

ΥΠΟΥΡΓΕΙΟ ΕΣΩΤΕΡΙΚΩΝ



ΕΘΝΙΚΟ
ΚΕΝΤΡΟ
ΔΗΜΟΣΙΑΣ
ΔΙΟΙΚΗΣΗΣ &
ΑΥΤΟΔΙΟΙΚΗΣΗΣ



**ΙΝΣΤΙΤΟΥΤΟ ΕΠΙΜΟΡΦΩΣΗΣ
ΤΟΜΕΑΣ ΔΗΜΟΣΙΟΥ MANAGEMENT**

**«PUBLIC ADMINISTRATION, ENVIRONMENT AND CULTURE:
THE GREEK EXPERIENCE IN THE EUROPEAN UNION»**

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1. Emergence of EU environmental legislation

1.1. EU a sui generis International Organization

The European Union (EU) emerged as a policy making sui generis International organization with legislative power.

The E.U. order resembles the constitutional order of a state.

This is apparent from the tasks entrusted to the E.U.

Not the narrowly circumscribed technical tasks commonly assumed by International Organizations, but fields of competence which taken as a whole, form essential attributes of statehood.

However the European Union lacks both the Universal jurisdiction characteristic of a state.

The only essential point of similarity between the EU and the traditional International Organizations is the fact that the EU was also created by Treaties taking effect under International Law.

These Treaties are at the same time the foundation documents establishing Independent Communities endowed with their own sovereign rights and competencies.

The Member States have pooled certain parts of their own legislative powers in favour of the EU and have placed them in the hands of EU Institutions.

The Member states are however given, in return, substantial rights of participation and can gain from solidarity.

The EU is therefore a new form of relationship between States, something between a State, in the traditional sense and an International Organization. Under the classic preemption doctrine once the Union legislates in a field, that field is dominated by the European Legislation thereby precluding Member States action as the Union has assumed exclusive competence in the field. This pattern is the basis for the creation of a uniform body of Community Law applicable in all Member States.

Each year, on the basis of the EU Treaties, thousands of Political or Legal Decisions (Regulations, Directives, Decisions, Recommendations) are taken that crucially affect the lives of the EU's Member States and their citizens.

EU legislation is binding on the citizens and Member States of the Union and in some cases (Regulations) apply, without further national review or ratification.

Furthermore, the EU monitors, coordinates and enforces the implementation of the European Legislation.

The Institutions

The European Union is managed by the following Institutions:

- A European Council of Heads of State, or Government
- A Council representing the Member States and composed of Government Ministers
- A democratically elected Parliament, representing the member states (732-2007- 786)

- A Commission which acts as guardian of the Treaties and has the power to initiate and implement legislation, a political independent body that upholds the Collective European Interest (27)
- A Court of Justice which ensures that Community law is observed.
- A Court of Auditors which monitors the financial management of the Union.

In addition, there is a number of Advisory Bodies which represent economic, social and regional interests.

The European Investment Bank was set up to facilitate the financing of projects which contribute to the balanced development of the European Union.

The European Environment Agency.

1.2. Why we need a European Environmental Policy?

There are three main reasons why the EU is addressing Europe's environmental problems.

The first is because pollution does not respect national borders:

- The only sensible way of protecting biodiversity is taking the ecosystem approach. Ecosystems very rarely stop at political borders
For example the acid rain in Sweden in the 1980's came from UK industry.

The second reason is linked to competitiveness.

Industry can claim that high environmental standards damage international competitiveness.

This fear has prevented a number of governments from implementing unilateral measures, such as energy taxes.

This argument disappears when the same measure is taken by all competitors.

The third reason is that environmental problems are increasingly global in nature.

By acting with a common voice, the EU is able to be a key player on issues that range from climate change to water pollution.

Environment is one of the policy areas which enjoys the highest level of support of European citizens.

The unique nature of the EU makes environmental policy effective. The European Commission is the guardian of European environmental legislation and is backed up by the Court of the European Community.

No other International Environmental Organization has these tools which are available in the EU.

Without the EU it will not be possible for 27 very diverse countries to take the action needed to protect the European as well as the Global Environment.

1.3. The EU Treaties and the Environment

1.3.1. The Treaties

The Treaty of Rome establishing the European Economic Community in 1957 did not provide for sustainable development or environmental protection but provides only for the need to achieve “the constant improvement of the living and working conditions”.

This however did not prevent the European Union from adopting legislation on specific subjects concerning **environmental protection**, starting in 1970.

This legislation was mostly based on **the Common Market**.

The Single European Act (1986) which came into force on July 1987 introduced provisions explicitly relating to the environment. It was a turning point for the environment.

The Treaty on European Union (Maastricht 1992) took account of environmental concerns at the core of the Union purposes

- by a restructuring of the fundamental tasks in Article 2 of the Treaty and
- by raising the environment to the status of a policy of the Union.

According to **Article 2** of the **Maastricht Treaty** the E. Union should encourage, inter alia, “harmonious and balanced development of economic life within the Union” and “**sustainable, non-inflationary growth respecting the environment**” by establishing a common market and an economic and monetary union, and by implementing the common policies or activities referred to in Article 3.

Among these policies and activities are included

- **environment policy**,
- industry,
- research and technological development,
- **health**,
- tourism,
- energy.

Modified by the **Treaty of Amsterdam 1997** and the **Treaty of Nice 2001** Articles **174 to 176** constitute the **legal basis** for EU **Environmental Policies**.

Article 174

1. Community policy **on the Environment** shall contribute to pursuit of the following objectives:
 - preserving, protecting and improving the **quality of the environment**,

- protecting **human health**,
 - prudent and rational utilization of **natural resources**, promoting measures at **international level** to deal with **regional** or **worldwide** environmental problems.
2. Community policy on the environment shall aim at a **high level of protection** taking into account the diversity of situations in the various regions of the Community. It shall be based on the **precautionary principle** and on the principles that **preventive action** should be taken, that environmental damage should as a priority be **rectified at source** and that the **polluter should pay**.

In this context, harmonization measures answering environmental protection requirements shall include where appropriate, a **safeguard clause** allowing Member States to take provisional measures for non-economic environmental reasons, subject to a **Community inspection procedure**.

3. In preparing its policy on the environment, the Community shall take account of:
- available **scientific and technical data**,
 - environmental conditions in the various regions of the Community,
 - the potential **benefits and costs** of action or lack of action,
 - the **economic and social development** of the Community as a whole and the balanced development of its regions.
4. Within their respective spheres of competence, the Community and the Member States shall **cooperate with Third Countries** and with the competent **International Organizations**.
The arrangements for Community cooperation may be the subject of **Agreements** between the Community and the third parties concerned, which shall be negotiated and concluded in accordance with Article 300.

The previous subparagraph shall be without prejudice to Member States' competence to negotiate international bodies and to conclude International Agreements.

Article 175

1. The Council, acting in accordance with the procedure referred to in Article 251 and after consulting the Economic and Social Committee of the regions, shall decide what action is to be taken by the Community in order to achieve the objectives referred to in Article 174.
2. By way of derogation from the decision-making procedure provided for in paragraph 1 and without prejudice to Article 95, the Council, acting **unanimously** on a proposal from the Commission and after consulting

the European Parliament, the Economic and Social Committee and the Committee of the Regions, shall adopt:

- a) provisions primarily of a **fiscal nature**;
- b) measures affecting:
 - town and **country planning**,
 - quantitative management of **water resources** of affecting, directly or indirectly, the availability of those resources,
 - **land use**, with the exception of waste management;
- c) measures significantly affecting a Member State's choice between different **energy sources** and the general structure of its **energy supply**.

The Council may, under the conditions laid down in the first subparagraph, define those matters referred to in this paragraph on which decisions are to be taken by a qualified majority.

3. In other areas, **General Action Programs** setting out **priority objectives** to be attained shall be adopted by the Council, acting in accordance with the procedure referred to in Article 251 and after consulting the Economic and Social Committee and the Committee of the Regions.

The Council, acting under the terms of paragraph 1 or paragraph 2 according to the case, shall adopt the measures necessary for the **implementation** of these Programs.

4. Without prejudice to certain measures of a Community nature, the **Member States shall finance and implement the environment policy**.
5. Without prejudice to the principle that the polluter should pay, if a measure based on the provisions of paragraph 1 involves costs deemed disproportionate for the public authorities of a Member State, the Council shall, in the act adopting that measure, lay down appropriate provisions in the form of:
 - temporary **derogations**, and/or
 - **financial support from the Cohesion Fund** set up pursuant to Article 161.

Article 176

The protective measures adopted pursuant to Article 175 **shall not prevent any Member State** from maintaining or introducing **more stringent protective measures**.

Such measures must be compatible with this Treaty.
They shall be notified to the Commission.

1.3.2. EU Treaty Principles

- The precautionary principle

European Commission communication COM(2000)0001 on the precautionary principle in 2000 sought **to establish common guidelines** for applying precautionary principle and to provide criteria on **how to assess, appraise and communicate risks that science is not yet able to evaluate fully.**

- The prevention principle

- The polluter pays principle

Directive 2004/35 establishes a framework of environmental liability based on the **'polluter-pays' principle** for **preventing and remedying environmental damage.**

The directive applies to environmental damage or to an imminent threat of such damage caused by pollution, where it is possible **to establish a causal link between the damage and the activities of individual operators.**

Directive 2004/35 is a necessary response to a series of disasters in recent decades, including the **Seveso** chemicals factory accident in 1976, the fire at the **Sandoz** plant in Basle in 1986, oil spills such as the **Amoco Cadiz**. Companies could cover themselves against possible costs by taking out **insurance** or using other forms of **financial guarantee.**

The Directive will be reviewed after six years and the European Commission will check whether insurance and guarantees have become available at reasonable cost throughout Europe.

If not, the European Commission will, propose legislation setting up a **standardised compulsory financial guarantee scheme.**

1.4. EU Environmental policy and legislation

It is remarkable that EU environmental policy would account for **350 pieces** of legislation, (Decision, Directives, Regulations) and that an estimated **80%** of National Environmental Legislation is based on European laws.

To establish the environmental policy and legislation the Council and the European Parliament adopt, regularly, **Community Environment Programs.** The **6th Community Environment Action Program**, adopted in 2002, entitled **'Environment 2010: Our future, our choice'** (Decision 1600/2002) provides a strategic framework for the Community's environmental policy.

The 6th EAP is the central environmental component of the Community's sustainable development strategy.

It is based particularly on:

- the polluter-pays principle
- the precautionary principle and preventive action
- the principle of rectification of pollution at the source.

It focuses on **5 priority areas** for action:

- **climate change;**
- **biodiversity;**
- **environment and health;**
- **sustainable use of natural resources**

– **management of waste**

Five priority avenues of strategic action are proposed:

- improving the implementation of existing legislation;
- integrating environmental concerns into other policies;
- working more closely with the market;
- empowering people as private citizens and helping them to change behaviour;
- taking account of the environment in land-use planning and management decisions.

The Programme requires the European Commission to prepare **Thematic Strategies** covering 7 areas:

- **Air Pollution** (adopted 21/09/2005);
- **Prevention and Recycling of Waste** (adopted 21/12/2005);
- **Protection and Conservation of the Marine Environment** (adopted 24/10/2005)
- **Soil Protection** (adopted 22/08/2006);
- **Sustainable Use of Pesticides** (adopted 12/07/2006);
- **Sustainable Use of Resources** (adopted 21/12/2005);
- **Urban Environment** (adopted 11/01/2006).

The Thematic Strategies represent the **next generation of environment policy**.

As their name suggests, they work with **themes** rather than with specific pollutants or economic activities as has been the case in the past.

They take a **longer-term perspective** in setting clear environmental objectives to around 2020 and will thus provide a stable policy framework. They focus on **identifying the most appropriate instruments** to deliver European policy goals in **the least burdensome and most cost effective way possible**.

Each Strategy is founded on thorough **research and science**, and follows an in-depth review of existing policy and wide-ranging **stakeholder consultation**.

The aim has been to create **positive synergies** between the seven strategies, as well as to **integrate** them with existing sectoral policies, the Lisbon Strategy and the Sustainable Development Strategy.

Each Thematic Strategy will help achieve the long-term goal of environmental sustainability while contributing to the Lisbon goals of enhancing growth and employment and promoting **eco-innovation**.

1.5. European Environment Agency (EEA)

In 1990 the Council of Ministers adopted a Regulation establishing the **EEA** and the **European Environment Information and Observation Network** Regulation 1210/90 and amended Regulation 933/1999.

The EEA is a central Community body.

The EEA's objective is to protect and improve the environment in accordance with the provisions of the Treaty and EU environment action programmes, with a view to establishing **sustainable development** within the EU. To achieve this, EEA must provide the EU and the Member States with **information** which is **objective, reliable and comparable at European level** and which will enable EU and the member states to take the measures required **to protect** the environment, **evaluate the implementation** of those measures and **ensure that the public is properly informed** on the state of the environment.

