

# ENVIRONMENTAL POLICY IN THE EUROPEAN UNION

## Institutions, Policy Areas and Future Challenges

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# 1. The European Union in brief

At the core of the EU are the Member States — the 28 countries that belong to the Union — and their citizens. The unique feature of the EU is that, although these are all sovereign, independent countries, they have pooled some of their ‘sovereignty’ in order to gain strength and the benefits of size. Pooling sovereignty means, in practice, that the Member States delegate some of their decision-making powers to the shared institutions they have created, so that decisions on specific matters of joint interest can be made democratically at European level. The EU thus sits between the fully federal system found in the United States and the loose, intergovernmental cooperation system seen in the United Nations.

The EU has achieved much since it was created in 1950. It has built a single market for goods and services that spans 28 countries with over 500 million citizens free to move and settle where they wish. It created the single currency — the euro — now a major world currency, and which makes the single market more efficient. It is also the largest supplier of development and humanitarian aid programmes in the world. These are just a few of the achievements so far. Looking ahead, the EU is working to get Europe out of the current economic crisis. It is at the forefront of the fight against climate change and its consequences; as it plans to keep growing, it helps neighbouring countries prepare themselves for EU membership; and it is building a common foreign policy which will do much to extend European values around the world. The success of these ambitions depends on the ability to take effective and timely decisions and to implement them well.

## 1.1 The EU treaties

When French Foreign Minister Robert Schuman proposed integrating western Europe’s coal and steel industries in 1950, his ideas were set out in the Treaty of Paris the following year, and the precursor to the EU — the European Coal and Steel Community — was born. Since then, the EU has regularly updated and added to the treaties to ensure effective policy and decision-making. More specifically:

- The [Treaty of Paris](#), establishing the European Coal and Steel Community, was signed in Paris on 18 April 1951 and entered into force in 1952. It expired in 2002.
- The [Treaties of Rome](#), establishing the European Economic Community (EEC) and the European Atomic Energy Community ([Euratom](#)), were signed in Rome on 25 March 1957 and came into force in 1958.
- The [Single European Act](#) (SEA) was signed in February 1986 and came into force in 1987. It amended the EEC Treaty and paved the way for completing the single market.

- The Treaty on European Union — [the Maastricht Treaty](#) — was signed in Maastricht on 7 February 1992 and came into force in 1993. It established the European Union, gave the Parliament more say in decision-making and added new policy areas of cooperation.
- The [Treaty of Amsterdam](#) was signed on 2 October 1997 and came into force in 1999. It amended previous treaties.
- The [Treaty of Nice](#) was signed on 26 February 2001 and entered into force in 2003. It streamlined the EU institutional system so that it could continue to work effectively after the new wave of Member States joined in 2004.
- The [Treaty of Lisbon](#) was signed on 13 December 2007 and came into force in 2009. It simplified working methods and voting rules, created a President of the European Council and introduced new structures with a view to making the EU a stronger actor on the global stage.

## 1.2 Who and how decides in the European Union?

The institutions of the European Union provide for the existence of seven bodies, the cooperation of which derives from EU legislation. These seven bodies are the following:

### 1.2.1 *European Commission*



The [European Commission](#) is a politically independent institution and the executive arm of the EU that represents and upholds the interests of the EU as a whole. It proposes laws, policy agreements and is responsible for implementing the decisions of the European Parliament and the Council.

The Commission is composed of the College of Commissioners of 28 members, including the President and Vice-Presidents. The Commissioners, one from each EU country, are the Commission's political leadership during a 5-year term. The new College took office in November 2014. Its president is Mr. Jean-Claude Juncker who assigned each Commissioner with responsibility for specific policy areas such as the French Commissioner, Mr. Pierre Moscovici who is responsible for economic and financial affairs, taxation and customs and the Cypriot Commissioner, Mr. Christos Stylianides who is responsible for humanitarian aid and crisis management.

### 1.2.2 *The Council*

The [Council](#) (also known as the Council of Ministers) consists of government ministers from all the EU countries and its work is carried out in Council meetings that are attended by one minister from each of the EU's national



governments. Together with the European Council, it adopts legislation proposed by the European Commission.

### **1.2.3 European Parliament**



The [European Parliament](#) is the only directly-elected EU body and one of the largest democratic assemblies in the world. Its 751 Members represent the EU's 500 million citizens. They are elected once every five years by voters from across the 28 Member States. The Parliament shares with the Council the power to legislate, it exercises democratic supervision over all EU institutions, and in particular the Commission, and finally it shares authority with the Council over the EU budget and can therefore influence EU spending.

Initially, the Parliament had a purely advisory role. Yet the successive Treaties of the EU have progressed the role of the Parliament into a co-decision body, on an equal footing with the Council. It is now directly involved in the drafting and adoption of legislation in most policy areas such as economic governance, migration, energy, transport, environment, etc.

### **1.2.4 European Council**

The [European Council](#) brings together the EU's top political leaders, i.e. Prime Ministers and Presidents along with its President and the President of the Commission. It defines political direction and priorities but it does not have the authority to adopt legislation.



### **1.2.5 The Court of Justice of the European Union**



The [Court of Justice](#) of the European Union (the Court) ensures that EU legislation is interpreted and applied in the same way in each Member State. Furthermore, it has the power to settle legal disputes between Member States, EU institutions, businesses and individuals.

### **1.2.6 The European Central Bank**

The [European Central Bank](#) (ECB) manages the European common currency, the euro, which is adopted by 19 member states. Its purpose is to maintain monetary stability in the euro area by ensuring low and stable consumer price inflation, safeguarding the value of the euro.



### **1.2.7 The European Court of Auditors**

The [European Court of Auditors](#) (ECA) is the independent external audit institution of the European Union. It checks that the Union's income has been



received correctly, that its expenditure has been incurred in a legal and regular manner, and that financial management has been sound.

### 1.3 The ordinary legislative procedure

The configuration of any EU legislation through the interaction of all the above mentioned EU bodies is a fairly complex process, always aiming at the maximum possible democratic legitimacy of decisions taken in the EU. The [ordinary legislative procedure](#) (previously known as codecision) is the way in which decision making takes place at EU level. The diagram presented in the next page, outlines this decision making process<sup>1</sup>. Although it seems complicated, it is usually relatively simple: it rarely goes through all these steps appearing in the diagram and the proposal is frequently adopted at the first or second reading.

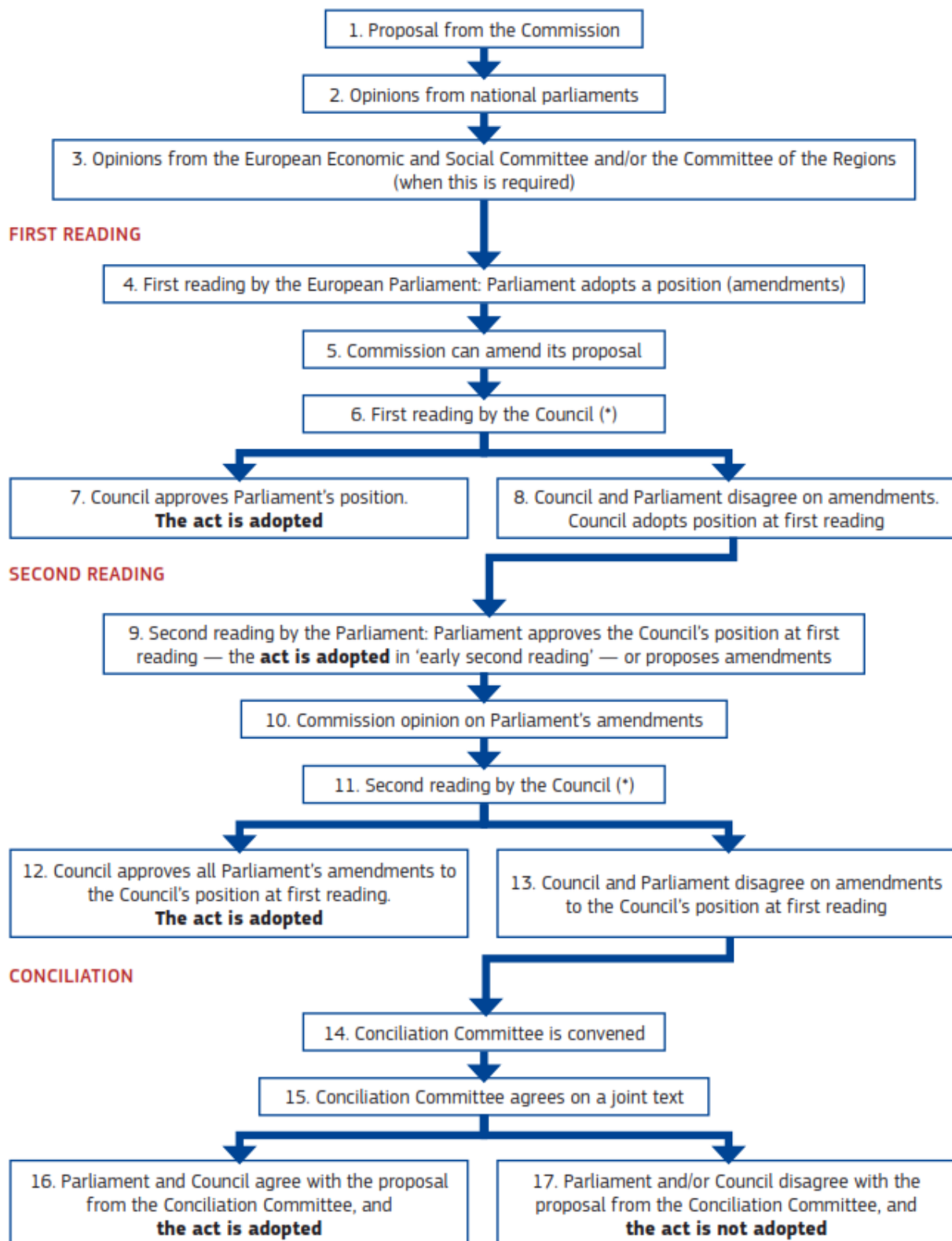
There are several types of legal acts which are applied in different ways:

- A **regulation** is a law that is applicable and binding in all Member States directly. It does not need to be passed into national law by the Member States although national laws may need to be changed to avoid conflicting with the regulation.
- A **directive** is a law that binds the Member States or a group of Member States, to achieve a particular objective. Usually, directives must be transposed into national law to become effective. Significantly, a directive specifies the result to be achieved: it is up to the Member States individually to decide how this is done.
- A **decision** can be addressed to Member States, groups of people, or even individuals. It is binding in its entirety. Decisions are used, for example, to rule on proposed mergers between companies.
- **Recommendations** and **opinions** have no binding force.

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<sup>1</sup> You may see a more detailed diagram describing the ordinary legislative procedure [here](#).

# The ordinary legislative procedure of the European Union



(\*) Council adopts its position by a qualified majority (the treaties provide for unanimity in a few exceptional areas). However, if the Council intends to deviate from the Commission's proposal/opinion it adopts its position by unanimity.



## 2. The environment in the European Union

By its very nature, the environment transcends political, legal and man-made boundaries. As a result, cooperation between EU Member States and between the EU and the rest of the world is essential if we are to tackle challenges which impact on us all. These range from droughts and floods to pollution and threats to Europe's rich natural capital and biodiversity.

The underlying aim of EU environmental policy is to enhance natural capital, promote a resource-efficient economy and safeguard people's health. A coordinated environmental strategy across the Union ensures synergies and coherence between EU policies and, given the relevance of environmental legislation for many business sectors, will ensure a level playing field for their activities.

Many take the environment for granted. However, the pressure on the Earth's finite resources – meaning the resources whose availability is predetermined, hence exhaustible – is growing at an unprecedented rate. If this continues, future generations will be deprived of their legitimate inheritance. During the 20th century, the world increased its use of fossil fuels by a factor of 12 and extracted 34 times more material resources. Demand for food, animal feed and fibre may increase by 70 % by 2050.

