment should be pursued as other priority objectives. The effective application of the Polluter Pays

principle and the full internalisation of environmental costs on to Polluters remains a critical process. A 6th Environmental Action Programme should be one pillar in an overall Community strategy for sustainable development addressing environmental, economic and social objectives in a mutually reinforcing way.

Opinions and contributions to the debate on the 6th Action Programme will be welcome.

Send them to:

European Commission, Environment DG (B1- 6EAP), Rue de la Loi 200, B- 1049 Brussels **by 14th April 2000.**

Or by e-mail to: new-env-prg@cec.eu.int

Or via the Environment DG 's website at:

http://europa.eu.int/comm/dg11/newprg/index.htm (which by the end of 1999 will be changed to: http://europa.eu.int/comm/environment/newprg/index.htm).

Introduction

The Fifth Environmental Action Programme was prepared in parallel to the 1992 Rio Conference and the launch of Agenda 21. It constituted the Community's first commitment to sustainable development. It can be seen in terms of five objectives:

(1) strategies for seven environmental priority issues (climate change, acidification, bio-diversity, water, urban environment, coastal zones and waste) and for the management of risks and accidents;

(2) target sectors into which environmental concerns should be integrated (industry, energy, transport, agriculture and tourism);

(3) broadening the range of instruments;

(4) information, transparency of approach and development of the concept of shared responsibility;

(5) the international dimension reflecting global issues and the Rio Conference.

Some environmental targets were set[2] but in general, there was a lack of quantifiable targets and monitoring mechanisms. The Commission, in its review of the Plan in 1996, confirmed these priorities and proposed a new priority on implementation of existing measures.

In 1998 the European Parliament and the Council adopted a Decision on the review of the 5th Environment Action Programme. It reiterated the commitment of the Community to its general approach and strategy and called for increased efforts in their implementation. The Decision also committed the Commission to submit a global assessment of the implementation of the Programme, giving special attention to any revision and updating of objectives and priorities which may be required, and accompanied, where appropriate, by proposals for the priority objectives and measures that will be necessary beyond the year 2000. This Communication is the first step in the Commission's response to this request. It will be followed by a proposal for a 6th Environmental Action Programme next year. Besides evaluating the success of the 5th Programme, it seeks to launch a debate on the overall approach for our policy on the environment and sustainable development with a view to preparing the new Programme.

The recent 'Eurobarometer' study of the opinions and attitudes of European citizens shows that the degradation of the environment is a high concern along with violence, poverty, health and unemployment. 70% believe that urgent action is needed. This echoes the analysis in this report that further efforts are needed for a clean and safe environment ensuring a high quality of life and for a sustainable management of our global resources.

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[2] See Commission Staff Working Paper ( reference ) 'Key developments in the implementation of the 5th Environment Action Programme'. It includes the key objectives and targets established in the 5th Environment Action Programme and its review; data from the European Environment Agency's report on the state of the environment; and examples of EU environmental legislation or actions.

## 2. OVERALL ASSESSMENT OF THE FIFTH PROGRAMME

The Programme set out an ambitious vision for sustainable development, leading to its incorporation in the Amsterdam Treaty and to the process of integration, which was highlighted bythe Cardiff European Council in 1998. However, practical progress towards sustainable development has been rather limited, mainly because there was no clear recognition of commitment from Member States and stakeholders and little ownership by other sectors of the Programme. Nevertheless, the 5th Programme has stimulated action at EU level that has led to environmental improvements.

## 3. EVALUATION OF THE SEVEN ENVIRONMENTAL PRIORITIES AND OF RISK MANAGEMENT

Overall, the lack of targets, indicators and monitoring mechanisms makes it difficult to make a full evaluation of the 5th Programme. It is also clear that it will take time for many of the actions initiated by the 5th Programme to yield results. Even so, on the basis of the European Environment Agency's comprehensive evaluation of the state and outlook of the environment, it is possible to identify the main trends that are emerging and the driving forces behind them. The Agency's recent report, 'Environment in the European Union at the turn of the century' illustrates that the quality of Europe's environment has improved in some areas, notably in the phasing out of ozone-depleting substances, acidification, trans-boundary air pollution and water quality. But it points out that serious problems remain and looking beyond the year 2000, the environment faces a number of major and, in some case, new challenges. This situation calls for a reflection on which new measures should be taken at Community level over the next few years. Against this background, this Communication identifies a number of possible avenues for further action in order to provide the platform for a debate, without necessarily being exhaustive and without prejudging future Commission proposals.

### 3.1. Climate change

**Current situation and trends**

There is a broad consensus on the need to take urgent action on climate change. Climate change is potentially the most serious environmental problem we are facing with far reaching ecological, health and economic consequences (e.g. flooding of low-lying areas due to rise of sea levels, changes in weather patterns with implications for agriculture, extreme weather events). Estimates are that $CO_2$ emissions need to fall by at least 35% by 2010 if long-term temperature increases are to be limited to 1.5° by 2100. The Kyoto Protocol commits the Community to decrease its greenhouse gas emissions by 8% between 1990 and 2008/2012. However, without further measures, forecasts are that the Community will not achieve this objective. While emissions have fallen in the UK and Germany between 1990 and 1996, this has been due to one-off structural changes and the underlying trends are of growing emissions of $C0_2$.

**Measures taken**

While a number of Community measures have been agreed to promote energy efficiency and conservation and renewable energy sources (e.g. ALTENER and

SAVE programmes), these have received less funding than originally proposed and have had little impact faced with the scale of the problem. Progress has not been achieved with the proposed directive introducing a tax on $CO_2$ emissions or the amended proposal for an energy products tax.

The recent voluntary agreement reached with the European car industry should contribute to curbing $CO_2$ emissions from individual cars over the next decade.