EEA cooperates in the exchange of information with other bodies, including the **IMPEL network** "Implementation of Environment Law" - information network on environment legislation linking the Member States and the Commission.

Member States are obliged to inform the EEA about the main component elements of their national environment information networks.

EEA is moreover **open to countries that are not members of the E.U.**

1.6. EU Environmental Policy- Some Examples

1.6.1. The EU eco-label award scheme

According to Regulation No 880/92 revised by Regulation 1980/2000 on a EU eco-label award scheme, the EU eco-label may be awarded to products available in the EU which meet certain **environmental requirements and specific eco-label criteria**.

The criteria are set and reviewed by the **European Union Eco-Labeling Board (EUEB)**, which is also responsible for the **assessment and verification** requirements relating to them.

They are **published** in the Official Journal of the E U.

The EU eco-label award scheme is designed to **promote products** which have a **reduced environmental impact** compared with other products in the same product group and to **provide consumers** with accurate and scientifically based **information and guidance** on products.

1.6.2. Eco-audits

Regulation No 761/2001 replacing Regulation 1836/93, allowing **voluntary** participation by Organisations in a EU **Eco-Management and Audit Scheme (EMAS)**, set up a new scheme to improve industrial environmental protection by introducing a form of **environmental management**.

The objective of the Regulation is to improve **the environmental performance** of organisations in all sectors through:

- the introduction and implementation by Organisations of environmental management systems as set out in Annex I of the Eco-audit Regulation;
- **objective and periodic assessment** of those systems;

- **training and active involvement of the staff** of such organisations;
- provision of **information to the public and the other interested parties.**

1.6.3. Environment taxes and charges

In addition to framework measures harmonised at Community level, the implementation of the environmental policy also requires a number of economic, technical and fiscal instruments.

Environmental taxes and charges can be a way of implementing the 'polluter-pays' principle by inducing consumers and producers to adopt more environmentally compatible behaviour.

The European Commission set out the applicable legal framework and Member States' options and obligations in accordance with **single market rules** in the Communication COM 97/9.

The EP adopted a Resolution, recognising that the use of **environmental charges** could **distort** competition between those Member States which introduced them and those which did not, thus making it desirable for such charges to be introduced **by all Member States together.**

1.6.4. European Environment and Health Strategy (SCALE)

There is a strong link between poor health and environmental problems: as many as 60 000 deaths per year in large European cities are caused by long-term exposure to air pollution.

1 child in 7 is affected by asthma.

Seeking to reverse this alarming trend, the European Commission launched in June 2003 a **European Environment and Health Strategy** COM(2003)0338, called SCALE, aimed at achieving a **better understanding of the complex relationship between environment and health and identifying and reducing diseases caused by environmental factors.**

SCALE focuses on 5 key elements:

- science,
- children,
- awareness
- legal instruments
- evaluation

SCALE will be implemented in cycles.

The first cycle, from 2004 to 2010, will focus on four health effects: childhood respiratory diseases, asthma and allergies; neurodevelopment disorders; childhood cancer; endocrine disrupting effects. The E. Commission has presented a European Environment and Health Action Plan 2004-2010 COM(2004)416, comprising points aimed at improving coordination between the health, environment and research sectors.

A mid-term review of the action plan is scheduled this year, 2007.

1.6.5. Promoting NGOs active in environmental protection

According to Decision 466/2002 laying down a Community action programme **promoting Non-Governmental Organisations active in Environmental protection**, **€32 million** have been spent during the period 2002-2006. Support from the programme will target the priority areas under the 6th Environment Action Programme.

[Some Examples]

Environmental inspections in Member States

Recommendation 2001/331 provides for **minimum criteria for environmental inspections in the Member States**.

By putting forward criteria regarding **the organisation, performance, follow-up and publicising** of environmental inspections, the Recommendation aims to ensure **a more uniform implementation of environmental legislation in the Member States**.

The Recommendation covers environmental inspections of **all industrial installations, enterprises and facilities** subject to **Authorisation, Permit or Licensing requirements under EU environmental legislation**, '**controlled installations**' Enforcement of the EU environmental legislation can be encouraged through **EU funding**.

2. Sustainable development and International Collaboration

2.1. Sustainable Development

2.2. International Dimension of Environmental Problems

2.1. Sustainable Development

Sustainable Development stands for meeting the needs of **present generations** without jeopardizing the needs of **future generations** – a better quality of life for **everyone**, now and **for generations to come**. Sustainable development offers a **vision of progress** that **integrates immediate and longer – term needs, local and global needs**, and regards **social, economic and environmental needs** as inseparable and interdependent components of human progress.

Sustainable Development is a strategy for **planetary evolution** which combines the ecological problematic which emerged in the 70's, with the trend for growth.

We all agree that citizens have the **right to expect a high quality of life for themselves and their children** and that sustainable development is the expression of **solidarity** between the **generations** and between countries of the **North and the South**.

Sustainable development will not be brought about by policies only, but must be taken up by society at large as principle guiding the **many choices** each **citizen** makes every day, as well as the **big political and economic decisions** that have ramifications for many.

Realizing this vision requires **profound changes in thinking, in economic and social structures, and in consumption and product patterns**.

In 1997 sustainable development became a **fundamental objective of the EU** and was included in the **Treaty of Amsterdam**.

The European Council, **Cardiff** June 1998, invited all relevant formations of the Council to establish their own strategies for giving effect to **environmental integration** and **sustainable development** within their respective policy area

As a follow up of this invitation the **“Strategy on Environmental integration in the External Policies”** was adopted by the General Affairs Council **Barcelona**, March **2002**.

The aim of this strategy is to specifically consider how to pursue the objective of EU International Environmental Policy in the day to day conduct of **external relations**.

In parallel, EU is committed to implementing the obligations on sustainable development

- According to the **Millennium Development goals agreed in 2000 and**
- According to the **World Summit on Sustainable Development** held in **Johannesburg** in **2002**.

The Goals of the **World Summit** are:

- a. To combine the **eradication of poverty with sustainable patterns of production and consumption** and
- b. To protect the **natural resources** which will be crucial for the **economic and social development of future generations**.

At the **Gothenburg Summit** in **2001** EU leaders launched the first **EU Sustainable Development Strategy**.

The strategy was composed of two parts.

The first proposed objectives and policy measures to tackle a number of key **unsustainable trends**.

The priorities aimed to:

- Combat **climate change**
- Ensure **sustainable transport**

- Address threats to **public health**, such as chemicals pollution, unsafe food and infectious diseases,
- Manage **natural resources** more responsibly and stop biodiversity decline,
- Combat **poverty** and social exclusion, and
- Meet the challenge of an **ageing population**

The **second** part of the **Sustainable Development strategy** revised the **very way** that policies are made.

It called for a **new approach to policy-making** that ensures the EU's **economic, social and environmental policies** mutually reinforce each other.

The central instrument developed for this purpose was the obligation for the Commission to submit each new policy proposal to an **Impact Assessment procedure**.

It also stressed the **global dimension** of sustainable development – the important contribution that the EU can make to helping all nations, particularly **developing countries** reach a sustainable development path.

EU leaders declared that SDS adds the **Environmental Dimension** to the **Lisbon strategy of Economic and Social Renewal**. These two strategies are **complementary**.

The **Lisbon** strategy focuses on **growth and jobs**.

The **sustainable** development strategy gives a qualification to the **kind of growth** the EU wants to pursue.

The European Council of June 2006, under the **Austrian Presidency**, adopted the **Renewed Strategy on Sustainable Development for an Enlarged EU (SDS)**

The aim of the renewed EU SDS is to identify and develop actions to enable the EU to achieve **continuous improvement of quality of life** through the creation of **Sustainable Communities** able to **manage and use resources** efficiently and to tap the ecological and social innovation potential of the **economy**, ensuring **prosperity, environmental protection and social cohesion**.

The **Renewed SDS** sets objectives, targets and concrete actions for 7 key priority challenges for the coming period **until 2010** many of which are predominantly environmental:

- **Climate change and clean energy**
- Sustainable **transport**
- Sustainable **production and consumption**
- **Public health** threats
- Better management of **natural resources**
- **Social inclusion, demography and migration**
- Fighting **global poverty**

Education, research and public finance are stressed as important instruments in facilitating the transition to more sustainable production and consumption patterns.

And because monitoring and follow-up are crucial for **effective implementation**, the strategy contains a strong governance cycle.

Every two years, starting in **2007**, the Commission will produce a **progress report** on the implementation of the **Renewed SDS**.

This report will form the basis for discussion at the December European Council, which will give guidance to the next steps in its implementation.

I would like to stress that the EU sustainable development policy

- Is **constantly updating** to take account of new environmental **threats** but also of emerging **technologies**
- Is **open to new ideas** about the best policy or instrument for dealing with environmental issues
- Is **responsive** to the views of **stakeholders**
 - Citizens
 - NGOs
 - Industry etc.

2.2. International Dimension of Environmental Problems

We all understand that most environmental problems are of **trans-boundary nature** (pollution knows no frontiers) and they can be **addressed effectively only** through **international cooperation**

- **the other side of the world** affects our food supplies
- Oil spills in EU waters may come from tankers registered **outside the EU**
- The ozone layer 10-50 km above the earth protect us from the sun's harmful ultraviolet radiation

So its depletion **affects us all regardless** of whether the fridge containing the ozone depleting chemical is in our home or **on the other side of the world**.

The European Union as

- the **world's largest trading entity**
- the **world's second largest economy**
- a **major political bloc**

recognized that has **International Responsibilities** and understood that it is in the EU 's own interest **to address the global environmental issues**

Specifically the EU Treaty

- Establishes that one of the key objectives of EU policy in the environment is to promote measures at the **International Level** to deal with **Regional or Worldwide** environmental problems

- Foresees the possibility for the EU to participate in **International Environmental Agreements together with its Member States**

More specifically the **6th Environmental Action Program** of the EU contains a specific provision on International Action

- ❖ **Swift ratification**
- ❖ **Effective compliance and enforcement**

Of all **International Environmental Conventions and Agreements** where the EU is a party

It is obvious that **the four priority areas listed in the 6th Environmental Action Program** of the EU have an essential **international dimension**

They are **global problems**:

- Climate change
- Nature and biodiversity
- Environment and health
- Natural resources and waste management

In addition **article 6 of the EC Treaty** stipulates that **environmental protection requirements** must be integrated into the **definition** and **implementation** of the **Community policies and activities** with a view to promote sustainable development.

The EU takes an active part in the **Elaboration, Ratification and Implementation** of Multilateral Environmental Agreements like the KYOTO protocol on Greenhouse gas emissions and has **ratified many International Environmental Agreements**

▶ **At global level**

multilateral agreements negotiated under the auspices of the UN

▶ **At regional level**

ex. In the context of the Council of Europe

▶ **At sub-regional level**

ex. Management of seas or trans-boundary rivers

The issues addressed by these Agreements are very wide and include the following areas:

1. Biodiversity and nature protection
2. Trade in endangered species
3. Climate change
The Kyoto Protocol on greenhouse gas emissions
4. Protection of the ozone layer
The Montreal Protocol on ozone depleting substances
5. Desertification
6. Management of chemicals and waste

7. Trans-boundary water pollution
8. Trans-boundary air pollution
9. Environmental governance including:
 - Environmental impact assessments
 - Public access to environmental information
 - Public Participation and access to justice in environmental matters
10. Industrial accidents
11. Maritime and river protection
12. Environmental liability

In all these fields **EU is a leading proponent** of international environmental action and co-operation and **an active player** committed to promote **worldwide** the concept of sustainable development.

