

**Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions On the sixth environment action programme of the European Community 'Environment 2010: Our future, Our choice' - The Sixth Environment Action Programme /\* COM/2001/0031 final \*/**

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS On the sixth environment action programme of the European Community 'Environment 2010: Our future, Our choice' - The Sixth Environment Action Programme

(Presented by the Commission)

Executive Summary

Context for the new programme

A healthy environment is essential to long term prosperity and quality of life and citizens in Europe demand a high level of environmental protection. Future economic development and increasing prosperity will put pressure on the planet's capacity to sustain demands for resources or to absorb pollution. At the same time, high environmental standards are an engine for innovation and business opportunities. Overall, society must work to de-couple environmental impacts and degradation from economic growth. Business must operate in a more eco-efficient way, in other words producing the same or more products with less input and less waste, and consumption patterns have to become more sustainable.

In the European Union, thirty years of environment policy has led to a comprehensive system of environmental controls. The 5th Environment Action Programme (1992-1999), 'Towards Sustainability', took new measures and a broader commitment to integration of environmental concerns into other policies. The Global Assessment of the programme concluded that while progress was being made in cutting pollution levels in some areas, problems remained and the environment would continue to deteriorate unless:

- more progress was made in the implementation of environmental legislation in Member States;
- integration of environment into the economic and social policies driving the pressures on the environment was improved and deepened;
- stakeholders and citizens took more ownership of efforts to protect the environment;
- new impetus to measures aimed at addressing a number of serious and persistent environmental problems as well as a number of emerging concerns.

This context has guided the strategic focus of the Sixth Environmental Action Programme, which effectively sets the environmental objectives and priorities that will be an integral part of the European Community's strategy for sustainable development. The programme sets out the major priorities and objectives for environment policy over the next five to ten years and details the measures to be taken.

A strategic approach to meeting our environmental objectives

Environment policy must be innovative in its approach and seek new ways of working with a wide cross section of society.

Implementation of existing environmental legislation needs to be improved. Vigorous legal action through the European Court of Justice should be combined with support for best practices and a policy of public information to 'name, fame and shame'.

Integration of environmental concerns into other policies must be deepened, for example all Commission policy initiatives should be fully assessed in this light. Progress should be measured through indicators and benchmarking.

Working with the market through business and consumer interests will contribute to more sustainable production and consumption patterns. Business should not simply be penalised for failure but schemes should be introduced to reward good performance. Consumers need useful information to allow them to choose environmentally benevolent products, thus driving the market. Public subsidies should promote environmentally friendly practices. Business must be encouraged to innovate, for example seizing the opportunities offered by the use, development and spread of clean technologies.

Individual citizens make daily decisions that directly or indirectly impact the environment. Better quality and easily accessible information on the environment and on practical matters will help shape opinions and thus decisions.

Land use planning and management decisions in the Member States can have a major influence on the environment, leading to fragmentation of the countryside and pressures in urban areas and the coast. The Community can provide support by promoting best practice and through the Structural Funds.

These approaches will apply across the spectrum of environmental issues. In addition, special attention will be paid to four priority areas for action.

#### Tackling climate change

Objective - to stabilise the atmospheric concentrations of greenhouse gases at a level that will not cause unnatural variations of the earth's climate.

The scientific consensus is that climate change is happening and that human activity is causing the increases in concentrations of greenhouse gases that are the cause of the problem. The key priority for the 6th Programme will be the ratification and implementation of the Kyoto Protocol to cut greenhouse gas emissions by 8% over 1990 levels by 2008-12. This must be considered as a first step to the long term target of a 70% cut.

#### Nature and Bio-diversity - protecting a unique resource

Objective - to protect and restore the functioning of natural systems and halt the loss of bio-diversity in the European Union and globally. To protect soils against erosion and pollution.

Healthy and balanced natural systems are essential to supporting life and the functioning of society. Pressures from pollution, unsustainable use of the land and sea and risks to biodiversity need to be redressed. Full implementation of environmental legislation is the key to the pollution threat. Valuable environmental areas should be protected by the Community's Natura 2000 programme and this must be implemented fully. Extending protection to the wider countryside requires a deeper and effective integration of environment and bio-diversity into agriculture, landscape, forestry and marine policies, coupled with new initiatives, for example to develop a soil strategy for Europe. More attention will be given to protecting the marine environment.

#### Environment and Health

Objective - to achieve a quality of the environment where the levels of man - made contaminants, including different types of radiation, do not give rise to significant impacts on or risks to human health.

There is increasing realisation, and evidence, that human health is affected by environmental problems related to air and water pollution, dangerous chemicals and noise. A holistic and comprehensive approach to environment and health is needed, with precaution and prevention of risk being central to this policy and taking account of particularly vulnerable groups such as children and the elderly. Implementation of existing legislation and further actions will be needed in the individual policy areas.

#### Sustainable use of natural resources and management of wastes

Objective - to ensure the consumption of renewable and non-renewable resources does not exceed the carrying capacity of the environment. To achieve a de-coupling of resource use from economic

growth through significantly improved resource efficiency, dematerialisation of the economy, and waste prevention.

The planet's resources, especially renewable resources like soil, water, air and timber, are under severe pressure from human society. A strategy is needed aimed at measures, such as taxes and incentives, to ensure a more sustainable use of resources.

Waste volumes are predicted to continue rising unless remedial action is taken. Waste prevention will be a key element of an integrated product policy approach. Further measures are needed to encourage recycling and recovery of wastes.

The European Union in the wider world

The implementation of the Sixth Programme will be undertaken in a context of an enlarged European Union and subsequent measures will need to take this broader perspective into account.

The implementation of the Community's environmental legislation will of course be the main task for the candidate countries, supported by Community funding programmes. The Candidate Countries have the opportunity to make progress towards an economic development that is sustainable and avoids the type or scale of environmental problems now faced in Western Europe.

Internationally, it will be essential that environmental concerns are fully and properly integrated into all aspects of the Community's external relations. Environment must be taken seriously by international organisations and properly resourced. International conventions, notably on climate change, bio-diversity, chemicals and desertification need to be supported and implemented.

Policy-making based on participation and sound knowledge

Broad involvement of stake-holders will be central to the successful implementation of the Sixth Programme, and in every stage of the policy process from agreeing targets to putting measures into practice. Sound scientific knowledge and economic assessments, reliable and up-to-date environmental data and information and the use of indicators will underpin the drawing-up, implementation and evaluation of environmental policy.

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The proposed decision on a 6th Environment Action Programme will give an enlarged European Union the direction, impetus and tools we need to create a clean and safe environment. It will involve citizens and business in this endeavour and will contribute to sustainable development.

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1. The Context for a New Environment Action Programme	

A clean and healthy environment is part and parcel of the prosperity and quality of life that we desire for ourselves now and for our children in the future. People demand that the air they breathe, the water they drink and the food they eat is free of pollution and contaminants; they want to live

undisturbed by noise; and they want to enjoy the beauty of the countryside, unspoilt coastlines and mountain areas. They also want a world that is not threatened by climate change.

The world's population is set to grow further. It is estimated that a person in the western world consumes up to 50 times more resources in a lifetime than the average person in a developing country. Continued economic growth in the industrialised countries coupled with population growth and the natural desire of developing countries to catch up in terms of material welfare could lead to a huge growth in demand for resources. Without better and different ways of meeting this demand, we will face unprecedented pressures and impacts on the global environment.

Protecting the environment presents us with both challenges and opportunities. It is not only that people aspire to living in a clean and healthy environment but we must also recognise that the costs and other damages caused by pollution and climate change are considerable. Protecting our environment does not have to translate into restricting growth or consumption per se. High environmental standards are also an engine for innovation - creating new markets and business opportunities. Instead, we must seek to improve the quality of economic growth and other human activities to meet our demands for goods and services and for a clean and healthy environment at the same time. We should de-couple environmental impacts and degradation from economic growth, in part, through significant improvements in eco-efficiency - using less natural resource inputs for a given level of economic output or value-added. Consumption patterns need to become more sustainable.

In short, we need to encourage the development of a society where the cars we drive are clean, the wastes we produce are recycled or disposed of safely, the energy sources and technologies we use do not lead to global warming, the products we make, from computers to baby toys, do not disperse hazardous chemicals into the environment, our food and our bodies, and where our business, tourist, housing and agricultural activities are planned so as to protect our biodiversity, habitats and landscapes.

### 1.1. Building on a sound basis

Over the last thirty years, major progress has been made in establishing a comprehensive system of environmental controls in the EU. The Global Assessment [1] of the Fifth Environment Action Programme, launched in 1992, concluded that progress had been made in many areas, with new environmental measures, notably on air and water, and a broader commitment to the integration of environment objectives into other policy areas. The European Environment Agency's State of the Environment Report [2] and other data tell us that this has delivered a number of important improvements, for example:

[1] 'Europe's Environment: What directions for the future-', COM(1999) 543 final

[2] 'Environment in the European Union at the turn of the Century', European Environment Agency, 1999

- industrial emissions to the atmosphere of toxic substances such as lead and mercury have been cut significantly;

- acidification of our forests and rivers, caused by emissions of sulphur dioxide (SO<sub>2</sub>), has been greatly reduced;

- sewage and water treatment have improved the health of many of our lakes and rivers.

Progress has also been made in many other areas where Community legislation is laying the ground for further environmental improvements. However, the Global Assessment also showed that unfortunately, Member States are often lagging behind in implementing what has been decided at European level so that citizens and the environment do not benefit from these decisions as they should. Continuing efforts have to be made by the Member States in transposing Community rules into their statute books and applying them on the ground.

The Fifth Environmental Action Programme also spearheaded new policy approaches for tackling environmental problems. It emphasised the need for environmental objectives to be taken on board by other policies such as transport, industrial or agricultural policy. In the same spirit, it motivated the business community, regional and local authorities and, of course, citizens to strive for a better environment. To this purpose, the Fifth Programme promoted a broadening of the range of instruments beyond environmental legislation towards market-based instruments, awareness-raising and land-use planning. These orientations remain priorities and the current programme pursues them further.

Yet despite the improvements on some fronts, we continue to face a number of persistent problems. Of particular concern are climate change, the loss of biodiversity and natural habitats, soil loss and degradation, increasing waste volumes, the build-up of chemicals in the environment, noise and certain air and water pollutants. We also face a number of emerging issues such as pollutants that affect the functioning of our hormone systems. Forecasts suggest that, with current policies and socio-economic trends, many of the pressures that give rise to these problems, such as transport, energy use, tourist activities, land-take for infrastructure, etc, will worsen over the coming decade. This means that we cannot be complacent.

Over the next decade, the Community will also welcome new countries into its fold and develop closer ties with its other neighbours. The Community has to continue assisting these countries to protect their environments as well as ensure that our own policies in areas such as transport and agriculture promote a sustainable development path. The environmental rewards to the Community of Enlargement are significant. With the new Member States the Community will enjoy richer biodiversity, extended areas of unspoiled landscapes and opportunities to improve Europe's environment as a whole.

As Europeans and as part of some of the wealthiest societies in the world, we are very conscious of our role and responsibilities internationally. On the one hand, along with other developed countries, we are major contributors to global environmental problems such as greenhouse gas emissions and we consume a major, and some would argue an unfair, share of the planet's renewable and non-renewable resources, such as minerals, fish, and timber. On the other hand, Europe has been a leading proponent of international action and co-operation, such as the development of Agenda 21 [3] and the Montreal Protocol [4] to protect the ozone layer, to secure sustainable growth.

[3] Adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3 to 14 June 1992.

[4] Montreal Protocol on Substances that Deplete the Ozone Layer, adopted 1987

## 1.2. Contributing to sustainable development

A prudent use of the world's natural resources and the protection of the global eco-system are a condition for sustainable development, together with economic prosperity and a balanced social development. Sustainable development is concerned with our long-term welfare here in Europe and at the global level and with the heritage we leave to our children and grandchildren.

This Programme identifies the environmental issues that have to be addressed if sustainable development is to come about - climate change, the over-use of renewable and non-renewable natural resources, the loss of bio-diversity, and the accumulation of persistent toxic chemicals in the environment. It sets out the environmental objectives and targets that need to be met and describes how the instruments of Community environmental policy will be used to tackle these issues while pointing to the need for further action in other policy fields. The changes that are needed, for example, in the way we farm, supply energy, provide transport, and use land must be achieved through changes in the actual policies that cover these areas. This requires the integration of environmental protection requirements into other policy areas and a need for the Community to examine its current systems of governance and find ways of changing them to ensure consistency between our social, economic and environmental objectives and between the ways of meeting them.

Sustainable development is also a major opportunity for post-industrial Europe at the dawn of the knowledge or 'e-economy'. If we can support and encourage the development of a greener market place, then business and citizens will respond with technological and management innovations that will spur growth, competitiveness, profitability, and job creation. A progressive environmental policy can thereby contribute to the objective of the Lisbon European Council conclusions of making the EU the world's most competitive knowledge-based economy. Leading business organisations and companies are already integrating sustainable development considerations into their core business strategies.

Yet, sustainable development is more than a clean environment. The social and economic implications of environmental action must be taken into account when pursuing sustainable development. So, whilst this Action Programme targets the environmental dimension of sustainable development, it also aims to improve the environment and quality of life of citizens in the European Union more generally.

The Commission is committed to putting forward an EU strategy on sustainable development for the European Council meeting in Göteborg in June 2001. This strategy will address environmental, social and economic issues. This Programme in no way prejudices further actions, which might be contained in this strategy.

### 1.3. Nature of the Programme

This new Programme establishes environmental objectives for the next 10 years and beyond and sets out the actions that need to be taken over the coming 5 to 10 years to achieve these objectives. Whilst the Programme focuses on actions and commitments that need to be made at the Community level, it also identifies actions and responsibilities that need to be addressed at the national, regional and local levels and in the different economic sectors. In selecting these actions, full account is taken of the need for the highest possible level of harmonisation and approximation of laws to ensure the functioning of the internal market. This includes a limited number of Thematic Strategies (which may include a range of instruments from proposals for legislation for adoption by the European Parliament and the Council of Ministers through to dissemination of information) in areas where only a package of co-ordinated measures will yield results. The Thematic Strategies will set out the overall policy approach and the proposed package of measures needed to achieve the environmental objectives and targets in a cost-efficient way- which themselves will be determined on the basis of sound scientific and economic cost-benefit analysis and on open dialogue and consultation with the various parties concerned.