The trends in sectors such as industry indicate a growing uptake of energy efficient technologies with a predicted 15% fall in industrial $CO_2$ emissions by 2010. The projections for transport, however, are for continuing strong growth in emissions which are likely to prejudice the achievement of the Kyoto targets.

**Possible orientations for the future**

The Member States have yet to present convincing plans for the achievement of their individual targets agreed within the framework of the Community strategy for meeting the Kyoto commitment. Consideration will be needed for the development and implementation of new emission reduction measures, including by integrating climate objectives into other policies.

The development of an emissions trading system within the EU may be advisable to promote cost-efficient emission reduction measures.

### 3.2. Acidification and air quality

**Current situation and trends**

The 5th Programme period has seen improvements in reducing acidification and the levels of some air pollutants, particularly $SO_2$ and lead. The levels of $NO_2$ and particulates remain high and the levels of ground level ozone continue to be regularly exceeded in and around major cities during the Summer.

The improvements which have taken place are largely a result of a steady decline in emissions over the last decade. By 1995, emissions of SO2, NOx and non-methane VOCs were down by about 39%, 9% and 12% respectively on 1990 levels. Further substantial improvements in air quality and reductions of acid deposition are expected to take place in the period up until 2010.

The importance of transport emissions of NOx and VOCs which were dominant in the past has started to decline since 1990. Thus, by 1999, non-methane VOC and NOx emissions are projected to be down by over 20% on 1990 levels and in 2010 by as much as 70-80% in spite of the continued growth in traffic.

**Measures taken**

The Air Quality Framework Directive, approved in 1996, provides a basis for tackling remaining air quality problems. A first daughter directive defining limit values for $SO_2$, $NO_2$, particulates and lead was adopted in April 1999. Proposals on CO and benzene and on ozone are under discussion in the Council and Parliament.

Measures adopted so far to reduce emissions include vehicle emission and fuel quality directives within the Auto Oil I exercise, directives on solvent emissions from industry, sulphur emissions from heavy fuel oil and the Integrated Pollution Prevention and Control (IPPC) Directive for industrial emissions. The implementation of these measures will lead to further progressive improvement of air quality over the next decade. It is however likely that particulates will remain a problem over much of the Union and that there will continue to be widespread exceedances of WHO guidelines for ozone.

A proposal to set national emission ceilings which compared with 1990 would reduce acid deposition everywhere in the Community by at least 50% and simultaneously reduce exposure to ozone, and a proposal to revise the Large Combustion Plant Directive are currently under discussion in the European Parliament and Council. Implementation of this joint acidification and ozone strategy will be a priority in the next period. The strategy will also reduce ammonia emissions and hence reduce soil eutrophication.

**Possible orientations for the future**

The priority for the next period will be implementation of already approved measures and those currently under discussion. The complexity of air quality issues and range of polluting sources means that a more integrated strategy should be developed to review air quality standards and ensure they are met in the most cost-effective way.

The main remaining challenges appear to be meeting standards for particulate matter in many cities and ensuring coherence between Community targets on ozone, acidification and soil eutrophication and the emissions of the pollutants concerned and to develop cost-effective measures to permit further improvements, including flexible instruments. These policy areas will require further review.

### 3.3. Nature protection and bio-diversity

**Current situation and trends**

The nature and biodiversity of the Community continues to be under threat from loss of land to urban development and road building and the ongoing intensification of agriculture. Threats also arise from the marginalisation or abandonment of farming activities, pollution and the introduction of alien species.

**Measures taken**

Attention during the 5$^{th}$ Programme period has mainly been on the implementation of the previously approved Birds and Habitats directives, this latter directive providing the framework for the creation of the Natura 2000 network. Implementation of this directive should ensure the protection of the best of the remaining natural habitats in Europe. While progress has been made in most Member States towards the identification of sites, this is far behind the original deadlines agreed. The long-term protection of these sites requires the adoption of management regimes and considerable efforts are still required for their establishment and implementation.

The adoption of the Community's Biodiversity Strategy in 1998 has been important in recognising the need for sensitivity to biodiversity issues in other policy areas. This strategy foresees action plans for biodiversity in a number of key policy areas.

Agricultural policy is particularly important to nature and bio-diversity. The agri-environment measures introduced in the 1992 CAP reform and the broadening of measures resulting in environmental gain included in the 1999 reform of the Common Agricultural Policy (CAP) have and will in future provide the potentiality for contributing positively to nature protection, both within the Natura 2000 network and in the wider countryside.

**Possible orientations for the future**

The priority for the future will be the full implementation of the Birds and Habitats directives and to achieve significant progress with the integration of biodiversity concerns into other policies. The preparation of ambitious action plans under the Biodiversity Strategy should be an important element of the approach.

Full exploitation at the national level of the opportunities created by the new CAP regime and Structural Funds will be of importance. In order to ensure the preservation of high nature value landscapes, the continuation of farming in areas at risk of marginalisation and abandonment and the increased uptake of agricultural practices more compatible with environmental protection and enhancement is desirable.

### 3.4. Water

**Current situation and trends**

The period of the 5th Programme has seen improvement in water quality due to progress in implementation of the Urban Waste Water Directive (1991). In particular, there has been a significant decrease in the number of heavily polluted rivers due to reductions in point source discharges such as phosphorous, with emissions showing reductions of typically 30-60% since the mid-1980s; organic matter discharges fell by 50-80% over the last 15 years.

However, nitrate concentrations in EU rivers have shown little change since 1980. EU maximum admissible concentrations of nitrate in groundwater are frequently exceeded. This is contributing to the eutrophication of coastal waters. Nitrate input from agriculture is still high due to poor application of the Nitrate Directive. Groundwater concentrations of certain pesticides also frequently exceed EU maximum admissible concentrations.