Table listing the International Environmental Agreements to which the EU is a **party or a signatory** grouped according to the Environmental Themes:

Air:

- Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP)(1979) and its protocols

Biotechnology:

- Cartagena Biosafety Protocol (2000) to the Rio CBD Convention on Biological Diversity (1992)

Chemicals:

- PIC Rotterdam Convention on Prior Informed Consent (1998)
- POP Stockholm Convention on Persistent Organic Pollutants (2001)

Civil Protection and Environmental Accidents:

- Helsinki Convention on Industrial Accidents (1992) Barcelona Convention (1976) as amended and its protocols
- Helsinki Convention on the Baltic Sea (1992)
- OSPAR Convention(1992)
- Bonn Agreement (1983)
- Lisbon Agreement (1990)

Climate Change and Ozone Depletion:

- UNFCCC Framework Convention on Climate Change (1992) and Kyoto protocol (1997)
- Vienna Convention for the Protection of the Ozone Layer (1985) and Montreal protocol as amended

Governance

- Aarhus Convention (1998) on access to environmental information
- Espoo Convention on Environmental Impact Assessment (1991)

Industry:

- Helsinki Convention on Industrial Accidents (1992)

Land use:

- Alpine Convention (1991)

Nature and biodiversity:

- Rio CBD Convention on Biological Diversity (1992) and Cartagena Biosafety Protocol (2000)
- Bonn CMS Convention on the Conservation of Migratory Species (1979)
- Bern Convention on European Wildlife and Habitats (1979)
- Convention for the protection of Vertebrate Animals used for Experimental and other Scientific Purposes (1986)
- Alpine Convention (1991) and its protocols
- Convention on the Conservation of the marine fauna and flora of the Antarctic (1980)

Soil:

- UNCCD Convention to Combat Desertification in Africa (1994)

Waste:

- Basel Convention on hazardous wastes (1989)

Water:

- Helsinki Convention on Watercourses and International Lakes (1992)
- River basin conventions (Danube (1987), Elbe (1990), Oder (1996), Rhine (1999))
- Barcelona Convention (1976) as amended and its protocols
- OSPAR Convention(1992) as amended
- Bonn Agreement (1983)
- Helsinki Convention on the Baltic Sea (1992)

In the **Cotonou Agreement** which covers EU relations with 80 developing countries in Africa, the Caribbean and the Pacific (the **ACP countries**) contains a **special chapter on environmental protection and sustainable utilization and management of natural resources**

The **Cotonou Agreement** identifies priorities like:

- **Tropical forests**
- **Biodiversity**
- Renewable energy sources
- Sustainable rural and urban development
- **Desertification**
- **Deforestation**
- Sustainable tourism
- Sustainable transport
- **Disposal of hazardous waste**
- **Fisheries**
- **Water**

Regarding the importance of international collaboration to save natural resources,

I would like to stress that the European Parliament in its Resolution on sustainable development, adopted in January 2006, calls on the Member States and the EU to promote **within the UN** a recognition **of resources and particularly water as global public goods**

3. PRODUCTION OF STRATEGIC ENVIRONMENTAL INFORMATION

Environment Agencies are the main source of production of Environmental Strategic Information.

Their role is to identify tomorrow's problems today.

The Environment Agencies are an early warning system which:

1. Detect potential future adverse impacts on humanity in a timely fashion
2. Assess associated risks
3. Offer proposals for practically implementable solutions

The outcome and the evaluation of Environmental Agencies' work is the resulting sound policies.

People of different qualifications, economists, chemists, biologists, legal experts work together to find Solutions to environmental problems.

Greece, as member state of the European Union, participates in the production of strategic European environmental information, collaborating with the European Environment Agency (EEA).

EEA mandate is:

–To help the Community and member states make informed decisions about improving the environment, integrating environmental considerations into economic policies and moving towards sustainability.

–To coordinate the European Environment Information and Observation Network (Eionet).

The European Environment Information and Observation Network (Eionet) consists of:

–The EEA

–5 European Topic Centers (ETCs)

–A network of 900 experts from 39 countries in over 300 national environment institutions, dealing with environmental information.

Eionet supports:

1. The collection and organization of data

2. The development and dissemination of information concerning Europe's environment.

The 5 European Topic Centers (ETCs) cover the following areas:

–**Air and Climate Change:** The Netherlands Environmental Assessment Agency

–**Biodiversity:** France

–**Land Use and Spatial Information:** The Autonomous University of Barcelona

–**Resources and Waste:** The Danish topic Centre on Waste

–**Water:** The Czech Environmental Information Agency

The EEA has appointed the **National Focal Points (NFPs)**.

The **National Focal Points**: involve experts in national environmental organizations nominated and funded by the member state and are authorized

to act as **the main contact point** with the EEA and the European Topic Centers (ETCs).

NFPs coordinate the National Network.

In **Greece** the NFP is the **Ministry for the Environment Physical Planning and Public Works**.

National Reference Centers

-involve experts working in National Environmental Organizations.

- are **nominated and funded** by the member states to work with EEA and the European Topic Centers in **specific thematic areas** (e.g. energy, water).

National Reference Centers are regular collectors and suppliers of environmental data at the national level and/or possess relevant knowledge of specific environmental issues, monitoring and modeling.

The following National Reference Centers operate in Greece :

Agriculture: Hellenic Ministry of Rural Development and Food

Air emissions: Ministry of the Environment Physical Planning and Public Works

Air quality: Ministry of the Environment Physical Planning and Public Works

Climate change: Ministry of the Environment Physical Planning and Public Works

Noise: Ministry of the Environment Physical Planning and Public Works

Rivers and Lakes: Ministry of the Environment Physical Planning and Public Works

Chemicals: Ministry of Economy and Finance. State Laboratory

Energy: Ministry of Development

Fisheries: Fisheries Research Institute

Groundwater: Institute of Geology and Mineral Exploitation and
Ministry of the Environment, Physical Planning and Public Works

Health and Environment: Ministry of Health and Solidarity

Marine and Coastal Environment: Ministry of the Environment, Physical Planning and Public Water and

National Centre for Marine Research

Nature protection and biodiversity: Ministry of the Environment Physical Planning and Public Works and

Greek Biotopes and Wetland Center.

State of environment Reporting: Ministry of the Environment Physical Planning and Public Works.

Soil: Institute of Soil Mapping and Classification,
National Agricultural Research Foundation,
Institute of Geology and Mineral exploitation
Soil science Institute of Athens.

Waste: Ministry of the Environment Physical Planning and Public Works.

Water emissions: Ministry of the Environment Physical Planning and Public Works.

Water quality and Use: Ministry of the Environment Physical Planning and Public Works.

Resource use: Ministry of the Environment Physical Planning and Public Works

Transport: Hellenic Ministry of Transport and Hellenic Institute of Transport

The National Center for the Environment and Sustainable Development (NCESD) is the main Agency for the production of strategic environmental information in Greece.

The NCESD was established by Presidential Decree, in 2000.

NCESD operates as a private body supervised and partially supported by the Minister of the Environment.

The aims of the NCESD are:

- To collect, organize and process information and data on the environment and provide objective, reliable and comparable information to public and private users
- To disseminate environmental information widely and raise the level of public knowledge and consciousness on environmental issues
- To contribute to the **establishment, implementation and evaluation** of environmental policies, programs and measures
- To contribute to the **establishment, implementation and evaluation** of environmental policies, programs and measures.

NCESD is located in Athens

The main competitive advantage of NCESD is:

- the **multidisciplinary approach** to environmental issues and
- the **extensive network or collaborators**

An indicative list of NCESD work:

- Sustainability indicators
- Strategy for sustainable development
- State of the environment
- Solid waste management issues
- Biodiversity and management of natural resources
- Spatial planning policy
- Millennium ecosystems assessment
- A plan for the development of a river basin management scheme in Greece
- Sustainable public procurement
- Water Framework Directive (Project Life Water Agenda)

Summarizing:

Recent statistics indicate the high level of public awareness regarding environmental issues.

European citizens are even willing to accept supplementary taxes for the restoration and conservation of environmental sustainability.

The two pillars for the realization of **environmental sustainability** are:

- Reliable** and continuously updated **knowledge basis**
- Political will** expressed through effective legislation and policy

4. Water Protection and Management

4.1. The Water Framework Directive

4.2. The Directive on the assessment and management of flood risks

4.3. The Marine Strategy Directive

4.1. The Water Framework Directive (WFD)

An opinion poll by the Euro-barometer in EU countries confirmed that Europeans are very worried about water.

When asked to list the 5 main environmental issues nearly half of the respondents Declared “**water pollution**” (47%).

European Commission has adopted water protection as one of the top priorities

EU **water legislation** emerged in 1975 with the adoption of the Directive 75/440, setting standards for rivers and lakes used for drinking **water abstraction** followed by the Directive 79/869 concerning methods of measurement and frequencies of sampling and analysis of water.

The EU sets binding quality objectives for:

- drinking water Directive 98/83
 - Fish waters Directive 78/659 and 2006/44
 - Shellfish waters Directive 79/923
 - Bathing waters Directive 76/160
 - Groundwaters Directive 80/68
-
- EU sets limit values and quality objectives for discharges of certain dangerous substances Directives 76/464, 86/280 and 88/347.
 - In 1991, 2 important Directives were adopted:
 - The **Urban waste** treatment Directive 91/271 providing for secondary (biological) waste water treatment
 - The **Nitrates Directive** 91/67 addressing water pollution by nitrates from agriculture
 - In 1998 a new **Drinking water treatment** Directive adopted reviewing the quality standards and tightening them.

The water policy was **fragmented** in terms both of objectives and of means.

European Institutions and Member States agreed on the need for a single piece of framework legislation **to address problems in a coherent way**

In response to this the **Water framework Directive** was adopted 2000/60 (**WFD**) with the following key aims:

- Expanding the scope of water protection to **all** waters, surface waters and groundwater

- Achieving “**good status**” for all waters by a set deadline
- Water management based **on river basins**
- “**combined approach**” of emission limit values and quality standards
- **Getting the prices right**
- **Getting the citizen involved more closely**
- **Streamlining legislation**

River Basin Management

The best model for a single system of water management is management by river basin: which is the **natural geographical and hydrological unit** instead of management based on **administrative or political boundaries**.

By 2004 Member States must complete **an analysis of the characteristics of each river basin district** and a **register of areas (Art. 3 identification of River Basin Districts and Authorities by 2003)**.

For each river basin district, some of which will **traverse national frontiers** “a **river basin management plan**” including program of measures, will need to be established (2010, draft plan are presented end 2008) and updated every six years.

The **river basin management plan** is a detailed account of how the objectives set for the river basin, namely:

- ecological status
- chemical status
- quantitative status

and of how the Protected area objectives are to be reached within the timescale required.

The Combined Approach

- **1st The source approach**
According to this approach: controls concentrating on what is achievable at the source through the application of technology.
- **2nd Quality standards approach**
This approach takes into account the needs of the receiving environment in the form of quality objectives.

A **consensus** has developed in the EU that both approaches are required in practice.

The WFD:

- On the source side WFD requires as part of the basic measures to be taken in the river basin that all existing technology driven source-based controls must be implemented.
- Above this, WFD sets out a framework for developing further such controls.

A list of priority substances for action at the EU level and measures to achieve load reduction of those substances.

Decision 2455/2001 added Annex X to the WFD

This Decision ranks in order of priority the substances for which quality standards and emission control measures will be set.

Getting the Prices Right

Adequate water pricing acts as an incentive for the sustainable use of water resources.

Member states have to ensure that the price charged to water consumers reflects the true costs and introduce pricing policies by 2010. In this way the various economic sectors contribute to the recovery of the costs of water services.

However derogations will be possible e.g. in less favoured areas.

Public Participation

There are two reasons for an extension of public participation.

First: the decisions on the most appropriate measures to achieve the objectives in the river basin management plan will involve **balancing the interests of various groups**.

Second: Enforceability.

The greater the transparency in:

- The establishment of objectives
- The imposition of measures
- The reporting of standards

The greater:

- Member states will implement the legislation in good faith
- The power of the citizens to influence environmental protection

The WFD requires information and consultation when river basin management plans are established.

The river basin management plan must be issued in draft and the background documentation on which the decisions are based must be made accessible.

Streamlining Legislation

WFD will replace the previous directives:

- On surface water
- On measurement methods and sampling frequencies
- On exchange of information about water
- On fresh water quality
- On fish water quality
- On shellfish water quality
- On ground water quality
- On dangerous substances discharges

Conclusion

Europe's waters are in need of increased efforts:

- to get them clean or
- to keep them clean

Water protection is one of the great challenges for the EU in the new millennium.

4.2. The Directive 2007/60 on the assessment and management of flood risks

Global warming is likely to be responsible for the volatility of seasonal patterns and of the more frequent appearance of extreme weather events.

As Europe is becoming warmer, some areas, particularly in the north are getting wetter while others are getting drier. Higher rainfall has strained the capacities of river systems and **widespread flooding** has emerged as a major problem in recent years.

Floods are natural phenomena. They cannot be prevented but they can only be *managed*

Taking the right measures we can reduce their likelihood and limit their impacts.

Flood management is part of Europe's adaptation strategy for climate change. Even if we are successful in limiting global warming to 2 degrees Celsius, climate change will have serious impact in Europe and elsewhere.

As Commissioner on the environment Stavros Dimas stated:
"the best way to reduce the costs of adapting to climate change is to take *early action*,
The floods Directive is an instrument to this direction".

Between 1998 and 2004 Europe suffered over 100 major damaging floods. Severe floods in 2005 reinforced even more the need for concerted action. Since 1998 floods in Europe have caused

- some 700 deaths
- the displacement of about half a million people and
- at least € 25 billion in injured economic losses.

The insurance company data show that the finance impact of flooding has increased significantly since 1990.

The EU expects flood frequency and intensity to increase in the coming years as a result of:

- Climate change
- Inappropriate river management
- Construction in flood risk areas
- Accumulation of people and property in these areas

In addition to *economic and social* damage floods can have severe *environmental* consequences, for example:

- Destruction of wetland areas
- Inundation of installations holding large quantities of toxic chemicals.