If we carry on using resources at the current rate, we will need more than two planets to sustain us. Addressing the challenge requires collective action involving the EU, national, regional and local governments, businesses, NGOs and ordinary individuals. This has to include outreach to our international partners so that action is taken on a global scale.

The major environmental challenges facing Europe have evolved since the early days of European environmental policymaking. In the 1970s and 1980s the focus was on traditional environmental themes such as protecting species and improving the quality of the air we breathe or the water we drink by reducing emissions of pollutants.

Now, emphasis is on a more **systematic approach** that takes account of links between various themes and their global dimension. This means moving from remediation to prevention of environmental degradation.

It involves ensuring that other areas such as agriculture, energy, transport, fisheries, regional development, research, innovation and external aid take fully into account the environmental consequences of their policy and funding decisions. This mainstreaming will ensure a more coherent approach towards environmental challenges and maximise synergies.

After more than four decades of policymaking at EU level, much of our environment is protected by a body of European legislation. But the implementation of these policies remains problematic. This is a key challenge that needs to be tackled for the full benefits of these laws to be enjoyed by all. The new EU environment action programme (see also Section 3.10 'The road ahead', page 26) will address this.

## **2.1 Environment and economy in harmony**

In short, environmental and economic considerations are complementary, like two sides of the same coin. Greening the economy reduces environmental costs through more efficient use of resources, while new environmentally friendly technologies and techniques create employment, give a boost to the economy and strengthen the competitiveness of European industry.

The European Union's growth strategy for the coming decade (called [Europe 2020](#)) firmly embeds the efficient use of natural resources among its key approaches. It recognises that environmental policy can help transform Europe into a knowledge-based, resource-efficient economy.

For instance, strengthening the resilience of our ecosystems, which provide food, fresh water, raw materials and many other benefits, contributes to productivity and quality of life, while reducing public health bills.

## **2.2 Working across borders**

The environment does not stop at the Union's borders. Air, water, seas and wildlife know no boundaries. The more the EU can encourage neighbouring countries — and ideally the whole world — to adopt high standards, the better will be the quality of our own environment. The Union is careful to ensure that countries wishing to join the EU bring their own environmental legislation up to these requirements.

It works closely with its neighbours to encourage them to do the same and plays an active role in international negotiations on sustainable development, biodiversity and climate change. The EU's longer-term objective of environmental sustainability is one of the United Nations' millennium development goals.

## **2.3 Public support**

There is broad public support for EU measures to improve the environment. A pan-European opinion survey in mid-2011 revealed that over 90 % of respondents consider the environment to be an important personal concern. Almost 9 out of 10 support EU funding for environmentally friendly activities and over 8 out of 10 agree that EU legislation is necessary to protect the environment in their country. The most widely voiced environmental concerns were water pollution, depletion of natural resources and the increase in waste.

## 2.4 How the EU develops its environmental policy?

While some might think of it as a marginal concern, the environment is actually at the heart of EU policy. When Member States sign up to the Treaty on European Union, one of their obligations is to work towards ‘*a high level of protection and improvement of the quality of the environment*’ (Article 2, paragraph 3, see full text [here](#)), as the architects of the European Union recognised the importance of a clean and healthy environment. This is also an agenda to be pursued on an international scale, as the EU strives to foster the sustainable economic, social and environmental development of developing countries, with the primary aim of eradicating poverty.

### 2.4.1 *Democratic decision-making*

The process of developing EU legislation is highly democratic (see diagram on page 8). Before tabling a proposal, the European Commission carries out extensive consultations, giving national authorities, non-governmental organisations, environmental experts and the general public an opportunity to express their views. This helps to ensure that draft legislation is based on a broad spectrum of input and a solid platform of scientifically verifiable data. As well as clarifying the different issues involved, this also develops a sense of ownership among key stakeholders of the policy being proposed.

The draft legislation can be amended by national governments through their ministers in the Council or in response to suggestions from citizens at the European Parliament, both of which must agree on the exact wording of the text before it is formally adopted. Other bodies such as the Committee of the Regions and the European Economic and Social Committee make their opinions known, as do businesses, NGOs, researchers and individuals.

Sometimes consultations reveal that legislation is not appropriate, and non legally binding guidelines and exchanges of best practice are used instead.

### 2.4.2 *Relying on solid data*

Policies must be based on sound evidence that provides an understanding of the causes and impact of environmental change so that appropriate responses and strategies can be devised. Much of this data comes from national sources and is analysed by the European Environment Agency, which provides input into the EU’s environmental policy.



The [European Environment Agency](#) (EEA) collects national data to produce European datasets. It develops and maintains indicators and reports on the state of the environment. Based in Copenhagen, it began work in 1994. Its mandate is to help the EU and its Member States to make informed decisions about improving the environment, integrating environmental considerations into economic policies to

move towards sustainability and to coordinate the European environment information and observation network.

The Union has put in place different programmes to encourage the development of robust and accurate data and to ensure it is widely shared. The [Copernicus](#) project, for instance, combines data from land, sea and air monitoring stations with input from Earth observation satellites. The aim is to produce a wide range of datasets to help environmental policymaking and support its implementation.

### **2.4.3 Implementation**

Since the 1970s, the EU has agreed over 200 [pieces of legislation to protect the environment](#). But legislation alone counts for little if it is not properly applied and enforced. So, the challenge now is to implement effectively what has been agreed. This is complex since many different tasks are done by diverse groups ranging from national inspectors and courts to NGOs and citizens exercising their participatory rights.

Failure to implement legislation has many adverse consequences. It can undermine fundamental environmental objectives, harm human health and present industry with regulatory uncertainty as agreed standards are applied unevenly across the Union. Meanwhile, proper implementation can bring financial benefits. If EU waste legislation is fully applied it would generate 400,000 jobs and reduce annual net costs by EUR 72 billion.

Member States are responsible for implementing EU environmental legislation. So the European Commission can, through the European Court of Justice, take legal action against a Member State which fails to implement legislation correctly. These infringement cases increase the pressure to find solutions and can ultimately lead to fines for repeated failure to implement EU rules.

But legal action is always a last resort. The European Commission attaches greater importance to helping Member States with effective implementation. Capacity-building and financial support are available, alongside better knowledge of the state of the environment as well as information on the way Member States deliver on their EU commitments in practice. It has recommended that each Member State should establish an independent national review body, such as an ombudsman, to handle environment related complaints from the public.

### **2.4.4 Encouraging eco-innovation**

[Eco-innovation](#) is any form of innovation aiming at, or resulting in, significant and demonstrable progress towards the goal of sustainable development, by reducing impacts on the environment, enhancing resilience to environmental pressures or achieving a more efficient and responsible use of natural resources.

These technologies and the industries that produce them are already an important part of the EU economy. However, with the exception of renewable energy, eco-innovation has penetrated markets relatively slowly. Bottlenecks include the failure of market prices to accurately reflect environmental costs and benefits, and incentives and subsidies that sustain wasteful practices and rigid economic structures.

Through EU programmes, support is available to finance research, innovation and eco-innovative companies. To encourage greater take-up of green technologies, the EU is promoting green public procurement, costing products over their life-cycle, and eco-labelling.

#### **2.4.5 *Financing the environment***

Support for environmental objectives is a major part of the EU budget. By linking up environmental policy with other policy areas, it can leverage between EUR 10 and 12 billion in expenditure in the EU budget per year, for example through agri-environment measures, support for cohesion policy and research and innovation.



The main specific vehicle for EU support for environmental policy is [LIFE](#), which was established in 1992. The name comes from its French acronym (L'Instrument financier pour l'environnement — the financial instrument for the environment). Over the years it has strengthened its focus on nature conservation and environmental protection. Its finance is now used to support policies which tackle challenges such as biodiversity decline, habitat loss, resource efficiency and climate action.

With an emphasis on practical initiatives, innovation and the spread of best practice at the local level, LIFE projects have helped change the way policymakers, stakeholders and the public think and act towards the environment.

### **2.5 What the EU does?**

Environmental policy aims to strike a balance between our need to develop and use the planet's natural resources, and the obligation to leave a healthy legacy for future generations.

This means that environmental policy is a quest for sustainability. Sectors like industry, agriculture, fisheries, transport, energy and urban planning have major effects on the environment, and yet they also depend on healthy ecosystems. Sustainability means ensuring that these sectors continue to deliver the services we need, without compromising the health of the natural world we all depend upon.

Environmental protection is essential for our future prosperity. To live well in the future, we need to take decisive action now to protect the natural world and to allow it the space it needs to regenerate and continue providing the things we depend on, such as clean air and clean waters.

### **2.5.1      *Resource efficiency***

Resources are necessary for the economy and environment to function. But the days of plentiful supplies of inexpensive raw materials — a key factor in the major economic progress made during the last two centuries — are over.

Population growth and rising living standards are increasing the demand for and raising the price and scarcity of natural resources like the metals, minerals and foodstuffs we depend upon. By the end of the next decade, an additional 2 billion people in emerging economies may have middle-class incomes with aspirations to achieve lifestyles comparable to those we enjoy.

To address the challenges, the European Commission has made resource efficiency one of its key policy concerns. This means producing more value with less input, using resources in a sustainable way and managing them more efficiently throughout their life-cycle. It requires innovation, changes in production and consumption patterns, and the right incentives and price signals.

In late 2011, EU governments endorsed the [roadmap](#) to a **resource-efficient Europe**. This emphasises the need for a sea change in economic, political and personal behaviour. It contains milestones across different policy areas to arrive at a European economy within 40 years that provides a high standard of living with a much reduced impact on the environment.

The need to make efficient use of finite resources is a theme being integrated into all EU policies. To drive the process forward, the Commission has created a high-level panel of national, European and international policymakers, industrialists and experts with extensive economic and environmental expertise (visit [European Resource Efficiency Platform](#)).

### **2.5.2      *Biodiversity***

One of the core aims of European environmental policy is to protect the web of life that surrounds us. The natural world faces many threats around the globe, and [biodiversity](#) — the term used to emphasise the richness of the natural world with all its species and genetic variety — is in decline all over the planet. To counter those threats, the EU is committed to halting and reversing the loss of biodiversity and ecosystems by [2020](#) (see the legislation regarding the protection of nature and biodiversity [here](#)).

Biodiversity is important in its own right, but it also provides a vital stream of goods such as food, fibre, fuel and medicines, and it performs essential services like climate regulation, flood

prevention, water purification, pollination and soil formation. All are necessary for economic prosperity, security, health and quality of life.

The EU first adopted a biodiversity [action plan](#) in 2006. Then, just months after the world agreed an ambitious global agenda in Nagoya, Japan, it finalised an updated strategy in early 2011. This has as a headline target to halt the loss of biodiversity and the degradation of ecosystem services in the EU [by 2020](#), restoring them as far as feasible, and to increase Europe's contribution towards averting biodiversity loss globally.

### **2.5.3      *The "polluter pays" principle***

**The "polluter pays" principle**, which is mentioned in [Article 191§2](#) of the Treaty of Lisbon (ex Article 174, § 2, of the 1987 EC Treaty), means that the cost incurred in combating pollution and nuisances in the first instance falls to the polluter, i.e. the polluting industry. Given, however, that the polluting industry can pass the cost of the prevention or elimination of pollution on to the consumer, the principle amounts to saying that **polluting production should bear:**

- (a) the expenditure corresponding to the measures necessary to combat pollution (investment in apparatus and equipment for combating pollution, implementation of new processes, operating expenditure for anti-pollution plant, etc.); and
- (b) the charges whose purpose is to encourage the polluter himself to take, as cheaply as possible, the measures necessary to reduce the pollution caused by him (incentive function) or to make him bear his share of the costs of collective purification measures (redistribution function).