In addition, there remains a problem in the use and allocation of water. This is generally attributable to inappropriate pricing, which often amounts to subsidy to some users.

**Measures taken**

The key achievements in the 5th Programme in respect to water management have been:

(a) the passing of the Integrated Pollution Prevention and Control (IPPC) Directive in 1996, which provides a more comprehensive framework for the control of polluting emissions of all kinds from large industrial plants.

(b) the proposal, currently being discussed in Council and Parliament, for a Water Framework Directive. This directive seeks to achieve good status for all waters, groundwaters and surface waters, within a set deadline, and to apply an integrated planning approach to protecting all waters, addressing both quantity and quality issues. It brings together elements from a range of individual measures based on a combined approach of emission controls and quality objectives. It also aims at the reduction of pollutants, listing priority substances. The measure is complemented by a number of existing directives aimed at controlling specific sources of polluting substances – the Urban Waste Water Directive, the IPPC Directive or limits for specific substances, e.g. the Nitrates Directive. Sustainable levels of water abstraction and use will need to be assured by developing a range of instruments, such as water pricing.

**Possible orientations for the future**

The approval of this proposal will provide the basis for achieving substantial future improvements in the full range of water quality problems that the Community continues to experience.

The priority now is implementation. This imposes a responsibility on national, regional and local authorities in the Member States to take the necessary steps to ensure policies are carried out.

### 3.5. Urban environment

**Current situation and trends**

Some 70% of our population live in urban areas, which take up some 25% of land in the EU. This inevitably means both that urban populations face a concentration of environmental problems and that the decisions of urban authorities and inhabitants are significant driving forces behind environmental pressures. This can be illustrated by the following trends:

- 32% of our population are exposed to high levels of traffic noise;
- Air pollution remains a significant source of health problems and WHO thresholds are frequently exceeded;
- Population of urban areas is expected to increase by more than 4% between 1995 and 2010 and urban sprawl continues;
- Urban waste has increased in volume;
- Seasonal water shortages are common in southern European cities;
- Energy consumption by transport and energy has risen steadily over the last 20 years and further increases are anticipated.

**Measures taken**

The 5th Action Programme recognised that in addition to the indirect effects of specific environmental legislation, the role of Community policy in this area is to encourage local authorities to tackle the problems and to assist them in working towards sustainability. However, no specific targets or monitoring mechanisms were defined. The European Sustainable Cities & Towns Campaign was established in 1994 to support local authorities and it has operated constructively since. In 1998 the Commission published the Communication "Sustainable Urban Development in the European Union – A Framework for Action". The adoption of this Communication, which includes concrete commitments on the part of the European Commission, represents important progress towards a more integrated and strategic approach to urban issues.

**Possible orientations for the future**

The Commission is now in the process of implementing the Communication. The Commission could continue to support and facilitate in particular awareness raising initiatives and activities relating to local sustainability and Agenda 21.

### 3.6. Coastal zones

Many coastal zones are densely populated and under intense pressure from urban development, industry, transport and tourism. These activities also impact heavily on the quality of the marine environment. At the same time, coastal areas contain an important part of Europe's natural and cultural heritage.

The Community has during the 5th Programme period undertaken an Integrated Coastal Zone Management Demonstration Programme to show ways to address coastal zone issues. The question is how this Programme should be followed up.

There continues to be an urgency in action in this area since 85% of coasts are at risk from different pressures, and in particular they are suffering from increasing urbanisation.

### 3.7. Waste

**Current situation and trends**

The problems of waste in the EU are still growing faster, due to consumption patterns, than the implementation of measures to control and prevent them.

Waste prevention measures have not stabilised production of waste nor its hazardousness. Reported municipal waste produced in OECD Europe was 1.305 million tonnes in 1995, or 420 kg/year per person. The EU average per capita is 370 kg/yr.

The recycling of certain waste fractions has been successful in a number of EU Member States. In the EU + Norway, recycling of paper and paperboard increased from 40% in 1990 to 49 % in 1996. Recycling of glass increased from 43% in 1990 to 55% in 1996.

However, recycling of glass and paper have not increased sufficiently quickly to reduce overall generation for these waste streams, so that total glass disposal, for example, rose by 12%. Furthermore, the amount of plastic waste has considerably increased (about 4% per year) but there has been no corresponding increase in plastic recycling.

Total waste, incinerated or landfilled, has risen. Landfilling is still the most common treatment method, despite progress in recovery and recycling. 66% of municipal waste went to landfill in 1995, compared to 65% in 1990.

**Measures taken**

During the period of the 5th Programme the implementation of the Packaging Directive has helped in making progress in recycling of packaging waste, but progress in waste prevention clearly remains to be achieved. The adoption of the Landfill Directive when implemented will contribute to both reducing the environmental impact of landfilling and encourage waste prevention and recycling options.

The Commission has also advanced work on priority waste streams seeking to apply the principles of prevention, material recycling and producer responsibility, which are recognized as priority approaches in the Community strategy for waste management. Progress has however been slower than expected, particularly due to the opposition of product manufacturers to producer responsibility schemes. The proposal on end of life vehicles is expected to be adopted in 2000.

**Possible orientations for the future**

Priority in the future will need to be given to promoting an active product policy in order to make products recyclable from their design phase as well as further preventing waste generation. For major waste streams specific measures will continue to be required (e.g. durable goods, biodegradable waste, packaging waste, hazardous waste such as batteries). The implementation and enforcement at the local level of waste management strategies will remain a priority. The reduction of the hazard involved and in particular the toxicity of the material sent for waste disposal also remain priorities.

### 3.8. Risk management: Industrial accidents

**Current situation and trends**

From 1984 to 1999 over 300 accidents were reported. In 1997, 37 major industrial hazard accidents were reported in the EU, the highest annual total since records began. More positively, despite incidents like the Sea Empress, oil spills from tankers are declining.

