00.

Reporting on the environment in Europe

© Lajos Aidu, WaterPIX/EEA

00.

Reporting on the environment in Europe

A short history

For 25 years, the EEA has operated as a knowledge broker at the interface between science, policy and society in Europe. Today, there is widespread recognition that environmental issues touch on almost all aspects of society and have implications for the types of knowledge needed by policymakers and other stakeholders to underpin their actions. It is this backdrop that has guided the logic and contents of this report, the sixth in a series of European environment state and outlook reports (SOER) produced by the EEA since 1995, as mandated by its governing regulation (EU, 2009). The structure and focus of the six reports have reflected and informed the logic of the EU's environmental policy (Table 0.1). The reports have informed policy implementation by monitoring progress towards established targets, and identified opportunities for EU policy

SOER 2020 marks 25 years of the EEA's reporting on the state of the environment

to contribute to achieving long-term objectives, notably the 2050 vision of 'living well, within the limits of our planet', as set out in the EU's Seventh Environment Action Programme, or 7th EAP (EU, 2013).

Like the previous reports, *The European environment — state and outlook 2020* (SOER 2020) provides relevant, reliable and comparable knowledge to support European environmental governance and inform the European public. It draws on the knowledge base available to the EEA and the European Environment Information and Observation Network (Eionet), which is the partnership network between the EEA's 33 member countries ([1]) and six cooperating countries ([2]). EU policies do not necessarily directly apply to the EEA's non-EU member countries and six cooperating countries; nevertheless, many of these countries follow the same or similar environmental and climate policy objectives, so they are included in the assessment as far as possible.

This report, SOER 2020, marks the 25th anniversary of state of the environment reporting at the EEA and more than 30 years of reporting at the European level (CEC, 1987). In parallel, state of the environment reporting at the national level has evolved rapidly, driven by the changing nature of environmental challenges and policy responses and the continuous drive for innovation in

([1]) The 28 Member States of the EU together with Iceland, Liechtenstein, Norway, Switzerland and Turkey.
([2]) Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Kosovo (under United Nations Security Council Resolution 1244/99 and in line with the International Court of Justice Opinion on the Kosovo Declaration of Independence).

TABLE 0.1 The focus and context of SOERs 1995 to 2020

SOER	Focus	Input to EU environmental policy
1995	Addressed the Fifth Environment Action Programme (EAP) targets, focusing on trends and sectoral integration, in the context of a pan-European assessment	Report for the mid-term review of the 5th EAP (1993-2000)
1999	Addressed trends, outlooks and interconnections	Input to the assessment of the 5th EAP (1993-2000)
2005	Addressed trends and outlooks, core indicators, country scorecard analyses and long-term, flexible policymaking	Input to the mid-term review of the 6th EAP (2002-2012)
2010	Addressed 6th EAP priorities, focusing on trends and outlooks, the global context, complex challenges and governance	Input to the final assessment of the 6th EAP (2002-2012)
2015	Addressed 7th EAP priorities, focusing on trends and outlooks, systemic challenges, the need for transitions and governance	Input to implementing the 7th EAP and a baseline for evaluating progress
2020	Addresses 7th EAP priorities and other broad frameworks (including the Sustainable Development Goals), trends and outlooks, systemic challenges and sustainability transitions	Support to established EU environment policies and framing of future policies and programmes

Source: EEA.

assessment methods. Furthermore, the 1998 United Nations Economic Commission for Europe Convention on Access to Information, known as the Aarhus Convention, provided a strong incentive to anchor regular state of the environment reporting in national legislation in many countries. As a result, almost all Eionet countries now publish national state of the environment reports on a regular basis, and more than half of the EEA member countries plan to publish a new edition of their national report in 2019 or 2020 (Box 0.1).

SOER 2015 conclusions and follow-up

SOER 2020 builds on the conclusions of its predecessor published in March 2015. Based on a detailed analysis of the European environment's state and trends, the SOER 2015 synthesis report (EEA, 2015c) presented a mixed picture of policy successes and challenges. It demonstrated that, although implementation of environment and climate policies has delivered substantial benefits for the functioning of Europe's ecosystems and human well-being, the outlook in the coming decades is worrying. Europe faces major challenges in addressing persistent environmental problems that are tied in complex ways to systems of production and consumption. At the same time, in an ever more interconnected world, Europe's ecological and societal resilience is increasingly affected by a variety of global megatrends (EEA, 2015b).

