



THE EUROPEAN ENVIRONMENT STATE AND OUTLOOK 2015

1. THE CHANGING CONTEXT OF EUROPEAN ENVIRONMENTAL POLICY



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1. The changing context of European environmental policy



'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.'

Source: 7th Environment Action Programme (EU, 2013).

1.1 European environmental policy is aimed at living well, within the limits of the planet

The above vision is at the heart of European environmental policy in the 7th Environment Action Programme which was adopted by the European Union (EU) in 2013 (EU, 2013). But the inherent ambition is by no means limited to this programme, and a host of recent policy documents have complementary or similar ambitions at their core ⁽²⁾.

This vision is no longer, if indeed it ever was, just an environmental one. It is inseparable from its broader economic and societal context. Unsustainable use of natural resources not only undermines the resilience of ecosystems, it also has both direct and indirect implications for health and living standards. Current consumption and production patterns enhance our quality of life — and paradoxically put it at risk at the same time.

Environmental pressures associated with these patterns have a real and growing impact on our economy and our well-being. For example, it has been estimated that the costs of damage to health and environment caused by air pollutants from European industrial facilities exceed EUR 100 billion annually (EEA, 2014t). These costs are not only economic; they also take the form of reduced life expectancy for European citizens.

Beyond this, there are indications that our economies are approaching the ecological limits within which they are embedded, and that we are already experiencing some of the effects of physical and environmental resource constraints. The increasingly severe consequences of extreme weather events and climate change illustrate this, as do water scarcity and droughts, habitat destruction, biodiversity loss, and degradation of land and soil.

Looking ahead, demographic and economic baseline projections point towards continuing population growth and an unprecedented increase in the number of middle-class consumers worldwide. Today, less than 2 billion of the global population of 7 billion are regarded as middle class consumers. By 2050, the number of people on the planet is expected to reach 9 billion, with more than 5 billion belonging to the middle class (Kharas, 2010). This growth will likely be accompanied by an intensification of global competition for resources and by growing demands on ecosystems.

These developments raise the question of whether the planet's ecological limits can sustain the economic growth upon which our consumption and production patterns rely. Already, growing competition raises concerns about access to key resources, and prices of major resource categories have been very volatile in recent years, reversing long-term downward trends.

These trends highlight the importance of the link between economic sustainability and the state of the environment. We must ensure that the environment can be used to meet material needs and at the same provide a healthy living space. It is clear that tomorrow's economic performance will depend on making environmental concerns a fundamental part of our economic and social policies⁽³⁾, rather than merely regarding nature protection as an 'add-on'.

Furthering such integration between environmental, economic and social policies is at the core of the Treaty on European Union, which aims to 'work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment' (Article 3, Treaty on European Union).

This report *The European environment — state and outlook 2015* sets out to inform progress towards this integration. It provides a comprehensive overview of the state of, trends in, and prospects for the environment in Europe at what might be described as a halfway point: we can now look back at some 40 years of EU environmental policy, while 2050 (the year by which we aspire to live well, within the limits of the planet) is a little less than 40 years away.

1.2 Over the past 40 years, environmental policies in Europe have had notable success

Since the 1970s, a broad range of environment legislation has been put in place. This now amounts to the most comprehensive modern set of standards in the world. The body of EU environmental law — also known as the environmental *acquis* — amounts to some 500 directives, regulations and decisions.

Over the same period, the level of environmental protection in most parts of Europe has improved measurably. Emissions of specific pollutants to the air, water and soil have generally been reduced significantly. These improvements are to a substantial degree a result of the comprehensive environment legislation established across Europe, and they are delivering a range of direct environmental, economic and societal benefits, as well as more indirect ones.

Environmental policies have contributed to some progress towards a sustainable green economy — i.e. an economy, in which policies and innovations enable society to use resources efficiently, thereby enhancing human well-being in an inclusive manner, while maintaining the natural systems that sustain us. The EU's policies have stimulated innovation and investments in environmental goods and services, generating jobs and export opportunities (EU, 2013). In addition, integration of environmental goals into sectoral policies — such as those governing agriculture, transport or

energy — has provided financial incentives for environmental protection.

European Union air policies and legislation have delivered real benefits both for human health and the environment. At the same time, they have offered economic opportunities, for example, for the clean technology sector. Estimates presented in the European Commission's proposal for a Clean Air Policy Package show that major engineering companies in the EU already earn up to 40% of their revenues from their environment portfolios, and this is set to increase (EC, 2013a).