### **2.5.4      *Environmental liability***

Based on the "polluter pays" principle, an important Directive ([2004.35/EC](#)) establishes a framework for [environmental liability](#), with a view to preventing and remedying environmental damage, whereby 'environmental damage' is defined as:

- direct or indirect damage to the aquatic environment covered by Community water management legislation;
- direct or indirect damage to species and natural habitats protected at Community level by the 1979 "Birds" Directive or by the 1992 "Habitats" Directive;
- direct or indirect contamination of the land which creates a significant risk to human health.

The [principle of liability](#) applies to environmental damage and imminent threat of damage resulting from occupational activities, where it is possible to establish a causal link between the damage and the activity in question. The Directive therefore distinguishes between two

complementary situations, each one governed by a different liability scheme: occupational activities specifically mentioned in the Directive and other occupational activities.

The first liability scheme applies to the dangerous or potentially dangerous occupational activities listed in Annex III to the Directive. These are mainly agricultural or industrial activities requiring a licence under the Directive on [integrated pollution prevention and control](#), activities which discharge heavy metals into water or the air, installations producing dangerous chemical substances, waste management activities (including landfills and incinerators) and activities concerning [genetically modified organisms](#) and [micro-organisms](#). Under this first scheme, the operator may be held responsible even if he is not at fault. The second liability scheme applies to all occupational activities other than those listed in Annex III to the Directive, but only where there is damage, or imminent threat of damage, to species or natural habitats protected by Community legislation. In this case, the operator will be held liable only if he is at fault or negligent.

### 2.5.5 *Protected areas*

Recognising that nature does not respect national borders, the EU has strong nature protection legislation. Starting with measures to protect wild birds and extending this to many threatened plants and animals and their habitats, this has culminated in the creation of [Natura 2000](#), a pan-European network of areas designed to protect species and habitats in their natural environment. Consisting of over 26 000 sites, the network is the largest in the world. Now virtually complete, it covers almost 18 % of EU territory — an area equivalent in size to the Czech Republic, Germany and Poland combined.



Natura 2000 recognises that humans are an integral part of nature and that the two work best in partnership with one another. Its aim is not to exclude economic activities, but rather to place certain limits on them so as to safeguard valuable species and habitats. Its financing is integrated into key EU policy sectors. Agriculture, particularly its rural development strand with agri-environment and forest measures, is the most important of these. The EU's cohesion policy (which encourages economic growth in EU Member States and regions) plays a major role in funding investments, especially in the new Member States.

The Natura 2000 programme nurtures healthy ecosystems which provide valuable services such as fresh water, carbon storage and protection against floods and coastal erosion. Collectively, these services are estimated to be worth EUR 200 to 300 billion a year — significantly more than the annual cost of some EUR 6 billion to manage the network (for more information in Natura 2000 programmes in Cyprus, please click [here](#)).



## 2.5.6 *Awareness raising*

The European Commission promotes awareness of the environment in many ways. An annual highlight is [Green Week](#) in Brussels when thousands of participants debate a key environmental issue, such as biodiversity or water.

Competitions are another popular stimulus. The EU's [Green Capital Award](#) showcases the environmental care and imagination that cities across Europe are displaying. Other awards recognise the contributions which businesses, public authorities and individual projects make to the environment.



## 2.5.7 *EU Ecolabel*



The EU Ecolabel identifies products and services with a reduced environmental impact throughout their life-cycle, from the extraction of raw material through to production, use and disposal. Recognised throughout Europe, the voluntary label promotes environmental excellence based on criteria developed by scientists, NGOs and stakeholders. Over 1 300 companies, making over 18 000 products, have joined. Customers can rely on the logo since every product is checked by independent experts.

### **3. Specific elements of the European environmental policy**

In addition to the two cross-cutting policy areas of resource efficiency and biodiversity protection, the Union is highly active on specific environmental issues, outlined below.

#### **3.1 Chemicals**

Chemicals are an essential component of our daily lives. However, some can severely damage human health and others could be dangerous if not properly used. To ensure chemicals are safe, to protect the environment and to encourage the competitiveness of one of Europe's major industries, the EU has the most advanced chemicals legislation in the world; it is called [REACH](#) (Registration, Evaluation, Authorisation and Restriction of Chemicals).

All chemical substances manufactured or imported into the EU must be registered with the Helsinki-based [European Chemicals Agency](#). By 2018, every chemical used in the EU will have to comply with this requirement. If not, it cannot be sold in the Union. Particularly strict rules apply to the most hazardous products.

Companies are responsible for assessing and managing any risks from the chemicals they use or sell in the Union and for providing customers with the appropriate safety advice on how they should be handled.

#### **3.2 Waste**

On average, each of the 500 million people living in the EU throws away around half a tonne of household rubbish every year. This is on top of huge amounts of waste generated from activities such as manufacturing (360 million tonnes) and construction (900 million tonnes), while water supply and energy production generate another 95 million tonnes. Altogether, the European Union produces up to 3 billion tonnes of waste every year.

All this waste has a huge impact on the environment, causing pollution and greenhouse gas emissions that contribute to climate change, as well as signify cant losses of materials – a particular problem for the EU which is highly dependent on imported raw materials.

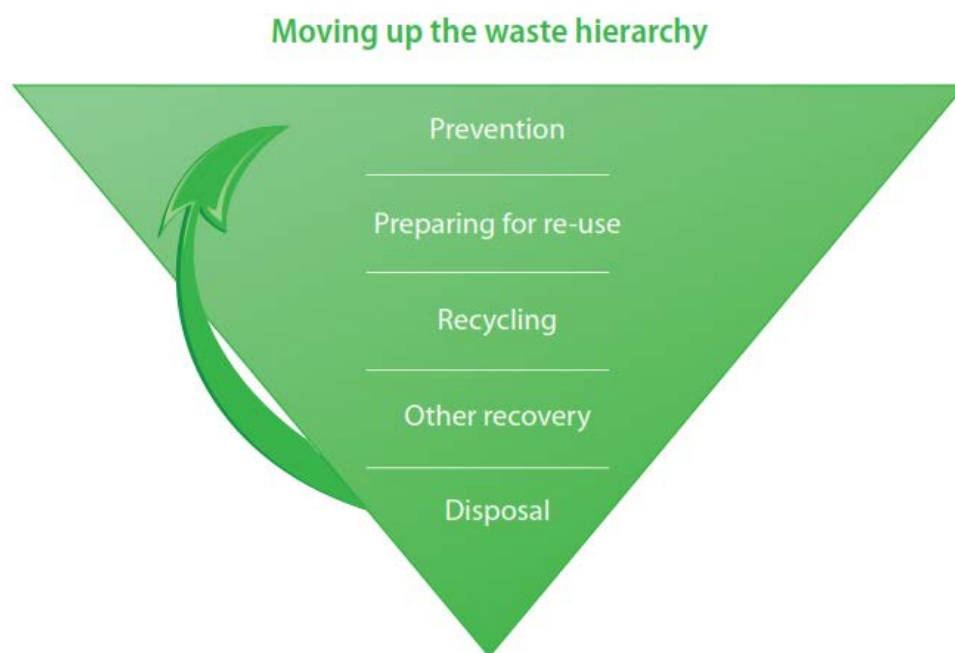
EU waste policy has evolved over the last 30 years through a series of environmental action plans and a framework of legislation that aims to reduce negative environmental and health impacts and create an energy and resource-efficient economy.

The [EU's Sixth Environment Action Programme](#) (2002- 2012) identified waste prevention and management as one of four top priorities. Its primary objective is to ensure that economic growth does not lead to more and more waste.

This led to the development of a long-term strategy on waste. The 2005 Thematic Strategy on Waste Prevention and Recycling resulted in the revision of the [Waste Framework Directive](#), the cornerstone of EU waste policy.

The revision brings a modernised approach to waste management, marking a shift away from thinking about waste as an unwanted burden to seeing it as a valued resource. The Directive focuses on waste prevention and puts in place new targets which will help the EU move towards its goal of becoming a cycling society. It includes targets for EU Member States to recycle 50% of their municipal waste and 70% of construction waste by 2020.

The Directive introduces a five-step waste hierarchy where prevention is the best option, followed by re-use, recycling and other forms of recovery, with disposal such as landfill as the last resort. EU waste legislation aims to move waste management up the waste hierarchy.



### **3.2.1 Waste legislation**

The Waste Framework Directive, revised in 2008, streamlines waste legislation, incorporating rules on a number of issues such as the management of hazardous waste and waste oils.

Other pieces of EU waste legislation:

- The Regulation on waste shipments aims to ensure the safe shipment of all types of waste, including hazardous waste;
- The Packaging and Packaging Waste Directive sets standards for the design of packaging and lays down specific targets for the recycling and recovery of waste packaging;

- The EU's Landfill Directive and the Waste Incineration Directive set standards and limits for the release of pollution into the air or into groundwater;
- The End-of-Life Vehicles Directive sets rising re-use, recycling and recovery targets and restricts the use of hazardous substances in both new vehicles and replacement vehicle parts;
- Waste Electrical and Electronic Equipment (WEEE) legislation lays down collection, recycling and recovery targets for electrical goods;
- The Directive on the Restriction of Hazardous Substances in electrical and electronic equipment restricts the use of hazardous substances in electronics;
- The Batteries Directive sets collection, recycling and recovery targets, thereby ensuring their proper waste management;
- Legislation also targets specific waste streams such as sewage sludge, batteries, polychlorinated biphenyls and polychlorinated-terphenyls (PCBs/PCTs).

### 3.3 Air

Over the past 20 years, the EU has successfully reduced the levels of a number of pollutants. Lead emissions, for example, have fallen by some 90%. Despite the progress made, [air pollution](#) ranks high among Europeans' environmental concerns and causes many premature deaths every year. The Union still has some way to go to meet its aim of securing levels of air quality that do not give rise to significant negative impacts on, and risks to, human health and the environment.

Directive [2008/50/EC](#) of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe establishes a system for the assessment of ambient air quality in relation to sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter (PM10 and PM2,5), lead, benzene and carbon monoxide as well as ozone. Member States shall establish areas or zones (urban, suburban, rural, rural background) throughout their territory, and assess and manage the air quality.

This Directive sets thresholds for assessment for each pollutant, criteria for the assessment method (in particular the siting of sampling points), reference methods for measurement, limit values for the protection of human health and the environment, the target and the obligation of reducing exposure for the population to PM2,5, information thresholds and alert thresholds, critical levels for the protection of vegetation and the list of information to be included in action plans for improvement in air quality.

### **3.3.1      *Air quality management and action plans***

Where the levels of pollutants in ambient air are below the limit values specified in this Directive, Member States shall maintain the levels of those pollutants below the limit values and shall endeavour to preserve the best ambient air quality, compatible with sustainable development.

Where, in given zones or agglomerations, the levels of pollutants in ambient air exceed any limit value or target value, plus any relevant margin of tolerance in each case, Member States shall ensure that [air quality plans](#) are established for those zones and agglomerations in order to achieve the predefined limit value or target value (the National Action Plan for the improvement of Air Quality in Cyprus, 2207 can be found [here](#)).

In the event of exceedances of those limit values for which the attainment deadline is already expired, the air quality plans shall set out appropriate measures, so that the exceedance period can be kept as short as possible and can include additional specific measures to protect sensitive population groups. Measures similar to those laid down in short-term action plans may be considered.

Where there is a risk that the levels of pollutants will exceed the alert thresholds, Member States shall draw up action plans indicating the measures to be taken in the short term in order to reduce the risk or its duration. These actions plans can in particular suspend activities which contribute to the risk of exceedance (motor-vehicle traffic, construction works, the use of industrial plants etc.). In addition, these action plans may include specific measures aimed at the protection of sensitive population groups, in particular children.

Where thresholds are exceeded due to transboundary transport of air pollutants, the Member States concerned shall cooperate and coordinate their work in order to remove the exceedance.