On this basis, SOER 2015 concluded that achieving the EU's vision for 2050, as set out in the 7th EAP, requires fundamental transitions in the production-consumption systems driving environmental degradation, including the food, energy and mobility systems. It also stressed that neither environmental policies alone nor economic and technology-driven efficiency gains alone are likely to be sufficient. Such sustainability transitions will, by their character, entail profound changes in dominant institutions, practices, technologies, policies, lifestyles and thinking. They will inevitably involve uncertainties and disruption — impacting industries, investments, welfare systems and livelihoods. Yet they also present major opportunities to boost Europe's economy and employment and to put Europe at the frontier of science and innovation.

Improving the knowledge base for tackling sustainability transitions in Europe will require a greater use of anticipatory knowledge and understanding of the changing global context, in addition to interdisciplinary and participatory processes. Therefore, since the publication of SOER 2015, the EEA and Eionet have collaborated in a range of knowledge co-creation activities to bring together evidence from experiences across Europe and to develop

transdisciplinary knowledge. Two of these EEA-Eionet cooperation processes are briefly introduced in Box 0.2.

SOER 2020 — an integrated assessment focused on sustainability

A plausible future requires a factual present (Snyder, 2018). Addressing trends across timescales is one of the key hallmarks of this report. Two other hallmarks are (1) bridging geographical dimensions in recognition that the environment has no borders and (2) providing integrated analysis across the many environmental, economic, social and governance dimensions needed to achieve sustainability.

This report comes at a time when political initiatives are challenged by false information and fake news. The need for sound scientific knowledge becomes even more important in this context (ESPAS, 2019). Linked to this, more people in Europe are questioning the value of established institutions, public policy and expertise in ways that undermine confidence in such structures and the value of the knowledge supporting them (ESPAS, 2019). This report makes every effort to acknowledge these realities by ensuring transparency through comprehensive referencing of scientific findings and an improved approach to appraisal and communication of aspects of quality and uncertainty, as well as of knowledge gaps. It also draws on stakeholders' knowledge and expertise (see also Section 0.2) and has been subject to extensive peer review (e.g. Eionet, EEA Scientific Committee, international experts). These steps are fundamental for ensuring the relevance, credibility and legitimacy of the report, particularly when the underpinning knowledge base and assessment characteristics are increasingly moving towards a systemic understanding of problems and possible pathways towards sustainability.

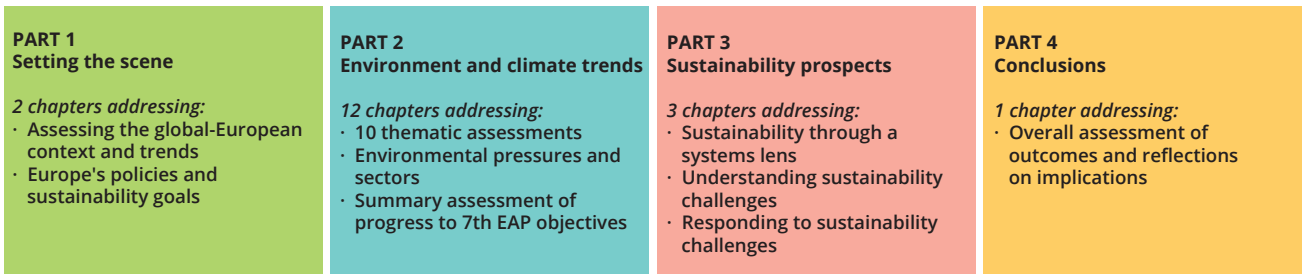
SOER 2020 responds to the environmental challenges and the need to support fundamental transitions to sustainability.

Overall, SOER 2020 responds to the challenges presented by an evolving policy landscape and the need to support fundamental transitions to sustainability in Europe. It builds on the assessment approach of SOER 2015 and includes a range of assessments that support various stages of policy and decision-making. The report is structured into four parts (Figure 0.1).