The conclusions of the Global Assessment and the reports on the state and trends of the environment lead to the programme's focus on the following priority issues, that have been grouped under four main headings:

- (i) tackling climate change;
- (ii) nature and bio-diversity - protecting a unique resource
- (iii) environment and health;
- (iv) ensuring the sustainable management of natural resources and wastes

The Programme will be subject to a review in 2005 and revised and updated, as necessary, to take account of new developments and information.

## 2. A Strategic Approach to Meeting Our Environmental Objectives

Environmental legislation is and will remain an important pillar of the Community's approach to achieving its environmental objectives and one of the strategic priorities for the coming decade is to tackle the significant implementation failures we face in a number of areas.

However, meeting the challenges of today's environmental problems requires that we look beyond a strictly legislative approach and that we take a more strategic approach to inducing the necessary changes in our production and consumption patterns. We need to make the best use of a whole range of instruments and measures to influence decisions made by business, consumers, citizens and policy

planners in other areas, for example at the local level when making land-use planning and management decisions.

Thus, this Programme proposes five priority avenues of strategic action to help us meet our environmental objectives. The first is to improve the implementation of existing legislation. The second aims at integrating environmental concerns into the decisions taken under other policies. The third focuses on finding new ways of working closer with the market via businesses and consumers. The fourth involves empowering people as private citizens and helping them to change behaviour. Finally, the fifth aims at encouraging better land-use planning and management decisions.

## 2.1. Improving the Implementation of Existing legislation

The implementation of the Community's extensive range of environment legislation and the LIFE programme has contributed substantially to the improvements listed above in chapter 1. The same holds true for the first voluntary instruments introduced on a Community-wide scale, the eco-management and audit scheme [5] (EMAS) and the European eco-label. These legal acts and instruments, the backbone of the Community's environmental protection policy, have partly been reviewed in recent times to improve their coherence and effectiveness.

[5] Reference to EMAS when available

The full application, enforcement and implementation of all existing legislation is a strategic priority for this Programme's period. The Commission will thus continue to launch infringement procedures against Member States and if necessary take them to the European Court of Justice to ensure respect for the obligations they have accepted in approving the existing legislation. The problem remains that the legal process is slow and that many years may pass until action is taken.

Legal procedures, however, need not be the only means to ensure compliance with Community rules. Transparency is a powerful way of encouraging progress by Member States and authorities that lag behind in transposing and putting into practice Community legislation. This includes positive examples where implementation has been particularly successful and which could hold lessons for other countries. The Commission intends to pursue such a 'name, shame and fame' strategy for selected pieces of legislation and, where possible, together with the European Parliament. Information will be made more easily accessible in the form of a regularly up-dated implementation scoreboard. More generally, the ratification and implementation of the Aarhus Convention on 'Access to information and public participation on environmental matters' will also contribute to better implementation of Community legislation by the Member States.

Environmental crime, which results from breaches of EC environmental law and its possible implementing measures in national law if committed intentionally or by serious negligence, and in particular organised crime, need to be tackled vigorously. The Commission will encourage a twin track approach aimed at establishing criminal sanctions at national level where Community law is deliberately flouted, under the EC pillar and approximating national laws aimed at combating organised environmental crime, including judicial cooperation, under the EU third pillar.

Finally, the exchange of experience and best-practice on the implementation of Community legislation between the network of Member State implementing authorities (IMPEL) also plays an important role in supporting the implementation process.

### Actions

- Continued support for the IMPEL network of exchanging best practice on implementation between Member States, and extending IMPEL to the Candidate Countries.
- Reporting on implementation by way of both the annual Commission report on monitoring the application of EC law and the annual survey on implementing EC environmental law, and presentation of this information in the form of an implementation scoreboard.
- 'Name, shame and fame' strategy organised by the Commission on individual directives.
- Promotion of improved standards of inspection by Member States.

- Initiatives to combat environmental crime.
- As necessary, pursuing action in the European Court to ensure implementation.

## 2.2. Integrating environmental concerns into other policies

Policies under the control of the environmental authorities can only go so far in meeting our environmental objectives. The changes that are needed, for example, in the way we farm, supply energy, provide transport, use renewable resources and use the land must also be achieved through changes in the actual policies that cover these areas as well as general environmental policies. This requires the integration of environmental objectives into the early phases of the different sectoral policy processes and an ability to assess and make informed decisions over a much longer time horizon.

The Community has already recognized the importance of integration of environmental protection into other policies by the inclusion of this objective in Article 6 of the Treaty.

The European Council meeting at Cardiff in 1998 sought to give practical application to the article in the Treaty by requesting different Council formations to prepare strategies and programmes aimed at integrating environment concerns into their policy areas. The process needs to be supported by effective environmental assessment of new policy proposals from the Commission and further efforts on the definition of indicators to measure progress where work is already well under way in several sectors.

The following chapters give some directions as to where the integration of the environment into other policies is required to achieve the objectives with respect to the priority themes. Chapter 8 foresees the continuing development of integration indicators as an important tool to monitor progress. In addition, the Commission will strengthen its internal mechanisms in order to ensure that all its initiatives take environmental concerns into account.

### Action

- Establish where necessary additional internal 'integration' mechanisms within the Commission that ensure, among other things, that environmental protection requirements are fully assessed in the preparation of all Commission policy initiatives.
- Continue to stimulate commitments to implement the Treaty requirements on environmental integration, such as the initiative started at the Cardiff summit, and ensure that the strategies produced are translated into effective action.
- Further development of indicators to monitor and report on the process of sectoral integration.

## 2.3. Encouraging the Market to Work for the Environment

To date, the approach towards business has largely revolved around setting standards and targets and then ensuring companies comply with these standards. Member States have increasingly supplemented this with market-based instruments, such as environmental taxes on different products, which aim to change the price signals in the market place in favour of more environment-friendly products, processes and services. Several Member States have also undertaken Environmental Tax Reforms, which combine new or increased environmental taxes with reductions in the taxation of labour in order to further employment. In the right circumstances, environmental taxes can be highly effective in both cost and environmental terms [6] as the differentiated tax rates on leaded vs. unleaded petrol demonstrated. They also provide incentives for companies to research and invest in more environmentally-friendly or less resource intensive technologies (dynamic efficiency). This makes them particularly attractive for problems of a long-term nature. One example of market-based instruments used by the Community is the establishment of agri-environmental contracts which offer incentive payments to farmers who sign up to specific environmental commitments.

[6] Communication from the Commission to the Council and the European Parliament: Bringing our needs and responsibilities together - Integrating environmental issues with economic policy, COM(2000) 576 final, 20.9.2000.

The introduction of environmental taxes is often opposed by industry for fear of losses in competitiveness. This also explains why most environmental taxes are accompanied by important exemptions. To overcome these competitiveness concerns, a harmonised approach at Community level is necessary. These ideas are at the core of the Commission's 1997 proposal for an energy products tax. It seeks to increase minimum tax rates on energy products that are currently taxed (mineral oils) and to introduce taxes on energy products that have been exempt in some or all Member States so far (gas, electricity, coal), while encouraging Member States to reduce other taxes, in particular charges on labour. So far this proposal has not found the necessary unanimous support by Member States.

Markets and consumer demand can be guided towards products and services that are environmentally superior to competing products by means of information, education and by ensuring that products, as far as possible, incorporate the true environmental costs. This will encourage business to respond with innovations and management initiatives that will spur growth, profitability, competitiveness and job creation. It will also enable consumers to adopt greener lifestyles as informed choices.

#### Working in Partnership with Business

The Community has already developed a number of programmes and initiatives aimed at improving the collaboration between authorities and industry and encouraging voluntary action by industry to improve their environmental performance. For example, the Community's Eco-Management and Audit Scheme (EMAS) encourages companies, on a voluntary basis, to set up site or company-wide environmental management and audit systems and to publish periodic environmental performance reports that are independently verified by accredited auditors. Whilst the uptake of EMAS by companies has been encouraging, additional measures need to be considered that will help significantly increase the proportion of companies that publish rigorous and audited environmental or broader sustainable development reports (similar, for example, to the Global Reporting Initiative [7] (GRI) which sets out guidelines for companies on how to report on progress towards meeting sustainable development objectives). The Community's LIFE Programme will continue to be a valuable instrument in illustrating the possibilities and advantages of better environmental performance by business and local authorities.

[7] Established by the Coalition for Environmentally Friendly Economies and the United Nations Environment Programme in 1987, see [www.globalreporting.org](http://www.globalreporting.org).

There remain, however, many other opportunities for strengthening the partnership and commitment of the business community. A first simple step is to develop a compliance assistance programme. The Commission, in cooperation with industry groups, will develop a range of tools aimed at helping businesses understand EC environmental requirements and how they should be met. This will include, for example, guidelines on complying with different legislation, summaries of legislation, 'notebooks' on best practice and cleaner technology in different business sectors, the development of an environmental services vendor directory, and environmental management software that can be downloaded directly from the internet.

Specific attention will be given to tailoring these tools to the needs of Small and Medium-Sized Enterprises (SMEs). The Commission, for example, will look at the possibilities of developing a scheme to encourage SMEs to self-audit their compliance and improve their environmental management systems. Improving participation of SMEs in the Community's EMAS programme is a priority. As an incentive to SMEs, Member States could be encouraged to streamline their permitting and reporting procedures for companies accredited under the scheme. Programmes such as the European Eco-efficiency Initiative (EEEI) should be encouraged to enhance the understanding about the positive effects of eco-efficiency concepts on the companies' result.

Another way of strengthening the partnership with the business community is the use of voluntary environmental agreements. These have to conform to stringent criteria in terms of clear objectives, transparency and monitoring and have to be effective in achieving ambitious environmental objectives. Clear rules should be established for the procedure of negotiating and concluding such

environmental agreements. If properly designed, environmental agreements can deliver environmental improvements in a more cost effective and rapid way.

Companies that fail to meet legislative environmental requirements are penalised. Yet, those that go beyond are usually not rewarded neither by government nor, often, in the market place. Working together with Member State governments, the Commission will support the development of national, but harmonised, company environmental performance reward systems that identify and reward the good performers. Amongst other things, this will be coupled to streamlined permitting and reporting procedures.

Within the framework of the proposed Integrated Product Policy (IPP) approach, the Commission will address ways to improve the environmental performance of products throughout their life cycle. The aim shall be to satisfy consumer demand with less resources and lower hazards and risks to the environment and prevent waste generation at source. This will comprise action on economic incentives for environmentally friendly products, enhancing 'green' demand through better consumer information, developing an objective basis for green public procurement, and action to encourage more environmentally friendly product design. This will involve discussion with stakeholders to improve product design on the basis of voluntary actions by companies and sectors and will, if appropriate, be supported by instruments such as standardization and legislation.

The potential for environmental improvements through more environmentally friendly technologies, production processes and materials is huge, but often a lack of information or other market barriers hinder their application by companies and especially SMEs. Over and above the support for advanced 'green' technologies by a compliance assistance programme and Integrated Product Policy, technology fairs and technology inventories on the internet are ways to overcome these barriers. The Commission will look into these and other specific measures to ensure that European companies and the environment reap the full benefits of technological opportunities.

#### Actions

- Encourage a wider uptake of the Community's Eco-Management and Audit Scheme (EMAS) and, in addition, develop measures to encourage a much greater proportion of companies to publish rigorous and independently verified environmental or sustainable development performance reports.
- Establishment of a compliance assistance programme, with specific help for SMEs.
- Introduction of company environmental performance reward schemes.
- Encouraging voluntary commitments and agreements to achieve clear environmental objectives.
- Specific actions, under an Integrated Product Policy approach, to promote the greening of products and processes.

#### Helping Consumers Make Informed Choices

People, as consumers, need to be given relevant and readily understandable information about a product's environmental credentials if they are to make choices that support environment-friendly initiatives by companies. Public and corporate procurement officers also need this information. The Commission will look at options to ensure that companies provide the necessary information to consumers via their websites and other communication channels.

A number of Member States and the Community have developed product eco-label schemes with the aim of influencing consumer choice in favour of more environment-friendly products and to assist the greening of public procurement. The Community will review progress and the effectiveness of the Community eco-label scheme and in light of this make any changes that may be necessary. The Community will also, within the framework of its proposed Integrated Product Policy, look at measures to encourage the uptake of the types of eco-labels that allow consumers to compare performance between products. Good examples include the classification of refrigerators and freezers according to their energy efficiency and washing machines according to both their energy and water efficiencies. Coupled with financial incentives by governments such as partial rebates on products that meet the

highest environmental performance criteria these can be very effective tools. The Commission will also investigate how more competitive pricing for green products in general could be introduced in the internal market.

Information about the content, or lack of content, of certain hazardous substances, the origin of the materials used to make the product, about the recyclability of a product, etc, will also be effective. Member States and companies should aim at introducing product information schemes for all types of products in the years to come and the Commission will encourage this under its Integrated Product Policy approach as described above. The Directive on Misleading Advertising, which is currently under revision, also applies to self-declared environmental claims. The Commission develops guide-lines to help companies comply with the terms of the Directive and national governments should set up appropriate mechanisms for monitoring such claims.

Public procurement accounts for approximately 14 % of demand in the market and 'purchasers' in companies and other governmental and non-governmental organisations can help in 'greening' the market by using environmental performance as one of their purchase criteria. The Commission, while ensuring consistency with the internal market, will continue to encourage the uptake of green procurement practices by including on a database, guidelines to help businesses and local authorities establish good systems and avoid them having to reinvent the wheel each time. The Commission will also look at the feasibility of promoting green purchasing by introducing an obligation to carry out, before purchasing, an assessment of the environmental impact of the different alternatives available that meet the needs of the contracting authorities. In this way, decisions will be taken with full awareness of the environmental consequences. As an example, the Commission and other Community Institutions and bodies will themselves undertake a full review of their own procurement practices and take the necessary actions to improve performance.