This overall progress in environmental quality has been documented by the four previous reports on The European environment — state and outlook (SOER) published in 1995, 1999, 2005 and 2010, respectively. All of these reports have concluded that, by and large, 'environmental policy has delivered substantial improvements [...] however, major environmental challenges remain'.

For large parts of Europe and across many areas of the environment, the immediate situation has improved. For many of us, our local environment is today arguably in as good a state as it has been since the industrialisation of our societies. However, in several cases, local environmental trends continue to be a cause for concern, often due to insufficient implementation of agreed policies.

At the same time, the depletion of natural capital continues to jeopardise good ecological status and ecosystem resilience (understood here as the ability of the environment to adapt to or tolerate disturbance without collapsing into a qualitatively different state). Biodiversity loss, climate change, or chemical burdens create additional risks and uncertainty. In other words, reductions in certain environmental pressures have not necessarily resulted in a positive outlook for the environment more broadly.

Recent assessments of the main trends and progress over the past 10 years repeatedly confirm these mixed trends (EEA, 2012b). Chapters 3, 4, and 5 of this report provide updated thematic assessments of these and similar environmental challenges — and again confirm this overall picture.

1.3 Our understanding of the systemic nature of many environmental challenges has evolved

In recent years, environment and climate policies have evolved in response to a deepening understanding of environmental concerns. This understanding, as captured in both this report and previous ones in The European environment — state and outlook (SOER) series, recognises that the environmental challenges we face today do not much differ from those of a decade ago.

Recently adopted environmental policy initiatives continue to address climate change, loss of biodiversity, unsustainable use of natural resources, and environmental pressures on health. Although these issues remain important, there is an enhanced appreciation of the links between them, as well as their interplay with a wide range of societal trends. These interlinkages make it more complex both to define problems and to respond to them (Table 1.1).

Table 1.1 Evolution of environmental challenges

Characterisation of the type of challenge	Specific	Diffuse	Systemic
Key features	Linear cause-effect; large (point) sources; often local	Cumulative causes; multiple sources; often regional	Systemic causes; interlinked sources; often global

In the spotlight in	1970s/1980s (and continuing today)	1980s/1990s (and continuing today)	1990s/2000s (and continuing today)
Includes issues such as	Forest damage due to acid rain; urban wastewater	Transport emissions; eutrophication	Climate change; biodiversity loss
Dominant policy response	Targeted policies and single-issue instruments	Policy integration and raising public awareness	Coherent policy packages and other systemic approaches

Source: EEA, 2010d.

Generally speaking, specific environmental issues, often with local effects, have in the past been dealt with through targeted policies and single-issue instruments. This has been the case for issues such as waste disposal and species protection. However, since the 1990s, the recognition of diffuse pressures from various sources has led to an increased focus on the integration of environmental concerns within sectoral policies, such as in transport or agriculture, with mixed results.

As noted above — and illustrated throughout this report — such policies have contributed to reducing some of the pressures on the environment. However, they have arguably been less successful in halting biodiversity loss due to habitat destruction and overexploitation; in eliminating risks to human health resulting from the combination of chemicals introduced into our environment; or in halting climate change. In other words, we struggle with addressing long-term, systemic environmental challenges.

Several factors and complex interactions underlie this contrasting performance. In the case of environmental problems with relatively specific cause-effect relationships, more straightforward policy design can reduce environmental pressures and the immediate harm they cause. For more complex environmental problems, multiple causes can contribute to environmental degradation, making policy responses more difficult to formulate. Modern environmental policy needs to address both types of problem.

To some degree this evolving understanding of environmental challenges is already reflected in the emerging approach to develop coherent 'policy packages' that build on a three-tier response:

1. setting general quality standards related to the state of environment that guide the overall development of coherent policy approaches internationally;
2. setting corresponding overall targets related to environmental pressures (often including a breakdown either by country or economic sector, or both);
3. formulating specific policies that address pressure points, drivers, sectors, or standards.

EU climate change policies illustrate this approach: the overall policy ambitions are largely guided by the internationally agreed goal of keeping global warming to below 2 °C compared to pre-industrial levels. Within the European Union this translates into overall greenhouse gas emission reduction targets (e.g. cutting emissions at EU level by 20% by 2020, and by 40% by 2030, relative to 1990 levels). This in turn links to a series of more specific policies, including directives on emissions trading, renewable energy, energy efficiency, and others.