**Measures taken**

During the period of the 5th Action Programme, the 'Seveso II Directive' was completed, requiring industrial operators to show that they have taken full precautions against major accidents. As part of the Directive, the MARS and SPIRS databases were introduced to assist decision-making related to risk management.

**Possible orientations for the future**

For the future, full implementation of Seveso II remains a challenge. However, this legislation only applies to high risk establishments. Our society and the environment as a whole are sensitive to the threat of accidents and, in the longer term, an integrated approach to assuring protection of persons, environment and property, including cultural heritage, would be desirable.

### 3.9. Risk management: Nuclear safety and radiation protection

**Current situation and trends**

Nuclear generation accounts for some 34% of electricity production in the EU. In general, the risk of nuclear accidents has declined, but concerns remain about the safety of some reactors in Central and Eastern Europe and the ex-Soviet Union.

Human health is at the centre of the integrated approach on which radiation protection is based. EU standards are regularly updated according to scientific progress.

**Actions taken**

In the period of the 5th Programme, legislation on safety standards for the health protection from ionising radiation and movements of radioactive substances have been approved. The most important acts relate to a revision of the Directive on Basic Safety Standards for the protection of exposed workers and the public from the dangers of ionising radiation and the revision of the Directive on health protection of individuals in relation to medical exposure to ionising radiation. In addition, a number of Regulations have been adopted relating to the conditions of radioactive contamination governing imports into the EU of agricultural products originating in third countries following the accident at Chernobyl nuclear power station. A Regulation on the administrative arrangements for the movement of radioactive substances has been adopted as has a Directive on the administrative arrangements for the shipment of radioactive waste. A number of technical guides, communications and recommendations on implementation of legislation have been issued.

**Possible orientations for the future**

The Community has no competence in the safety of nuclear installations but supports co-operation between Member States. Ageing nuclear installations, the economic effects of liberalisation of the electricity industry and a steadily increasing number of decommissioning projects require intensifying this co-operation. The unresolved issue of long-term storage or disposal of high-level radioactive waste will require continued special attention.

In Central and Eastern Europe and the Newly Independent States, priority should be given to encouraging improvements in the safety regimes. With the ex-Soviet Union, especially in Northwest Russia, co-operation is essential to help solve the major environmental problems arising from previously poor management practices for spent nuclear fuel and radioactive waste.

### 3.10. Risk management: Civil protection and environmental emergencies

Natural disasters such as earthquakes or landslides have potentially large scale effects both in terms of fatalities and economic impact. The European Environment Agency quotes studies that suggest economic losses from floods and landslides in the period 1990-96 were 400% greater than during the preceding decade.

Human activity, such as unsuitable land use that causes flooding and landslides, is both increasing risk and making people more vulnerable to natural disasters. The Community's role in preparing for such events is largely subsidiary to that of the Member States. However, the Community supports the co-operation between national bodies on civil protection and marine pollution.

For the future, priority in this area should be given to the implementation of the recently adopted legal basis for civil protection to allow for long-term planning and management.

## 4. EMERGING CONCERNS

Since the 5th Environmental Action Programme was adopted, certain issues have increased in urgency and new problems have emerged which at the time received less attention but are now a cause for concern to citizens or have been identified as requiring special action in the light of the state of the environment. The Community should consider whether and/or how to respond to these concerns, where necessary applying the precautionary principle.

### 4.1. Chemicals

Despite some success of control measures in reducing some emissions and concentrations of persistent organic pollutants and heavy metals, there remain some 75% of large-volume chemicals about which there is insufficient knowledge of potential impact on nature and on human health. At the same time, the chemical industry is expected to increase its output significantly over the next years.

The Commission intends to present a strategy to speed up the system for reviewing the ever-growing quantities of chemicals, and to look at whether and how there could be control over the volumes and toxicity of chemicals, particularly where there are recognised harmful effects.

### 4.2. Genetically modified organisms (GMOs)

GMO technology has the potential for providing significant benefit to our society. However, there has been growing concern in recent years as to the impact of this new technology on both the environment and human health.

The control of both experimental and commercial deliberate release of GMOs is covered by legislation that provides a common approval system for the whole EU. Preparations are underway to strengthen the legislation in response to the concerns of citizens. This will provide for more substantial monitoring of potential impacts.

### 4.3. Soil

Degradation and loss of soil in particular through erosion, contamination, sealing (building, roads, etc) and changes in its structure is worryingly high. Soil loss through human activity is some 10-50 times higher than through natural erosion.

There is a need to identify the relationship between Community policies and intervention and soil problems to enable a decision on the development of a coherent approach at Community level. It is also necessary to integrate soil management objectives, in particular objectives of the UN Convention to Combat Desertification into our policies.

### 4.4. Efficient use and management of resources

Natural resources need to be used and managed more efficiently both to conserve non-renewable resources and to reduce the amount of waste. The concept of 'factor ten' expresses the longer-term goal of a ten-fold reduction in absolute resource use in the industrialised countries and a more equitable sharing of resources across the world. Should the Community take up this target as a focus for orienting policy in this area? How could the Community promote more eco-efficient production and consumption patterns, reducing material use, energy consumption and emissions whilst maintaining levels of products and services?

In this context, an Integrated Product Policy should address the entire life-cycle of production and consumption, and be based on a mix of instruments - such as labelling and eco-design, links to the Community's Environmental Management and Audit Scheme (EMAS), greening of public procurement and product standards, and product-related taxes - thus addressing the whole product chain including the production, use, distribution, consumption and waste phase of products. An Integrated Product Policy should provide a framework that incorporates all relevant stakeholders in the development of a specific strategy in an individual product area.