### **3.3.2      *Public information on air quality***

Member States shall ensure that up-to-date information on ambient concentrations of the pollutants covered by this Directive is routinely made available to the public and the bodies concerned. Where alert thresholds and information thresholds are exceeded, Member States shall publish:

1. information on the exceedance or exceedances observed (place, type of threshold, time and duration of the exceedance, highest concentration observed);
2. forecasts for the following hours and days;
3. information on the type of population concerned, possible health effects and recommended behaviour;

4. information on preventative measures and measures to reduce the emissions.

Member States shall also make available to the public annual reports for all pollutants covered by this Directive (For information and daily updates of the air quality in Cyprus, please click [here](#)).

### **3.3.3 Penalties**

Member States shall lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive and shall take all measures necessary to ensure that they are implemented. The penalties must be effective, proportionate and dissuasive. The European Commission is conducting a wide-ranging review of the EU's air quality policies, taking account of the latest science and cost-effective measures.

## **3.4 Water Resources**

In recent decades, the EU has put in place a [comprehensive policy](#) to ensure the quality of Europe's water. Initially, this addressed health concerns. It was followed by measures to address the impact on the environment of major water-using sectors such as agriculture, industry and domestic households.

The EU's main piece of water legislation, the **Water Framework Directive (WFD) 2000/60/EC**, requires all rivers, lakes, coastal waters and groundwater to be clean by 2015. Member States have to check the state of their waters and draw up plans explaining how they will clean them.

The main goal of this Directive is the correct management and protection of water resources and the prevention of further deprivation of all water bodies. It is considered an innovative Directive because on the one hand it treats water as an ecological good and on the other hand it promotes public participation in the decision making process. In addition it provides guidelines as to the preparation on Action plans and Programmes, aiming at the attainment of a "*good ecological status*" for all water bodies by 2015, with a final deadline for full compliance the year 2027. Member states are obliged to control the situation of their water bodies and formulate plans through which chosen ways of cleaning the water bodies will be explained.

Another piece of European legislation, the **marine strategy framework directive 2008/56/EC**, adopts a coordinated approach to managing human activities that have an impact on the [marine environment](#). It requires national measures to be introduced from 2015 to ensure marine litter does not harm the coastal and marine environment and aims to have marine waters healthy by 2020.

The EU has also adopted the “[Blueprint](#)” which outlines actions that concentrate on better implementation of current water legislation, integration of water policy objectives into other policies, and filling the gaps in particular as regards water quantity and efficiency. The objective is to ensure that a sufficient quantity of good quality water is available for people's needs, the economy and the environment throughout the EU.

### **3.4.1 Bathing Water**

The [annual European bathing water quality report](#) provides the most up-to-date picture of the state of health of over 22 000 swimming sites — at the seaside and inland rivers and lakes — in EU Member States as well as some neighbouring countries. It confirms that the overall quality of bathing waters in the EU has improved markedly since 1990. In 2013, more than 95 % of bathing sites met the minimum requirements, 83 % met the more stringent ‘excellent’ level. Just 2 % were poor. All the bathing sites in Cyprus and Luxembourg were deemed ‘excellent’. These countries were followed by Malta (99 % excellent), Croatia (95 %) and Greece (93 %). At the other end of the scale, European Union Member States with the highest proportion of sites with a ‘poor’ status were Estonia (6 %), the Netherlands (5 %), Belgium (4 %), France (3 %), Spain (3 %) and Ireland (3 %).

It is now easy for the public to check the status of the water wherever they plan to swim. The bathing water section of the water information system for Europe ([WISE](#)) can be consulted on the EEA’s bathing water website. The [Eye on Earth — WaterWatch](#) application can be used to zoom in on a section of the coast, riverbank or lake in either street map or bird’s eye format.

## **3.5 Noise**

Noise pollution has been linked to a range of health problems. It also harms wildlife. The EU [regulates](#) noise from a number of sources, including motor vehicles, trains and equipment used outdoors. Under the EU **Directive [2002/49/EC relating to the assessment and management of environmental noise](#)**, member states must draw up maps of noise levels in their larger towns and cities, and for major roads, railways and civil airports. They then need to come up with plans to tackle the problem.

This Directive is aimed at controlling noise perceived by people in built-up areas, in public parks or other quiet areas in an agglomeration, in quiet areas in open country, near schools, hospitals and other noise-sensitive buildings and areas. It does not apply to noise that is caused by the exposed person him or herself, noise from domestic activities, noise created by neighbours, noise at work places or inside means of transport or noise due to military activities in military areas.

A strategic noise map is formulated which enables a global assessment to be made of noise exposure in an area due to different noise sources and overall predictions to be made for such

an area. The strategic noise maps must satisfy the minimum requirements laid down in Annex IV to the Directive.

Action plans are then developed aiming at managing noise issues and effects, including noise reduction if necessary. They must meet the minimum requirements set out in Annex V to the Directive. The measures within the plans are at the discretion of the competent authorities, but should address priorities which may be identified by the exceeding of any relevant limit value or by other criteria chosen by the member states and apply in particular to the most important areas as established by strategic mapping.

### 3.6 Forests

Forests are being cut down at an alarming rate around the world. The EU has called for global deforestation to be halved by 2020 and halted entirely by 2030. It is working with various timber-exporting countries to improve forest governance. EU legislation (**Regulation No. [995/2010 EC](#)**) now minimises the risk of illegally harvested timber being sold in the Union.

[Forests](#) as are an important sphere for the European Union (EU): they cover 37.8 % of European territory and provide a living for 3.4 million people (forestry and forest-based industries). Moreover, the EU is the second-largest producer of industrial round timber after the United States and produces approximately 80 % of the world's cork. In the context of climate change, forests also play an important role - not only as regards trapping carbon, but also through the production of biomass, and their potential in terms of renewable forms of energy. They contribute to the conservation of biodiversity and the protection of soil and water resources. Lastly, forests are socially and culturally important: attractive to city dwellers, they provide opportunities for recreational and healthy activities and represent a not inconsiderable cultural heritage. For more information on EU's Forestry Strategy, please click [here](#).

### 3.7 Soil

There is no specific EU legislation on soil, but many of the problems affecting soils are addressed by specific measures for water, waste, chemicals, industrial pollution, nature protection and pesticides. The EU has a [strategy](#) specifically addressing all the different threats to soil, particularly from farming practices and industrial processes. In 2012, the European Commission produced guidelines drawing attention to the dangers of covering soil with impermeable material such as concrete and offering more sustainable alternatives.

One of the objectives of the [Sixth Environmental Action Programme](#) (the action programme before the current one which related to the 2002-2012 decade) is to protect soils against erosion and pollution. It is to fulfil this objective that the Commission is publishing this Communication (**[COM\(2001\) 31](#)**), which paves the way for developing a strategy on soil



protection. For the purpose of this Communication, soil is defined as the top layer of the earth's crust, formed by mineral particles, organic matter, water, air and living organisms.

This Communication describes the functions of soil, which include:

- producing food,
- storing, filtering and transforming minerals, water, organic matter, gases, etc.,
- providing raw materials,
- being the platform for human activity.

The Communication also identifies the main threats to soil in Europe: erosion, decline in organic matter, soil contamination, soil sealing (caused by the covering of soil for housing, roads and other infrastructure), soil compaction (caused by mechanical pressure through the use of heavy machinery, overgrazing or sporting activities), decline in soil biodiversity, salinisation (excessive accumulation of soluble salts of sodium, magnesium and calcium) and floods and landslides. All these processes are either driven or exacerbated by human activity and some degradation processes have increased over recent decades. The economic consequences and restoration costs linked to the threats to soil are huge.

In 2012, the European Commission produced [guidelines](#) drawing attention to the dangers of covering soil with impermeable material such as concrete and offering more sustainable alternatives.

### **3.8 Working with EU's neighbours**

Pollution from neighbours has a direct impact on the EU, and vice versa. In addition, natural resources like water, air, soils and biodiversity are connected in complex ecosystems across the region. This interdependence calls for a region-wide system of environmental protection and recovery.

For this reason, the EU gives priority to [environmental cooperation](#) with the countries along its borders. To the south this means North Africa and the Middle East and to the east the countries of eastern Europe and South Caucasus.

### **3.9 International cooperation**

The Union plays a highly committed role in international environmental negotiations, whether these be to protect biodiversity, promote sustainable development or tackle climate change.

The thrust of the EU approach is to emphasise the importance of the sustainable management of resources and natural capital, particularly in developing countries since these are crucial in tackling poverty. These same countries are the first to be affected by environmental degradation since floods, droughts and other natural disasters undermine efforts for their economic and social development.

The EU played a [key role](#) at the 2010 biodiversity summit in Nagoya. This led to an agreement on an ambitious global strategy to combat biodiversity loss and a package of measures to ensure that the planet's ecosystems continue to sustain future human wellbeing (click [here](#) to read the Summit's decisions). In Brazil in 2012, the [Rio+20](#) conference on sustainable development underlined the need for more concerted action to address global environmental challenges. The EU will strive to help translate the Rio commitments into actions, both within the EU and globally.

### **3.10 The road ahead**

The environment cannot be considered as separate from the economy any longer. The increasing use of limited global resources leads to rising prices. Europe's economy needs to be transformed to derive more value from fewer materials, and changes in consumption patterns are necessary. Policies to encourage research, bring eco-innovation to the market and raise consumer awareness all contribute to this transformation.

The EU already has unparalleled information resources and technologies, an established culture of precaution and prevention and a strong record of rectifying damage at source and making *polluters pay*. Better implementation of existing policies will help provide regulatory stability for businesses.

The EU's 'Seventh environment action programme' ([Decision no. 1386/2013/EC](#) - see also chapter 5, page 45) sets out a longer-term environment strategy, but one sufficiently adaptable and flexible to respond to the many challenges ahead. It provides an overall approach towards the environment, setting the course for a green and competitive economy that will safeguard our natural resources and health for present and future generations. It emphasises a limited number of priorities aimed at protecting Europe's natural capital and ecosystems and improving the economy's resource efficiency. A better implementation of environmental legislation and policies at national and local levels is also a priority. All this aims to ensure that EU citizens will be able to live in a safe and healthy natural environment which is managed in ways that respect environmental limits and ensure ecological resilience.

There is no escaping the fact that Europe and its environment also face some serious global challenges. These include an increasing world population, growing middle classes with high consumption rates, rapid economic growth in emerging economies, constantly rising energy demands and intensified global competition for resources. Most of these are outside our direct

influence, but the EU can nonetheless help other countries move towards more sustainable development by promoting more effective environmental governance globally.

## 4. Climate change and European Policy

### 4.1 Why we need a European climate action policy?

The Earth's climate is changing. The average global temperature is rising because of an increase in greenhouse gases from human activities. These gases allow the sun's energy in, but prevent heat from escaping.

The higher temperatures are having unprecedented consequences around the world. They cause glaciers to melt and sea levels to rise. They have brought flooding or droughts to regions which were previously immune to such extremes. These abnormal weather conditions are having an increasing impact on our economies, environment, health and daily lives.

#### 4.1.1 *Greenhouse gases*

Greenhouse gases are so called because they trap the sun's heat in the atmosphere in the same way as a greenhouse traps heat with glass. The atmospheric concentration of carbon dioxide (CO<sub>2</sub>), the most important greenhouse gas, is now at its highest level for at least 800 000 years.

The worldwide treaty known as the [Kyoto Protocol](#) (see also page 34) currently limits developed countries' emissions of the following seven greenhouse gases:

- carbon dioxide (CO<sub>2</sub>): emitted by the burning of fossil fuels, wood or anything else made of carbon, but also absorbed by plants and trees;
- methane (CH<sub>4</sub>): releases come from a wide range of natural sources and human activities, including fossil fuel production, livestock husbandry, rice cultivation and waste management;
- nitrous oxide (N<sub>2</sub>O): emission sources are fertilisers, fossil-fuel combustion and industrial chemical production using nitrogen;
- four types of fluorinated gases developed specifically for industrial use: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride.