#### Actions

- Assess progress and effectiveness of Community Eco-Label scheme.
- Measures, including the use of fiscal incentives where appropriate, to encourage the uptake of eco-labels that allow consumers to compare environmental performance (e.g. energy efficiency) between products of the same type,
- Promotion of green procurement, with guidelines and a review of green procurement within the Community Institutions who will 'lead by example'.

#### Environmentally Harmful Subsidies and State Aid

One other area of activity in the market place that needs attention is that of government subsidies resulting in unintended environmental impacts. Coal subsidies slow down the shift to cleaner sources of energy production such as gas or wind farms because using coal remains artificially cheaper. Agricultural price support and certain commodity-linked payments can encourage the development of environmentally damaging farming practices. Important progress has been made under the Agenda 2000 process to review and revise the subsidies applied under the EC's Common Agricultural Policy and under the Cohesion and Structural Funds. But more still needs to be done when these programmes come up for review around the middle of this decade.

On the other hand, subsidies can also be used in a beneficial way when they are used to pump-prime the development of environment-friendly production processes and products provided they respect the Community state aid rules. The Commission has just adopted new guide-lines for environmental state aids and these include changes that maximise the potential to use subsidies for environmental purposes whilst ensuring they minimise the impact on competition in the internal market.

#### Greening the Financial Sector

The financial sector's lending and investment activities have significant indirect environmental impacts by determining which companies and activities have access to finance and the conditions attached. Facilitating disclosure of relevant information by the financial sector and companies could create an incentive for 'greener' behaviour. Furthermore, increasing numbers of shareholders and consumers do

not just want to know that a company is providing good products and services at a fair price, they also want to be reassured that these have been produced in an environmentally and socially responsible manner. The Commission will work to help the financial sector by encouraging the systematic incorporation of environmental cost elements into financial reports.

Where the financial sector offers Green Investment Funds to the public, we can work towards voluntary guidelines on what can be called a 'green' investment. And, in addition, in co-operation with the European Investment Bank and the European Bank for Reconstruction and Development, we can have a more direct impact on the flow of funds to environmentally friendly activities.

#### Actions

- Promote exchange of best policy practice between Member States.
- Consider a voluntary initiative with the financial sector which could cover, for example, exchange of best practice, agreement to meet harmonised standards for reporting by companies in the financial sector, for issuing loans, for 'green investment funds etc
- Strengthening the integration of environmental objectives and considerations into lending by the European Investment Bank.

#### Creating a Community Environmental Liability Regime

In general, EC environmental legislation has tended to focus on the regulation of certain activities or substances which carry risks to human health and the environment. This body of legislation rarely addresses the question of what should happen if, despite legislation, injury to persons and damage to their property or to the environment should nonetheless occur. The Treaty provides that Community environmental policy should be based upon certain basic principles - among which the polluter pays principle and the principle of preventative action [8]. Thus, one of the important tasks for the Community is to ensure that those who cause injury to human health or cause damage to the environment are held responsible for their actions and that such injury and damage is prevented wherever possible.

[8] Article 174(2) of the Treaty establishing the European Community

In its White Paper on Environmental Liability of February 2000 [9], the Commission proposed a regime which would impose liability on those parties who cause injury to persons or their property, contaminate sites or cause damage to bio-diversity. It is currently preparing a legislation on environmental liability.

[9] COM(2000) 66 final of 9 February 2000

#### Action

- Legislation on environmental liability

#### 2.4. Empowering Citizens and Changing Behaviour

Europeans are strongly committed to protecting the environment and in recent years we have begun to play a more active role, as individuals, in environmental protection. Many people have started to make efforts to change their personal and family behaviour, for example, by recycling, buying environment-friendly products and installing energy efficient systems in our households. Furthermore, well-informed citizens who are actively involved in environmental decision-making are a powerful new force in achieving environmental results. People are demanding a stronger voice in the decisions made at the community, regional, national and international level that affect our health and the quality of our environment. To be effective, however, they need quality information that they can use and understand and they need the appropriate access to decision-makers to be able to express their views.

Under the Aarhus convention, the Community and Member State institutions have signed up to a series of commitments regarding improved transparency, access to environmental information, and

public participation in environmental decision making. Revisions to Community legislation and procedures are already underway and will be completed in the coming years. The Commission is also committed to improving participation by interested parties in policy making and target setting as described under Section 8 below. The full implementation of the directive on Environmental Impact Assessment and the proposed Strategic Environmental Assessment will help empower citizens by giving greater opportunity for a say in decisions on planning, projects and policies.

For people to exercise their power as voters and as interested parties in decisions made by all levels of government, they need to know and understand what the issues are, what is needed to resolve them and how they can contribute. Thus environmental education, information including indicators and maps, and awareness raising initiatives will be essential to this process. Initiatives are already underway to develop a coherent and easily understood set of environmental indicators at the European level as well as improving the presentation of information in the form of maps. Education is very much the responsibility of the individual Member States and they are encouraged to incorporate environmental elements into their school curricula.

Information for citizens, aimed at encouraging more sustainable lifestyles, is probably best provided at local, regional and national level and by a range of organisations, from government to NGOs, which command respect and trust. Practical information is needed that helps people to use and buy alternative products and services that are energy efficient, recyclable or otherwise environmentally benevolent. There are already initiatives of this kind underway, with web sites and educational programmes for example in the UK and Sweden. The Community can help encourage the spread of this sort of activity through information on best practice and practical tool-kits aimed at kick-starting action by local authorities or other organisations.

Local action in favour of the environment is widespread and reflects the interest of people in keeping their neighbourhoods pleasant places to live or in preserving the local countryside and wildlife. Public participation in planning could be improved through more easily accessible and better quality information. Environmental reporting by companies and authorities needs to make information available at a local level so that people can easily obtain data on emissions from factories or other installations in their area. This is already standard practice in the USA where maps showing such information can be obtained via the Web. The review of reporting on environmental information is discussed in section 8, and should make this public access to easily understandable and local information an objective.

#### Actions

- Measures to improve accessibility and quality of information to citizens on environment (e.g. polluting emission levels at the local level).
- Preparation of practical toolkits aimed at regional or local level to allow citizens to benchmark their individual or household environmental performance and to give information on how to improve it.

#### 2.5. Greening Land-Use Planning and Management Decisions

In the complex interplay of different forces and pressures which give rise to environmental problems, the role of land-use planning and management is crucial. This covers a wide range of decisions, usually made at local and regional level, determining the character and intensity of land uses and activities which may often have a major impact on environmental conditions. Such impacts may be direct for example by way of destruction of habitats and landscapes or indirect such as influencing the generation of additional traffic and hence contributing to congestion, air pollution and greenhouse gases. These impacts are of particular concern in urban and coastal areas where the greater pressure and conflict for land use and development is taking place.

The Community Directive on Environmental Impact Assessment [10] (EIA) and proposal on Strategic Environmental Assessment (SEA), which aim to ensure that the environmental implications of planned infrastructure projects and planning are properly addressed, will also help ensure that the environmental considerations are better integrated into planning decisions.

[10] Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, OJ L 073 , 14/03/1997 p. 0005 - 0015

Beyond this the Community can only play a role of encouraging and promoting effective planning and adequate policies at the local and regional levels. A forthcoming Green Paper on urban transport will address best practice and benchmarking with the aim of cleaner transport through rationalised use of cars and the promotion of public transport. Initiatives such as the Sustainable cities network and the pilot programme on Integrated Coastal Zone Management need to be further built on and extended. The Commission will also launch a specific programme aimed at architects, planners, government officials, developers, environmental groups and citizens to encourage best practice in terms of urban planning and the development of sustainable cities. This will focus on the development of networks of best practice, for example using a web-site, that will act as a forum for the exchange of ideas and experience and as a tool kit to support the shift towards sustainable urban development. The development of networks across tourist destinations will help encourage the exchange of experience and good practice on sustainable forms of tourism.

Community programmes, and notably the Regional policies, will have an important role to play in stimulating environmental management. Within the framework of the Common Agricultural Policy there is growing scope for encouragement of environmentally positive land management by ways of agri-environment programmes. This is important in assisting with the implementation of Natura 2000 and broader directions of Bio-diversity and Landscape conservation.

#### Actions

- Raise attention by a communication on Planning and Environment - the territorial dimension.
- Measures to improve the implementation of the Environmental Impact Assessment directive and the full and correct introduction of strategic environmental assessments after adoption at Community level.
- Commission work programme aimed at spreading best practice with respect to sustainable planning which will include the development of a website and related tools.
- Continuing support to programmes and networks fostering the exchange of experience and the development of good practice on sustainable urban development.
- Community cohesion policy, and especially the use of Community funds, should contribute to ensuring that sustainable land use planning, including urban development, are adequately addressed.
- Increased resources and a broader scope for agri-environment measures within the Common Agricultural Policy
- Promote and develop tourist destination networks to encourage active partnership for sustainable tourism.

### 3. Tackling Climate Change

#### 3.1. The Issue

The balance of evidence is that climate change is here and happening. Whilst variations in climate can happen naturally it is clear that human activity is causing increases in concentrations of greenhouse gases in the atmosphere. The scientific community now firmly believes that this will lead to higher global temperatures with serious consequences for the stability and balance of the climate. Strong evidence of the problem, as catalogued in the assessment reports of the Intergovernmental Panel on Climate Change includes:

- Over the last 100 years, average temperatures in Europe have increased by about 0.8°.
- The last decade was the warmest on record and 1998 the warmest year.
- Northern Europe is getting more rain and Southern Europe is becoming drier.

New forecasts [11] suggest that climate change will result in temperature rises of between 1° and 6° by 2100, bringing with it sea level rises of up to 90 centimetres and significant changes in weather patterns such as increased droughts, floods, cold spells and severe storms. In Europe, the Northern areas are predicted to get warmer and wetter with more flooding and severe storms whilst the Southern areas are predicted to become much drier with significant consequences for agriculture, forestry, water supplies and tourism. If unchecked, climate change is likely to happen at a pace where plant and animal species in different climatic zones are unable to migrate fast enough to keep up with the shifts in these zones. The consequences for bio-diversity, already under enormous pressure on other fronts, could be disastrous.

[11] Third Assessment Report, IPPC, (2000)

The implications of all this for society can be devastating. For example, in certain regions of the world, increased droughts and the collapse of agriculture could threaten security and social stability. It is also likely to change the patterns of disease around the world, for example, with areas that become warmer and wetter suffering the spread of tropical and sub-tropical diseases. The economic costs of these changes will largely exceed the costs of remedial action. [12]

[12] European Environmental Priorities: An Integrated Economic and Environmental Assessment, DG Environment (2000)

The greenhouse gases of concern are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), as well as so called fluorinated gases [13]. The major driving force behind the increases in emissions of greenhouse gases is the burning of fossil fuels, in cars, trucks, aeroplanes, power plants, domestic heaters, etc. Other sources of greenhouse gases include methane emissions from cattle, nitrous oxides from agricultural soils, methane emissions from waste in landfills as well as the emission of the fluorinated gases from manufacturing processes. Deforestation and changes in land use are an important contributor to the release of CO<sub>2</sub> to the atmosphere. Conversely, it is possible to reduce the concentration of CO<sub>2</sub> in the atmosphere by geological sequestration and by locking-up carbon in biomass (forests) and soils by changing land use patterns and practices.

[13] In addition to these gases, the ozone depleting substances (such as CFCs) are very potent greenhouse gases. Their use is being phased out based on the Montreal Protocol. Thus, climate policy is not focussing on these gases any longer.

The greenhouse effect of these gases could further delay the recovery of the ozone layer, which itself is an influence on the global climate. A better understanding of the atmosphere, its chemistry and dynamics is needed.

The EU has achieved its commitment to stabilise its CO<sub>2</sub> emissions in 2000 at 1990 levels, though in the main this is due to one-off reductions in Germany and the UK. However, the levels of greenhouse gas emissions are not expected to fall by 2010 if no further measures are taken. A major growth in CO<sub>2</sub> emissions of up to 40% is forecast for the transport sector which already today accounts for close to 30% of total CO<sub>2</sub> emissions in the EU. The figure below illustrates how the growth is likely to occur in the main economic sectors concerned.

&gt;REFERENCE TO A GRAPHIC&gt;

Breakdown of the contribution of key sectors to greenhouse gas emissions Figures in Mt CO<sub>2</sub> equivalents [14]

[14] Economic Evaluation of Sectoral Emission Reduction Objectives for Climate Change (January 2001), Environment DG

At the same time, the prevention of climate change does not have to mean a reduction in growth or prosperity levels. Rather, it means re-shaping the economy so that emissions are de-coupled from economic growth. Climate change is a powerful force for technological innovation and higher economic efficiency.

### 3.2. Objectives and targets

## Objective

In line with the aim of the United Nations Framework Convention on Climate Change, to stabilise the atmospheric concentration of greenhouse gases at a level that will not cause unnatural variations of the earth's climate.

## Targets

Scientists estimate that to achieve this objective, global emissions of greenhouse gases need to be reduced by approximately 70% over 1990 levels in the longer term.

Given the long-term objective, a global reduction in the order of 20 - 40% (depending on actual rates of economic growth and thus greenhouse gas emissions as well as the success of measures taken to combat climate change) over 1990 by 2020 will need to be aimed at, by means of an effective international agreement.

In the short term, the EU is committed, under the Kyoto Protocol, to achieving an 8% reduction in emissions of greenhouse gases by 2008-2012 compared to 1990 level.

## 3.3. Policy approach

### Mitigating climate change

Strong international co-operation is required to tackle climate change. However, the European Union is responsible for about 15% of world's greenhouse gas emissions but has only 5% of its population. Thus, we must take a lead in reducing emissions. A first important step is to meet the targets set at Kyoto, which for the Community is an 8% reduction in greenhouse gas emissions by 2008-2012 compared to 1990 levels. Even this modest target will require a major effort across the different economic sectors responsible for the emissions. In parallel, the Community should press for international agreement on more ambitious reductions.