The Thematic Strategy on air pollution guides current EU air quality policy. Here, EU legislation follows a twin-track approach of implementing both local air quality standards and source-based mitigation controls. These source-based mitigation controls include binding national limits for emissions of the most important pollutants. In addition, there is source-specific legislation addressing industrial emissions, vehicle emissions, fuel quality standards, and other sources of air pollution.

A third example is the recent Circular Economy Package proposed by the European Commission (EC, 2014d). The

package breaks down the overarching aim of achieving a zero-waste society into a set of more specific interim targets. Achieving these targets will require their full consideration and integration within more specific policies (which are often sector specific).

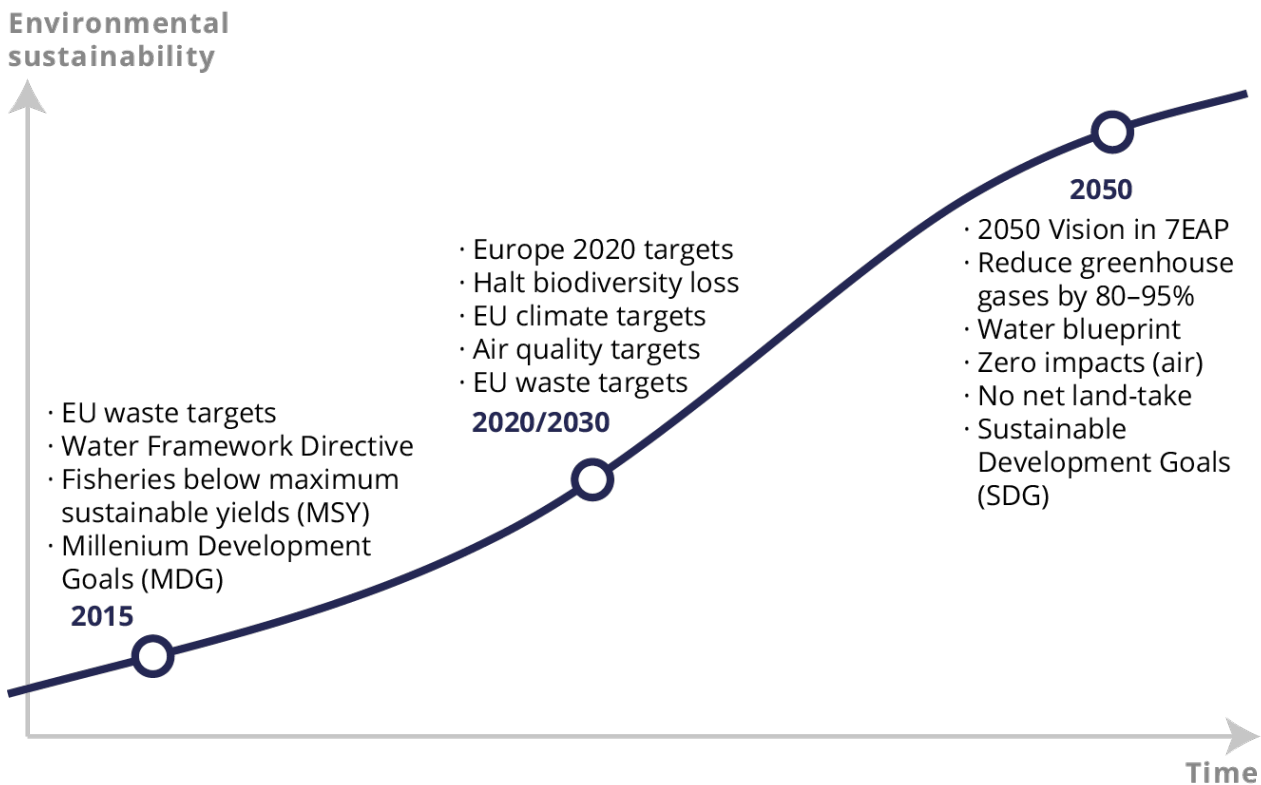
1.4 Environmental policy ambitions address the short, medium and long term

Restoring ecosystem resilience and improving human well-being often take substantially longer than achieving reductions in environmental pressures or achieving gains in resource efficiency. While the latter is often a matter of two decades or less, the former usually require several decades of sustained effort (EEA, 2012b). These different time scales pose a challenge for policymaking.