Considering that most of the river basins in Europe are shared, action is more effective at *Community level*.

This allows better risk assessment and the *coordination* of measures taken by the member states.

The Environment Ministers agreed in October 2004 that there was a need for *effective* European co-ordination on flood risk management.

The European Commission produced a ***Flood Action Program*** which included the proposal for the EU flood Directive.

Before drawing up the proposal the E. Commission consulted widely with interested parties and took advice from a wide range of experts:

- specialists in hydrology and geology
- local and regional authorities
- insurance industry

Finally, during 8 weeks consultation with the public a total of 261 respondents replied to the E. Commission questionnaire, from 33 countries, including the 27 member states.

The Directive on the assessment and management of flood risks:

- Was proposed by the European Commission on 18th of January 2006
- Was published in the Official Journal on 6th November 2007 [OJ L 2888 p.27]
- Was entered into force on the 26th November 2007 [OJ L 288 p.27]
- Member states have to transpose the Directive into domestic law within 2 years [26th November 2009].

The Directive applies to inland water and to all coastal waters across the whole territory of the EU.

The aim of the Floods Directive is to reduce and manage the risks that floods pose:

- to human health
- the environment
- culture heritage and
- economic activity

The Directive requires member states to prepare the following assessment:

- ***Preliminary flood risk assessment*** to identify areas that are at potentially significant flood risk, by 2011
- ***Flood hazard maps*** showing the likelihood of flooding and ***flood risk maps*** assessing the impact, by 2013

- **Flood risk management plans** including measures to decrease the likelihood or impact of flooding by 2015
- 6 years updates taking into account the impact of climate change

1. **Preliminary flood risk assessment,**

to identify the river basins and associated coastal areas at risk of flooding [Articles 4 and 5].

This includes gathering information on:

- The boundaries of river basins in the district concerned
- Floods that have occurred in the past
- The likelihood of future floods and
- Estimated consequences

On the basis of the assessment member states must *categorize river basins* according to whether or not they have a *significant potential risk*.

This assessment and the resulting categories assigned to river basins must be *published* and must be *reviewed* every 6 years.

Action will only be taken in areas where potential significant flood risks exist or are reasonably foreseeable in the future

2. **Flood hazard maps and flood risk maps:**

Flood hazards and risks will be mapped for river basins and sub-basins for 3 scenarios:

- Floods with a low probability or extreme event scenarios
- Floods with a medium probability (likely return period > 100 years)
- Floods with high probability

The maps may show information related to *flood extent, depths and velocity of water and potential adverse consequences* [Article 6].

Flood risk maps must be *published* and must be *reviewed* every 6 years.

Constructing reliable and precise flood risk maps is not easy.

It requires a deep understanding of how weather and river systems function and how natural and man-made factors are likely to affect them.

Researchers also need observation data gathered by the latest radar and satellite technology, as well as, sophisticated computer systems to integrate these data and design mathematical models of these complex and unpredictable phenomena.

Flood risks would be mapped in order to:

- Increase public awareness
- Support the process of prioritising, justifying and targeting investments and developing sustainable policies
- Support:

flood risk management plans, spatial planning and emergency plans

3. **Flood risk management plans**

These plans are to include measures to reduce the probability of flooding and its potential consequences [Article 7].

They must take account of relevant aspects such as:

- soil management
- nature conservation
- land use and spatial management

Flood risk management plans include:

- The analysis and assessment of flood risks
- The definition of the level of protection
- Identification and implementation of sustainable measures applying the *principle of solidarity*

Principle of solidarity:

Not passing the problems to upstream or downstream regions and preferably contributing to the reduction of flood risks in upstream and downstream regions.

Not undertake measures that would increase the flood risk in *neighbouring countries*

The appropriate *level of protection* will vary from river basin to river basin and even within each river basin.

For example high levels of protection might be required in the vicinity of major cities or near sites of particular cultural or historical significance.

All the parties concerned must be allowed *to participate*, in the appropriate manner, in preparing management plans.

These plans must be published and reviewed every 6 years.

The Floods Directive will be carried out in coordination with the *Water Framework Directive* [WFD 2000/60].

Floods Directive includes a number of links to ensure this coordination with the WFD in the implementation processes.

This is important to ensure there is *no overlap* of procedures and institutions and that the timetables for implementation is such that *maximum synergies* can be achieved.

The *administrative units* are the same for both Directives i.e. the floods Directive shall be implemented on the level of the *river basin districts* (which includes river basins, sub river basins and coastal areas), identified in the WFD [article 3] and the *competent authority* responsible for the WFD shall also be responsible for the flood risk management action.

The principles for *coordination* within the river basins, in particularly as river basins are shared between member states or with third countries are the same in both Directives.

Member states must cooperate in preparing, as far as possible, *a single management plan*.

The implementation cycles and reporting mechanisms shall be synchronized and member states can choose to include the flood risk management plans in the river basin management plans required under WFD.

The public participation and information mechanisms of the WFD will be used: All assessments, maps and plans shall be made available to the public to express their opinion.

In 7 years time European Countries will be obliged:

- To implement construction measures lowering flood risks
- Avoiding flood-prone areas
- To limit flooding by restoring wetlands and flood plans and
- To educate the public about what to do in the case of flooding

4.3. The Marine Strategy Directive

The marine environment is actually **90%** of the biosphere and constitutes the greatest source of biological diversity on the planet.

Marine ecosystems play a key role in weather and climate patterns affecting our livelihoods.

Oceans provide **99%** of the available living space on the planet and cover **71%** of the earth's surface

Marine pollution is by definition a **transboundary issue**. However this fact is not yet incorporated in the existing legal framework. As a result the **effectiveness** of policies and measures is significantly limited.

The European marine environment in particular is under an **increasing number of threats**, namely:

- Effects of climate change
- Impacts of commercial fishing
- Introduction/invasion of non native species
- Eutrophication
- **Litter pollution**
- **Contamination by dangerous substances**
- **Microbiological pollution**

Europe's marine waters cover over **3 million square kilometers** an area equal to the total european landmass.

As Environment Commissioner Stavros Dimas emphasized:

*"It is absolutely vital for the EU to protect its marine waters and to clean up its seas and oceans. Doing so requires an **integrated** approach to managing seas and oceans."*

This integrated approach, expressed by the European Marine Strategy, is one of the 7 thematic strategies resulting from the Communities 6th Environmental Action Programme.

[Decision 1600/2002, OJ L 242, 10.09.2002]

The European Marine Strategy consists of 3 documents:

1. A Communication presenting the European Marine Strategy [COM (2005) 504, 24.10.2005]
2. A proposal for the marine framework Directive [COM (2005) 505, 24.10.2005]
3. A Commission impact assessment

A number of relevant commitments have already been made before the adoption of the European Marine Strategy including:

- The commitment **to halt biodiversity loss** by 2010
- Provisions to protect marine habitats and species under the **Habitats and Birds Directive** [92/43, OJ L 206, 22.07. 1992 and 179/409, OJ L 103, 25.04.1979]
- Targets to achieve good ecological status in coastal waters under the **Water Framework Directive** [2000/60 OJ L 327, 22.12.2000]

The member states are obliged by the Marine Framework Directive:

1. to ensure that EU marine waters are **environmentally healthy by 2020** at the latest and
2. to provide a comprehensive framework for the protection of water throughout its full cycle alongside with the **Water Framework Directive**

In order to have Environmentally healthy marine waters member states establish **Marine Regions and Sub-regions**, managed in an integrated manner.

The coastal states in the EU **have to** develop a maritime strategy for the European marine waters.

Member states are obliged:

1. to assess the state of the environment
2. to identify the main pressures in their marine regions.
3. to determine what can be considered as Good Environmental Status
4. to establish:
 - Targets
 - Indicators and
 - Monitoring programs

Good Environmental Status means [Art. 3]:

“the environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive within their intrinsic conditions and the use of the marine environment is at a level that is sustainable.

In drawing marine strategies for waters within each marine region member states are required **to cooperate closely**.

Each marine strategy consists of an **Action Plan** to be implemented in several stages.

Marine strategies will apply an ecosystem – based approach to the management of human activities to ensure that the **collective pressure** of such activities is kept with **sustainable levels**.

Programmes and Measures:

Member States (in respect of each Marine Region or Submarine Region) shall identify the measures which need to be taken in order to achieve or maintain Good Environmental Status.

The **programmes and measures** must take into account:

- Directive on urban waste-water treatment [91/271, OJ L 135, 30.5.1991]
- Directive on bathing water quality [2006/7 OJ L 64, 4.03.2006]
- The Water Framework Directive [2000/60]
- International Agreements

Programmes of measures must be drawn up **by 2015** to attain the good environmental status **by 2020**.

Member States have to establish marine protected areas.

Member States sharing a marine region will need to cooperate to ensure that their marine strategies are coherent and coordinated.

Member States must make every effort to coordinate their activities with non-EU countries in the same marine region including through Regional Sea Conventions.

Marine waters covered by member states sovereignty or jurisdiction form an integral part of the following Marine Regions:

- **The Baltic Sea**
- **The North East Atlantic Ocean**
- **The Mediterranean Sea**
- **The Black Sea**

Member States shall establish and implement coordinated **monitoring programs** for the ongoing assessment of the environmental status.

Monitoring programs shall be compatible within Marine Regions or Submarine Regions and compatible with the relevant provisions for monitoring, as laid down

- by EU Legislation: Habitats or Birds Directive or
- by International Agreements.

Notifications and E. Commission's assessment

The E. Commission will assess whether in the case of each member state the elements **notified** constitute an appropriate framework to meet the requirements of this Directive.

Public consultation and participation Member states shall ensure that all interested parties are given early and effective opportunities **to participate** in the implementation of the Directive involving, where possible, existing management bodies or structures

Including:

- Regional Sea Conventions
- Scientific Advisory Bodies and
- Regional Advisory Bodies

Marine Strategy Directive is completed by **6 Annexes**:

Annex I: Qualitative Descriptions for determining Good Environmental Status

Annex II: Competent Authorities

Annex III: Indicative lists of characteristics, pressures and impacts (in each marine region and sub-region)

Annex IV: Indicative list of characteristics to be taken into account for setting environmental targets

Annex V: Monitoring programs

Annex VI Programs and measures

Summarising:

The Marine Strategy Directive:

- Sets **common objectives and principles** at EU level
- establishes Marine Regions as **Management Unions** for implementation of the strategy
- Invites the member states to **cooperate** actively both among themselves as well as with third countries concerned

5. Air Pollution and Climate Change

5.1. What is the contribution of Human Activities to the global warming over the last 50 years?

Climate change is presently estimated to be the greatest environmental, social and economic threat facing our planet.

During the 20th century, the Earth's average surface temperature has risen by 0,6 degrees Celsius.

2005 has been estimated as the warmest year on record globally.

Human activities constitute the significant contribution to the global warming over the last 50 years.

Fossil fuels we burn to provide power and transport.

A particular culprit releasing into the atmosphere gases such as carbon dioxide (CO₂) warming the Earth's surface

In 2004, disasters related to climate change across the world caused economic losses totaling €80 billion.

Rising temperatures induce the rising of sea levels as polar ice caps melt.

Rising sea levels endanger coastal areas and small islands.

Climate change makes the weather even more unstable and unpredictable.

More unexpected strong storms appear resulting in flooding.

At the same time extended droughts result in water shortages.

The Association of British Insurers estimates that by 2080 insured losses from hurricanes in the US alone could reach the amount of US\$ 100-150 billion a year.

Certain diseases, like malaria, will spread to areas previously secure.

Some species will become extinct.

Crop production patterns will change.

Livelihoods and even the survival of whole communities will be at risk

5.2. EU's response to the climate change

EU actions to protect the air, target

- Climate change
- Limiting the depletion of stratospheric ozone
- Controlling acidification
- The ground level ozone
- Other atmospheric pollutants

Atmospheric pollutants which enter the air from a wide variety of sources have been subdivided into 3 categories:

- emissions from mobile sources (transport industry). The main emissions are: carbon dioxide (CO₂), nitrogen oxides (NO_x),

- carbon monoxide (CO) and hydrocarbons (HC), soot particles (or PM) and ozone (O₃);
- emissions from immobile source (businesses, homes, farms and rubbish dumps). The main emissions are: carbon dioxide (CO₂), sulfur dioxide (SO₂), nitrogen oxides (NO_x), hydrocarbons (HC), soot particles (PM), chlorofluorocarbons (CFCs) and methane;
- emissions caused by power generation: carbon dioxide (CO₂), sulfur dioxide (SO₂) and soot particles (PM).

High concentrations of these gases and pollutants arising from them, through chemical reactions in the atmosphere or in the soil

- are harmful to human health,
- corrode various materials,
- damage vegetation and
- have a detrimental effect on agricultural and forestry production.