In an effort to prepare for effective Community-wide action to combat climate change, the European Commission has issued a Communication on European Union policies and measures to reduce greenhouse gas emissions and a Green Paper on an EU-wide emissions trading scheme [15]. In this context, the Commission launched the European Climate Change Programme [16] (ECCP). The results of the ECCP will form the basis for concrete policy proposals in the areas of energy, transport, industry and agriculture and for an internal EU emissions trading scheme.

[15] Green Paper on greenhouse gas emissions trading within the European Union, COM (2000) 87 final

[16] EU policies and measures to reduce greenhouse gas emissions: Towards a European Climate Change Programme (ECCP), COM(2000)88 final

Our efforts will develop following different axes of action:

- specific measures to enhance energy-efficiency, energy saving, more use of renewable energies and raw materials, and the reduction of greenhouse gases other than CO<sub>2</sub>. This can be pursued for example through specific legislation (for example through the Integrated Pollution, Prevention and Control legislation), environmental agreements with industry, the use of market instruments and support for the application of advanced technologies.
- the integration of climate change objectives into the Community's sectoral policies such as transport, energy, industry, regional policy and agriculture based on specific objectives, identifying concrete actions to be taken and developing relevant indicators.
- Structural changes in the transport sector to address transport demand, promote a shift to railways, waterways and public transport and improve transport efficiency are of primordial importance in this context. Alternative fuels and appropriate engine technologies offering higher efficiency or low or zero carbon emissions need to be researched and exploited with a view to them becoming commercially

viable. Attention will be given to aviation emissions which are expected to grow by almost 100% from 1990 to 2010.

- In energy, we need to promote a further shifting from coal- and oil-fired power generation towards lower CO<sub>2</sub> emission sources, in particular natural gas as well as to de-carbonise the use of fossil fuels. Increasingly, the shift should be to renewable energy sources with the target of achieving 12% of electricity production from these sources by 2010. As nuclear power stations are closed down as they arrive at the end of their lifetime they need to be replaced with low or zero carbon alternatives. The use of combined heat and power systems (which distribute the heat generated in the production of electricity to business and homes) offers potential for greater efficiency and reductions in emissions of CO<sub>2</sub>. By 2010, combined heat and power supply should reach 18% of electricity supply. Energy demand management will be a core element of energy policy.

- In other sectors, farming should achieve substantial reductions in emissions of nitrous oxides and methane, and carbon sequestration should be exploited through techniques which enhance 'carbon sinks' in agriculture and forestry and through the use of wood based products in housing and industry. Industry should strive to achieve better energy efficiency, aiming at the annual improvement of at least 1% foreseen in the European Union's Action Plan on energy efficiency.

- developing cross-sectoral approaches, including the establishment of an EU-wide emissions trading scheme by 2005 and energy taxation leading to a steady and predictable increase in energy prices;

- enhancing research especially on innovative technologies and materials, on ocean carbon sources and sinks, on the effects of atmospheric chemistry and also to prepare the ground for drastic reductions in energy use;

- improving information to citizens and business about climate change, the implications it may have for them at the local level, and showing them how they can contribute to addressing the climate change challenge. Regional assessments to show the direct impacts on local communities will bring home the need for change and help to increase awareness.

The sequestration of CO<sub>2</sub> to old gas and oil fields as well as to aquifers needs to be examined, and when environmentally and economically feasible, exploited.

Under the European Climate Change Programme [17] (ECCP) the Commission will prepare Community policies and measures along those lines through a multi-stakeholder process. However, the Member States as well as regional and local authorities are responsible for many of the steps that need to be taken, for example in transport policy, land-use planning and awareness-raising campaigns.

[17] EU policies and measures to reduce greenhouse gas emissions: Towards a European Climate Change Programme (ECCP), COM(2000)88 final

As the European Union expands to Central and Eastern Europe, there will be opportunities to reduce emissions by improving energy efficiency in this region and in ensuring that prices of energy reflect environmental costs. It will be important to ensure that the implementation of the Common Agricultural Policy in these countries does not lead to increased emissions of methane and nitrous oxide.

#### Actions

- Establishment of an EU - wide CO<sub>2</sub> emissions trading scheme.

- Undertaking an inventory and review of energy subsidies in the Member States, with consideration to the compatibility with climate change objectives.

- Support to renewable energy sources through the new Directive and by ensuring adequate support in the liberalised energy market.

- Use of market instruments, for example through the adoption of proposals for energy taxation.

- Promotion of energy-saving on both heating and cooling in buildings.

- Environmental agreement with industry on energy efficiency and to reduce specific emissions.
- Identifying specific action to reduce greenhouse gas emissions from aviation if no such action is agreed within the International Civil Aviation Organisation by 2002.
- Climate change as a major theme of Community policy for research and technological development and in the co-ordination of research in the Member States.

#### Preparing for climate change

The time lag between reducing greenhouse gas emissions and reducing the actual concentrations is long. It is likely that even if we succeed in bringing emissions down to sustainable levels we will experience a certain degree of climate change induced by the build-up of greenhouse gases in the atmosphere that has already occurred. We therefore need to identify and implement measures aimed at adapting to the effects of climate change.

Studies already suggest a number of areas of concern, for example:

- energy and transport systems and infrastructures, which need to withstand extreme weather;
- city planning that encourages more parks and greenery and that encourages the use of building materials that help to make cities cooler;
- land-use and agricultural practices need to adapt to changed weather patterns;
- public health measures to combat diseases such as gastric illnesses, whose ranges are likely to increase across Europe with wetter and warmer weather;
- emergency services to adapt and modernise with suitable equipment and procedures and to make realistic estimations of the potential hazards of climate change.

Adaptation policies to climate change fall in the first instance to the Member States and regional and local authorities. However, the Community can support their efforts.

#### Actions

- Reviewing Community Policies, especially those relating to cohesion, to ensure that the adaptation to the consequences of climate change is addressed adequately in investment decisions;
- Development of regional climate modelling and assessment tools to prepare regional adaptation measures and to support awareness-raising with citizens and business.

#### European Union leadership for international action

The European Union will need to continue its leadership at international level in setting and monitoring targets which live up to the need for effective action against climate change and in pressing for compliance. A first step will be the ratification of the Kyoto Protocol in time for its entry-into-force in 2002.

Future international agreements on reducing emissions of greenhouse gases need to include countries not yet committed to emission reductions in the Kyoto Protocol, especially those whose development and income levels are already relatively high. Targets that are set in future agreements should, amongst other things, be guided by considerations of equitable distribution of greenhouse gas emissions.

#### Action

- Ratification and implementation of the Kyoto Protocol.

Climate change is a significant challenge to modern society. It must be met at international level with concerted action and long-term planning. If tackled in the right way, our efforts to limit climate change are likely to generate significant opportunities and benefits for business as well as side benefits in terms of reduced air pollution. Industry will be helped to innovate, develop new products

and services and win new markets on a global scale. But most importantly, success will help ensure that future generations inherit a viable environment and sustainable society.

#### 4. Nature and bio-diversity - protecting a unique resource

##### 4.1. The issue

Healthy and balanced natural systems are essential for supporting life on this planet. Society relies on nature to provide us with the resources for our survival: air, water, food, fibres, medicines and building materials. We also value nature for its own sake, as a provider of services, as a source of aesthetic pleasure and scientific interest. Children need to grow up aware of the nature around them. As a species we have a responsibility to preserve the intrinsic value of nature both for ourselves and for future generations.

This means that we must find responses to the pressures from human activity on nature and the bio-diversity it supports. These pressures can be categorised as follows.

- Pollution from transport, industry and agriculture continues to threaten natural areas and wildlife. Pollution can be from direct and dramatic events such as the Baia Mare disaster in Romania where cyanide and heavy metals leaked from a gold mine into the river causing mass destruction of wildlife. The effects can also build up over time, for instance acid rain that wears down soils, forests and lakes, or chemicals that threaten the ability of birds and other animals to breed. 'Eutrophication', or surplus nutrients in water causing algae or other plant growth could become a threat to marine and freshwater life. Ionising radiation is a potential threat to flora and fauna and this must be kept under surveillance.

- Pressure is coming from the changes in how we utilise land, and when we exploit natural resources at a rate faster than they can be replenished, for example fish stocks. The building of new roads, houses and other developments is fragmenting the countryside into ever-smaller areas, making it harder for species to survive. All the trends suggest that the loss of open countryside to development will continue in the future.

- There are concerns about the potential risks to bio-diversity from undesired and unforeseen consequences of the introduction of certain non-native species which are not well-suited to the local conditions and/or the use of GMOs.

Exploitation of the sea and the various pressures on the marine environment represent very similar pressures resulting from human activities.

As habitats are degraded or lost, wildlife is frequently under pressure or even the threat of extinction. In Europe, 38% of bird species and 45% of all butterflies are threatened. In North and Western Europe, some 60% of wetlands have been lost. Some two-thirds of trees in the European Union are under stress and forest fires a problem in the South. Some fish stocks are under risk of collapse and some marine life other than commercial fish have been decimated. On a global scale, forest clearance and illegal logging has led to the loss of 90% of the Atlantic tropical coastal forests of South America, a hot spot of bio-diversity. International trade in wildlife is recognised as a threat to some 30,000 species. [18]

[18] 'Environment in the European Union at the turn of the Century', European Environment Agency, 1999

Preserving nature and biodiversity does not necessarily mean the absence of human activities. Much of today's valuable landscape and semi-natural habitats are a result of our farming heritage. However, the ecological stability of such modern landscapes with diverse species of flora and fauna are also threatened as land is abandoned or marginalised. Maintaining valuable landscapes such as these requires appropriate land management activities.

Soil is a finite resource vital to agriculture, and is under pressure. Erosion that is climate and weather related is a particular problem in Southern Europe but increasingly also in the North. Erosion is often linked to reduced content of organic matter in soil and this can also lead to desertification. Some

agricultural practices and abandonment of land are among the predisposing factors. Other threats include pollution and loss of land to development.

Tourism and natural environment are closely inter-linked. Nature and bio-diversity, as well as cultural heritage, if not properly managed, can be seriously affected by uncontrolled tourism development. Fragile areas, such as islands, coastal and mountain areas provide bio-diversity richness that require particular attention and specific integrated management means when dealing with tourism development.

The diversity, distribution, composition in terms of size and age and abundance of different species are indicators of the well-being of the natural systems of the Earth that society depends upon. We must take action before it is too late to preserve the irreplaceable resources of nature and bio-diversity.

#### 4.2. Objectives and targets

To protect and where necessary restore the structure and functioning of natural systems and halt the loss of bio-diversity both in the European Union and on a global scale.

To protect soils against erosion and pollution.

#### 4.3. Policy approach

Protecting nature and bio-diversity in the Community follows a multi-track approach and can build on existing policies and instruments:

- The establishment of the Natura 2000 network which involves the identification of the most representative natural areas and eco-systems, which need to be protected and managed;
- The contribution of the LIFE programme's nature projects to the implementation of the Community's nature policy;
- The Community Bio-diversity Strategy. As a follow-up a number of Action Plans are being drawn-up which will address the key issues in the various economic and social policy sectors.
- Community legislation protecting water quality and water resources, reducing air pollution, acidification and eutrophication, and mandating environmental assessments of projects and (in future) land-use plans and programmes.
- The development, within the Common Agricultural Policy, notably of agri-environment measures since 1992 and of rural development plans with a strong environmental content for the period 2000-2006 in response to Agenda 2000. Furthermore, the new environmental protection requirements for agricultural sectors (including the possibility of the withdrawal or cutting of direct payments in order to enforce compliance) established by Agenda 2000, provide both a mandate and opportunity for Member States to achieve a better balance between agriculture and the environment.
- The revision of the Common Fisheries Policy after 2002 leading to the greater integration of environmental concerns.
- The Commission has furthermore proposed recommendations for implementing Integrated Coastal Zone Management. This initiative proposes an integrated and participatory approach to the many and complex problems that are faced by coastal zones.

#### 4.4. The way ahead

The threat from pollution

Implementation

Nature and bio-diversity will already benefit from the practical implementation of environmental legislation in the Member States. In some cases, the implementation will need to be reinforced. Important areas for action are on water and air.

## Disasters and civil protection

The Community needs a coherent and consolidated policy to deal with natural disasters and accidental risk. The Community can assist Member States with long-term preventive measures giving support for example to land-use planning instruments, assessment and early warning tools and improved emergency management, using for instance satellite surveillance (via the Galileo navigation satellite system) and exchange of experience.

The Seveso II Directive [19] provides a good basis for managing industrial risks but should be extended to cover new activities such as mining accidents and pipelines. Recent studies [20] indicate that there is a large variation in the degree to which Member States cover the control of major accident hazards arising from pipelines and that there are important gaps to be filled.

[19] Council Directive 96/82/EC on the control of major-accident hazards, OJ No L 10 of 14 January 1997

[20] 'Regulatory benchmark for the control of major accident hazards involving pipelines, JRC (1999)

## Action

- Community co-ordination to Member States' action on accidents and natural disasters;
- Measures to help prevent industrial accidents, including the extension of Seveso II to cover pipelines and on mining, and measures on mining waste.

## Radiation Protection

The present system of radiation protection is based around the protection of man. An international discussion has begun on the need to protect as well plants and animals. The Community should participate in this work.

## Action

- Examination of the need for measures to protect plants and animals from ionising radiation and to develop environmental quality standards for this purpose.

## Use of land

The protection of natural areas, both on land and at sea, and the bio-diversity they support requires that we manage the different pressures for their development and use. This means recognising the importance of environmental concerns alongside those of ensuring a healthy economy and social structure in our rural and coastal areas.

The components of such an approach are as follows.

## Protection and management of areas of special importance - Natura 2000

The linchpin of European policy to protect bio-diversity and the eco-systems which support it remains the full implementation of Natura 2000. The first step will be to achieve adoption of the lists of sites by the Commission. As a second stage, Member States should aim at establishing management plans for each site by 2004.

## Managing the countryside

### Agriculture

The reforms of the Common Agricultural Policy have had and will continue to have a positive impact on the rural environment. This can, however, be developed further by ensuring that a greater share of the funding available under the CAP goes to measures that are environmentally friendly.

In Central and Eastern Europe, the Common Agricultural Policy can help modernise the farming sector but it must be introduced sensitively, concentrating on rural development. The feasibility of designating a significant part of the land as agri-environment areas should be assessed.