Nevertheless, the different time-scales can be integrated into a successful comprehensive strategy, as achieving long-term visions depends on reaching short-term targets. Consequently, the European Union and many European countries are increasingly formulating environmental and climate policies that address these different time-scales (Figure 1.1). These include:

- specific environmental policies, with their own timelines and deadlines for implementation, reporting and revision, often including more short-term targets;
- thematic environmental and sectoral policies, formulated in the perspective of more comprehensive policies, including specific medium-term 2020 or 2030 targets;
- longer-term visions and targets, mostly with a 2050 societal transition perspective.

Figure 1.1 Long-term transition/intermediate targets related to environmental policy



2015 Thematic policies, timelines and deadlines

2020/2030 Comprehensive policies (Europe 2020, 7th Environment Action Programme), or specific target

2050 Long-term visions and targets with a societal transition perspective

Source: EEA, 2014m.

Within this setting, the 7th Environment Action Programme plays a particular role and offers a coherent framework for environmental policies, uniting the short, medium and long terms. These policies are broadly based on the principle of preventive action; the principle of rectification of pollution at source; the polluter-pays principle; and the precautionary principle. As mentioned above, the programme further specifies an ambitious vision for 2050, and sets out nine priority objectives to move towards this vision (Box 1.1).

Box 1.1 The European Union's 7th Environment Action Programme

Three interrelated thematic objectives should be pursued in parallel, as action taken under one objective will often help to contribute to the achievement of the others:

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 well-being.

Achieving the above mentioned thematic objectives requires an enabling framework that supports effective action — they are thus complemented by four related priority objectives:

4. to maximise the benefits of Union environment legislation by improving implementation,
5. to improve the knowledge and evidence base for Union environment policy,
6. to secure investment for environment and climate policy and address environmental externalities,
7. to improve environmental integration and policy coherence.

Two additional priority objectives focus on meeting local, regional and global challenges:

8. to enhance the sustainability of the Union's cities
9. to increase the Union's effectiveness in addressing international environmental and climate-related challenges.

Source: 7th Environment Action Programme (EU, 2013).

The EU's Europe 2020 Strategy is an example of a medium-term strategy. It addresses the interdependence between environmental, economic and social policy. It sets the combined goal of becoming a smart, sustainable and inclusive economy. One of the five explicit headline targets to be achieved by the end of the decade focuses on climate change and energy sustainability (Box 1.2).

The Roadmap to a Resource Efficient Europe is a sub-initiative of the Europe 2020 Strategy. It explicitly addresses our use of resources and proposes ways to decouple economic growth from resource use and its environmental impact. However, its focus to date is on boosting resource productivity, not on achieving an absolute decoupling of resource use or ensuring ecological resilience.

Box 1.2 Five headline targets of the Europe 2020 Strategy

Europe 2020 is the European Union's current growth strategy. It stresses the triple goal of becoming a smart, sustainable and inclusive economy — including five more specific headline targets for the whole EU.

1. Employment: 75% of 20–64 year-olds to be employed.
2. Research and development (R&D): 3% of the EU's GDP to be invested in R&D.
3. Climate change and energy sustainability: greenhouse gas emissions 20% lower than 1990 (or 30%, if the conditions are right); 20% of energy from renewables; 20% increase in energy efficiency.
4. Education: reducing the rates of early school leaving below 10%, and at least 40% of 30–34 year-olds completing third level education.
5. Fighting poverty and social exclusion: at least 20 million fewer people in — or at risk of — poverty and social exclusion.

Source: Europe 2020 website

1.5 SOER 2015 provides an assessment of the state and outlook for the environment in Europe

This report sets out to provide policymakers and the public with a comprehensive assessment of our progress towards achieving environmental sustainability in general, and specific policy targets in particular. This assessment is based on objective, reliable and comparable environmental information, and draws upon the evidence and knowledge base available to the European Environment Agency (EEA) and the European Environment Information and Observation Network (Eionet).

With this in mind, this report informs European environmental policy in general and its implementation in the period to 2020 in particular. It includes both a reflection on the European environment in a global context, as well as dedicated chapters summarising the state of, trends in, and prospects for the state of the environment in Europe.

The analysis presented here draws on — and is complemented by — a series of briefings on key issues. This includes 11 briefings on global 'megatrends' and their relevance for the European environment, 25 European-level thematic briefings focusing on specific environmental themes, and 9 briefings that offer a comparison of progress across European countries based on common indicators. Thirty-nine country briefings summarise the state of the environment in those European countries, and three regional briefings provide a similar overview for the Arctic region, the Mediterranean Sea and the Black Sea — regions where Europe shares the responsibility to safeguard vulnerable ecosystems with its neighbours (Figure 1.2).