## 5. IMPROVEMENT AND IMPLEMENTATION OF ENVIRONMENTAL LEGISLATION

### 5.1. Improved legislation

Under the 5$^{th}$ Programme, legislation has been reinforced in several key areas, for example with the Air Quality Framework Directive, the Integrated Pollution Prevention and Control (IPPC) Directive and the Habitats Directive.

The way in which legislative proposals are developed has also improved. Firstly, with better analysis of the environmental issues and the economic and cost-benefit implications. This has helped us to identify the costs to society of environmental damage and to ensure we commit adequate time and resources to tackling environmental problems. At the same time, we have improved the cost-effectiveness of our policies. Several recent initiatives (the Acidification Strategy, Auto-Oil and the current elaboration of national emission ceiling for certain air pollutants) were subject to such a process. Further efforts will be needed in areas like waste and water and in strengthening the methodology and data aspects, as well as in translating R&D results into policies. Areas of uncertainty need to be properly identified and measures taken

to remedy the deficiency of data. The analysis of environmental proposals should also identify the "winner" and "loser" of the initiative in question.

Secondly, legislative proposals now aim at better consultation and involvement of stakeholders. Initiatives such as the Water Framework Directive, the IPPC Directive and 'Auto-Oil' show that it is possible and positive to involve the relevant actors and sectors in finding solutions to environmental problems. The Auto-Oil Programme in particular has identified important win-win actions required at national and local level to improve air quality in co-operation with the industries concerned.

Thirdly, the Community has increasingly responded to the call for greater subsidiarity, by developing more *framework directives* that set objectives, but give Member States the flexibility to implement the measures as they require. But, in the implementation phase, it will be important to ensure that this flexibility is not used in ways that prejudice the achievement of the objectives set.

### 5.2. Implementation and enforcement

Under the 5th Action Programme, increased attention has been given to implementation and enforcement of environmental legislation. The Communication on the state of implementation, published by the Commission in 1996, showed however that implementation of Community law on the environment was often unsatisfactory. In 1998 the Commission registered some 600 suspected breaches of EC environmental law, based on complaints from the public, parliamentary questions and petitions and cases detected by the Commission. Of the 123 cases for which an application was lodged with the Court in 1998, 49 concerned the environment.

The main reasons for this currently unsatisfactory situation are to be found in the legal and technical complexity of the legislation and the difficulty in balancing the interests of the stakeholders concerned. In some cases, environmental legislation relates to general interests in which there is not always a proprietary interest. There is also a shortage of qualified staff and resources for the complex function of inspection and enforcement at national and local levels. Finally, there is a lack of dissuasive, effective and proportionate sanctions in Member States when measures are not properly implemented.

Efforts have been made to ensure that all relevant actors and sectors are involved in the legislative process, including the IMPEL network of environmental law inspectors. The Commission has proposed the development of Community-wide minimum criteria for the carrying out of environmental inspection tasks by Member State authorities.

In considering future policy we have to remind ourselves that the first step for improving the environment on the ground is the full implementation of what has been adopted already. This will require even reinforced efforts. Implementing the *acquis* will require even more effort from the Candidate countries for the Enlargement of the European Union. Realising the objectives of the measures adopted already therefore remains one task in any future environmental strategy and a firm commitment to it by all (present and future) Member States is necessary. It is critical not least for the credibility of Community environmental policy as a whole.

The Commission for its part will continue to exercise its powers in ensuring the correct and timely implementation of Community law, and to improve the information provided to the public on Community policies and their implementation through e.g. the annual report on monitoring the application of Community law and the Annual survey on the implementation and enforcement of Community Environmental Law. The effectiveness of environment policy should be regularly assessed and remedial measures taken if required. This requires an efficient monitoring system to ensure that the legislation is properly implemented and the Reporting Directive (91/692) needs revising and strengthening to allow this.

## 6. PROGRESS IN BROADENING THE RANGE OF INSTRUMENTS

### 6.1. Market based instruments

Widening the portfolio of policy instruments for achieving our environmental objectives was a main pillar of the 5th Programme. Market-based instruments include taxes, charges, environmental incentive payments, refundable deposit schemes, permit trading systems, eco-labelling schemes and environmental agreements etc. They aim at encouraging producers and consumers, via price and information signals in the market place, to adopt practices or make choices that take into account the environmental cost of the production and consumption of goods. The important practical issue is to identify when such instruments are likely to be more efficient and effective than other types of policy measures or, alternatively, to identify when they can be an effective supplement to other instruments.

Environmental taxes will, for instance, often be the most efficient way of applying the Polluter Pays Principle, through the direct internalisation of the environmental costs.

At the Member State level, the last 5 years has seen the implementation of many new measures although some Member States are clearly more active than others. Most importantly, there is growing evidence that these measures do yield the desired effects (for instance the link between the fall in lead emissions and the introduction of a tax differential between leaded and non-leaded petrol).

At the Community level, many of the Directives issued by the Commission allow for tax incentives to encourage early implementation (such as those on vehicle emissions and fuel quality). However, the adoption of EU-wide measures, such as a $CO_2$ tax or an energy products tax, on the other hand has been disappointing. The institutional set-up (need for unanimous agreement in the ECOFIN Council) has prevented any real progress.

The introduction of the EU eco-labelling scheme together with the Eco-Management and Audit Scheme (EMAS) were also new initiatives aimed at influencing producer and consumer behaviour through market mechanisms. The uptake of EMAS by EU manufacturing industry has been encouraging and, although difficult to quantify in precise terms, has almost certainly contributed to reduced emissions and risks for the environment. The EMAS regulation is now being revised and extended to other sectors of business such as the service and retail sectors.

## 6.2. Financial instruments

Since 1993, actions to promote economic and social cohesion under the Structural Funds have had a stronger link to the environment, including the introduction of strategic environment impact assessment of programmes. More funding has been devoted in the 1993-99 period to environmental investments. The Cohesion Fund has provided an increasing share of its total amount to environmental projects (equivalent to 49.1%).