Use of Rural Development measures, including funding from the Community under the 'Special Accession Programme for Agriculture and Rural Development' (SAPARD) should target the promotion of organic agriculture, energy crops, other land conservation services and the development of 'non-farming' activities on farms.

#### Landscapes

Landscapes are systems with their own geology, land use, natural and man-made features, fauna and flora, watercourses and climate. They are shaped and characterised by socio-economic conditions and habitation patterns. Preservation and improvement of landscapes are important to quality of life and rural tourism as well as to the functioning of natural systems. However, development and some types of agriculture can threaten the viability and existence of landscapes. In response, the Common Agricultural Policy is already encouraging farming methods more favourable to maintaining traditional landscapes. On the wider scene, the European Landscape Convention [21] foresees measures to identify and assess landscapes, to define quality objectives for landscapes and to introduce the necessary measures.

[21] European Landscape Convention, adopted by the Council of Europe's Committee of Ministers on 19 July 2000, was signed on 20 October 2000 by 18 countries during a Ministerial Conference in Florence

At Community level, regional and agricultural policies need to ensure that landscape protection, preservation and restoration is properly integrated into the objectives, measures and funding mechanisms.

The Integrated Coastal Zones Management programme is an example of the measures and approaches needed to reconcile economic well being and a good social structure with nature and landscape protection.

#### Protection and Sustainable Development of Forests

Forests are a key natural resource and an important economic asset. Well-preserved and sustainably managed forests provide an important contribution to bio-diversity and rural development. Sustainable management provides a barrier against the risks of degradation and fires. Measures are needed to ensure that forests support not just commercial activity but also broader functions in relation to water and water quality, soil protection and stability, and landslide and avalanche control. This should be within the framework of the 1998 Forestry Strategy which particularly supports action at the regional and local level.

Since the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, considerable world-wide efforts have been made to apply the concept of sustainability to forests. Specific recommendations for action have been agreed under the Inter-governmental panel and forum on forests, the International Tropical Timber Agreement, the Convention on Biological Diversity and other forums. In Europe, the Ministerial Conference for the Protection of Forests in Europe (MCPFE) established a platform to work towards the sustainable management and protection of forests. In its resolution of 15 December 1998 on a forestry strategy for the European Union, the Council emphasised the multi-functional role of forests and identified the implementation of the international commitments developed by the Member States and the European Community.

Further development of forestry under the Rural Development Plans should be encouraged, with particular emphasis on management that will pursue multi-objective functions, including bio-diversity, nature conservation, protection and recreation. Forest programmes promoting sustainable forest management should be drawn-up at national and regional level following appropriate guide-lines. These programmes should contain qualitative environmental targets addressing production, bio-diversity, impact on water and recreation.

Forest certification aims to show consumers that wood or wood products come from forests where commercial exploitation is sustainable and follows good environmental practice. Credible forest certification schemes should be encouraged.

#### Protection of the soil

Little attention has so far been given to soils in terms of data collection and research. Yet, the growing concerns on soil erosion and loss to development as well as soil pollution illustrate the need for a systematic approach to soil protection, covering:

- Erosion and desertification
- Pollution from landfill waste sites, industry and mining.
- Pollution from air, water, and from some agricultural practices and the application of sewage sludge contaminated by heavy metals, organic pollutants or pathogens;
- Loss of land and therefore soil to development.
- The role that soil plays in climate change as a carbon sink.

Given the complex nature of the pressures weighing on soils and the need to build a soil policy on a sound basis of data and assessment, a thematic strategy for soil protection is proposed. The EU research programmes should support this work.

#### Marine environment

Notwithstanding its importance both in food supply and for leisure, as well as a driver of climate, the knowledge about the structure and functioning of the marine environment is still surprisingly limited. Our understanding and the predictability of the human impact on marine ecosystems is also very weak. Our society has, however, a great impact on the marine environment and its bio-diversity, especially by pollution, from industrial and domestic sources, of rivers, coastal waters and seas. Other pressures come from ships that empty their oil tanks, ship accidents and heavy human utilisation of coastal areas. The introduction of non-native (alloctone) species in new marine environments, can also give rise to environmental stress.

This has led to an increasing disturbance and pollution of our seas with negative effects on marine habitats and life.

There is a decline of fisheries reported in almost all regional seas. Many fish stocks are over-exploited. There is a need to reduce pressure from fishing. This in turn will have a beneficial effect on fish stocks, marine mammals, reptile and bird populations as well as on marine habitats. The Common Fisheries Policy will be reviewed in 2002 and environmental concerns, other than those related to the sustainable use of exploited populations, will be fully integrated into the analysis and any recommendations for the future.

However, protection of marine environment and its bio-diversity goes well beyond the sustainable exploitation of renewable marine resources and needs an integrated strategy to cope with the pollution and degradation of marine habitats and coastlines. The Community needs concerted actions to identify and quantify these problems so that appropriate measures can be put into place. These will address the multiple pressures that come from different human economic activities:

- Human population increase and urbanisation in coastal areas;
- Excessive Nitrogen and phosphorus from land based activity and from the air that may cause eutrophication;
- Unsustainable development of land based tourism;
- pollution from accidents, especially from oil and other chemical product tankers;
- pollution from shipping, for instance cleaning out of oil tanks;

- pollution from rivers and ports;
- problems from cabling and pipelines;
- pollution caused by releases of radioactive substances from practices involving a risk from ionising radiation;
- dumping at sea of harbour's sludge and sediments
- pressure from fisheries that threatens the long-term viability of fish-stocks and of other biota components;

Proper and full implementation of the Urban Waste Water and of the Nitrates Directives will be an important positive factor in reducing eutrophication, which is a serious threat to the marine environment.

#### Actions

- Thematic strategy on soil
- Integration of landscape protection and restoration into agriculture and regional policy
- Extension of Natura 2000 to marine environment
- Encouraging credible forest certification schemes.
- Further development of forestry and good forest management under rural development plans
- Increased efforts on integration of environment into policies on agriculture, fisheries and forests
- Review of the Common Fisheries Policy
- Development of a strategy for marine protection
- Implementation of Integrated Coastal Zone Management

#### Reinforcing controls, monitoring, labelling and traceability of GMOs

Modern biotechnology facilitates the identification and characterisation of biodiversity at genetic level, providing opportunities for the development and use of more environmentally friendly products and processes. Whilst the use of modern biotechnology, including the release of genetically modified organisms into the environment, may offer potential benefits for reducing pollution and for biodiversity, the potential long-term risks, particularly to biodiversity, should not be overlooked. The Community has legislation that control the placing of these products on the market, which require assessment of the potential risks to human health and the environment. This legislation is being reinforced through the introduction of mandatory monitoring as well as labelling and traceability at every stage of the placing of the market. These measures should facilitate the monitoring by the Member States, who are responsible for the enforcement of this legislation, of any long-term impacts on the environment. Ratification and implementation of the Cartagena Protocol on bio-safety will also be a priority.

#### Actions

- Reinforcement of controls on monitoring, labelling and traceability of GMOs

#### 4.5. International Action

At the international level, the European Union has an interest in promoting more sustainable agriculture, forestry, fishing, mining and oil extraction and other economic activity. This will not only help protect bio-diversity but will ensure that the planet's natural systems continue to function properly. It will contribute to the development of societies that are sustainable, prosperous and better able to trade.

To achieve this, the Community's trade, development and aid policies [22] must continue to take-up nature and bio-diversity issues, with full and serious environmental assessments of aid projects being undertaken. Poverty reduction strategies, environmental security, sustainability and conservation of natural resources and bio-diversity will be central to such an approach.

[22] In accordance with the Community's development policy expressed in the joint Commission / Council Declaration of 10 November 2000

#### 4.6. Bio-diversity Strategy and Action Plans - filling the knowledge gap

In addition to the implementation of the Action Plans and research programmes in the various sectors, future work on preserving bio-diversity needs to be strengthened with better knowledge. In particular, we need to know more about the state of bio-diversity and the pressures and trends. Data is severely lacking in this area and organisations like the European Environment Agency and the national statistical and information bodies need to turn their attentions to basic information gathering in this area.

With good data, more useful indicator sets can be developed to explain the trends and their causes to policy-makers and the wider public. Work is already underway with agriculture and environment indicators to define the indicators and corresponding data needs.

A better understanding of the impact of our society and economy on bio-diversity would help us to react with better and more targeted policies. This should look at secondary and unexpected impacts, for example the results of tax-breaks on second homes. Research in this area should be undertaken.

#### Action

- Programme for gathering data and information on nature and bio-diversity
- Support research on biodiversity

### 5. Environment and Health

#### 5.1. The issue

In recent decades, there has been a growing realisation that the quality of our air, water, soil and food affect the quality of our health and of our lives. This ranges from increased allergies, respiratory disease, and cancers to the disruption of the body's hormone and fertility systems and premature death. The causes of our various environment-health problems are numerous and include pollution from transport, agricultural activities, industrial processes, domestic effluent and waste management. Thus tackling environment-health issues requires actions and initiatives on many different fronts.

Over the last 30 years, the Community's policy on the environment has resulted in a stream of effective policies and measures aimed at reducing emissions and concentrations of contaminants. The levels of many common air pollutants in some cities and rural areas have fallen significantly. The concentrations of PCBs and dioxins found in the environment and our food have fallen although more still needs to be done [23]. Our drinking waters are now much cleaner than they were 20 years ago. Recent revisions and updating of EC legislation and standards in the light of new evidence and technological progress mean that EU citizens can expect to benefit from further improvements in many areas provided the legislation is fully implemented by Member States.

[23] 'Environment in the European Union at the turn of the Century', European Environment Agency, 1999

But despite the many achievements, more children are getting asthma, many of our rivers and lakes are still not safe to swim in, and there is evidence that particulate matter (dust) and ground-level ozone may be affecting the health of thousands of people every year and provoking premature deaths. We see evidence of the hundreds, if not thousands, of man-made chemicals, including pesticides, that persist in the environment and accumulate over time and we are only just beginning to understand the implications of this for our health. Low level exposure to a complex of pollutants in air, water, food, consumer products and buildings may be contributing significantly to asthma,

allergies, some types of cancer, neuro-toxicity and immune suppression. We also face a growing noise problem. [24]

[24] 'Environment in the European Union at the turn of the Century', European Environment Agency, 1999

Furthermore, we have a poor understanding of the effects of small quantities of pollutants that accumulate in our bodies as well as the way different contaminants interact with each other in our bodies (often referred to as the 'cocktail' effect). Furthermore, some of our existing standards have been established with the 'average' adult in mind without taking into account the need to protect particularly vulnerable groups in society such as children and elderly people. The situation demands that we give environment-health issues renewed attention.

## 5.2. Overall Environment-Health Objective

To achieve a quality of the environment where the levels of man-made contaminants, including different types of radiation, do not give rise to significant impacts on, or risks to, human health.

Health is defined as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

## 5.3. Overall Policy Approach

In the past, addressing environment-health issues involved looking at individual pollutants and setting standards on a medium-by-medium basis (i.e. air, water, waste, etc.) However, as our understanding of the issues grows, it is clear that the interface between health and the environment is not so simple. Pollution, for example, may not be directly harmful but becomes so when taken up through soil or water. Many of the issues are also closely inter-linked with the result that when we act on one problem we may exacerbate or alleviate another problem. This requires the adoption of a more holistic and comprehensive policy approach.

There also needs to be a greater focus on prevention and precaution. We need to increase the obligations for producers or users to provide data and assessment regarding the health risks associated with using a particular chemical substance. Prevention and precaution also means we should aim at substitution of the use of hazardous substances with less hazardous ones wherever technically and economically feasible.

The general policy approach that the Community aims to apply over the coming years is as follows. For each type or group of contaminants:

- identify the risks for human health, taking account of particularly vulnerable groups such as children and the elderly, and set standards accordingly. Regularly review and revise these in the light of new scientific knowledge and technical progress. Where there is uncertainty about the risks but the effects or impacts are suspected to be potentially serious, a precautionary [25] approach will be adopted;

[25] COM (2000) 1 final, Communication on the precautionary principle

- assess by which route or routes the contaminants reach the human body and determine the most effective course of action needed to minimise exposure levels or at least bring them down to acceptable levels (which in some cases may be zero);

- feed the different environment-health priorities into specific policies and standards on air, water, waste and soil, as well as into a new Integrated Product Policy in order to identify opportunities for eliminating the emissions or use of the hazardous substances in products and production processes.

The Integrated Pollution Prevention and Control concept will continue to play an important role in assessing the impacts of industrial installations. Its full implementation will only be possible once all relevant BAT reference documents will be available. Furthermore it will be necessary to update these documentations to cover the development of technology and techniques. IPPC will also play a crucial role in the accession process.

The new European Pollutant Emission Register (EPER), provided for by the Directive on Integrated Pollution Prevention and Control will be of great importance in providing accessible and comparable environmental information on the emissions of pollutants from industrial sources. The EPER is a further step to improve public awareness and towards a public "right-to-know" about industrial pollution. It is a first step towards the development of a more fully integrated Pollutant Release and Transfer Register as called for under the Aarhus Convention on 'Access to Information and Public Participation on Environmental Matters'.

With respect to Accession Countries, one of the main challenges is to address the health impacts and risks associated with a number of important hotspots in terms of air and water pollution. Implementation of EC environmental legislation in these countries will help tackle these problems but efforts need to also focus on the transfer of technology, best practice, and assistance with institutional strengthening with respect to environmental policy elaboration and implementation.

&gt;REFERENCE TO A GRAPHIC&gt;

#### Actions

- Reinforcement of Community research and scientific expertise to support achievement of objectives on health and environment, and in particular:
  - identifying the priority areas for research and action;
  - define and develop indicators of health and environment
  - re-examine existing standards and limit values in light of concerns, for example about vulnerable groups (the elderly, children, asthmatics, etc) to see if they need updating and, if so, how best to do this;
  - track, review and validate the latest research and monitor trends in order to provide an early warning of potential new or emerging problems;
  - further implementation and development of the IPPC Directive.
- Develop the European Pollutant Emission Register (EPER) into a more comprehensive Pollutant Release and Transfer Register (PRTR).