The chapters of this synthesis report focus on three particular dimensions.

The focus of Part 1 of this report (i.e. Chapters 1 and 2) is to further improve our understanding of the unprecedented changes, interconnected risks, global 'megatrends' and ecological limits that both directly and indirectly affect the European environment. There are many links between environment and climate challenges and their underlying driving forces, making them more complex to understand.

The focus of Part 2 (i.e. Chapters 3, 4 and 5) is to inform the implementation and improvement of existing policy approaches, in particular those embodied in the three thematic objectives outlined in the 7th Environment Action Programme:

1. to protect, conserve and enhance Europe's natural capital;
2. to turn Europe into a resource-efficient, green and competitive low-carbon economy; and
3. to safeguard Europe's citizens from environment related pressures and risks to health and well-being.

Spread across these three chapters in Part 2 are summary assessments of the trends and outlook for 20 environmental issues. Based on expert judgement, and informed by key environmental indicators, these assessments highlight selected trends as observed over the past 5–10 years, and offer an outlook for 20 years or more based on existing policies and measures. Furthermore, the chapters indicate the general progress towards policy goals for the respective issues (see Table 1.2 for the related assessment criteria used).

Part 3 (i.e. Chapters 6 and 7) reflects on the emerging overall picture of the state and outlook of the European environment. Based on this better understanding of where we stand today, these chapters aims to signal opportunities for recalibrating environmental policy to facilitate transition towards a more sustainable society.

Figure 1.2 Structure of SOER 2015

SOER2015

Global megatrends	European briefings	Cross-country comparisons	Countries and regions
<p>A set of 11 briefings, which address:</p> <ul style="list-style-type: none"> • Diverging global population trends • Towards a more urban world • Changing disease burdens and risks of pandemics • Accelerating technological change • Continued economic growth? • An increasingly multipolar world • Intensified global competition for resources • Growing pressures on ecosystems • Increasingly severe consequences of climate change • Increasing environmental pollution • Diversifying approaches to governance. <p>In addition there will be a global megatrends report.</p>	<p>A set of 25 briefings, which address:</p> <ul style="list-style-type: none"> • Agriculture • Air pollution • Biodiversity • Climate change impacts and adaptation • Consumption • Energy • Forests • Freshwater quality • Green economy • Health and environment • Hydrological systems and sustainable water management • Industry • Land systems • Marine environment • Maritime activities • Mitigating climate change • Natural capital and ecosystem services • Noise • Resource efficiency • Soil • The air and climate system • Tourism • Transport • Urban systems • Waste. 	<p>A set of 9 briefings, which address:</p> <ul style="list-style-type: none"> • Agriculture — organic farming • Air pollution — emissions of selected pollutants • Biodiversity — protected areas • Energy — energy consumption and share of renewable energy • Freshwater quality — nutrients in rivers • Mitigating climate change — greenhouse gas emissions • Resource efficiency — material resource efficiency and productivity • Transport — passenger transport demand and modal split • Waste — municipal solid waste generation and management. <p>These comparisons are based on environmental indicators common for most European countries.</p>	<p>A set of 39 briefings, which summarise reports on the state and outlook of the environment in each of 39 European countries:</p> <ul style="list-style-type: none"> • 33 EEA member countries • 6 cooperating countries in the Western Balkans. <p>In addition, 3 briefings give an overview of the main environmental challenges in selected regions that extend beyond Europe:</p> <ul style="list-style-type: none"> • Arctic region • Black Sea region • Mediterranean Sea region.

Table 1.2 Legend used in the 'trends and outlook' summary assessment in each section

Indicative assessment of trends and outlook		Indicative assessment of progress to policy targets	
	Deteriorating trends dominate	☒	Largely not on track to achieving key policy targets
	Trends show mixed picture	☐	Partially on track to achieving key policy targets
	Improving trends dominate	☑	Largely on track to achieving key policy targets

Notes

(2) See, for example, the European Union's Roadmap to a Resource Efficient Europe (2011), Energy Roadmap 2050 (2011), A Roadmap for moving to a competitive low-carbon economy in 2050 (2011), Roadmap to a single European transport area (documented as a White Paper in 2011), Biodiversity Strategy (2012), and several other European or national-level documents.

(3) Expressed, for example, in a speech on 'New environmentalism' by the former European Commissioner Janez Potočnik on 20 June 2013 (EC, 2013e).

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