LIFE, the only programme completely devoted to the environment, has produced many examples of innovative technologies, good practice and integration at local levels.

Development banks have begun to incorporate environmental criteria into their lending operations. However, progress with private banks and insurers in providing "green" financial products, green housekeeping or increased environmental risk assessment is still fairly limited.

Subsidies can have significant impacts on the environment, either positive or negative. Even if they are not deliberately established with the intention of harming the environment, they are often introduced without taking the environmental consequences into account. For example, it is estimated that if energy subsidies were removed in Western Europe + Japan, $CO_2$ emissions in the OECD would be reduced by 13% over the baseline scenario by 2005.

On the other hand, progress has been made, notably in the reform of the Common Agricultural Policy under Agenda 2000. There has been a shift away from product subsidies to income support that is linked, in part, to the adoption of environment-friendly agricultural practices. In addition, agri-environment programmes offer payments to farmers that provide environmental services.

Overall, the experience of the last few years shows that there is potential to direct funding, directly and indirectly, towards environmental benefits. But further progress must be made, in particular for energy and transport subsidies to ensure environmental criteria are fully integrated into EU funding criteria (e.g. for the structural funds).

## 6.3. Research and Development

Research and Development, through successive EU framework programmes, offers the possibility to address both the scientific, technological and socio-economic dimensions of the environment.

The 5$^{th}$ Framework Programme covers subjects such as the Management and Quality of Water, Global Change, Climate and Biodiversity, Marine Ecosystems, City of Tomorrow, Generic Research on Natural Hazards and Earth Observation. It provides more than € 2 billion for collaborative environmental research under the programme "Energy, Environment and Sustainable Development" over the period 1999-2002.

Research results provide operational information for decision-making and for developing environmental policy. The Community's research programmes have the

added benefit of promoting the involvement of scientists in environmental issues. Through the many networks set up in transnational research projects, it helps to build consensus among scientists who feed decision-making at the national, European and international level.

### 6.4. Spatial instruments

Although land use planning is mainly the responsibility of Member States, a number of key initiatives at EU level of a strategic nature provide scope for developing a more integrated approach. This is the case with the European Spatial Development Perspective, which is intended to promote co-operation between Member States in pursuit of sustainable development through a more balanced spatial use of EU territory. This new generation of land use instruments can assist co-operation between Member States and between regions and local authorities providing a reference framework on issues such as urban and rural development, the management of sensitive areas or in sectors like transport policy.

## 7. INTERNATIONAL ISSUES

Approximately one-third of Community environmental policy aims to implement legally binding international commitments. The EU plays a major role at the negotiating table, and in pushing the implementation of agreements on global issues (e.g. ozone layer, climate change, bio-diversity), regional issues, (acidification, waste and water), and all issues relating to hazardous products, such as chemicals or radio-active substances. Research action, supported under the 4$^{th}$ and 5$^{th}$ Framework Programme, provides an important support to these international activities. The EU has also been instrumental in developing many of the international processes that provide guidance to governments on how to develop their environmental policy. This includes an active follow-up to the Rio Declaration and Agenda 21 and supporting activities through the United Nations Environment Programme.

However, the EU could be more visible and should more systematically use its full economic and political weight and strengthen the coherence between different policies. Trade remains an area of concern, where progress must be made on reconciling the objective of growth in trade with environmental objectives. This is the general approach already adopted by the Community in view of the next WTO round. Climate change is a global problem that can only be solved through concerted efforts at international level. The EU should maintain its leadership in the international negotiations over the next years.

## 8. OVERALL PROGRESS TOWARDS SUSTAINABLE DEVELOPMENT

The 5th Environment Action Programme sought to initiate the Community's path towards sustainable development. As this global assessment confirms, however, many environmental trends are not sustainable and the quality of life of citizens continues to be affected, despite progress made in environmental legislation and (although to a lesser extent) in broadening the range of instruments. On the one hand, economic growth, better communications and transport contribute to an improved quality of life. On the other hand, however, the growth and nature of human activities, expressed

through growing consumption of products and services, also means increased use of natural resources and increasing pressures on the environment. Environmental policy has had some success in combating the effects of these pressures, for example in encouraging cleaner fuel or in reducing or preventing industrial discharges into rivers, the air and ultimately the sea. However, according to current predictions, it will not be able to keep pace with or account for the increasing aggregate demand for road transport, electricity, house or road building, etc. Growth in these areas simply outweighs the improvements attained by better technology and stricter environmental controls. An analysis of the causes of environmental problems confirms the areas of particular concern that were highlighted by the 5th Programme: road transport, energy production and use, tourism, the production and consumption of consumer goods, and intensive agriculture.

There are a number of issues which highlight in a particular way the need for addressing the environment together with the economic and social dimensions.

*Climate change*

The 'business-as-usual' scenario predicts that the European Union will fail to reach its Kyoto commitment to cut greenhouse gas emissions by 8% by 2008-2012 and instead increase its emissions over the coming years. The problem is being aggravated by the fact that the Kyoto targets are only a first step towards achieving the ultimate goal of stabilising concentrations of these gases.

In this light, current trends for example in the transport sector are clearly not in line with the Community's climate change commitments. For transport, which accounts for about a quarter of total $CO_2$ emissions, the Commission has forecast an increase in $CO_2$ by close to 40% between 1990 and 2010 under current conditions.[3] More fuel-efficient cars as a result of the Community's strategy to reduce $CO_2$ emissions from cars will not be sufficient to outweigh the effect of traffic growth.

Except in industry, where $CO_2$ emissions are projected to decline by 15% between 1990 and 2010, no sector is expected to actually contribute to the EU's Kyoto target under 'business-as-usual' as emissions remain stable.