Carbon dioxide (CO₂), methane, nitrogen oxides (NO_x) and chlorofluorocarbons (CFCs), produce the greenhouse effect.

- Arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons are human genotoxic carcinogens. So far no lower threshold has been identified, below which there is no risk to human health.
- Benzene is also carcinogenic.
- Ozone is a powerful oxidant that can damage the respiratory tract, causing inflammation and irritation.

The EU has taken important steps over the past decade leading to a decrease in the emissions to air of a number of pollutants:

- Sulfur dioxide (SO₂) a 50% reduction since 1980,
- Lead a 60% reduction since 1980,
- Nitrogen Oxides (NO_x) and volatile organic compounds a 14% reduction since 1990.

EU action has focused on establishing minimum quality standards for ambient air.

The EU's 6th Environmental Action Program calls for the development of a Thematic Strategy on Air Pollution with the objective to attain 'levels of air quality that do not give rise to significant negative impacts on, and risks to, human health and the environment'.

To achieve this objective, the Clean Air for Europe (CAFE) Program, COM(2001)245, was launched in 2001 leading to the adoption by the Commission in 2005 of a Thematic Strategy on Air Pollution COM(2005)446.

It is estimated that the reductions proposed by the Thematic Strategy on Air Pollution will:

- save 1.71 million life years by lowering exposure to soot particles (PM).
- Reduce acute mortality from exposure to Ozone (O₃),
- deliver €42 billion per year in health benefits,

- reduce environmental damage to forests, lakes and streams and to biodiversity,
- reduce the damage to buildings and materials,
- reduce the cost of damage to agricultural crops by €0.3 billion per year.

A large part of this reduction of pollutants will be delivered through improved implementation of existing legislation and through the integration of air quality concerns to:

- energy
- transport
- agriculture
- structural funds
- international cooperation

5.3. Management and Quality of Ambient Air

The Air Quality Framework Directive

The Air Quality Framework Directive 96/62 sets out the basic principles of a common strategy for establishing ambient air quality objectives.

The Directive establishes quality objectives for ambient air (outdoor air in the troposphere), common methods and criteria for assessing air quality and requirements for obtaining and disseminating information on air quality.

The Directive is supplemented by 4 so-called 'daughter' Directives relating to specific pollutants.

Sulfur dioxide, nitrogen dioxide and nitrogen oxides, particulates (PM₁₀) and lead in ambient air

The first 'daughter' Directive 1999/30 introduces the requirements to assess concentrations of these substances on the basis of common methods and criteria, to obtain adequate information and to ensure that it is made available to the public and to maintain ambient air quality where it is good and improve it in other cases.

b. Benzene and carbon monoxide

The second 'daughter' Directive 2000/69 introduces specific limit values for benzene and carbon monoxide.

c. Ozone

The third 'daughter' Directive 2002/3 establishes an information threshold, an alert threshold (higher than the information threshold), target values and long-term aims for ozone concentration in ambient air and the provision of adequate public information on these concentrations.

d. Arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons

The fourth 'daughter' Directive 2004/107 establishes target values for concentrations of these substances in the air, defines methods and criteria for assessing concentrations and deposition levels and ensures that adequate information on these substances is obtained and made available to the public.

National emission ceilings for certain atmospheric pollutants

Directive 2001/81 is part of the follow-up to the Commission's strategy to combat acidification, COM (97)88.

The Directive establishes national emission ceilings for four pollutants: sulfur dioxide (SO₂), nitrogen oxide (NO_x), volatile organic compounds (VOC) and ammonia (NH₃) causing acidification, eutrophication and tropospheric ozone formation.

5.4. Emissions from industry

5.4.1. Pollution from large combustion plants

Directive 2001/80 applies to combustion plants with a rated thermal input equal to or greater than 50 Mega Watts, irrespective of the type of fuel used.

The Directive aims at gradually reducing the annual emissions of SO₂ and NO_x from existing plants and lays down emission limit values for SO₂, NO_x and dust in the case of new plants.

5.4.2. Volatile organic compounds (VOCs)

Directive 1999/13 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations.

The Directive complements the Auto-Oil program, by combating emissions of organic solvents from stationary commercial and industrial sources, and also the 1994 Directive on volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution chain.

Directive 2004/42 establishes the requirements on the solvent content of paints and varnishes.

5.4.3. Integrated Pollution Prevention and Control (IPPC)

The IPPC Directive 96/61 concerns highly polluting industrial activities, as defined in Annex I:

- Energy industries, production and processing of metals, mineral industry, chemical industry and waste management.
- It defines the basic obligations to be met by all the industrial installations concerned, whether new or existing for preventing the pollution of water, air and soil by industrial effluent and other waste.

The IPPC Directive has been amended twice:

- the first amendment 2003/35 reinforced the public participation in line with the Aarhus Convention

- the second amendment 2003/87 clarified the relationship between the permit conditions established in accordance with the IPPC Directive and the greenhouse gas emission trading scheme.

5.5. Emissions from the transport sector

5.5.1. Background

Emissions from the transport sector have a particular importance because of their rapid rate of growth: goods transport by road in Europe has increased by 54% since 1980.

In the past 10 years passenger transport by road in the EU has gone up by 46% and passenger transport by air by 67%.

Fuel consumption in the EU has increased by 1,5% a year.

The main emissions caused by motor traffic are:

- nitrogen oxides (NO_x),
- hydrocarbons (HC) and
- carbon monoxide (CO), accounting for
58%, of the total nitrogen oxides emissions
50% of the total hydrocarbons emissions and
75% of the total carbon monoxide emissions

Several Directives have been adopted to limit pollution due to transport.

These Directives:

- set maximum emission limits for vehicles and other sources of pollution and
- introduce tax measures in the transport sector aimed at encouraging the consumer to act in a more environmentally friendly manner.

5.5.2. Non-road mobile machinery: gaseous pollutants

Directive 97/68, amended by Directive 2002/88, approximates the laws of Member States with regard to emission standards and type-approval procedures for engines intended to be fitted to non-road mobile machinery. Directive 2004/26 extends the scope of Directive 97/68 to cover locomotives and inland waterway vessels.

5.5.3. Wheeled agricultural or forestry tractors: pollutant gases

Directive 2000/25 amending Directive 74/150 concerns emissions from agricultural or forestry tractors.

5.5.4. CO₂ emissions from new passenger cars

Decision No 1753/2000 established a new scheme to monitor the average specific emissions of CO₂ from new passenger cars.

5.5.5. The Auto-oil Programs

In cooperation with the oil and motor-vehicle industries the E. Commission has drawn up an "Auto-oil" program launched in 1997 to reduce exhaust gas emission.

Under this program the following measures have been adopted:

- **lead in petrol** has been banned from the market since 2000 and progressive improvements in the environmental quality of unleaded petrol and diesel fuel have been required (Directive 98/70);
- **emission limit values for petrol and diesel cars**, according to the type of vehicle, applicable from 2000 and 2005, new European Test Cycle and permission for tax incentives by Member States to encourage compliance with Directive 98/69
- **EU approval of replacement catalytic converters and EU approval of vehicles** which can run on liquefied petroleum gas or natural gas, Directive 98/77
- **emission limit values for diesel-powered lorries** as well as limit values for heavy-duty engines fuelled by natural gas or liquefied petroleum gas, Directive 1999/96
- **sulfur content of certain liquid fuels** of less than 10 mg/kg (ppm), down from the current limit value of 50 ppm as from January 2005 and full conversion to zero sulfur fuels by January 2009, Directive 2003/17.

5.6. Climate Change

To confront this problem EU needs to rely on products and activities that result lower greenhouse gas emissions.

That requires a low-carbon approach to industrial transport and energy policy. This means using fossil fuels more efficiently and replacing them with renewable energy sources.

*The EU's target: by the year 2010,
21% of electricity will be generated from renewable energy sources as biomass, wind, solar.*

All EU countries are working towards this target.

The EU countries have also undertaken to increase the amount of biofuel in the transport fuel mix to 5,75% by 2010.

5.7. The Kyoto Protocol

The Kyoto Protocol to the United Nations Framework Convention on Climate Change, has been concluded in 1997.

The contracting parties committed to reduce the 6 greenhouse gases:

- carbon dioxide,
- methane,
- nitrous oxides,
- hydrofluorcarbons,

- perfluorocarbons and
- sulfur hexafluoride.

The EU committed to achieve an overall reduction in carbon dioxide (CO₂) emissions of 8% in the period 2008-12 compared with 1990 levels. The Kyoto Protocol entered into force in February 2005. Conditions for entry into force were the ratification by at least 55 contracting parties and accounting for 55% of total CO₂ emissions in 1990.

The Council of Ministers adopted Decision 2002/358 on the ratification by the EU of the Kyoto Protocol.

The EU and Member States will fulfill their commitments jointly. The emission levels are set as a percentage of the figures for the base year in the 'Burden Sharing Agreement'.

The quantified emission limitation and reduction commitment agreed by the E. U and its Member States determines the respective emission levels allocated to each of them for the first period from 2008 to 2012.

Monitoring mechanisms and reporting

Decision 280/2004 provides for a mechanism for monitoring EU greenhouse gas emissions and for implementing the Kyoto Protocol.

Greenhouse gas emissions Trading Scheme

Emission trading is the cornerstone of EU's climate policy.

Directive 2003/87 establishes a **scheme** for greenhouse gas emission allowance trading with the EU.

It is the first international emission trading scheme.

It covers 11.500 energy intensive plants across the EU.

The scheme also aims to ensure **the proper functioning of the internal market** by preventing any distortions of competition which might result from the establishment of separate national trading schemes.

The scheme started in January 2005.

It covers in a first phase carbon dioxide (CO₂) emissions from large industrial and energy activities.

These are estimated to account for 46% of the EU's carbon dioxide (CO₂) emissions in 2010.

Each installation covered by the Directive will apply to the competent authority in its Member State for a permit allowing it to emit greenhouse gases.

On the basis of the permits, Member States will allocate emission allowances to each installation stating how much carbon dioxide (CO₂) they may emit per year.

Those installations that emit less, can sell their surplus allowances to plants that emit more and need to cover their excess.

The Emission Trade System ensures that reductions are made where it is cheapest, by allowing companies to choose whether to buy allowances or to invest in emission-reducing technology.

By placing a price on carbon emissions the Emission Trade System will encourage a change investment behavior from industries and provide a cost-effective route to cut emissions.

In 2005, the Commission adopted a Communication on “Further guidance on allocation plans for the 2008 to 2012 trading period of the EU Emission Trade System”, COM (2005) 703.

Greenhouse gas emission trading in respect of the Kyoto Protocol's project mechanisms

The so-called ‘Linking Directive’ 2004/101 links the EU emissions trading system with the other Kyoto Flexible Mechanisms namely:

- The Joint Implementation (JI) and
- The Clean Development Mechanism (CDM). This Directive allows European companies to carry out emissions-curbing projects around the world and convert the credits earned into emissions allowances under the European Union emissions trading scheme.

Climate change and aviation

The E. Commission adopted in 2005 a Communication COM(2005)459 outlining plans to reduce the impact of aviation on climate change, recommending:

- aviation emissions to be included in the EU emissions trading scheme,
- better air traffic management and
- removal of legal barriers to taxing aircraft fuel.

The EU puts environmental concerns at the core of EU energy policy.

The EU estimates to achieve its Kyoto target and reduce its emissions by 9.4% below base year, by 2010.

EU-25 greenhouse gases emissions increased by 1.5% from 2002 to 2003 with recent increases in coal burning and household and service sector emissions.

The most recent data for EU-15 emissions show a decrease of only 1.7% since 1990.

The EU’s post-2012 strategy

The E. Commission has issued a Communication on ‘Winning the battle against global climate change’ COM (2005) 35.

The Communication recommends

- a number of elements to be included in the EU’s future climate change strategies and
- proposals to prepare the EU’s position for future international negotiations.

The EU will continue its international efforts to move the Kyoto process forward in a way that includes broader participation by all major emitters, including USA, China and India.

The fight against climate change is a challenge essential for the future of our planet.

6. Biodiversity and Biotechnology

6.1. Protection of Biodiversity International and European Legal Framework

6.2. Biotechnology and Biodiversity – The EU Legal Framework

6.1. Protection of Biodiversity International and European Legal Framework

6.1.1. IMPORTANCE OF BIODIVERSITY

Halting biodiversity loss is an absolute priority for the EU and an essential goal for humanity. Biodiversity loss is my loss and your loss is a drain on our economies and reduces the quality of our lives.

The global rate of extinction is at least 100 times the natural rate.

An estimated 34000 plant and 5200 animal species face extinction.

Scientists refer to the present situation as the 6th greater planetary extinction.

The previous global extinction took place 65 million years ago (concerned large animals like dinosaurs).