#### 5.4. Chemicals: Aiming at a Non-Toxic Environment

##### The issue

There are an estimated 30,000 man-made chemicals currently produced and used in volumes above one tonne, for the vast majority, we have only very limited, if any, knowledge of the risks they present to human health and to the environment. The potential risks are many and can be very serious including cancer, birth defects, disruption of the body's hormone system, damage to vital organs, skin disorders, allergies, asthma, etc. Yet chemicals bring numerous benefits to society including, for example, improved health care.

The challenge, thus, is to ensure that we establish a new system for risk assessment and risk management of chemicals produced, used and placed on the market, that allows society to reap the benefits of using chemicals whilst avoiding any unacceptable risks to human health and environment.

##### Objectives and targets

###### Objective

To achieve an environment where the levels of man-made chemicals do not give rise to significant risks to, and impacts on, human health and the environment.

###### Targets

To assess all chemicals produced in relevant quantities in a step by step approach with clear target dates and deadlines (as outlined in the White Paper on the new Chemical Strategy), starting with the high production volume chemicals and chemicals of particular concern.

#### Policy approach

The current Community legislative approach to chemicals is divided between dealing with chemicals that already exist on the market place and dealing with the placement of new chemicals on the market. The Community has put in place comprehensive and strict legislation [26] and procedures for the notification of new chemicals. This ensures that any risks are properly assessed and the results used to decide whether or not, and if so, how a new chemical can be produced and used without posing a significant risk to human health and the environment.

[26] Give full references to relevant Directives, Regulations, etc

The main problem concerns existing chemicals (chemicals developed before 1981 which was when the above-mentioned legislation first came into force). There are at least 30,000 of these substances currently produced, of which 2500 have been identified by the Commission as high-volume chemicals in terms of their production and use, and we have barely begun to understand the risks associated with many of them. The Commission has already drawn up a list of 140 hazardous substances that need priority attention and risk assessments. Unfortunately, progress to date has been extremely slow.

At the international level, the Community is committed to the finalisation and ratification of the UN Convention on Persistent Organic Pollutants (POPs) which aims to reduce and eliminate 12 persistent organic pollutants from production and use, to clean up old stockpiles and contaminated zones, and to identify new compounds to be included within the treaty. The Community has also ratified and is in the process of implementing a number of conventions (e.g. OSPAR [27] and HELCOM [28]) aimed at protecting the Community's marine waters from pollution that include limitations or phase outs of the production and use of certain chemicals.

[27] Convention for the Protection of the Marine Environment of the North-East Atlantic

[28] Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992

At Community level, the Commission's strategy is to revise the Community's Chemicals Policy with the aim of meeting the above-mentioned targets and ensuring the following types of action are taken.

#### Actions

- Develop a new single system for the testing, evaluation and risk management of new and existing chemicals.
- Develop a testing regime depending on properties, uses, exposure and volumes of chemicals produced or imported. All chemicals should be registered. At given tonnage increments, or in the case of specific and defined hazardous properties, special attention should be given to long-term and chronic effects.
- Substances with certain hazardous properties that give rise to very high concern will have to be subject to new specific and accelerated risk management procedures before they could be employed in particular uses.
- Adapt the information provided by industry about the properties of each chemical they produce and use - this includes extending the information beyond just occupational health considerations to cover potential risks to the environment.
- Upgrade the resources and structures for dealing with the management of chemicals at the EU and Member State level to ensure the above-mentioned target and actions can be met and implemented.

#### 5.5. Pesticides

##### The issue

One group of chemicals that requires particular attention is pesticides (i.e. plant protection products and biocides). They can affect human health via their contamination of groundwaters, soils, food and even the air. Gaps in the current data on the issue make it difficult to be precise about the scale and trends of the problem but there is sufficient evidence to suggest it is serious and growing. The contamination of groundwaters is of particular concern. On average, 65 % of European drinking water is supplied from groundwaters and, even after remedial action has been taken to prevent further contamination, they often take a long time to recover to acceptable quality levels. Also of concern is the contamination of our foodstuffs and evidence of continuing accumulation of certain pesticides in plants and animals with associated impacts on their health and ability to reproduce.

#### Objective

To achieve a situation where the use and levels of pesticides in our environment do not give rise to significant risks to, or impacts on, human health and nature. This will include an overall reduction in the risk associated with the use of pesticides.

#### Policy Approach

Whilst strict standards already exist for the quality of drinking water supplied at the tap regarding pesticide contamination, there is an obvious need to stop pesticides getting into our drinking water sources in the first place. We also need to minimise the risks to our health from the contamination of food by pesticides as well as reduce the impacts on plants and wildlife.

The Community has adopted a two track approach for minimising the risks associated with the use of pesticides:

- a) ban or severely limit the placing on the market and use of the most hazardous and risky pesticides;
- b) ensure best practice is adopted regarding the use of the remaining, authorised pesticides.

A number of concrete steps have already been taken in this direction by the Community including maximum levels of pesticide residues in and on cereals, fruit, vegetables and other foodstuffs and rules governing the placement of new pesticides and the re-authorisation of existing pesticides on the market. The re-authorisation of existing pesticides has progressed far too slowly and the Community has recently taken decisions to accelerate this work. It is expected that they will result in some of the more problematic pesticides being voluntarily withdrawn from the market. There is also a need to revise the basic legislation on pesticides to improve the overall mechanism of the authorisation system.

What has so far been lacking is an agreed Community strategy and action plan on the sustainable use of pesticides. Only if pesticides are used responsibly can their impact on the environment and our health be controlled. Clearly much of the responsibility and action for ensuring best practice in the use of pesticides lies with Member States and with the agricultural sector.

Pesticides which are problematic in the EU are often causing more serious problems in the developing countries and countries in transition (such as accession countries). As a minimum, the Community must properly inform those countries of the findings derived from its evaluation. Consideration should be given to the ban of export of at least the most problematic substances, and to developing the capacities of those countries to manage chemicals and pesticides. This is particularly true for the elimination of the increasing amounts of stocks of obsolete pesticides.

&gt;REFERENCE TO A GRAPHIC&gt;

#### Actions

- A Code of Good Practice on pesticide use;
- Revise Directive 91/414 on the authorisation of pesticides for use on the market to improve the overall mechanism of the authorisation system, in particular by including comparative assessment.

- Community Thematic Strategy on the sustainable use of pesticides. Elements of this are likely to include:

- minimising the risk from the use of pesticides, which is principally linked to the toxicity of the substances, and monitoring progress;

- better control of the use and distribution of pesticides;

- substituting the most dangerous active substances with safer ones, including non-chemical alternatives;

- raising awareness of, and training, users;

>REFERENCE TO A GRAPHIC<

encouraging the uptake of low input or pesticide free agriculture and the use of Integrated Pest Management (IPM) techniques;

- encouraging the introduction of fiscal incentives to reduce the use of the most dangerous pesticides such as a pesticides tax;

- linking the award of Rural Development Funds to the uptake of the Code of Good Practice on pesticide use.

- Ratify the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

- Amend Community Regulation (2455/92) concerning the import and export of dangerous chemicals to bring it into line with the Rotterdam Convention, to improve some of its procedural mechanisms and to improve information to developing countries.

- Develop/fully implement Community programmes to improve the chemicals and pesticides management in developing and accession countries, including for the elimination of stocks of obsolete pesticides.

- Support research efforts aimed at the reduction and sustainable use of pesticides.

## 5.6. Ensuring the Sustainable Use and High Quality of Our Water Resources

The issue

Significant improvements have been made over the last 2-3 decades regarding many aspects of water quality but current data and forecasts tell us we still face some problems and negative trends regarding, for example, the pollution of groundwaters by pesticides and nitrates as a result of agricultural activities. And whilst our coastal bathing waters have been gradually improving, there is still some way to go in a number of places.

The overall extraction and consumption of water resources in the EU is currently sustainable in the long-term perspective. However, some areas may be facing unsustainable trends, especially in southern Europe. The three main users of water are agriculture, industry and the domestic sector. Significant efficiency improvements with regards to water use have been made across much of industry but only slow progress has been made with respect to agricultural and domestic use.

Objective

To achieve levels of water quality that do not give rise to unacceptable impacts on, and risks to, human health and the environment and to ensure the rates of extraction from our water resources are sustainable over the long term.

Policy Approach

Much of the policies, legislation and standards needed to achieve our objectives for water quality and use have already been put in place. The main challenge is ensuring the full and proper

implementation of the existing legislation and achieving the integration of the Community's water quality objectives into the other sectoral policies such as agriculture, industry and regional policy. There is also a need to update certain legislation such as the Bathing Water Directive [29] to take account of new scientific evidence and technological developments. Member States also need to take steps to ensure they are integrated into local planning and land-use decisions. The implementation of the Nitrates Directive [30] requires further efforts by the Member States.

[29] Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water, OJ L31, 05.02.76, p 1-7.; as amended by Council Directive 90/656/EEC of 4 December 1990, OJ L 353, 17.12.90 and Council Directive 91/692/EEC of 23 December 1991, OJ L 377, 31.12.91

[30] Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources, OJ L 375, 31.12.1991, p 1-8

The Community has recently adopted a new Water Framework Directive [31](WFD) that expands water protection to all waters and sets a legally binding objective of 'good status' for those waters. It also obliges Member States to use pricing for water-related services as an effective tool for promoting water conservation. This would also allow the environmental costs of water to be reflected in the price of water. Recognising that water management and quality must respond to local conditions and needs which will vary from region to region, the WFD puts emphasis on the need for actors at different levels to take up their responsibilities. For example, national, regional and local authorities need, amongst other things, to introduce measures to improve the efficiency of water use and to encourage changes in agricultural practices necessary to protect water resources and quality. Proper implementation of the Water Framework Directive will lead to further and important improvements in the quality of our surface waters and groundwaters.

[31] Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy

The Community research programmes can help develop advanced technologies, best management practices and methodologies and tools to support the legislation on water.

#### Actions

- Ensure full and proper implementation of the Water Framework Directive (WFD).
- Ensure full and proper implementation of the Nitrates Directive aiming at ending the eutrophication of the Community's lakes, rivers and seas and limiting the impact on groundwater beyond the limits of the Drinking Water Directive
- Phase out the discharge of certain hazardous substances into Community waters within the deadlines set by the Water Framework Directive (i.e. by 2020 at the latest).
- Revise the bathing water Directive.
- Integrate the Water Framework Directive and other water quality policies into further developments of the Community's Common Agricultural Policy and Regional Development Policy.

#### 5.7. Air pollution

##### The issue

Community legislation, for instance on emissions from power stations, industrial plants and motor vehicles, has led to considerable improvements in air quality in recent years and further progress will be made over this decade. However, problems persist for some pollutants, such as particulate matter (dust) and ground level ozone, which affect the health of many citizens every year, and further specific measures are called for. Problems are also concentrated in certain areas and cities due to the concentration of sources (building heating and cooling, transport and industry) climatic and geographical conditions. In these cases responsibility falls strongly on the relevant local and regional authorities to take the necessary action to reduce emissions.

Whilst the overall air quality trends are encouraging, continued efforts and vigilance are still needed to keep them going in the right direction as, for example, is the case for acidification.

#### Objective

To achieve levels of air quality that do not give rise to unacceptable impacts on, and risks to, human health and the environment.

#### Policy Approach

The Community is acting at many levels to reduce exposure to air pollution: through EC legislation, through work at the wider international level in order to reduce cross-border pollution, through working with sectors responsible for air pollution, and with national, regional authorities and NGOs, and through research.

The focus for the next 10 years will be:

- implementation: to ensure that the new air quality standards, including standards for particulates, sulphur dioxide, nitrogen dioxide, carbon monoxide, heavy metals, and aromatic hydrocarbons such as benzene, are met by 2005 and 2010 accordingly and that standards for vehicles and stationary sources of pollution are complied with;
- coherency: to develop a comprehensive, integrated and coherent framework for all air legislation and related policy initiatives under the title 'Clean Air For Europe (CAFE)'.

Regarding indoor air pollution, there is a need to review current evidence and improve research and data so that we can better understand the issue, set priorities, and assess the need for action at EU level. Part of the indoor air problem relates to the quality of outdoor air which will be addressed as described above. But the problem also relates to the release of chemical substances used in products such as carpets, glues, paints, and other construction materials. As the issues and priorities become clearer, these will, for example, need to be linked into Commission's and Member State initiatives on Integrated Product Policy and the revised Community Chemicals Policy.

#### Actions

&gt;REFERENCE TO A GRAPHIC&gt;

Commission review of the Member States air quality programmes under the EC legislation to ensure their effectiveness.

- Improve monitoring and indicators and information to the public about air quality and causes
- Develop a Thematic Strategy on air pollution (CAFE) the main elements of which are:
  - identify gaps and priorities for further action (e.g. particulate matter, smog, NOx) taking account of risks to vulnerable groups;
  - review and, if necessary, update existing air quality standards and national emission ceilings (with attention to vulnerable groups);
  - better systems of gathering information, modelling and forecasting.
- Investigate and research the issue of indoor air quality and its impacts on human health in order to identify priorities and assess the need for a Community strategy and action plan to address the issue.

#### 5.8. Reducing Noise Pollution to Acceptable Levels

##### The issue

In Europe, noise is a growing problem that is estimated to affect the health and quality of life of at least 25 % of the EU population. It raises stress levels, disrupts sleep and can lead to an increased risk of heart disease. Much of the problem relates to transport and construction activity including cars, lorries, aeroplanes and construction vehicles and equipment.

## Objectives and Targets

To achieve a reduction of the number of people regularly affected by long term high levels of noise from an estimated 100 million people in the year 2000 by around 10% in the year 2010 and in the order of 20% by 2020.

### Policy approach

To date, Community initiatives for reducing noise pollution have focussed on setting noise limits for certain types of equipment including power generators, lawnmowers and motor vehicles. However, whilst this is an important contribution to tackling the problem the biggest challenge is dealing with noise pollution from transport overall, particularly air and road transport.