Besides focusing on promising individual emission reduction measures, a strategy to prevent climate change therefore has to make climate change considerations part of the decisions in a broad range of other sectors – besides energy and transport particularly industry, agriculture and households. Higher energy efficiency, the increased use of renewable energy sources and ultimately a decrease in demand for energy and transport will have to be achieved. This can only be done in a framework going far beyond environmental policy and changing societal development patterns, taking into account the environmental, economic and social impacts. At the same time, the potential costs of climate change to our economy are enormous and actions to improve the energy efficiency of our society will yield immediate economic benefits in terms of reduced wastage and technological progress.

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[3] Communication on Transport and $CO_2$ – Developing a Community Approach, COM(1998) 204 final.

*Globalisation and increased pressure on limited natural resources*

Globalisation offers opportunities for higher environmental standards world-wide but at the same time is likely to increase the consumption of resources. Increased trade and higher levels of wealth of developing countries should lead to an improvement of environmental standards in those countries as emerging urbanised middle classes raise awareness and demand for sustainable development and a better environment. The more rapid transfer of information between countries and the transfer of better and less polluting technologies should reduce pressures on the environment.

On the negative side, increased levels of trade are likely to put further pressure on the environment through the increased level of transport and the increased demand for cheaper raw materials and goods supplied by developing countries as trade barriers come down. Final consumption by society as a whole is expected to rise by 50% by 2010 as the high-level consumption patterns of the west spread to large sections of the global population. Increasing population and forecasts of rising GDP per capita (a 40% increase between 1990 and 2010 and a 140% by 2050) may also have an impact on global $CO_2$ emissions, which are forecast to rise by a factor of three by 2050.

This sharpens the need for developed countries to reduce the use of resources to more sustainable levels to allow the developing world a fair share in global resources.

*Citizens' health and quality of life*

While progress has been made in improving ambient quality, the state of Europe' environment continues to affect public health and the quality of life of citizens. Air pollution is associated with hospitalisations and extra deaths in the EU every year. Noise exposure disturbs sleep, affects childrens' cognitive development and may lead to psychosomatic illnesses. The Commission has estimated that the external costs of air pollution and noise from traffic amount to 0.6% of GDP.[4] These effects deprive Europeans of the safe and clean environment which they deserve. In addition, they represent an economic cost to society in the form of health care and reduced productivity. The BSE crisis illustrates the potential social costs of unsustainable agricultural practices.

The external economic costs caused by a lack of environmental controls and unsustainable patterns of production and consumption demonstrate the inefficiency of an unsustainable development path and how it affects European citizens. They underline the case for an overall strategy bringing together the environmental, economic and social dimensions and the promotion of the Polluter Pays Principle, wherever possible.

Climate change, the legitimate expectations of developing countries in a fair share of the world's limited resources and the costs to citizens and society of 'non-environment' all call for an environmentally more sustainable development path for the EU while meeting our economic and social aspirations. They illustrate the need for addressing environmental problems through changes in different economic sectors and the broader economic and social benefits which would accrue from such a

[4] Green Paper 'Towards Fair and Efficient Pricing in Transport', COM(95) 691 final.

broader approach. The trends highlighted in this Communication however show that we are not on track in ensuring sustainable development. Further environmental policy measures under a 6th Environmental Action Programme can be expected to go some way in remedying environmental problems. However, given the societal trends underlying environmental pressures, more environmental legislation alone will not be sufficient.

## 9. BUILDING ON THE PRINCIPLES OF THE FIFTH PROGRAMME

This global assessment of the 5th Environment Action Programme confirms that the Community has made progress in developing its environmental policy and that this is starting to lead to improvements in the environment in certain areas. Progress towards sustainability has clearly been limited and the 5th Programme has not achieved its objectives. While there is growing awareness of the importance of integrating environmental objectives into other policies, often in response to the search for more flexible and cost-effective ways of achieving solutions, this approach and the new range of instruments it relies upon, is still poorly developed in many sectors. The underlying trends in many economic sectors and their continuing link with environmental impacts gives cause for concern.

Against this background, the Commission believes that the main principles of the 5th Environmental Programme remain valid and that we should build on them with further action. The starting point for progressing the Community's policy for protecting and improving the environment is the need to learn from the successes and address the shortcomings in putting the 5th Programme into practice. Besides the implementation and where needed the strengthening of existing measures and the development of new measures to address emerging problems under a 6th Environment Action Programme, reinforced integration of environmental concerns into other policies and the stronger involvement of citizens and stakeholders in the process aiming at commitment and responsibility are the keys towards sustainable development.

In essence, what we have to achieve is a de-coupling of the negative impacts on the environment and the consumption of natural resources from economic growth. De-coupling means economic growth while keeping the environment intact by a more efficient use of resources and higher environmental standards. By enhancing the eco-efficiency of our patterns of production and consumption, we will reduce the footprint of our society on this Planet, thereby safeguarding the aspirations of developing countries and both the present and future generations.

### 9.1. Integration - addressing the environmental implications of sector policies

The 5th Action Programme recognised the key role of the economic sectors in driving environmental change. Since June 1998, the European Council has given new impetus to the process of integrating the environment into other policies by requesting different formations of the Council to report on environmental integration and prepare environmental strategies. The reports and strategies by six Council formations will be examined by the Helsinki European Council at the end of 1999. They are seen as critical to achieving a more structured approach to sectoral contributions to solving

environmental problems. The Commission's Working Paper to the Helsinki Summit contributes to this review and suggests further actions for the future. At the same time, they are steps in an ongoing process which necessitates

- a strong political commitment to integration;
- strengthening of the institutional arrangements;
- sound management of the overall quality of the process.