Some consequences of climate change:

- Rising sea levels threaten low-lying island states and coastal communities.
- Extreme weather events jeopardise food production, especially in the poorest developing countries.

- Heatwaves over the past decade have caused tens of thousands of premature deaths in Europe.
- Water and food shortages could trigger regional conflicts, famine and refugee movements.
- Some plant and animal species are at increased risk of extinction.
- The cost of not adapting to climate change is estimated to reach at least €100 billion a year by 2020 for the European Union as a whole.

Television frequently brings into our homes graphic footage of events caused by climate change, no matter where they occur. What is less immediately evident are the extra demands placed on health services and basic infrastructure by climate change and increasing political and security tensions over limited natural resources such as water. Global warming is not confined to melting ice caps and polar bears. It affects this and future generations.

#### **4.1.2 *Importance of science***

Climate change can be an emotive issue. Some deny it is happening and insist there is no need for changes in policies and behaviour to reduce greenhouse gas emissions. This line of argument ignores the conclusion of the vast majority of the world's climate scientists: 97 % agree that climate change is happening and that humans are causing it through activities which emit greenhouse gases, such as the burning of fossil fuels — coal, oil and gas — and deforestation. This conclusion is reflected in the internationally recognised scientific assessments of the Intergovernmental Panel on Climate Change ([IPCC](#)), which brings together the world's leading experts in atmospheric science.

#### **4.1.3 *Intergovernmental Panel on Climate Change (IPCC)***

Established by the United Nations Environment Programme and the World Meteorological Organisation in 1988, the IPCC is the leading international body for the scientific assessment of climate change and its potential environmental and socioeconomic impact. The IPCC bases its assessments on tens of thousands of peer-reviewed studies made by scientists around the world.

The average surface temperature has risen by about 0.8 °C since 1880 globally but Europe's land area has warmed more, by some 1.4 °C. Scientific evidence indicates that irreversible and potentially catastrophic changes in the global environment are increasingly likely to occur if global average warming exceeds 2°C above the temperature in pre-industrial times (or around 1.2 °C above today's level).

Thirteen of the 14 warmest years on record have all happened this century. Recent analyses show that current action by governments around the world is not sufficient to prevent warming of more than 3 °C by the end of this century, with rises of 4 °C or even 6 °C not excluded.

The EU has long argued for the need to limit global warming to no more than 2 °C. That imperative is now recognised by the international community. The EU bases its policies on sound science. It believes in leading global action to tackle climate change by example through binding targets for Member States and initiatives such as the Emissions Trading System ([ETS](#)).

Between 1990 and 2012, the EU reduced its own greenhouse gas emissions by 19 % while the economy grew by 45 %. As a result, the greenhouse gas emission intensity (ratio of emissions per unit of GDP) in the EU was reduced by almost half in that period. Decoupling — breaking the link between economic growth and increased emissions — occurred in all Member States. However, the shift towards services, an economic sector of lower energy intensity compared to industry and construction, in accordance with the decrease in emissions, have contributed in the reversal of this tendency. Therefore, it is proven that the reduction of emission does not necessarily harm the economy.

#### **4.1.4      *Early action boosts economy***

Preventing global warming from exceeding the 2 °C threshold is both technologically feasible and economically affordable. The earlier measures are put in place, the more effective and less expensive they will be. That is why despite the economic crisis and the strain it is placing on government finances, the EU continues its climate action policies. The structural policies implemented in the field of climate and energy have contributed significantly to the EU emission reduction observed since 2005. The economic crisis contributed to less than half of the reduction observed during the 2008–2012 period.

Early action to develop a low-carbon economy is also helping to boost jobs and growth by stimulating innovation in clean technologies such as renewable energy and energy efficiency. This 'green economy' is not only one of the most promising areas for job creation — it also strengthens Europe's energy security and cuts our import bill by reducing dependency on imported oil and gas.

#### **4.1.5      *A boost for jobs***

There has been considerable job creation in the environmental goods and services sector — often labelled as 'green jobs' — even during the economic crisis. Employment in the EU increased from 3 to 4.2 million between 2002 and 2011, including by 20 % during the recession years. In July 2014, the European Commission outlined a plan on how to further maximise job opportunities in 'green' sectors.

#### **4.1.6**            *Climate change requires an international response*

International action is essential since climate change knows no national boundaries. The EU was instrumental in the development of the [UN Framework Convention on Climate Change](#), signed in 1992, and the 1997 Kyoto Protocol, which limits greenhouse gas emissions from developed countries.

However, today more than half of the world's emissions come from developing countries. The international community is therefore drawing up a new [UN climate agreement](#) that will require action by all nations. This is scheduled to be adopted in 2015 and to enter into force in 2020.

The European Commission's role in tackling climate change includes:

- developing and implementing EU climate action policies and strategies;
- representing the EU in international climate negotiations together with the Presidency of the Council of the EU;
- implementing the EU ETS;
- monitoring the EU countries' implementation of emission reduction targets in sectors outside the ETS;
- promoting the transition to a low-carbon economy based on clean technologies;
- implementing the EU strategy for adapting to climate change and supporting Member States' activities in this area;
- managing the EU budget, 20 % of which is earmarked to support climate action.

#### **4.2**            **How the EU goes about it**

The EU has consistently set the pace in tackling climate change and encouraging moves towards a low-carbon economy. Its efforts in this area date back to 1990 when the EU committed to stabilising its carbon dioxide (CO<sub>2</sub>) emissions at that year's levels by 2000, a target which it met. Since then, the Union has put in place a whole series of policy measures to reduce greenhouse gas emissions, many through the [European climate change programme](#) set up in 2000. In addition, Member States have taken specific national action.

### 4.2.1 *Europe 2020 strategy*

Tackling climate change is one of the five headline themes of the wide-ranging [Europe 2020](#) strategy for smart, sustainable and inclusive growth<sup>2</sup>.

Its specific targets aim to ensure that, by 2020:

- EU greenhouse gas emissions are cut by 20 %
- 20 % of energy comes from renewables and,
- energy efficiency is improved by 20 %

The first two of these targets were implemented by a ‘climate and energy package’ of binding legislation that became law in June 2009 (see [Directive 2012/27/EC](#) which was renamed to [Directive 2013/12/EC](#) to include the Republic of Croatia which is the newest member state). This legislation sets compulsory national targets for renewable energy which reflect Member States’ different starting points and potential for increasing renewables production as well as for emissions from sectors not covered by the EU ETS.

The national targets for the use of energy from renewable sources for 2020 are included in the [Directive 2009/28/EC](#) and range from 10 % for Malta, a country with a renewable energy sector in its infancy, to 49 % for Sweden, a country with an advanced sector based on bioenergy and hydropower. Cyprus is expected to produce 13% of its energy from renewable sources by 2020. Together, these national goals will achieve the 20 % target for the EU as a whole, substantially increasing the average share of energy consumption from renewables from 12.5 % in 2010.

Europe currently has to import over half of its energy because it has few energy reserves. And it has to accept the price decided by world markets or even by individual supply countries. A powerful way to cut our energy bill is to reduce the amount of energy that we consume by using energy in better and more efficient ways. A win-win solution is possible: CO<sub>2</sub> emissions can be reduced and we can create new jobs and save money by becoming less dependent on energy imports. Moreover, we have the opportunity to export our expertise. Energy efficiency

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<sup>2</sup> Beyond the targets for climate change and energy sustainability, the other 4 targets that need to be achieved by the end of 2020 according to the “Europe 2020” strategy are:

1. **Employment:** 75% of the 20-64 year-olds to be employed
2. **Research and Development:** 3% of the EU's GDP to be invested in R&D
3. **Education:** (a) Reducing the rates of early school leaving below 10% and (b) at least 40% of 30-34-year-olds completing third level education.
4. **Fighting poverty and social exclusion:** at least 20 million fewer people in or at risk of poverty and social exclusion.

More on “Europe 2020” [here](#).



is therefore one of the European Union's main objectives for 2020 whereby total energy consumption needs to be cut by 20 % of 1990 levels by 2020. A substantial cut of that kind is tantamount to turning off over 400 power stations.

To achieve its objective, the European Union has to encourage its members to stop energy wastage from electrical appliances, industry and transport. Buildings are also a key area, as we consume 40 % of our energy in them and they emit 36 % of all greenhouse gases in the EU, 80 % in the form of heat. The energy efficiency directive ([2012/27/EU](#)), adopted in 2012, will help the EU to reach these targets and benefit from all energy efficiency opportunities. It is a cross-cutting law introducing measures across all major economic sectors, including new energy targets and audits, heat recovery and energy performance objectives.

All EU countries have had to set indicative [national energy efficiency targets](#) for 2020 and draw up plans outlining how they intend to reach them. Given the challenging economic climate, the EU has to pull out all the stops if it is to spur investment and concrete actions in the field of energy efficiency. Even if investments in energy efficiency quickly become profitable and act as leverage for further investment, the money has to be made available in the first place. The European Union can help its members to finance their energy efficiency plans through its budget and its financial institutions. A significant amount of EU funding is available during the 2014–20 period to help upscale energy efficiency investments (€23 billion alone from EU Structural Funds). Moreover, energy efficiency is becoming an important area for research and innovation under the new Horizon 2020 programme.

#### **4.2.2        2050 targets**

As its contribution to keeping global warming below 2 °C, the EU has committed to the long-term goal of cutting its emissions by 80–95 % of 1990 levels by 2050 in the context of developed countries as a group taking similar action. Reducing emissions to this extent will require the EU to become a low-carbon economy.

In 2011, the Commission published a '[roadmap](#)' setting out how a competitive low-carbon economy could be achieved the most cost-effectively by 2050, including milestones to measure progress. The roadmap shows how different sectors ranging from power generation to agriculture can help reach this goal. Power generation would need to become almost 100 % carbon free by the mid-century. The EU would use around 30 % less energy in 2050 by becoming more energy efficient. The use of more locally produced energy would reduce dependence on imports, and the transition to a low-carbon economy would also involve a reduction in air pollution and its associated health costs.

#### **4.2.3        Adaptation**

The impact of climate change is already making itself felt. Even if greenhouse gas emissions are sharply reduced, warming of the Earth will continue for decades, and the impact will be experienced for centuries because of the delayed effect of past emissions. That is the reason

why adaptation and mitigation are complementary. The European Commission has developed an EU adaptation strategy which aims to strengthen Europe's resilience to the impacts of climate change. Adaptation means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise. It has been shown that well-planned, early adaptation action saves money and lives later.

Due to the varying severity and nature of climate impacts between regions in Europe, most adaptation initiatives will be taken at the regional or local levels. Complementing these activities, the EU strategy includes several elements to support Member States in adaptation: providing guidance and funding, promoting knowledge generation and information sharing, and ensuring that adaptation considerations are addressed in all relevant EU policies.

The European Climate Adaptation Platform (widely known as [Climate-ADAPT](#)), launched in 2012, provides support for adaptation action in Europe. The Cypriot strategy for climate change adaptations is developed within a LIFE programme and can be found [here](#). In 2014, [Mayors Adapt](#), an initiative from the European Commission under the framework of the Covenant of Mayors, was set up to engage cities in taking action on climate change adaptation. The initiative provides for support on adaptation, networking and public awareness at the local level where the impact of climate change will be felt the most.

#### **4.2.4 *Europe's contribution to global emissions***

The EU is responsible for around 10 % of world greenhouse gas emissions. Nearly 80 % of European emissions come from the production and use of energy, including transport.

### **4.3 International action**

Worldwide, greenhouse gas emissions continue to rise every year. This global challenge requires a global response. In international negotiations on climate change, the European Union speaks with one voice. The Commission and the country holding the rotating 6-month presidency of the Council of the EU negotiate for the EU.