Last year the European Green Week (May) was dedicated to biodiversity - one more EU initiative.

The reasons for biodiversity loss well known, but not well handled:

- destruction of habitats
- pollution
- over exploitation
- climate change

Nature does not respect national borders so action to protect biodiversity has to be at **international level**

Ecosystems degradation is extremely difficult to restore. Species loss is not recoverable.

Destroying nature we are depriving future generations of assets necessary for their survival and development. This is an irresponsible and unethical behavior.

It is however commonly believed and often asserted in political decisions that **nature protection comes at the cost of economic development**

This is an **entirely wrong** belief because the cost of ecosystems degradation is not taken into account as the economic studies are usually short term. Ecosystem robustness and health is fundamental to any sustainable strategy for economic development.

Nature provides the foundation of our quality of life. Our prosperity is based on healthy ecosystems but ecosystems today are in dangerous decline both in EU and worldwide

Let's see what biodiversity loss means in practice:

- Depleted fish stocks
- Declining soil fertility etc.

Taking the example of China:

- 20 years of unchecked growth resulted in soil erosion of 20% of the land
 - a) 75% of lakes and almost all coastal waters are classified as polluted
 - b) 90% of grasslands are degraded
- The cost to address these problems in China is enormous
 - The damages caused by water and air pollution have been calculated to be € 42 billion a year
 - The annual damages caused by desertification are € 33 billion
 - The project "Green Great Wall" which aims to protect Beijing from dust and pollution will cost € 6 billion

Taken together these costs represent 8% of China's GNP

Protecting Biodiversity

We protect all life on earth: genes, species, ecosystems.

We protect also the services supplied by nature:

- climate
- provision of water and air
- soil fertility
- nutrients cycle
- production of food, fuel, fiber and medicines.

6.1.2. LEGAL FRAMEWORK

Legal measures adopted by the international community to protect biodiversity will be discussed at two levels: International level and European level

6.1.2.1. International Level

EU participates, in all International Key Conventions for the protection of nature. The main Conventions are the following:

- The first international Convention on the conservation of natural resources is the Convention on Wetlands signed in 1971 in **Ramsar**, Iran. It provides the framework for:

- ❖ National action and
- ❖ International cooperation

For the conservation and wise use of wetlands and their resources

The contracting Parties are committed:

- ❖ To draw up a list of all wetlands and to designate the sites that meet the Ramsar criteria for inclusion in a **list of wetlands of international importance**;
- ❖ **To protect** the ecological character of the listed sites; and
- ❖ To promote **education** concerning wetlands.

The Convention currently includes 138 contracting parties and 1.200 sites.

- To ensure that **international trade in specimens of wild animals, plants and their products**, does not threaten their survival, the **CITES Convention** was adopted, signed in Washington in 1973 (Convention on International trade in Endangered Species)

In compliance with the provisions of the CITES Convention, **Regulation 338/97** was adopted to protect species of wild fauna and flora by regulating trade.

- To protect **coastal and marine environments**, the **Barcelona Convention** for the protection of the Mediterranean Sea against Pollution, signed in 1976 by 16 Mediterranean states

- To protect **terrestrial and marine migratory birds** throughout their migratory routes the **Bonn Convention**, was signed in 1979. Currently involves 80 contracting parties which conclude multilateral Agreements and undertake joint research for the conservation and management of migratory species.

In order to avoid any migratory species becoming endangered, the parties must endeavour:

- To promote, cooperate in or support research relating to migratory species
- To provide immediate protection for migratory species included in Appendix I
- To conclude Agreements covering the conservation and management of migratory species listed in Appendix II

To protect endangered migratory species the parties to the Convention will endeavour:

- To conserve or restore the habitats of endangered species;
- To prevent, remove, compensate for or minimize the adverse effects of activities or obstacles that impede the migration of the species; and
- To the extent feasible and appropriate, to prevent, reduce or control factors that are endangering or are likely to further endanger the species.

Each Agreement concluded between the parties must contain the following information:

- Name of the migratory species concerned;

- Range and migration route; (“range” means areas of land or water that a migratory species inhabits, crosses or overflies on its migration route)
- Measures for implementing the Agreement;
- Procedures for the settlement of disputes;
- Designation of the Authority concerned with the implementation of the Agreement.

Agreements may also provide for:

- Research into the species;
- The exchange of information on the migratory species;
- The restoration or maintenance of a network of suitable habitats for the conservation of the species;
- Periodic review of the conservation status of the species;
- Emergency procedures whereby conservation action would be rapidly strengthened.

The Conference of the Parties is the decision-making organ of the Convention. It reviews the implementation of the Convention and can adopt recommendations.

The Bonn Convention entered into force on 1 November 1983.

The EU Council of Ministers adopted:

- a) The Decision 82/461 (EE L 210, 19.7.1982) on the conclusion of the Convention on the conservation of migratory species of wild animals (Bonn Convention)
- b) The Decision 98/145 (EE L 46, 17.2.1998) on the approval of the amendments to Appendices I and II to the Bonn Convention, by the fifth meeting of the Conference of the parties to the Convention.

This Decision contains the list of 21 species added to Appendix I to the Convention (endangered species) and 22 species added to Annex II (species conserved through Agreements).

- To conserve **wild flora and fauna and their natural habitats** and to promote European co-operation the Bern Convention on the Conservation of European Wildlife and Natural Habitats, signed in 1979.

In addition to national protection programs, the parties to the Convention consider that cooperation should be established at European level.

The parties undertake to:

- Promote national policies for the conservation of wild flora, wild fauna and natural habitats;
- Integrate the conservation of wild flora and fauna into national planning, development and environmental policies;
- Promote education and disseminate information on the need to conserve species of wild flora and fauna and their habitats.

States will take appropriate legislative and administrative measures to protect the wild flora species specified in Appendix I. The Convention prohibits the deliberate picking, collecting, cutting or uprooting of such plants.

Appropriate legislative and administrative measures must also be adopted to conserve the wild fauna species listed in Appendix II. The following are prohibited:

- All forms of deliberate capture and keeping and deliberate killing;
- The deliberate damage to or destruction of breeding or resting sites;
- The deliberate disturbance of wild fauna, particularly during the period of breeding, rearing and hibernation;
- The deliberate destruction or taking of eggs from the wild or keeping these eggs;
- The possession of and internal trade in these animals, alive or dead, including stuffed animals and any part or derivative thereof.

Any exploitation of wild fauna specified in Appendix III must be regulated in order to keep the populations out of danger (temporary or local prohibition of exploitation, regulation of transport or sale, etc.). The parties are prohibited from using indiscriminate means of capture and killing capable of causing the disappearance of, or serious disturbance to, the species.

The Convention provides for exceptions to the above provisions:

- For the protection of flora and fauna,
- To prevent serious damage to crops, livestock, forests, fisheries, water and other forms of property,
- In the interests of public health and safety, air safety or other overriding public interests,
- For the purposes of research and education, or repopulation, of reintroduction and for the necessary breeding,
- To permit, under strictly supervised conditions, the taking, keeping or other judicious exploitation of certain wild animals and plants in small numbers.

A standing committee responsible for following the application of the Convention is set up.

The Bern Convention entered into force on 6 June 1982.

The EU Council adopted:

- a) The Decision 82/72/EEC concerning the conclusion of the Convention on the conservation of European wildlife and natural habitats (Bern Convention).
- b) The Decision, 21.12.1998 (EE L 358, 31.12.1998) concerning the approval, on behalf of the Community, of amendments to Appendices II and III to the Bern Convention on the Conservation of European Wildlife and Natural Habitats adopted at the 17th meeting of the Convention's Standing Committee.

- To conserve **biological diversity**, to ensure sustainable use of its components and to guarantee fair and equitable sharing of the benefits from the use of **genetic resources** the Convention on Biological Diversity was signed at the 1992 United Nations Conference on Environment and Development, the Earth Summit in Rio de Janeiro.

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Subject to the rights of other States, and except as otherwise expressly provided for in the Convention, the provisions of the Convention apply, in relation to each Contracting Party:

- In the case of components of biological diversity, in areas within the limits of its national jurisdiction;
- In the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.

Each Contracting Party must, as far as possible, cooperate with other Contracting Parties directly or, where appropriate, through competent International Organizations both in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.

Each Contracting Party should, in accordance with its particular conditions and capabilities:

- Develop national strategies, plans or programs for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programs;
- Integrate, the conservation and sustainable use of biological diversity into relevant sectoral and cross-sectoral plans, programs and policies.

Each Contracting Party should as far as possible:

- **Identify** components of biological diversity important for its conservation and sustainable use, having regard to the indicative list of categories set down in Annex I;
- **Monitor**, through sampling and other techniques, the components of biological diversity identified, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use;
- **Identify processes and categories** of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity and **monitor their effects** through sampling and other techniques;
- **Maintain and organize**, by any mechanism, data derived from identification and monitoring activities pursuant to the points set out above.

The Convention makes provision for the following:

- Establishment and maintenance of programs for scientific and technical education and training for the identification,

- conservation and sustainable use of biological diversity and its components and providing support for such education and training for the specific needs of developing countries;
- Encouragement of research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries;
- Promoting the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources.

Public education should be promoted and awareness enhanced to highlight the importance of biological diversity through the media.

These topics should be included in educational programs.

The Contracting Parties should facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries (exchange of information on the results of technical, scientific and socio-economic research as well as information on training and surveying programs, etc.).

The E. Council adopted:

- a) The Decision 93/626 concerning the conclusion of the Convention on Biological Diversity
- b) The Decision 2002/628 concerning the conclusion, on behalf of the European Community, of the Cartagena Protocol on Bio-safety, (L 201, 31/7/2002).

The aim of the Protocol is to ensure that the transfer, handling and use of living organisms resulting from modern **biotechnology** do not have adverse effects on biological diversity or human health, while specifically focusing on trans-boundary movements.

6.1.2.2. European Level

- To conserve wild birds, and their habitats **Directive 79/409** (L 206, 22.7.92) was adopted in 1979.

- Followed by the **Habitat Directive 92/43** adopted in 1992 and amended later by Directive 97/62 (L 305, 8.11.97). A European ecological network was established known as **Natura 2000**

Natura 2000 is a network of areas selected and protected for their high nature conservation value.

Any human activity in the area, should be carried out according to the principles of sustainable development

Natura 2000 is the cornerstone of European policy to protect biodiversity

Natura 2000 sets a model for nature protection, which is science driven, legally enforceable and based upon ecosystems as the basic unit

Natura 2000 is moreover a very flexible system.

Farming, fishing, forestry and hunting will continue, provided that

- There are no alternatives in the wider area

- These activities are in the “overriding public interest”

Natura 2000 covers 18% of the territory of the 15 member states and is currently being extended to the 12 new member states.

The area covered is already greater than Germany

Special areas of conservation are designated in 3 stages. Following the criteria set out in the annexes, each Member State must draw up a list of sites hosting natural habitats and wild fauna and flora. On the basis of the national lists and by agreement with the Member States, the Commission adopts a list of sites of Community importance.

The Member State concerned must designate the site as a special area of conservation.

Where the Commission considers that a site which hosts a priority natural habitat or a priority species has been omitted from a national list, the Directive provides for a bilateral consultation procedure to be initiated between that Member State and the Commission. If the result of the consultation is unsatisfactory, the Commission must forward a proposal to the Council relating to the selection of the site as a site of Community importance.

Member States must take all necessary measures to guarantee the conservation of habitats in special areas and to prevent their deterioration. The Directive provides for co-financing of conservation measures by the EU. Member States must also:

- Encourage the management of features of the landscape which are essential for the migration, dispersal and genetic exchange of wild species;
- Establish systems of strict protection for those animal and plant species which are particularly threatened (Annex IV) and study the desirability of reintroducing those species in their territory;
- Prohibit the use of non-selective methods of taking, capturing or killing certain animal and plant species (Annex V).

The Member States and the Commission must encourage research and scientific work that can contribute to the objectives of the Directive.

Every six years, Member States must report on the measures they have taken pursuant to the Directive.

According to the data provided by the m.s. the Commission expects the cost of managing Natura 2000 to increase to at least 6.1 billion Euros a year for the 27 member states EU.

The Commission considers that the best approach is to make use of **different existing funds** and therefore integrate the funding of Natura 2000 into other relevant EU policies.

Pursuant to the “Habitats Directive”, the Commission must, in agreement with the Member States concerned, draw up a list of sites of EU importance for each of the seven bio-geographical regions which are: Alpine, Atlantic, Boreal, Continental, Macaronesian, Mediterranean and Pannonian.