Rather than impose top-down noise reduction targets on Member States, the strategy of the Commission is to identify actions that could reduce noise levels at the local level and to develop policy measures to encourage such actions. As a first step within the timeframe of this Programme, the Community should adopt and implement legislation on noise pollution assessment. Its main elements are the harmonisation of indicators in order to achieve a common understanding and language on noise; and a requirement to produce noise maps and to set noise objectives in local planning decisions. Noise information is to be made available to the public. Where this is necessary, the Community will revise and set noise limits for different types of vehicles, machinery and other products.

### Action

- Adoption and implementation of the proposed Community Directive on Noise.

## 6. The Sustainable Use of Natural Resources and Management of Wastes

### 6.1. Resource Efficiency and Management

#### 6.1.1. The issue

The planet's resources, in particular environmental and renewable resources such as soil, water, air, timber, bio-diversity, and fish stocks are coming under severe pressure as population growth and current patterns of economic development translate into increasing demands on these resources. There is growing evidence that we may be moving beyond the carrying capacity of the environment on a number of fronts. Demand for freshwater is now often above the rate of replenishment in many parts of the world. Similarly, many areas are suffering desertification, deforestation, and the degradation of soils of alarming proportions.

Some indicators of the growing demand of human activity on global resources

&gt;TABLE POSITION&gt;

Footnotes: Source: World Resources Institute

1. data is for 1994

2. data is for 1961

3. data is for 1994

Our use of non-renewable resources, such as metals, minerals and hydrocarbons, and the associated generation of wastes, gives rise to numerous impacts on the environment and human health. The consumption of scarce non-renewable resources also presents us with the ethical dilemma about how much we should use now and how much should we leave to future generations but this is not strictly an environment problem and is better addressed under a broader sustainable development strategy.

#### 6.1.2. Objectives

To ensure the consumption of renewable and non-renewable resources and the associated impacts do not exceed the carrying capacity of the environment and to achieve a decoupling of resource use from

economic growth through significantly improved resource efficiency, dematerialisation of the economy, and waste prevention.

### 6.1.3. Policy Approach

Much of the existing Community environmental policy framework has been established precisely to limit the environmental and health impacts that arise from the use of natural resources. This includes, for example, Community measures aimed at improving the resource efficiency of energy use, the sustainable use of water and of soil. For non-renewable resources the situation is different. Whilst affected indirectly by many different policies, the Community lacks a coherent policy focused on achieving an overall decoupling of resource use from economic growth.

As a first step, therefore, the Community needs to develop a Thematic Strategy on the sustainable use of resources, especially non-renewable resources. The basic approach will be to:

- establish a consistent analytical framework to identify criteria for setting priorities and undertake the necessary analysis and data collection in order to identify which resources are of most concern. The criteria will need to address issues such as whether the environmental damage associated with the use of a particular resource threatens to be long term and irreversible, whether or not substitutes are likely to be available for future generations, etc;
- identify and implement specific policy measures that reduce the consumption of these resources for example, by changing demand, by improving the efficiency with which they are used, by preventing the wastage of these resources, and by improving the rates at which they are recycled back into the economy after they have been used.

Measures that could figure in such a Thematic Strategy include:

- Research and technological development into less resource-intensive products and production processes.
- Best-practice programmes for business.
- A shift of the tax burden onto the use of natural resources, a virgin raw materials tax and the use of other economic instruments such as tradeable permits to encourage the uptake of resource-efficient technologies, products and services.
- Removal of subsidies that encourage the over use of resources
- Integration of resource efficiency considerations into Integrated Product Policy (IPP), eco-labelling schemes, green procurement policies, and environmental reporting.

Reducing the use and improving the efficiency with which our economy and society uses resources will require actions at different levels of government and in the different sectors of the economy. We should be aware at the same time that improving resource efficiency will increase economic efficiency more generally and thereby enhance competitiveness and foster innovation.

#### Actions

- Thematic Strategy on the sustainable use of resources.

## 6.2. Waste Prevention and Management

### 6.2.1. The Issue

Without new initiatives, waste volumes in the Community are projected to continue to rise in the foreseeable future. In addition to requiring valuable land space, the management of wastes releases numerous pollutants to our air, water and soil including greenhouse gas emissions from landfills and waste transportation. Waste also often represents a loss of valuable resources, many of which are scarce and could be recovered and recycled to help us reduce our demand for virgin raw materials.

As society gets wealthier and ever more productive, the demand for products increases. Coupled with decreasing product life-cycles this generates increasing quantities of end-of-life product wastes and associated mining and manufacturing wastes. At the same time, many products are becoming more and more complex using a whole variety of substances which can further exacerbate the risks from wastes to our health and the environment. It is clear that if we continue with our current consumption and production patterns this will translate into increasing quantities of waste - of which a significant proportion will continue to be hazardous.

A lack of aggregate data at the EU level makes it difficult to assess whether the environmental impacts associated with the management of wastes are improving or deteriorating. New waste treatment facilities meet extremely high operating standards that reduce emissions and risks significantly. Yet, much of our wastes still go to older and less well managed facilities, partly due to the failure of Member States to properly implement Community waste legislation. The impacts of waste management and waste transport are, therefore, still problematic in many areas of the Community.

### 6.2.2. Objectives and Targets

#### Objectives

- \* To decouple the generation of waste from economic growth and achieve a significant overall reduction in the volumes of waste generated through improved waste prevention initiatives, better resource efficiency, and a shift to more sustainable consumption patterns;

For wastes that are still generated, to achieve a situation where:

- \* the wastes are non-hazardous or at least present only very low risks to the environment and our health;
- \* the majority of the wastes are either reintroduced into the economic cycle, especially by recycling, or are returned to the environment in a useful (e.g. composting) or harmless form;
- \* the quantities of waste that still need to go to final disposal are reduced to an absolute minimum and are safely destroyed or disposed of.
- \* Waste is treated as closely as possible to where it is generated.

Targets - within a general strategy of waste prevention and increased recycling, to achieve in the lifetime of the programme a significant reduction in the quantity of waste going to final disposal and in the volumes of hazardous waste generated.

- \* Reduce the quantity of waste going to final disposal by around 20% by 2010 compared to 2000, and in the order of 50% by 2050;
- \* Reduce the volumes of hazardous waste generated by around 20% by 2010 compared to 2000 and in the order of 50% by 2020

### 6.2.3. Policy Approach

The Community's approach to waste management policy is based on the guiding principle of the waste hierarchy which gives preference first to waste prevention, then to waste recovery (which includes reuse, recycling and energy recovery, with preference being given to material recovery), and lastly to waste disposal (which includes incineration without energy recovery and landfilling). The current architecture of Community waste policy and legislation comprises three main elements:

- (i) framework legislation on waste definitions, site permitting, waste shipments controls, etc;
- (ii) legislation governing the operating standards of waste facilities such as landfills and incinerators;
- (iii) legislation targeted at specific priority waste streams such as end-of-life vehicles with the primary aim of increasing recovery, and in particular recycling levels and reducing the hazardousness of these wastes.

This is supported by legislation to improve the availability of indicators and statistics to measure progress towards better waste and resource management.

This approach is strongly supported by the majority of Member States and the European Parliament and will continue to form a central element in the Commission's strategy for waste management. Specific attention will be given to significantly improving the implementation of existing measures by Member States.

As it is often the local authorities who bear the burden of implementing the requirements of Community waste legislation, the Commission also intends to improve their involvement in the preparation of legislation and the support given for the exchange of experience and best practices amongst them.

In the Accession Countries, increased consumption and changing lifestyles is likely to put further pressure on, what are often already, over-stretched waste management systems and infrastructure. Thus, in addition to improving existing waste management systems, investment in waste prevention and recycling initiatives and infrastructure will be a priority.

#### Waste Prevention: Lower Volumes and Less Hazardous

Whilst the above-mentioned approach has been successful in improving the standards of waste management, it has so far failed to reduce the rising tide of waste volumes. The focus now needs to be on waste prevention both in quantitative (i.e. volumes) and qualitative (i.e. hazardousness) terms. For policymakers, this is one of the most challenging aspects of the waste issue. It requires the decoupling of waste generation from economic growth.

Waste prevention is closely linked with improving resource efficiency, influencing consumption patterns, and reducing the waste arisings associated with products throughout their lifecycle of production, use and the point where the product itself becomes a waste. Action to prevent waste must, therefore, be first and foremost done 'at source'. This means, on the one hand, finding ways of extending product life-spans, using less resources in products, shifting to cleaner, less wasteful production processes and, on the other hand, influencing consumer choice and demand in the market place in favour of less wasteful products and services. This will be a key part of the planned thematic strategy on resource management, Integrated Product Policy and, concerning the hazardousness of wastes, the Community chemicals policy.

Specifically, this means:

- Identifying the hazardous substances that present the biggest problems in different waste streams and encourage substitution with less hazardous substances or alternative product designs where this is feasible and where it is not, focus on ensuring closed-loop systems where the producer is made responsible for ensuring the wastes are collected, treated and recycled in ways that minimise the risks and impacts on the environment.
- Integrating waste prevention objectives and priorities into the Community's Integrated Product Policy (IPP) with the aim of identifying and implementing opportunities to reduce the content of hazardous substances in products, to extend product lifetimes, to make products easier to recycle and recondition, etc.
- Encouraging the use of economic instruments, for example, eco-taxes on resource- and waste-intensive products and processes.
- Where effective, making producers responsible for their products when they become wastes.
- Influencing consumer demand in favour of products and processes that give rise to less waste e.g. via green procurement policies, eco-labels, information campaigns, and other tools.
- Launching a study to help identify the most problematic and hazardous waste streams generated by different production sectors (e.g. mining, energy production, manufacturing, construction, agriculture, etc) and work in partnership with the sectors concerned to find ways of reducing and eliminating these waste streams. Solutions are likely to include such things as co-funding the research and

development of cleaner, innovative process technologies and encouraging the spread of best technology and practice.

#### Actions

- Integrate waste prevention objectives and criteria into the Community's Integrated Product Policy and the Community strategy on Chemicals.

#### Encouraging Recycling

According to the waste hierarchy, waste which cannot be prevented should be recovered as far as possible, with preference being given to recycling. This helps reduce society's demand for virgin raw materials. It also raises awareness among citizens about the waste implications of their consumer choices - which often leads to increased consumer demand for less wasteful products and packaging systems.

The Community's approach on recycling has been to focus on 'priority' waste streams, such as packaging waste and end-of-life vehicles, and to put forward legislation that set recycling targets to be met by Member States. This has included an emphasis on making producers responsible for managing their products when they become wastes and on reducing the content of hazardous substances in the products. Experience gained from the implementation of legislation suggests that there is a need to create a consistent policy at Community level to encourage recycling in general. This needs to take account of the various environmental impacts and even trade-offs as well as economic and social aspects involved.

The aim is to recover and recycle wastes to levels that make sense i.e. to the point where there is still a net environmental benefit and it is economical and technically feasible.

&gt;REFERENCE TO A GRAPHIC&gt;

#### .Actions

- Revised Directive on sludges
- Recommendation on construction and demolitions wastes
- Legislative initiative on biodegradable wastes.
- A Thematic Strategy on waste recycling to include the following types of actions:
  - Identify which wastes should be recycled as a priority, based on criteria which are linked to the resource management priorities, to the results of analyses that identify where recycling produces an obvious net environmental benefit, and to the ease and cost of recycling the wastes
  - Formulate policies and measures that ensure the collection and recycling of these priority waste streams occurs, including indicative recycling targets and monitoring systems to track and compare progress by Member States
  - Identify policies and instruments to encourage the creation of markets for recycled materials.

### 7. The European Union in the wider world

#### 7.1. An enlarged European Union

The Actions outlined in this Programme will apply to an enlarged European Union. In the course of the Programme the new members will alter the profile of the European Union. Enlarging the European Union from 15 to 28 or more countries will bring with it at least a further 170 million inhabitants, a 58% increase in land area and a unique set of environmental problems and assets.

As far as the 10 candidate countries from Central and Eastern Europe are concerned, much of the countryside in the area remains unspoilt, with areas of ancient forests. Agriculture tends to be extensive and supports a rich bio-diversity. At the other extreme are industrial centres or ex-military sites that are heavily polluted and that require huge efforts to clean them up.

The European Union has the most comprehensive and advanced environmental legislation in the world. By adopting and implementing this legislation, the candidate countries will not only meet broader conditions for entry to the European Union but will benefit in the long run from a cleaner and healthier environment. Recognition of these benefits is symbolised by the decision of candidate countries to join the European Environment Agency in advance of their accession to the European Union.

The priority remains the full implementation of the legislation and this will require strong and well-equipped administrations. However, it will often be essential to set priorities. Community financing will be made available to help, particularly in the implementation of costly directives, for instance on waste water treatment facilities. The Community must ensure that this funding is adaptable to local circumstances and needs. Different solutions will suit different countries, regions and localities. The full implementation of the Community's environmental and health standards is the main task for the Candidate Countries.

To steer this process of achieving, over time, the full implementation of the environmental acquis in the candidate countries, the transposition of the environmental acquis into the national legal order needs to be completed by the time of accession. Due priority should be given to the implementation of framework directives as well as directives of a horizontal nature.

The main issues beyond implementation of the Community's environmental legislation focus on integration of environment into economic and social areas. The principal challenges will be as follows:

- Sustainable economic development

The economic restructuring and renewal in the candidate countries offers a chance for economic growth based on new and cleaner technologies and improved environmental management. Many of the export oriented companies established in the candidate countries already see environmental management as a key element of competitiveness. This trend should be encouraged. The societies of the Candidate Countries have an opportunity to build communities that are sustainable, pleasant and prosperous. It will be particularly important that the potential benefits of a sound environment, even in terms of resources and finances, are demonstrated to policy-makers. Organisations like the Regional Environment Centre can play a useful role in this regard. In practice, the key will be the use of strategic environment assessments and mainstreaming environment objectives and policies into other departments.

- Public transport - an asset to be protected

There is currently a better balance between public and private transport in Candidate Countries when compared to the European Union. Already there are problems with under-investment in public transport systems in Central and Eastern Europe. It will be important to support the alternatives to road transport in future. The Community can give a lead through the way in which it gives financial support to transport, as is already the case with rail projects for example. Road transport must be carefully planned so that new developments are not damaging either to towns and cities or to nature and wildlife. Initiatives are under-way in the Community to encourage rail freight, the use of waterways and, more broadly, combined transport in the European Union and this should be replicated in the accession countries.