#### **4.3.1 *Kyoto Protocol***

The United Nations Framework Convention on Climate Change (UNFCCC), agreed in 1992, was the first major international agreement to address climate change. Ratified by 196 countries including all EU Member States at the time, plus the EU as a separate entity, it has established a framework for countries to work together with the goal of preventing dangerous man-made interference with the global climate system. In 1997, the convention was supplemented by the [Kyoto Protocol](#), the international treaty that sets binding obligations on industrialised countries to reduce emissions of greenhouse gases. The protocol entered into

force in 2005 and represents the first step towards reversing the global trend of rising emissions.

During the first commitment period (2008-2012), 37 industrialized countries and the European Community committed to reduce GHG emissions to an average of five percent against 1990 levels. More precisely, the 15 countries that were EU members before 2004, ('EU-15') committed to reducing their collective emissions to 8% below 1990. The latest emissions monitoring and projections show that the [EU-15 is on track to over-achieve this target](#). Most Member States that have joined the EU since 2004 also have Kyoto reduction targets of 6% or 8% (5% in Croatia's case) which they are also on course to achieve. During the [second commitment period](#) (2013-2020), Parties committed to reduce GHG emissions by at least 18 percent below 1990 levels; however, the composition of Parties in the second commitment period is different from the first. The EU, the Member States and Iceland have committed to jointly achieve a 20% reduction in their combined greenhouse gas emissions over the second period compared to the level in 1990

#### **4.3.2        *New international push***

Despite much anticipation, the negotiations round launched in 2007 did not succeed in reaching a comprehensive new UN climate agreement in Copenhagen in 2009. However, it led to some 100 countries, including the EU Member States, making pledges to reduce or limit their emissions by 2020. On the initiative of the EU and the most vulnerable developing countries, the UN climate conference in 2011 decided to launch a fresh round of negotiations, this time with the objective of agreeing to a global climate treaty requiring action by all countries, developed and developing alike. The [new agreement](#) is due to be adopted in Paris in 2015 and enter into force in 2020.

In the run-up to Paris, areas of convergence are emerging with several developed and developing countries concurring on the need to revisit the application of the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC). The division of countries into those who are obliged to act on reducing greenhouse gases, and those who have no obligations in this respect, can no longer be based on income levels as they were at the time of the Rio Earth Conference in 1992.

In the first quarter of 2015 all countries in the position to do so should communicate their intended greenhouse gas reduction contribution to which they are ready to commit in the context of the new climate agreement. This will allow for a transparent assessment of the adequacy of individual and collective action against the objective of keeping global warming below 2°C.

As for the EU contribution, the 40 % domestic emissions reduction target agreed by the European Council confirms the EU's leadership in the global fight against climate change. It is also an invitation for all other major economies to show their responsibility by coming forward with their respective targets well before Paris.

In parallel with drawing up the new global agreement, the international community is discussing ways to raise the ambition level of global climate action up to 2020. This reflects the recognition that the commitments made so far fall well short of what is needed to get global emissions onto a path that maintains global warming below 2 °C. To keep that ceiling within reach, scientific studies show that global emissions need to peak by 2020 at the latest, be at least halved from 1990 levels by 2050, and then continue to decline.

## **4.4 European action policy for climate change**

The EU has a range of policies to reduce emissions, promote clean energy and energy efficiency, and stimulate Europe's transition to a low-carbon economy. The single most important instrument is the Emissions Trading System (ETS), which has created the world's biggest carbon market. The EU pioneered trading in greenhouse gas emission allowances and this is now being replicated elsewhere. The EU ETS has successfully brought the consequences of climate change to the attention of business by placing a price on carbon emissions.

### **4.4.1 Emissions Trading System (ETS)**

Launched in 2005, the [EU ETS](#) is the cornerstone of the EU's climate strategy. It covers some 45 % of emissions from over 12 000 installations in the power-generating industry and other energy-intensive sectors in the Union, Iceland, Liechtenstein and Norway.

The basic premise of the scheme is simple. A limit or 'cap' is set on overall emissions from the installations covered, such as power stations. Within this limit, installations receive and buy allowances to emit a certain tonnage of greenhouse gases every year. Those that produce less can sell their surplus allowances. Those that expect to produce higher emissions than their allowances cover can either invest in measures or technologies to reduce their emissions or buy additional allowances on the market to cover some or all of their excess. This ability to trade, within the limits of the overall cap on emissions, creates flexibility. It ensures that emissions are cut where it is cheapest to do so and investments are directed to where the greatest emission savings can be made at the lowest cost.

Initially, many of these allowances were given free to the installations concerned, but since the beginning of 2013 some companies have had to buy all their allowances at auction, while others have had to buy a proportion which increases annually. The cap on the total emissions permitted from the installations is gradually being reduced. By 2020, emissions will be 21 % lower than in 2005. In Cyprus 12 enterprises are involved in the EU ETS which are: 3 electricity production plants, 1 cement producing plant and 8 businesses in the ceramics and bricks production business.

'Cap-and-trade' systems like the EU ETS are spreading to other parts of the world. They are in operation or planned in Australia, China, Japan, New Zealand, South Korea, Switzerland and parts of Canada and the United States.

The EU wants to see the international carbon market develop through the creation of a network of compatible emission trading systems. In a major step towards the first full inter-continental linking of emission trading systems, the Commission and Australia announced agreement in August 2012 on [a pathway for linking the EU ETS and the Australian emissions trading scheme](#). A full two-way link between the two cap-and-trade systems will start no later than 1 July 2018. Under this arrangement, businesses will be able to use carbon units from the Australian emissions trading scheme or the EU ETS for compliance under either system. The Commission will seek a mandate from the Council to negotiate, on behalf of the EU, a treaty by mid-2015 for the full link.

#### **4.4.2        *Emissions from flights***

Aviation emissions are growing fast. By 2020, global international aviation emissions are projected to be around 70 % higher than in 2005 and by 2050 they could grow by a further 300–700%.

Since 2012, all airlines flying between airports within the EU have been part of the ETS. To give further time for the UN's civil aviation agency to establish a global scheme to address aviation emissions, the EU has not yet put into effect the inclusion into the EU ETS of international flights to and from airports outside the European Union.

#### **4.4.3        *Transport gases on the rise***

Someone taking a return flight from London to New York generates roughly the same level of emissions as the average European citizen does by heating their home for a full year.

#### **4.4.4.        *Supporting innovative technologies***

The EU has set up one of the world's largest programmes to support the development of innovative low-carbon technologies. The '[NER 300](#)' programme is financed from proceeds of the sale of 300 million EU ETS allowances. It supports innovative renewable energy technologies as well as technologies for capturing and storing carbon emissions from power plants.

Following two calls for proposals awarded in 2012 and 2014, the NER 300 programme will provide funding to 38 innovative renewable energy sources (RES) and carbon capture and storage (CCS) projects, which will be implemented in 20 EU Member States. The cumulative NER 300 funding will be €2.1 billion, which will leverage approximately €2.8 billion of private investments. Renewable energy projects will increase the annual EU renewable energy production by some 18 TWh. Together with the emissions captured by the CCS projects, this

will be the equivalent of taking over three million cars off EU roads. Three projects have been approved for Cyprus under this programme, namely two concentrated solar power plants and one smart grid system.

#### **4.4.5 Addressing non-ETS emissions**

Some 55 % of the EU's emissions are not covered by the EU ETS. The sectors concerned include transport, buildings, agriculture and waste. To ensure these emissions are addressed, Member States have signed up to an 'effort-sharing' agreement ([Decision 406/2009/EC](#)) which sets binding national targets for non-ETS emissions covering the years up to and including 2020.

These targets range from an emissions reduction of 20 % in 2020 for the richest EU members to an increase in emissions of 20 % for the poorest. The targets mean the EU's overall emissions from the non-ETS sectors will be cut by 10 % by 2020 compared with 2005 levels. The target for Cyprus under this agreement is to reduce its emissions by 5% compared to 2005.

#### **4.4.6 Road transport**

Road transport contributes about one-fifth of the EU's total emissions of carbon dioxide (CO<sub>2</sub>), the main greenhouse gas. CO<sub>2</sub> emissions from road transport increased by nearly 23% between 1990 and 2010, and without the economic downturn growth could have been even bigger. Transport is the only major sector in the EU where greenhouse gas emissions are still rising. In Cyprus the levels are even higher: road transport contributes by 22% to total emissions which have increased by 73% compared to 1990.

The Commission's roadmap for moving to a competitive low carbon economy in 2050 and the transport white paper indicate that the transport sector as a whole should by 2050 reduce its CO<sub>2</sub> emissions by around 60 % of their 1990 level. By 2030, to support the 2030 climate policy framework objectives, the goal will be to reduce greenhouse gas emissions from transport to around 20 % below their 2008 level.

EU legislation ([Regulation \(EC\) No. 715/2007](#)) sets out clear emission limits which manufacturers must respect. New cars emitted an average of 159 grams of CO<sub>2</sub> per kilometre in 2007. From 2015, this must be cut to 130 g/km, an 18 % reduction, and from 2020 to 95 g/km, a further decrease of 40 %. For new vans, average emissions per kilometre must fall to 175 g by 2017, a 14 % reduction from the 2007 level of 203 g, and to 147 g in 2020, an additional 28 % cut.

The policy to curb vehicles' emissions is already paying off. New cars sold in 2013 emitted on average 127 grams of CO<sub>2</sub> per kilometre. This means the legal target of 130g/km set for 2015 was met two years in advance.

Trucks, buses and coaches produce about 5 % of the EU's CO<sub>2</sub> emissions. In May 2014, the European Commission adopted a strategy to address CO<sub>2</sub> emissions from these heavy-duty vehicles (HDVs) and proposed, as a first step, to introduce legislation on the certification of CO<sub>2</sub> emissions from HDVs.

Technological innovation can help the transition to a more efficient and sustainable European transport system by improving fuel efficiency through new engines, materials and design. To help drivers choose new cars with the greatest fuel economy, European legislation requires Member States to ensure that customers are provided with all the relevant information, including a label showing a car's fuel efficiency and the CO<sub>2</sub> emissions it produces.

Fuel quality is also an important element in reducing greenhouse gas emissions from transport. For fuels used in vehicles, the EU requires that their 'greenhouse gas intensity' — the amount of gas emitted over the fuels' life cycle, from extraction to distribution — be reduced by up to 10 % by 2020. Measures have also been proposed to minimise the climate impact of producing biofuels by limiting the amount of land which can be converted from agriculture and forestry for this use.

#### **4.4.7            *Energy efficiency***

To help meet its 2020 target, the EU adopted legislation in 2012 ([Directive 2012/27/EC](#)) to promote efficiency in all stages of the energy chain, from transformation to distribution and final consumption. This requires each Member State to establish energy efficiency obligation schemes and policy measures to improve energy use in households, industry and transport. It also gives consumers the right to know how much energy they consume.

There is considerable scope for saving energy and reducing emissions from buildings. The Commission estimates that these emissions could be cut by around 90 % by 2050. Under legislation on the energy performance of buildings, new constructions will have to use zero energy in net terms from 2021 onwards, meaning that they will have to produce as much energy as they use. The process has already started and many Member States already apply stricter energy rules. Since 2012, all national public purchasing tenders have had to include energy efficiency standards for relevant buildings and services (for more information, see page 32 above).

#### **4.4.8            *Agriculture, forests and land use***

Forests and agricultural land use play an important role in climate change. Trees and plants absorb and store carbon dioxide, removing it from the atmosphere. Overall, it is estimated that these land activities in the EU remove carbon from the atmosphere equivalent to some 9 % of the EU's total greenhouse gas emissions from other sectors.

In relation to climate change, forestry and agriculture are about removals, emissions and storage. Removals result from the capacity of plants and soils to 'suck in' and retain greenhouse gases from the atmosphere through the process of photosynthesis. Removals take place when trees grow or organic material builds up in soils. Emissions take place for instance when plants die and decay or when soils are disturbed so that their capacity to store is decreased. This would be the case when trees or crops are harvested, if wetlands are drained or if grasslands are ploughed.