1. Decision 2005/101 adopting, the list of sites of Community importance for the Boreal bio-geographical region [L 40, 11.02.2005]

2. Decision 2004/813 adopting, the list of sites of Community importance for the Atlantic bio-geographical region [L 387, 29.12.2004]
 3. Decision 2004/798 adopting, the list of sites of Community importance for the Continental bio-geographical region [L 382, 28.12.2004]
 4. Decision of 22 December 2003 adopting the list of sites of Community importance for the Alpine bio-geographical region [L 14, 21.01.2004]
 5. Decision of 28 December 2001 adopting the list of sites of Community importance for the Macaronesian bio-geographical region [L 5, 09.01.2002]
- In compliance with the provisions of the CITES Convention, **Regulation 338/97** was adopted to protect species of wild fauna and flora by regulating trade.
 - To protect animals in **zoos**. A Directive was adopted which sets minimum standards for housing and caring for animals in zoos and reinforces the role of zoos in conserving biodiversity.
 - To protect **whales or other cetacean**, **Regulation 348/81** was adopted restricting imports of cetacean products to the EU.
 - To reduce incidental **dolphin mortality** during tuna fishing Decision 1999/337 was adopted in the framework of the Agreement on the **International Dolphin Conservation program**.
 - To protect **EU's forests against atmospheric pollution and against fire** two Regulations were adopted, 3528/86 and 2158/92 amended in 2002.
 - Additionally a **European Forestry Information and Communication System** was established to collect, coordinate, standardize, process and disseminate information concerning the forestry sector and its development
 - Measures also have been adopted on the conservation and sustainable management of **tropical forests and other forests in developing countries**

In parallel, at the European level forest conservation is coordinated through the Ministerial Conference on the Protection of Forests in Europe (MCPFE), which aims to integrate biodiversity into sustainable forest management.

- On 2002 the E. Commission adopted the **6th Community Environment Action Program (6th EAP)**, which sets the environmental agenda until 2012 and indicates nature and biodiversity as a priority target.
- In February 1998, the Commission adopted a communication on a Community Biodiversity Strategy. This strategy provided for the establishment and implementation of specific action plans for relevant areas of activity. The communication establishes action plans for the conservation of natural resources, agriculture, fisheries and economic and development cooperation.

The Community Biodiversity Strategy and its action plans must be seen in the context of the EU commitment to achieve sustainable development and to integrate environmental concerns into other policy areas and fields of action.

The implementation of the action plans will be monitored, and their effectiveness evaluated on the basis of indicators.

The indicators have been defined (2008) by the Commission in cooperation with Member States, scientists and relevant organizations.

Why we need monitoring?

The world is losing a lot of its biodiversity.

The main causes of this are manmade. Many of these factors have been identified. However we still lack a clear understanding of the causal relationships between human activities and the pressures they place on the environment and biodiversity.

We need to know how ecosystems and species respond to changes caused by human activities, and therefore how best to mitigate our actions and reduce the rate of loss of biodiversity.

What are the indicators?

Indicators are statistics over relevant factors following changes in time. These indicators summarize a set of complex data and are representative estimators of the wider situation.

Therefore the decline or improvement of a particular factor, is evidence that the situation in general is also declining or improving.

The (Statistical) Indicators are used to communicate the status and trends of biodiversity to the public as well as to the policy makers.

Indicators assess as well the national performance and are valuable tools for the identification of the actions required to be taken by the policy makers. In this manner they provide an important link between policy-makers and scientists collecting the data.

- Biodiversity Action Plan for the Conservation of Natural Resources, Commission Communication 27.3.2001 COM (2001) 162. Building on and complementing existing community environmental legislation and initiatives. Making maximum use of these instruments (Legislation and Initiatives) in order to put the objectives set out in the EU biodiversity strategy into practice. The long-term monitoring and benchmarking of Action Plan implementation, is based on the (Statistical) Indicators.

- EU Heads of state agreed in 2001, at the EU Council in Goteborg, to take more measures to halt the **decline of biodiversity by 2010**.

For this purpose an EU **Action Plan on biodiversity** was adopted in 2005. In 2002 the parties to the CBD and 130 world leaders pledged to significantly reduce the worldwide rate of biodiversity, also by 2010.

- The E. Commission adopted on May 2006 a Communication which sets out an ambitious policy approach to halting the loss of biodiversity by 2010. The Communication also contains a number of innovations.

The Communication proposes **an EU Action Plan to 2010 and Beyond**.

The **Action Plan involves 3 novelties**:

- actions targeted at delivering on our 2010 commitments, both at the EU and at the global level;
- specifies the roles and responsibilities of both EU institutions and Member States;
- provides a clear set of targets and indicators against which to evaluate our progress in 2010.

The Communication announces the establishment of **a new EU advisory mechanism based on independent, authoritative, research** to inform and help implementation and policy development.

We have in Europe outstanding expertise on these issues, It is essential that knowledge is translated into policy and appropriate action.

The Action Plan identifies **areas where new policy initiatives will be developed, among them we note**:

- the development of a comprehensive EU response to the problem of alien species which had not been previously included in our policy framework.
- In order to improve our own decision making, we should find a better way to evaluate the costs and benefits related to natural capital and ecosystem services.

The Communication launches **an EU debate on a vision** for nature and for future policy.

What kind of nature do we want?

How can our legislation become more effective in protecting nature and at the same time be easier to implement?

How can the EU take leadership at the global level in protecting biodiversity?

This is an issue that touches every citizen and also our relations with the rest of the world.

This will be, in my opinion, one of the most vital and, indeed, vitalizing, debates on the future of Europe.

6.1.3. CONCLUSIONS - RECOMMENDATIONS

Are all these significant measures sufficient to protect biodiversity?

Unfortunately not.

- Many species remain threatened
 - $\frac{1}{8}$ of all birds
 - $\frac{1}{4}$ of all mammals
 - $\frac{1}{3}$ of all amphibians are endangered
- Biodiversity loss is an extremely serious threat because the degradation of ecosystems often reaches a point of no return. Extinction is forever.

- Stopping the loss of biodiversity and limiting climate change are the two most important challenges facing our planet In the 21st century
- What more do we need?
 - A. Improving the information, (a key point). Once the citizens are better informed about what biodiversity loss means economically, environmentally and ethically, they will demand **MORE ACTION**
 - B. Complete the legal framework and make legislation more effective in protecting nature and easier and faster to implement
Change our lifestyle
 - C. Make environmental friendly choices a reality in our daily lives

6.2. Biotechnology and Biodiversity – The EU Legal Framework

6.2.1. Introduction

Genetic engineering and biotechnology is a fast evolving area with potential as well as **direct significance** for european business and european policy makers.

Biotechnology is an important means to promote **growth, jobs and competitiveness** in the EU.

The use of biotechnology is however **not without controversy**. The enhanced use of biotechnology needs to be accompanied by a **broad societal debate** about the potential **risks and benefits** including its ethical dimension.

Life sciences and biotechnology have grown to be central to certain sectors of the **EU economy**:

- In healthcare and *pharmaceuticals* and
- In the fields of *industrial processing* and
- *Primary production lagro-food*

Modern biotechnology relates to the generation of about **1,56% EU Gross Value Added** (GVA, 2002 values)

An example:

In May **2007** The E. Council agreed a binding minimum level for **biofuels** of **10% of vehicle fuel, by 2020**.

The production process of bioethanol relies largely on biotechnology.

Biofuels are seen as beneficial because they are

- renewable,
- reducing **greenhouse gas emissions** and
- boosting the **EU's energy security**.

The European **Biotechnology Industry** directly **employs 96.500** people mostly in SMEs.

Employment in industries using biotechnology products is many times higher. The industry is highly **research intensive** with **44%** of employees (42.500) involved in **research and development functions**.

[Biotechnology in Europe: 2006 Comparative Study, Critical I, 2006]

2.163 biotech companies are registered in Europe (2004) which invested in total **€ 7,6 billion in R and D**.

The share of the EU in **biotechnology patents** filed at the **EPO** in 2000-2004 was **34%** (41,1% for the USA).

Eurobarometer 2005 shows that:

- **Public knowledge** about biotechnology and genetics although improving, remains **limited**
- **Optimism** about biotechnology has **increased** since 1999 after a period of decline (52% say it will improve their life)
- However **58% of the respondents oppose GM food**.

There is also major **differences** in acceptance levels **between Member States**.

6.2.2. EU Legislation on GMOs

6.2.2.1 The Precautionary Principle (P.P.)

The basic principle governing EU Legislation on GMOs is the P.P.

The P.P. originated by the **Rio Declaration** on Environment and Development has been reiterated by the **Cartagena Protocol**.

The P.P. means **taking action** where **scientific evidence is insufficient, inconclusive or uncertain** and there are reasonable grounds for concern that the **potentially dangerous risks** on the environment, human, animal or plant health may be **inconsistent** with the chosen level of protection.

[Communication from the Commission on the precautionary principle COM (2000) 1, 2.2.2000]

The EU legal framework on GMOs has the following **7 common elements**:
The framework aims are:

- i. To **protect** human health, animal **health** and the **environment**
- ii. To ensure the effective function of the **common market**
- iii. To **inform the public** and to ensure the expression of **public opinion** in the administrative procedure **before** the adoption of any decision
- iv. To **ensure transparency. Data and registers must be kept by the E. Commission, which are open to the public**
- v. To **give permissions to the applicants only for 10 years period, renewable**
- vi. To **exchange information with the members of the Cartagena Protocol**

- vii. **To oblige member states to impose effective penalties** for the implementation of the legislation

EU adopted specific measures for GMOs:

- On the *contained use* of activities with GMMs [Directives 90/219 and 98/81]
- On the *deliberate release of GMOs* into the environment [Directive 2001/18]
- On the *GM Food and Feed* [Regulation 1829/2003]
- On the *traceability and labelling of GMOs* [Regulation 1830/2003]
- On the *transboundary movements* of GMOs [Regulation 1946/2003]

To implement the measures, EU has established:

A) The European Food Safety Authority (EFSA) [Regulation 178/2002]. All GMOs and derived products must be evaluated by EFSA **before they can be authorised** in the EU.

Companies must submit an **authorisation application** for any GMO and derived food or feed to be used within the EU.

The **E. Commission** forwards the application to **EFSA** and requests a **scientific risk assessment**.

B) The Advisory Committee on the Food Chain and Animal and Plant Health

[Decision 13/2004]

45 members, representatives of relevant European bodies, meet regularly twice a year in Brussels. Following E. Commission' invitation they may also meet more times.

C) The Community Reference Laboratory for GM food and feed (CRL) [Regulation 1981/2006]

CRF **certifies the traceability and certification methods** proposed by the applicant.

CRF operations are carried out aligned with EFSA.

CRF is assisted by a **European Network of GMO Laboratories (ENGL)**

6.2.2.2. Specific Legal Acts:

- Contained use of GM micro-organisms for research and industrial purposes.

[Directive 98/81, OJ L 330, 5.12.1998, which repealed the earlier Directive 90/219].

The **user before** undertaking for the **first time** in a particular installation the use of GMOs must submit to the authorities a **notification** enabling them to ensure that the proposed installation can be used for this activity **without danger**.

The requested information in the notification depends on the level of the risk **Member States** must ensure that:

- An **emergency plan** is drawn up for effective response to **accidents**
- The persons likely to be affected by an accident are **informed** about all matters relating to their **safety**

In the event of an **accident**:

The user must:

- Immediately **inform the competent authority**
- **Communicate all the information** required to assess its impact and enable the appropriate measures to be adopted

In the event of an accident:

- **Member State** must inform the E. Commission and any other member state liable to be affected by the accident
- **The E. Commission** must set up a **register of the accidents** which have occurred

Monitoring:

Member States have to provide the **E. Commission** with certain **information** to enable the contained use of GMOs **to be monitored** throughout the E.U. The **E. Commission** elaborated a report (2001), based on the reports of **member states** concerning their experiences with Directive 90/219, for the period 1996 – 1999 [COM (2001) 263 final].

The report covers the following:

- Installation and activities
- Classification and risk assessment
- Notification and approval systems
- Accidents
- Inspections
- Problems of interpreting the provisions of the Directive
- Public consultation and information
- Accident and emergency plans
- Protection of confidential information
- Waste disposal

D. 90/219 was amended by **Directive 98/81** to be in line with the **scientific knowledge and experience** acquired since 1990. Namely:

- Simplification of administrative procedures
- Introduction of a link between the notification requirements and the risks posed by contained use
- Addition of a list of GM micro-organisms posing **no risk** to human health or the environment

Relevant Acts:

- **Guidelines for classification** referred to in Article 4 of the Directive 90/219 [Decision 91/148, OJ L 239, 28.8.1991]
- **Guidance notes for risk assessment outlined in Annex III** of Directive 90/219 [Decision 2000/608, OJ L 258, 12.12.2000]
- **Criteria for establishing the safety for human health and the environment** of types GM micro-organisms [Decision 2001/2 OJ L 73, 15.3.2001]

- On the deliberate release into the environment of GMOs

[Directive 2001/18 OJ L 106, 17.4.2001 repealing Directive 90/220, 17.10.2002]

The aim of the Directive:

- To introduce an **effective and transparent procedure for granting consent** for the deliberate release and placing on the market of GMOs
- To **limit** such consent to a period of **10 years** (renewable)
- To introduce **compulsory monitoring after** GMOs have been placed on the market
- To establish a **common methodology for risk assessment** and a **safety mechanism** (Annex II)
- To introduce mandatory **public consultation**
- To introduce compulsory **GMO labeling**

The **E. Commission**:

- is obliged to **consult** the competent **scientific committees** on any question which may affect human health and/or the environment
- may **consult** ethical committees.