More specifically, the likelihood that integration strategies succeed increases if they include

- objectives, that are quantified as far as possible, and measures;
- European, national, regional and local components;
- indicators for monitoring progress and evaluating the effectiveness of policies.

Integration is a process of better understanding the links and the different interests and trade-offs involved in trying to reach a consensus among actors. It is therefore a challenge of modernisation of administrations as it implies a new and open management culture and practices, more dialogue and transparency. A number of tools and skills promote such a new culture:

- Research and development, via the Fifth Framework Programme and the exploitation of results of previous Programmes, can contribute to improved knowledge. Research can provide decision-makers with information on the impact of socio-economic activities on the environment and on the best alternatives for the adaptation of policies.
- Strategic environmental assessment (SEA) is a tool to ensure that relevant and timely information is available to the decision-makers and that the stakeholders and the general public are informed and consulted in the decision-making process, and improves the quality of decision-making at all levels.
- Economic evaluation helps to understand the hidden environmental costs of actions as well as identify the most cost-effective options for achieving the different objectives.
- Indicators, both in the form of environmental headline indicators measuring environmental pressures and in the form of integration indicators for individual sectors help policy-makers by providing factual information that show trends over time. They aim to provide the information basis for more integrated policy decisions within particular sectors and across sectors, ensuring that main environmental concerns are covered by a co-ordinated policy.
- Tools such as EMAS, once extended to all economic sectors and public authorities, will be an incentive for adapting administrative structures and management.

Agenda 2000 was a positive step that shows how environmental, economic and social goals can be put into practice in the framework of agriculture, Enlargement and regional policy. It will now depend on the Member States to take up the opportunities offered by Agenda 2000.

The Community will have to push ahead in its efforts in making the environment part of decisions in all policy areas and at European, Member States, regional and local levels if it is to meet its environmental objectives and live up to citizens' expectations.

### 9.2. Involvement of citizens and stakeholders

An important element of the 5th Programme, with its emphasis on integration and working in partnership with the economic sectors, was the concept of shared responsibility. Integration will not work without stakeholders taking ownership and citizens being enabled by sound information to participate. While European citizens' concern about the degradation of the environment is high, many people have a restricted view of what they can do to protect the environment and few have confidence in the public information and in the efficiency of public policy. Insufficient ownership on the part of stakeholders is one of the sources of the limited success of the 5th Action Programme.

The Community has provided itself already with instruments setting incentives for stakeholders to take their responsibilities. These include the eco-auditing scheme (EMAS), eco-labelling, environmental agreements satisfying a clear set of criteria, the LIFE instrument and support for activities to promote the exchange of experience and best practice (e.g. Sustainable Cities Campaign). An effort has to be undertaken to ensure that full use is made of these instruments. A system of liability for environmental damage would complement this toolbox and promote a higher level of accountability. A liability regime would help ensure that polluters pay for environmental damage. It would contribute to a better implementation of the precautionary principle and the prevention of environmental problems. Factoring the environmental costs of human and economic activities into market prices in line with the Polluter Pays Principle through fiscal and other economic instruments would be a critical step forward.

Experience shows us that when citizens act, policies start to change for the better. If we want to change behaviour, citizens should be well informed and empowered.

Information needs to be recognised – more than ever before - as a tool enabling citizens to make sound choices, on the basis of their own ethical considerations and corresponding to their overall high level of environmental concern. Providing up-to-date information on the state of the environment and on alternative behavioural options must be central components of future policy.

Better access to information, citizens' participation in the political process and access to justice in environmental matters will give citizens an increased stake in their environment and promote a sound environmental policy. The Amsterdam Treaty (Article 255) grants citizens the right of access to the documents of the European institutions. This now has to be translated into the rules of the Institutions by May 2001. The 1998 Aarhus Convention (UN/ECE Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental

Matters) will, once ratified, play an important role in "democratising" environmental management. This, in turn, will lead to a more informed and open debate between all the stakeholders on the possible solutions to environmental problems. Finally, indicators that measure the performance of policies and progress are a practical tool for ensuring transparency and critical public review.

Relatedly, education and training on environment should be supported more through Community programmes such as Socrates and Leonardo da Vinci.

## 10. CONCLUSIONS: FROM ENVIRONMENT TO SUSTAINABLE DEVELOPMENT, THE NEXT STEPS

The assessment of the 5th Environmental Action Programme shows that we have made progress on environmental legislation but only modest successes in the integration of the environment into other policy areas. The general approach of the programme remains valid, though, and forms the starting point for future policy. The main challenges we face are linked to unsustainable patterns of consumption and production, which:

- erode the quality of the environment;
- generate health and safety concerns;
- waste resources;
- give rise to new and potentially damaging climatic conditions.

Today, the Union is far from achieving its broader objective of sustainable development as reflected in the Amsterdam Treaty. The task now facing us is how we can give substance to this commitment. In essence it requires a change in the way we define economic, social and environmental objectives so that they become complementary and jointly contribute to sustainability. Progress will depend not alone on action at Community level but to a large extent on the willingness of Member States to take up their responsibilities.

A strategic approach to sustainable development could consist of a set of guiding principles and objectives backed up by action plans that address the different economic, social and environmental aspects. A 6th Environment Action Programme would be one of the pillars of the strategy, addressing key environmental priorities alongside the strategies of the main economic sectors and delivering the environmental policy measures which are essential for sustainability. The new Programme would set general objectives that will need to be translated into quantifiable targets to steer the development of both environmental measures and the strategies in the economic sectors. The environmental priorities for the 6th Action Programme have to be seen in the broader context of an enlarged EU and one challenge will be for the EU to develop an environmental strategy for the Enlargement process.

A broad ranging debate involving all interests will be a critical element of the preparation of the 6th Programme. This document aims at providing a platform for that

debate on the overall approach and the priorities to be included in the new programme.