Carbon dioxide (CO<sub>2</sub>) differs from the other major greenhouse gases relevant to the sector in that the carbon can be stored in large quantities in the various carbon pools in vegetation, soils and living organisms. As an illustration, it is estimated that the release of just 0.1% of the carbon currently stored in European soils would equal the annual emissions from as much as 100 million cars.

To keep track of this, legislation agreed in 2013 commits Member States to draw up annual accounts of the amount of carbon absorbed by their forests and agricultural soils, as well as how much is emitted. This is a first step towards incorporating such land use into the EU's emission-reduction efforts. The European Council went further in October 2014 and asked the European Commission to adopt legislative proposals on the integration of the land-use sector into the EU's mitigation framework.

In addition to measures within its own borders, the EU provides assistance to reduce deforestation in developing countries. This financial support complements a negotiating process under the UN climate change convention, known as reducing emissions from deforestation and forest degradation ([REDD+](#)), which has drawn up a set of international rules to address this problem.

Though emissions from deforestation and forest degradation in developing countries remain difficult to quantify, they constitute for around one sixth of the global CO<sub>2</sub> emissions, or one eighth of all global greenhouse gas emissions. At the same time nearly one billion vulnerable people depend on these forests for food, water, shelter and energy. If designed properly, REDD+ could entail substantial benefits in addition to the mitigation. These include positive impacts on biodiversity, climate change adaptation, low emission development and strengthening indigenous peoples' rights. REDD+ therefore has the potential for a triple dividend - gains for the climate, for biodiversity and for sustainable development. How far this potential can be materialized depends on providing a sound legal framework, predictable incentives, and proportionate resources that are used in a cost-effective manner.

#### **4.4.9 *Capturing industrial emissions***

[Carbon capture and storage technology \(CCS\)](#) allows CO<sub>2</sub> to be captured from power plants and industrial processes, turned into liquid, transported and injected into underground geological formations from which it cannot escape. The EU has put in place a regulatory



framework ([Directive 2009/31/EC](#)) to minimise the safety and environmental risks of such storage.

Europe is recognised as one of the global leaders in the development of CCS technologies. The processes themselves (capture, transport and storage) are not new. Since 1996, CO<sub>2</sub> capture and storage has been demonstrated in Norway at the Sleipner gas field. Thousands of kilometres of CO<sub>2</sub> pipelines exist in the US and Canada. Integrating the capture, transport and storage into a single chain on a commercial scale at power plants or industrial installations is the main challenge. This is addressed in commercial-scale demonstration programmes co-funded by the EU.

The EU adopted its CCS Directive as part of a package of climate and energy measures aimed at cutting the greenhouse gas emissions that contribute to climate change, increasing energy security, and moving towards a low-carbon economy. The EU wants to see CCS become commercially viable and so start to realise its potential as an important technology to reduce carbon emissions in the EU and globally.

For economic reasons, CCS is likely to be deployed first in the power sector. The European Commission expects it to be among a number of low-carbon technologies and energy efficiency measures contributing to the process of decarbonising the power sector by 2050.<sup>2</sup> The large-scale commercial application of CCS to emissions from industrial installations, such as steel or cement works, is expected to follow from 2030 onwards.

#### **4.4.10**      ***“Mainstreaming”***

Increasingly, all relevant European policies, such as regional development, agriculture, fisheries and energy, need to take climate mitigation and adaptation into account. EU leaders have agreed to spend at least 20 % of the 2014–20 EU budget on climate-related measures.

#### **4.4.11**      ***Raising awareness***

The Commission launched a pan-European communication campaign in 2012 with the slogan ‘A world you like. With a climate you like’. The campaign puts practical solutions at the heart of the climate change debate and shows how the transition to a low-carbon economy can improve citizens’ welfare and bring economic benefits.

#### **4.4.12**      ***Helping developing countries***

Developing countries, particularly the poorest and most vulnerable, require significant financial help to reduce their greenhouse gas emissions and adapt to the consequences of climate change.

The EU is the biggest provider of overseas development aid and of climate finance. At the Doha Climate Change Conference in 2012, the EU and a number of Member States announced

voluntary climate finance contributions to developing countries adding up to €5.5 billions from their respective financial provision in 2013.

The EU and its Member States are committed to continuing this financial assistance and intend to contribute their fair share of the USD 100 billion in funding which developed countries have pledged to mobilise annually by 2020. Some of the USD 100 billion is being channelled through the new Green Climate Fund.

The EU plans to commit up to €14 billion in grants from the EU budget and the European Development Fund (EDF) over the years 2014–20 to support climate action in partner countries outside the EU, in line with the goal of investing at least 20 % of the EU's budget in climate-relevant actions during 2014–20.

## **4.5 Outlook**

One of the European Commission's political priorities is the establishment of a resilient energy union with a forward-looking climate change policy. The European Commission will help the EU achieve its goal of becoming the world number one in renewable energy and will significantly enhance energy efficiency to unleash green growth.

The EU and the international community have made considerable progress over the past decade in tackling climate change. However, to keep global warming below 2°C, worldwide emissions must peak well before 2020 and then be reduced deeply every year after that. This is one reason why the EU wants an ambitious and legally binding international treaty agreed in 2015 under which all countries take on commitments reflecting their responsibility and capacity to act.

The UN summit of world leaders of September 2014 gave added political momentum to the work on the new treaty and on ways to achieve more ambitious global emission reductions before 2020.

The urgency has been underlined by the International Energy Agency, which has repeatedly warned that the goal of keeping warming below 2°C is becoming more difficult and more costly to achieve with each year that passes. Every euro of investment not made in cleaner technology by 2020 will cost over four times more after that date.

### **4.5.1 *On course for 2020 ...***

The EU is currently on course to over-achieve its target of reducing emissions by 20 % by the end of the decade. This is thanks to its 2020 strategy, legislation already agreed and new measures in the pipeline.

The CO<sub>2</sub> targets for cars and vans will further increase the transport sector's contribution to tackling climate change. Measures in the pipeline include a further reduction in emissions of climate-warming fluorinated gases used in refrigeration and air conditioning. These so-called F-gases have a warming effect up to 23 000 times greater than CO<sub>2</sub>. A new EU regulation, which applies from January 2015, strengthens the existing measures. By 2030, the EU's F-gas emissions will be cut by two thirds compared to today's level.

#### **4.5.2            ... and preparing for 2030**

The year 2030 is the next milestone on the road to building a competitive low-carbon European economy by the mid-century. During the European Council on the 23<sup>rd</sup> October 2014 EU leaders agreed that until 2030:

- domestic greenhouse gas will be reduced by at least 40% compared to 1990
- the share of renewable energy will be increased to at least 27%
- energy efficiency will also be increased by at least 27%
- sectors covered by the EU ETS will have to reduce their emissions by 43 % compared to 2005 levels and,
- emissions from sectors outside the EU ETS will need to be cut by 30 % below the 2005 level.

The Communication of October 2014 has outlined the [main principles](#) to achieve this.

#### **4.5.3            Reforming the EU Emission Trading System**

The EU ETS will be reformed and strengthened. A 43% greenhouse gas reduction target in 2030 in the ETS translates into a cap declining by 2.2% annually from 2021 onwards, instead of the rate of 1.74% up to 2020.

In January 2014 the Commission proposed to establish a [market stability reserve](#) from 2021 onwards. This is to address the surplus of emission allowances in the EU ETS that has built up in recent years and to improve the system's resilience to major shocks. This will ensure that in the future the EU ETS is more robust and effective in promoting low-carbon investment at least cost to society.

The European Council underlined that a reformed, well-functioning ETS with an instrument to stabilise the market in line with the Commission's proposal will be the main instrument to achieve greenhouse gas emission reductions.

#### **4.5.4            Low-carbon exit from the crisis**

The year 2030 may seem a long way off from today's perspective as Europe addresses the immediate challenges of weak economic growth and unemployment. But stepping up the transition to a climate-friendly, low-carbon economy can help pull Europe out of the economic crisis. It is therefore imperative to act now.

The public also expects action. A public opinion survey carried out for the European Commission in 2013 showed strong support for climate action: four out of five Europeans recognise that fighting climate change and using energy more efficiently can boost the economy and jobs and nine out of ten see climate change as a serious problem.

## **5. The new general Union Environment Action Programme to 2020 (7th EAP)**

Over the past 40 years, a broad range of environment legislation has been put in place, amounting to the most comprehensive modern standards in the world. This has helped to address some of the most serious environmental concerns of citizens and businesses in the Union. Emissions of pollutants to air, water and soil have been reduced significantly over the past decades, as have GHG emissions in recent years. Union chemicals legislation has been modernized and the use of many toxic or hazardous substances such as lead, cadmium and mercury has been restricted in products found in most households. Union citizens enjoy a level of water quality that is among the best in the world, and over 18 % of the Union's territory and 4 % of its seas have been designated as protected areas for nature.

However, many environmental trends in the Union continue to be a cause for concern, not least due to insufficient implementation of existing Union environment legislation. Only 17 % of species and habitats assessed under the Habitats Directive<sup>24</sup> have favourable conservation status, and the degradation and loss of natural capital is jeopardising efforts to attain the Union's biodiversity and climate change objectives. Such status of species and habitats as well as the degradation and loss of natural capital have high associated costs which have not yet been properly valued in our economic or social system. 30 % of the Union's territory is highly fragmented, affecting the connectivity and health of ecosystems and their ability to provide services as well as viable habitats for species.

While progress has been made in the Union to decouple growth from GHG emissions, resource use and environmental impacts, resource use is still largely unsustainable and inefficient, and waste is not yet properly managed. As a result, businesses in the Union are foregoing the significant opportunities that resource-efficiency offers in terms of competitiveness, cost reductions, improved productivity and security of supply. Water quality and air pollution levels are still problematic in many parts of Europe, and Union citizens continue to be exposed to hazardous substances, potentially compromising their health and well-being. Unsustainable land use is consuming fertile soils, and soil degradation continues, resulting in impacts on global food security and the achievement of biodiversity targets.

To live well in the future, urgent, concerted action should be taken now to improve ecological resilience and maximise the benefits environment policy can deliver for the economy and society, while respecting the planet's ecological limits. Since the mid-1970s, EU environment policy has been guided by action programmes defining priority objectives to be achieved over a period of years. The [7<sup>th</sup> Environment Action Programme](#) (EAP) was adopted by the European Parliament and the Council of the European Union in November 2013 and covers the period up to 2020. It reflects the Union's commitment to transforming itself into an inclusive green economy that secures growth and development, safeguards human health and well-being, provides decent jobs, reduces inequalities and invests in, and preserves

biodiversity, including the ecosystem services it provides (natural capital), for its intrinsic value and for its essential contribution to human well-being and economic prosperity.

It's a common strategy that should guide future action by the EU institutions and the Member States, who share responsibility for its implementation and the achievement of its priority objectives.

The programme is guided by a long-term vision:

*In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society's resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society.*

## **5.1 Priority Objectives**

The programme lists nine priority objectives and what the EU needs to do to achieve them by 2020. They are:

1. to protect, conserve and enhance the Union's natural capital
2. to turn the Union into a resource-efficient, green, and competitive low-carbon economy
3. to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing
4. to maximise the benefits of the Union's environment legislation by improving implementation
5. to increase knowledge about the environment and widen the evidence base for policy
6. to secure investment for environment and climate policy and account for the environmental costs of any societal activities
7. to better integrate environmental concerns into other policy areas and ensure coherence when creating new policy
8. to make the Union's cities more sustainable
9. to help the Union address international environmental and climate challenges more effectively.

### 5.1.1 *Priority areas*

The programme identifies three priority areas where more action is needed:

- to protect nature and strengthen ecological resilience,
- to boost resource-efficient, low-carbon growth and,
- reduce threats to human health and wellbeing linked to pollution, chemical substances, and the impacts of climate change.