- A planned development

The use of urban planning in Candidate Countries should be encouraged so must help to ensure that urban expansion can be better controlled and not at the expense of the environment. In practice, this means attention to urban renovation as opposed to development on fresh sites in the open countryside.

- Awareness raising

Environmental protest was a feature of the resistance to the old regimes in the Central and Eastern European Candidate Countries. This awareness needs to be built on by showing that environment and economic development are not mutually exclusive. Rather, the message needs to be passed that the

Candidate Countries countries have the chance to construct a modern and prosperous society that maintains unspoilt landscapes and countryside. However, awareness raising activity must not neglect young people, who can be a force for positive change for the environment in the future.

#### Action

- Extended dialogue with the administrations in the Candidate Countries on sustainable development.
- Co-operation with environmental NGOs and business in the Candidate Countries to raise awareness.

#### 7.2. Contributing to solving international problems

Economic globalisation means that the need to take environmental action at the international level is now even more pressing than only a few years ago. Globalisation affects people and politics in almost every country. Goods, services, money, information and people travel all across the globe. Globalisation has significant environmental implications and requires new policy responses.

As Europeans and as part of some of the wealthiest societies in the world, we are very conscious of our role and responsibilities internationally. On the one hand, we are major contributors to global environmental problems such as greenhouse gas emissions and we consume a major, and some would argue an unfair, share of the planets renewable and non-renewable resources, such as minerals, fish, and timber. On the other hand, Europe has been a leading proponent of international environmental action and co-operation. This co-operation should extend to the search for greater international consensus thus helping to avoid trade conflicts and gain acceptance of an approach based on the precautionary principle where necessary.

With interdependence between countries comes the need for a global partnership. In future, as the developing countries account for a greater share of environmental pressures, it will be necessary that high environmental standards are put in place. There is evidence that low standards go hand in hand with poverty. Environmental improvement complements successful economic development, but developing countries will need the tools and resources to increase their productivity and production methods. Trade and foreign investment can play a positive role in this regard. The citizens of developing countries need the understanding that there is a positive link between development, environmental quality and standard of living.

#### Objectives

Integration of environmental concerns and objectives into all aspects of the European Union's external relations;

Environment is taken seriously and is properly resourced by international organisations;

Implementation of international conventions, particularly on climate, bio-diversity, chemicals and desertification.

Help to protect the environment of neighbouring countries

The Community must work with neighbouring countries to increase public and political environmental awareness and to help ensure the implementation, both by the European Union and its neighbours, of actions for environmental protection.

#### Action

- Establish a strong environmental pillar in the Euro-Med Partnership and the Tacis Programme covering NIS countries
- Establish sustainable development as a goal of the evolving Euro-Mediterranean Free-Trade Area (MFTA).

Integration of the environment into the European Union's external policies

Environmental considerations should be mainstreamed as a principle in the EU's external relations, and in particular:

- Development policy must continue to support the sustainable management of water, soils, and forests, access to and tenure of resources, access to sustainable energy and the interaction between health, poverty and the urban environment.
- Trade policy, at the multilateral level and also in all regional and bilateral agreements, should be supportive of environmental protection. Trade, and international investment flows and export credits have to become more positive factors in the pursuit of environmental protection and sustainable development.
- Environmental protection should be part of the EU's overall policies on conflict prevention and resolution, including under the Common Foreign and Security Policy. These should focus initially on water and land use.

#### Action

- Commission and Member States should ensure that environmental protection is mainstreamed in the development and co-operation on external policies, with encouragement to sharing of best practices.
- Continue to develop methodologies and criteria for conducting sustainability impact assessments for all multilateral and bilateral trade agreements.
- Continue efforts to promote sound environmental practices in foreign direct investment and in export credits.

#### Strengthen international environmental governance

Existing international bodies that deal with environmental issues must be reinforced to give them greater weight and influence and make them more efficient. This means:

- strengthening the international institutional framework, in particular the UN Environment Programme (UNEP) in the short term, and ensuring a better co-ordination of environmental institutions, including improving co-ordination between conventions through co-location of secretariats, funding and compliance mechanisms;
- securing financing and greater political attention;
- putting the emphasis, in the development of international environmental law, on better implementation and monitoring of existing conventions.

In the longer term, the global institutional setting for the environment should be capable of matching the economic institutional pillar.

#### A more effective EU role in international forums

The European Union has to play an active role in international forums, and establish a more effective presence in international environmental organisations, particularly UNEP. The EU should also work to strengthen the integration of environmental considerations in the activities of other UN bodies and the international financial institutions. This should be matched by an equally strong and united impact in related financial discussions through better co-ordination with Member States. There is scope for improving dialogue with third countries, including some key developing countries on global environmental issues.

### 8. Policy Making Based on Participation and Sound Knowledge

#### 8.1. Better Regulation

##### Stimulating innovation through regulation

Environmental regulation has been central to the successes of Community environment policy, for example in reducing air and water pollution. However, the sources of environmental pollution are no

longer concentrated in individual industrial facilities but lie in manifold economic activities and consumer behaviour. This limits the scope for solving them through simple command-and-control.

In this situation business has an increasing role in achieving environmental objectives and targets and pollution is a sign of an inefficient or poorly managed enterprise. Companies that innovate in an attempt to win new markets or increase competitiveness should also be looking at reducing their levels of pollution and waste. There are indeed many examples of companies that successfully modernise their ways of working to recycle waste and cut costs.

Regulation can serve to stimulate enterprises to innovate profitably, both in terms of their market and the environment. Legislation should aim at setting the appropriate high standards that must be attained, but aim at regulating results or outcomes rather than be prescriptive in the means for achieving the goals. Regulation must be flexible, accounting for widespread economic and geographical diversity, allowing phase-in periods where needed. Finally, regulation can offer positive incentives to companies to perform well, for example even to exceed the standards set.

In some cases, non-regulatory methods will be the most appropriate and flexible means of addressing environmental issues. The Commission is currently examining new methods of governance, including alternatives to traditional regulation such as voluntary commitments and agreements, which could improve the ability of enterprises to innovate and change. This also includes, when appropriate, setting a regulatory framework establishing policy objectives and leaving the practical implementation measures to be defined by industry in a consensual manner, in support of the legal framework ('co-regulation').

#### A Commitment to Broad Dialogue and Sound Science

The Programme sets out the strategic framework and broad priorities for Community environment action over the next decade. To improve the chances of workable measures and effective regulation, the development of the targets and policy action must be carried out in an open dialogue with all interested groups.

This dialogue will need to be supported by sound scientific and economic assessment, based on information and data on the state of the environment and on the pressures and driving forces behind environmental problems. The work should be supported, as far as possible, by the development of scenarios and forecasting tools. This will require a significant upgrading of the quality of the environment and economic data, assessments and policy evaluations currently available to support our decision making. Experience during the period of the Fifth Programme on initiatives such as air quality standards have shown that while this approach is demanding on time and resources, it can achieve a higher level of commitment from the parties concerned and helps in the setting of ambitious, but realistic and achievable targets. The screening of the full range of potential policy measures allows the choice of most effective instruments and the correct balance to be determined between actions at all levels of responsibility - Community, national and local.

Furthermore, environmental problems that we now face are often more complex than those of 20 years ago; inter-linkages and even trade-offs between them have become more apparent. Thus acting upon one problem can harm or benefit the solution of other problems. Measures have hence to be assessed in an integrated fashion to avoid undesired side effects.

The analysis of cost effectiveness is an important element of environmental proposals, and the experience of the Auto Oil programmes is a good example of maximising environmental benefits for lowest possible costs. This allows policy makers to optimise the value for money from measures and will be a key principle for the measures that flow from this programme.

#### Broadening the dialogue

The Commission has made a commitment to develop more open and transparent government, which brings European citizens closer to the European institutions. This also has special reference to the process of policy making where real efforts need to be made to ensure that the full range of

interested groups are given the opportunity to influence decision making. This must include economic interests, national, regional and local authorities and environment groups.

Non governmental organisations (NGOs) have an important role to play, in channelling the views of the 'person in the street' to decision-makers, in participating in expert or technical groups and in monitoring the implementation of legislation. They represent a broader public interest in the policy process.

#### Actions

- The new Commission Strategic Policy and Planning approach will give earlier warning to all groups of areas where the Commission intends to prepare proposals.
- The Community will continue to provide financial support to environmental NGOs to facilitate their participation in dialogue processes.

#### The Role of Research

Research can support the development of Community environment policies by helping us to understand the nature of our interactions with the environment and their implications. The complexity of our environment is such that this knowledge is critical to the development of effective policies. The discussion of themes above shows that this is a general concern, but has specific importance in certain areas such as climate change and the environment health interface, eco-systems, bio-diversity, protection and sustainable management of natural resources and wastes . Research also plays a major role in developing the innovative technologies and management practices, which continue to be required to resolve environmental problems.

Underpinning proposals and decisions with scientific advice of the highest quality available is fundamental to winning acceptance by stakeholders and to avoid unnecessary conflicts with our trading partners. The European Research Area offers opportunities in this respect and should be fully exploited.

As explained in the Commission Communication on the European Research Area, the Community Research Programmes represent about 5% of public research funding in the Community. It is therefore essential that, in addition to Community research programmes in this area, a co-ordination of national research programmes is encouraged so as to increase their impact.

It will be important also to pay attention to improving the dissemination of research results so they are both more usable for policy makers and helping to communicate understanding of environmental issues to the general public.

#### Actions

- Two yearly reviews of environmental research programmes and of evolving research needs and priorities.
- Establishment of forums of stakeholders to promote interaction, exchange of information and best practice and to ensure effective dissemination of research results.
- Encourage Member States to continue to attach high priority to environmental questions in their research programmes. These should be co-ordinated at Community level to increase their added value.
- Ensure that environmental questions also continue to figure prominently in Community research programmes.

### 8.2. Information for Policy Making and Evaluation

#### State of Environment, trends and driving forces

To monitor the success of this programme and more generally to make informed policy, we need to have a sound knowledge of current environment problems, their geographical distribution and the

socio-economic trends that are often the driving force of environmental degradation. This means collecting relevant and consistent data over a period of time and ensuring intelligent interpretation and presentation of these data. This role is fulfilled by the European Environment Agency and Eurostat on the basis of information provided by the Member States. However, it is clear that Member States need to give greater priority to the provision of the data required. Environmental and sustainability issues must move up the scientific and statistical agenda and higher priority must be given to filling the gaps in the baseline data. This will help ensure that a comprehensive picture of the environmental problems is available.

Policy decisions can also be assisted by a good understanding of the trends for different problems which can permit the construction of scenarios and models for testing the likely effectiveness of different measures. A good understanding of the socio-economic trends which are often the main driving forces behind environment issues is also critical to the development of effective policy.

#### Measuring progress - Reporting, indicators and evaluation

The measurement of progress towards the achievement of our objectives requires information on the state of the environment and the causes behind the problems. It also needs an effective system of reporting on the transposition, implementation and effectiveness of our policy measures. The current data and reporting system is only giving us an approximate view of the state of the European environment and the associated socio-economic trends and an incomplete picture of the transposition and implementation of EU environmental legislation. This imposes severe limitations on our ability both to make meaningful evaluations of our policies and to understand the effect that mankind has on the environment.

The Commission intends to develop a systematic evaluation process in order to improve future policy and implementation and to be able to assess likely future developments. A comprehensive set of indicators will be critical for the mid term evaluation of the progress made in implementing this programme.

We need to research and define clear and consistent sets of indicators which gauge progress against identified targets, including indicators of the monetary value of the impacts of environmental degradation. Indicators also can play an important role in raising awareness of both decision-makers and the general public as to the state and trends of different issues. Clear and consistent sets of indicators that gauge progress against identified targets are being developed. A set of headline indicators for the European Union will provide the basis for tracking progress of the main themes identified in this programme. These will be supported by a more detailed set of environmental quality indicators and core sets of integration indicators for each policy area such as transport (this is already well advanced thanks to the initiative on a 'transport and environment reporting mechanism'), agriculture and energy.

To facilitate this process, there is a need for a broad ranging review of the entire system (covering state and trends of the environment, statistical reporting, legal requirements and policy evaluation). This review will help identify priority data needs and enable Member States to focus resources on priority data collection. For instance streamlining and harmonising the data reported for the purposes of compliance and for statistics will greatly improve the ability of the statistical system to deliver the necessary data. This review will cover the range of activities that provides us with the data, indicators and information that allow us to track progress, to review and improve our policies and to predict future developments.

#### Action

- Develop and publish regularly a headline environment indicator report
- Produce regular indicator reports on the state of the environment
- Regularly report progress against sets of integration indicators covering in particular agriculture and forests, energy, fisheries and marine, tourism, industry, regional policy and transport.

- Development of epidemiological indicators and damage cost indicators and of relevant valuation databases.
- Institute a wide-ranging review of information and reporting systems leading to the introduction of a more coherent and effective reporting and evaluation system incorporating high quality and comparable environmental data and information.
- Support to Member States in setting up adequate data collection systems and in particular to set priorities so as to optimise the use of scarce budgetary resources.
- Reinforce the development of geographical information systems and space monitoring applications, including the 'Global Monitoring for Environment and Security' initiative in support of policy making and implementation.

### 8.3. Guiding Principles of EU Environmental Policymaking

Community environmental policy can build on some firm principles. The precautionary principle and the principles that pollution should be rectified at source, that the polluter should pay and that priority should be given to preventative action are already enshrined in the Treaty and they underpin much of our current environmental legislation. Also in the Treaty is the principle of integration which requires all other policy areas to take full and proper consideration of the European Community's environmental objectives when making policy decisions.

In addition, we should explore the possible application on a broader basis of the following approaches:

- Encouraging the substitution of dangerous by less dangerous substances where suitable alternatives are available ('substitution'), and
- making producers responsible to prove that any hazardous substances they currently use and any that they create and plan to use do not present unnecessary or unacceptable risks for the environment and human health ('reversal of the burden of proof').