The **E. Commission** must establish **registers** recording information on GMOs.

[Decision 2004/204, detailed arrangements for the operation of the registers]

The registers will contain information:

- **accessible only** to Member States, the E. Commission and the European Food and Safety Authority
- **accessible to the public**

The **E. Commission** must publish :

- Every **3 years** :
 - **A summary of the measures** taken in the member states to implement the Directive and
 - **A report** on experience with GMOs placed on the market
- An **annual report on ethical issues** [COM (2004) 979 and COM (2007) 81]

GMOs placed on the market in accordance with Directive:

- **Maize product** MON 863 x MON 810 [Decision 2006/47]
- Maize product 1507 [Decision 2005/772]
- **Oilseed rape** product GT73 [Decision 2005/635]
- Maize product MON 863 [Decision 2005/608]
- Maize product NK603 [Decision 2004/643]

A Decision specifies the **format** presenting the **results of the deliberate release** into the environment of **GM higher plants** for purposes other than placing on the market. [Decision 2003/701]

Between October **2002** and October **2005 13 applications** to place *GM plants on the market* were submitted in **8** Member States and led to the authorisation of **5 products**.

In the same period **245 applications** for the release of GMOs for purposes other than placing on the market submitted to **13** Member States led to **191 authorisations**.

- Authorisation of novel food and novel food ingredients.

[Regulation 258/97 OJ L 43, 14.2.1997 amended by Regulations 1829/2003 and 1882/2003].

These products must be proven **to be safe** in tests carried out by the **European Food Safety Authority** before they are placed on the market. **Regulation requires mandatory labeling to indicate the presence of GMOs.**

- A single authorisation procedure is established for food consisting of, or containing GMOs (one door-one key)

The procedure covers human food and animal feed and also cultivation.

They must be labeled as GMO to enable **consumers** to make an **informed choice** of such products.

[Regulation 1829/2003, OJ L 268, 18.10.2003]

Once the application has been made **the authority** concerned informs the **EFSA** which is responsible for **risk assessment** in the food sector.

EFSA has **6 months** to conduct this **assessment**.

On the basis of the risk assessment carried out by the EFSA the **E. Commission** draws up a **draft Decision** accepting or rejecting the application **within 3 months** and then submits this to the **Standing Committee on the Food Chain and Animal Health**.

- If this Committee **accepts** the proposal, it is **adopted** by the E. Commission
- If it **does not** the proposal is passed on the **Council of Ministers**
- If the Council of Ministers does **not reach** a position within **3 months** or if it is unable to reach a qualified majority for or against, the E. Commission adopts its proposal.

The **marketing authorisation is renewable for a 10 years period**.

All products approved are subject to **compulsory labeling** but if the GMOs do **not exceed 0,9%** per ingredients of food stuff and its presence is **adventitious or technically unavoidable** the food stuff should **not be labeled** as a GMO.

GMOs and their derivations for food and feed should also comply with the labeling conditions in Regulation 1830/2003 on traceability and labeling of GMOs.

The 2 Regulations are complementary and should be jointly applied.

Report for the **E. Commission** on the implementation of the Regulation 1829/2003 [Com (2006) 0626].

Report from the **E. Commission** on the implementation of the Regulation 1830/2003 [COM (2006) 0197].

Regulation 641/2004 on **detailed rules for the implementation of the Regulation 1829/2003** [OJ L 102, 7.4.2004].

- The EU legislation to guarantee the traceability and labeling of GMOs and products from GMOs throughout the food chain

[Regulation 1830/2003, JO L 268 18.10.03]

Traceability of GMOs allows:

- **The *monitoring and Checking of information* given on labels**
- **The *monitoring of effects on the environment***
- **The *withdrawal of GMOs* which are potentially dangerous for human or animal health**

Main objectives:

- ***To inform consumers* through the compulsory labeling**
- **To create a “safety net” at all stages of production and placing on the market.**

The Regulation concerns the traceability of GMOs as *products or product components*, including seeds of *food or feed products produced from GMOs*.

The Regulation requires *operators* to transmit the following information in writing:

- **An *indication* that the products consist of, or contain GMOs**
- **The *unique alphanumerical identifiers assigned to the GMOs* contained in the products**

Through this system of *unique identifiers of GMOs* it is possible to know these products' *features and characteristics* for surveillance of traceability.

The Regulation stipulates that operators who place on the market a pre-packaged product consisting of or containing GMOs must at all stages of the production and distribution chain ensure that the words:

***“This product contains GMOs” or
“Product produced from GM (name of organism)”***

appear on a label affixed to the product.

For food or feed products traces of GMOs will continue to be **exempt** from the **labeling obligation** if they do not exceed the threshold of **9%** and if their presence is ***adventitious and technically unavoidable***.

This Regulation:

1. **Harmonises the traceability measures** laid down in the legislation:
Directive 2001/18, on the deliberate release into the environment of GMOs and repealing Directive 90/220

2. Harmonises the disparate legislation on the **labeling** of GMOs by amending Regulation 258/1997 concerning novel foods and novel food ingredients
3. It **repeals**:
Regulation 1139/1998 concerning the compulsory indication on the labeling of certain foodstuffs produced from **GM maize and soya** and Regulation 50/2000 on the labeling of foodstuffs and food ingredients containing **additives and flavourings** that have been genetically modified

**- Regulation on the transboundary movement of GMOs
Implements the provisions of the Cartagena Protocol (in force since 2003) on preventing biotechnological risks.**

The aim of the Protocol is to ensure an adequate level of protection for the transfer, handling and use of GMOs, that may have adverse effects on the environment and human health. [Regulation 1946/2003, OJ L 287, 5.11.03]

Exporters of GMOs intended for deliberate release into the environment must notify, in writing, the competent national authority of the **country of import prior** to the transboundary movement.

When the importer does not reply within **270 days** from the date of receiving the notification, the exporter must send a **reminder** to the competent national authority of the country of import with a deadline for response of **60 days** from receipt.

Under no circumstances may transboundary movements take place without prior **written consent** from the importer.

The **E. Commission or the state** which took the decision must **notify** the **Biosafety Clearing House (BCH)** set up by the Cartagena Protocol of any decision regarding the use, including the placement on the market, of GMOs intended for food or feed, or for processing that may be subject to transboundary movements.

GMOs must be accompanied by safety rules for their **storage, transport and use**.

[Decision 2002/628 concerning conclusion on behalf of the E. Community of the Cartagena Protocol on Biosafety]

- Guidelines for the development of national strategies and best practices to ensure the co-existence of GM crops with conventional and organic farming

[Recommendation 2003/556, 23.7.2003]

Measures for coexistence should reflect the **best available scientific facts**.

6.2.3. The way forward

The EU priorities on biotechnology are the following:

1. Promote **research and life development** for life sciences and biotechnology applications and the knowledge based bio-economy under the present FP7
2. Faster **competitiveness, knowledge transfer and innovation** from the science base to industry
3. Encourage informed **societal debates** on the **benefits and risk** of life sciences and biotechnology
4. Ensure a **sustainable** contribution of biotechnology to **agriculture** (in certain cases risk management measures for products which are specifically designed for industrial uses should be further developed)
5. Improve the **implementation of the legislation** and its impact on competitiveness

[Communication from the E. Commission to the Council, the E. Parliament, the Social Committee and the Committee of the Regions, COM (2007), 175, 10.4.2007, on the strategy of Life Sciences and Biotechnology 2002-2010]

7. Environmental Impact Assessment

7.1. Environmental Impact Assessment

7.2. Strategic Environmental Assessment (SEA Directive)

7.1. Environmental Impact Assessment

The EU adopted in 1985 the Directive 85/337/EEC [OJ L 175, 5.7.1985] **on the assessment of the effects of certain public and private projects on the environment**, the **EIA Directive**, amended by Directives 97/11/EC¹ and 2003/35/EC [OJ L 73 14.3.1997 and L 56 25.6.2003]

EIA Directive requires an environmental impact assessment to be carried out by the competent national authority **before approval can be granted, for certain public and private projects**

EIA is **obligatory** for certain projects like:

- **dangerous industrial facilities** such as oil refineries, or nuclear waste treatment facilities, integrated chemical installations;
- **power stations** of more than 300 megawatts or **nuclear power stations**;
- **transport infrastructure** such as railways, airports, motorways, inland waterways and ports when the infrastructure exceeds certain specific thresholds;

¹Council Directive 97/11/EC of 3 March 1997 amending Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment *Official Journal L 073, 14/03/1997*

- **waste and water treatment facilities;**
- **large mining facilities:** large quarries, large gas or oil rigs
- **water transport or storage** facilities, and **dams;**
- installations for the **intensive rearing of poultry or pigs** which exceed certain specific thresholds.

For other kinds of projects Member States can decide to subject them to assessment on a **case-by-case** basis and according to certain criteria like:

- size
- location (sensitive ecological areas in particular)
- potential impact (surface affected, duration)

This particularly concerns projects in the following fields:

- **agriculture, forestry and aquaculture** for example agricultural irrigation projects or intensive fish-farming
- the **mining industry** underground mining, deep drillings
- industrial facilities for generating, transporting and storing **electricity**
- the production and processing of metals: cast iron or steel, shipyards
- the mineral industry distillation of coal, cement production
- the chemical industry production of pesticides, pharmaceutical products, paints
- the food industry
- textile, leather, wood, paper and rubber industries
- infrastructure projects: shopping centers, car parks, elevated and underground railways
- tourism or leisure projects: ski-runs and ski lifts, holiday villages, theme parks

The **developer**, the person who applied for development consent or the **public authority** which initiated the project, must provide the **authority** responsible for **approving** the project with the following information:

- **data required to assess** the main **effects** of the project on the environment
- possible measures **to reduce** significant adverse effects
- the main **alternatives** considered by the developer and the **main reasons** for this choice

With due regard for rules of commercial and industrial secrecy this information must be made **available to the interested parties sufficiently early** in the decision-making process:

- To the **competent environmental authorities** likely to be consulted on the authorization of the project;

-**To the public**, by the appropriate means providing :

- information on the procedure for approving the project,
- details of the authority responsible for approving or rejecting the project
- the possibility of public participation in the approval procedure;

- **To other Member States**, if the project is likely to have trans-boundary effects. If a Member State which receives information indicates that it intends to participate in the environmental decision-making procedures, it must make this information available to interested parties on its territory to enable them to express an opinion.

At the end of the procedure the following information must be made available to the public and transmitted to the other Member States concerned:

- the **approval or rejection** of the project and any conditions associated with it
- the **principal arguments** upon which the decision was based after examination of the results of the **public consultation**
- any measures to **reduce the adverse effects** of the project

7.2. Strategic Environmental Assessment (SEA Directive)

Directive 2001/42/EC on the assessment of the effects of certain Plans and Programs on the Environment [OJ L 197, 21.7.2001 supplements the EIA Directive]. introduces a **system of prior environmental assessment at the planning stage**.

It applies to **Plans and Programs liable to have significant effects on the Environment**.

According to the SEA Directive:

- Environmental Assessment is automatically required for plans and programs which are prepared for:

- Town and country planning
- Land use
- Transport
- Energy
- Waste management
- Water management
- Industry
- Telecommunications
- Agriculture
- Forestry
- Fisheries
- Tourism

and which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC (EIA Directive).

- The same applies to the adoption of Plans and Programs liable to affect **Sites Protected by Directive 92/43** and for which **an assessment is required under that Directive**.

- **Other plans and programs** will be subject to environmental assessment if an examination (taking into account the criteria laid down in Annex II of the Directive) shows that they are **liable to have significant effects on the Environment**.

Prior to the adoption of a Plan or Program, the competent authority of the Member State concerned will be required to carry out an Environmental Assessment and, after consulting the competent **Environmental Authorities**, to prepare an **Environmental Report**

The draft Plan or Program and the Environmental Report must be made available to the Authorities responsible for the environment and to the Public. The Authorities and the Public will be able to express their views on the draft Plan or Program, **prior to its adoption** or submission to the legislative process.

The Member State responsible for preparing the Plan or Program will be required to send a **Copy** of the **Draft Plan or Program** and the relevant **environmental report** to other Member States when the Plan or Program is liable to have Environmental Effects on the territory of those other Member States or if there is a request of those other Member States, or if this is a request of those other member states.