The **first action area** is linked to “*natural capital*” – from fertile soil and productive land and seas to fresh water and clean air – as well as the biodiversity that supports it. Natural capital includes vital services such as pollination of plants, natural protection against flooding, and the regulation of our climate. The Union has made commitments to halt biodiversity loss and achieve good status for Europe’s waters and marine environment. Moreover, it has put in place the means to achieve this, with legally-binding commitments including the [Water Framework Directive](#), the [Air Quality Directive](#), and the [Habitats](#) and [Birds](#) Directives, together with financial and technical support. Legislation to tackle climate change, chemicals, industrial emissions and waste also contributes to easing the pressures on soil and biodiversity, including ecosystems, species and habitats as well as reducing nutrient releases.

Nevertheless, our environment is under considerable pressure. Biodiversity in the EU is still being lost, and many ecosystems are seriously degraded, so greater efforts are needed. For example, invasive alien species pose greater risks to plant, animal and human health, the environment and the economy than previously estimated. Whereas the EU Biodiversity Strategy to 2020 includes built-in measures to improve the implementation of the Birds and Habitats Directives, including the Natura 2000 network, reaching the headline target will require the full implementation of all existing legislation aimed at protecting natural capital.

To get there, the EAP expresses the commitment of the EU, national authorities and stakeholders to speed up the delivery of the objectives of the [2020 Biodiversity Strategy](#) and the [Blueprint to Safeguard Europe’s Water Resources](#). There are also topics which need further action at EU and national level, such as soil protection and sustainable use of land, as well as forest resources. The programme sets out the need for more effective action to protect oceans and seas, safeguard fish stocks and reduce marine litter.

The **second action area** concerns the conditions that will help *transform the EU into a resource-efficient, low-carbon economy* (see also [COM \(2011\) 112](#)). This requires:

- full delivery of the climate and energy package to achieve the 20-20-20 targets and agreement on the next steps for climate policy beyond 2020;

- significant improvements to the environmental performance of products over their life cycle;
- reductions in the environmental impact of consumption, including issues such as cutting food waste and using biomass in a sustainable way.

There is a special focus on turning waste into a resource, with more prevention, re-use and recycling, and phasing out wasteful and damaging practices like landfilling. Water stress is increasingly affecting more parts of Europe – not least because of climate change – and the need for further action towards more efficient use of water is highlighted.

In the context of rising natural resource prices, scarcity and dependency on imports, Europe’s competitiveness and capacity for sustainable growth will depend on improving resource efficiency across the economy. The EAP calls for indicators and targets for resource efficiency to be established, to guide public and private decision-makers.

The benefits of a resource-efficient economy are being felt in many sectors. Environmental technologies and services are a major success story, with employment growing at 3 % per annum. The global market for eco-industries, currently valued at a trillion euros, is forecast to double over the next 10 years. This is good news for European companies that already have a global lead in recycling and energy efficiency.

The **third key action area** covers challenges to *human health and wellbeing*, such as air and water pollution, excessive noise, and toxic chemicals.

According to the World Health Organisation, environmental factors could be responsible for up to 20 % of all deaths in Europe. Europe already has high standards for air quality, but in many cities, pollution remains above acceptable levels. The EAP sets out commitments to improve implementation of existing legislation, and to secure further reductions in air and noise pollution. The EAP also sets out a long-term vision of a non-toxic environment and proposes to address risks associated with the use of chemicals in products and chemical mixtures, especially those that interfere with the endocrine system. In parallel, a more predictable framework combined with more investment in knowledge is intended to encourage innovation and the development of more sustainable solutions.

### **5.1.2 “Enabling Framework”**

The new programme includes an “enabling framework” with the next four priority objectives to help Europe deliver on these goals:

- better implementation of legislation,
- better information by improving the knowledge base,
- more and wiser investment for the environment and,



- full integration of environmental requirements and considerations into other policies.

**Better implementation of existing legislation** will bring numerous benefits. A study prepared for the Commission in 2012 estimated that full implementation of EU waste legislation would save €72 billion a year, increase the annual turnover of the EU waste management and recycling sector by €42 billion and create over 400,000 new jobs by 2020. If properly implemented, EU environment legislation creates a level playing-field and opportunities in the single market for sustainable investments, in addition to environmental benefits.

On the contrary, the costs associated with failure to implement legislation, by contrast, are high, broadly estimated at around EUR 50 billion a year, including costs related to infringement cases<sup>89</sup>. In 2009 alone there were 451 infringement cases related to Union environment legislation, with a further 299 reported in 2011 together with an additional 114 new proceedings being initiated<sup>90</sup>, making the environment *acquis* the area of Union law with most infringement proceedings. The Commission also receives numerous complaints directly from Union citizens, many of which could be better addressed at Member State or local level.

Improving the implementation of the Union environment *acquis* at Member State level will therefore be given top priority in the coming years. There are significant differences in implementation between and within Member States. There is a need to equip those involved in implementing environment legislation at Union, national, regional and local levels with the knowledge, tools and capacity to improve the delivery of benefits from that legislation, and to improve the governance of the enforcement process.

The EAP recognises the importance of much greater public access to information in improving public understanding of environmental issues and in helping people secure improvements to their own environment. It recognises the need for an enhanced system of inspections and surveillance, as well as better access to justice in environmental matters.

Scientific research, monitoring and reporting environmental developments mean that our understanding of the environment is constantly increasing. This **knowledge base** should be made more accessible to citizens and policymakers to ensure policy continues to draw on a sound understanding of the state of the environment. At the same time, the precautionary principle<sup>1</sup> will continue to guide the EU's approach to policy-making in this field.

Our current knowledge tells us we need immediate action in areas like climate change, species loss, environmental thresholds and ecological tipping points, but the issues are complex and we need to refine our understanding if we are to develop the most effective approaches. The EAP aims to address these challenges by improving the way data and other information is collected, managed and used across the EU, investing in research to fill knowledge gaps, and developing a more systematic approach to new and emerging risks.

Adequate **investments and innovation** in products, services and public policies will be needed from public and private sources, in order to achieve the objectives set out in the programme. This can only happen if impacts on the environment are properly accounted for and if **market signals** also reflect the true costs to the environment. This involves applying the polluter-pays principle more systematically, phasing out environmentally harmful subsidies, shifting taxation from labour towards pollution, and expanding markets for environmental goods and services. Other market-based instruments, such as payments for ecosystem services, should be used more extensively at Union and national level to incentivise private sector involvement and the sustainable management of natural capital

As a concrete example, the EAP calls for a minimum 20 % share of the EU budget 2014-2020 to be devoted to climate change mitigation and adaptation. Companies increasingly see advantages in expanding eco-innovation and taking up new technologies, in measuring the environmental impact of their businesses and disclosing to their investors and customers environmental information in their annual reporting. The EAP sets out some ways in which this can be further developed.

The private sector, in particular SMEs, should also be encouraged to take up opportunities offered under the new Union financial framework to step up its involvement in efforts to achieve environment and climate objectives, especially in relation to eco-innovation activities and the uptake of new technologies. Experience gained in the 2007-2013 programming period shows that although significant funds are available for the environment, the uptake at all levels in the early years has been very uneven, potentially jeopardising the achievement of agreed objectives and targets. To avoid repeating this experience, Member States should integrate environment and climate objectives in their funding strategies and programmes for economic, social and territorial cohesion, rural development and maritime policy, prioritise the early uptake of funding for the environment and climate change and reinforce the capacity of implementing bodies to deliver cost-effective and sustainable investments in order to secure the necessary adequate financial support for investments in these areas.

The fourth enabling condition in the programme is **better integration of environmental concerns into other policy areas**, such as energy, transport, agriculture, fisheries, trade, economy and industry, research and innovation, employment, development, foreign affairs, security, education and training, as well as social and tourism policy, so as to create a coherent, joined-up approach. Action within the Union should also be complemented by enhanced global action and cooperation with neighbouring countries to tackle common challenges. Systematically assessing the environmental, social and economic impacts of policy initiatives and full implementation of Environmental Impact Assessment legislation will ensure better decision-making and coherent policy approaches that deliver multiple benefits.

**Two further priority objectives** complete the programme.

The first is to help **cities** become **more sustainable**. Europe is densely populated and 80 % of its citizens are likely to live in or near a city by 2020. Cities often share a common set of

problems such as poor air quality, high levels of noise, greenhouse gas emissions, water scarcity, and waste. Addressing these problems means working together. This is why the EAP aims to promote and expand initiatives that support innovation and best practice sharing in cities. The aim is to ensure that **by 2020, most cities in the EU are implementing policies for sustainable urban planning and design**, and are using the EU funding available for this purpose.

The final priority concerns **wider global challenges**. Many of the priority objectives in the EAP can only be achieved in cooperation with partner countries or as part of a global approach. The EU and its Member States are committed to engage more effectively in working with international partners towards the adoption of Sustainable Development Goals as a follow-up to the Rio+20 conference. The EAP also proposes to explore further steps that could be taken to reduce impacts on the environment beyond EU borders. «[Living well, within the limits of our planet](#)» is a global aim.

## Reference

The educational material contained within this document has been prepared by utilising the following publications of the series "[The EU explained](#)" of the European Commission and the Directorate-General for Communication:

- **How the European Union works** - Your guide to the EU institutions (July 2012). doi: [10.2775/11255](https://doi.org/10.2775/11255)
- **Environment** - A healthy and sustainable environment for present and future generations (November 2014). doi: [10.2775/90841](https://doi.org/10.2775/90841)
- **Energy - Sustainable, secure and affordable energy for Europeans** (November 2014). doi: [10.2775/60236](https://doi.org/10.2775/60236)
- **Climate action** - Building a world we like, with a climate we like (November 2014). doi: [10.2775/83031](https://doi.org/10.2775/83031)

Chapter 5 regarding the 7th EAP has been prepared by utilising the following factsheet of the European Commission and the Directorate-General for Communication:

- **Living well, within the limits of our planet - 7th EAP** — The new general Union Environment Action Programme to 2020 (2014). doi: [10.2779/57220](https://doi.org/10.2779/57220)

The waste hierarchy figure in Chapter 3 was obtained from the following document of the European Commission and the Directorate-General for Communication:

- **Being wise with waste:** the EU's approach to waste management (2010). doi: [10.2779/93543](https://doi.org/10.2779/93543)

## Useful Links

### Institutions of the European Union

European Commission – [http://ec.europa.eu/index\\_en.htm](http://ec.europa.eu/index_en.htm)

Council of the European Union – <http://www.consilium.europa.eu/en/homepage/>

European Parliament – <http://www.europarl.europa.eu/portal/en>

European Council – <http://www.consilium.europa.eu/en/european-council/>

Court of Justice of the European Union – [http://curia.europa.eu/jcms/jcms/j\\_6/](http://curia.europa.eu/jcms/jcms/j_6/)

European Central Bank – <https://www.ecb.europa.eu/ecb/html/index.en.html>

European Court of Auditors – <http://www.eca.europa.eu/en/Pages/ecadefault.aspx>

### European Environmental Policy & Legislation

DG Environment – [http://ec.europa.eu/environment/index\\_en.htm](http://ec.europa.eu/environment/index_en.htm)

Environmental Legislation – [http://europa.eu/legislation\\_summaries/environment/index\\_en.htm](http://europa.eu/legislation_summaries/environment/index_en.htm)

Environment Action Programme to 2020 - <http://ec.europa.eu/environment/newprg/index.htm>

European Environment Agency - <http://www.eea.europa.eu>

DG Climate Action - [http://ec.europa.eu/clima/index\\_en.htm](http://ec.europa.eu/clima/index_en.htm)

DG Energy - [http://ec.europa.eu/energy/index\\_en.htm](http://ec.europa.eu/energy/index_en.htm)

Energy Legislation - [http://europa.eu/legislation\\_summaries/energy/index\\_en.htm](http://europa.eu/legislation_summaries/energy/index_en.htm)