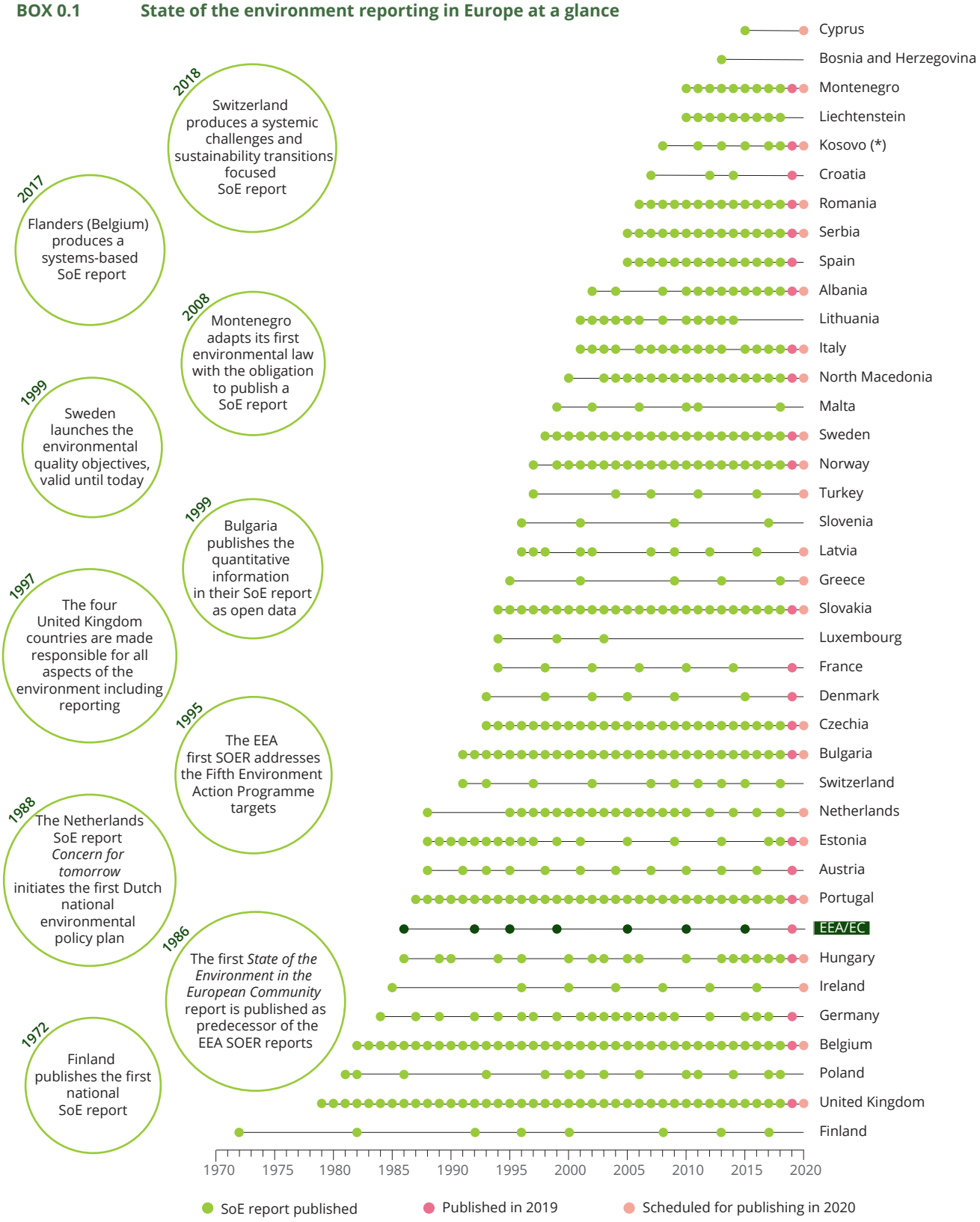
Part 1: **'Setting the scene'** comprises two chapters. Chapter 1 assesses the global-European context and trends that will shape Europe's efforts to achieve sustainability in the coming decades. Therefore, it mostly relies on data and findings from international organisations and processes and includes an analysis of global megatrends, European-specific trends and emerging issues. Chapter 2 provides an overview of Europe's policies and long-term sustainability goals that are currently in place to address environmental and climate challenges.

Part 2: 'Environment and climate trends' comprises 12 chapters that assess European trends over the past 10 to 15 years and provide an outlook for the coming 10 to 15 years. It provides an assessment of progress towards established EU environmental and climate policy goals, focusing particularly on objectives and targets in the 2020-2030 timeframe. Part 2 includes 10 thematic assessments (Chapters 3 to 12): biodiversity and nature; freshwater; land and soil; marine environment; climate change

FIGURE 0.1 Structure of the SOER 2020 report



BOX 0.1 State of the environment reporting in Europe at a glance

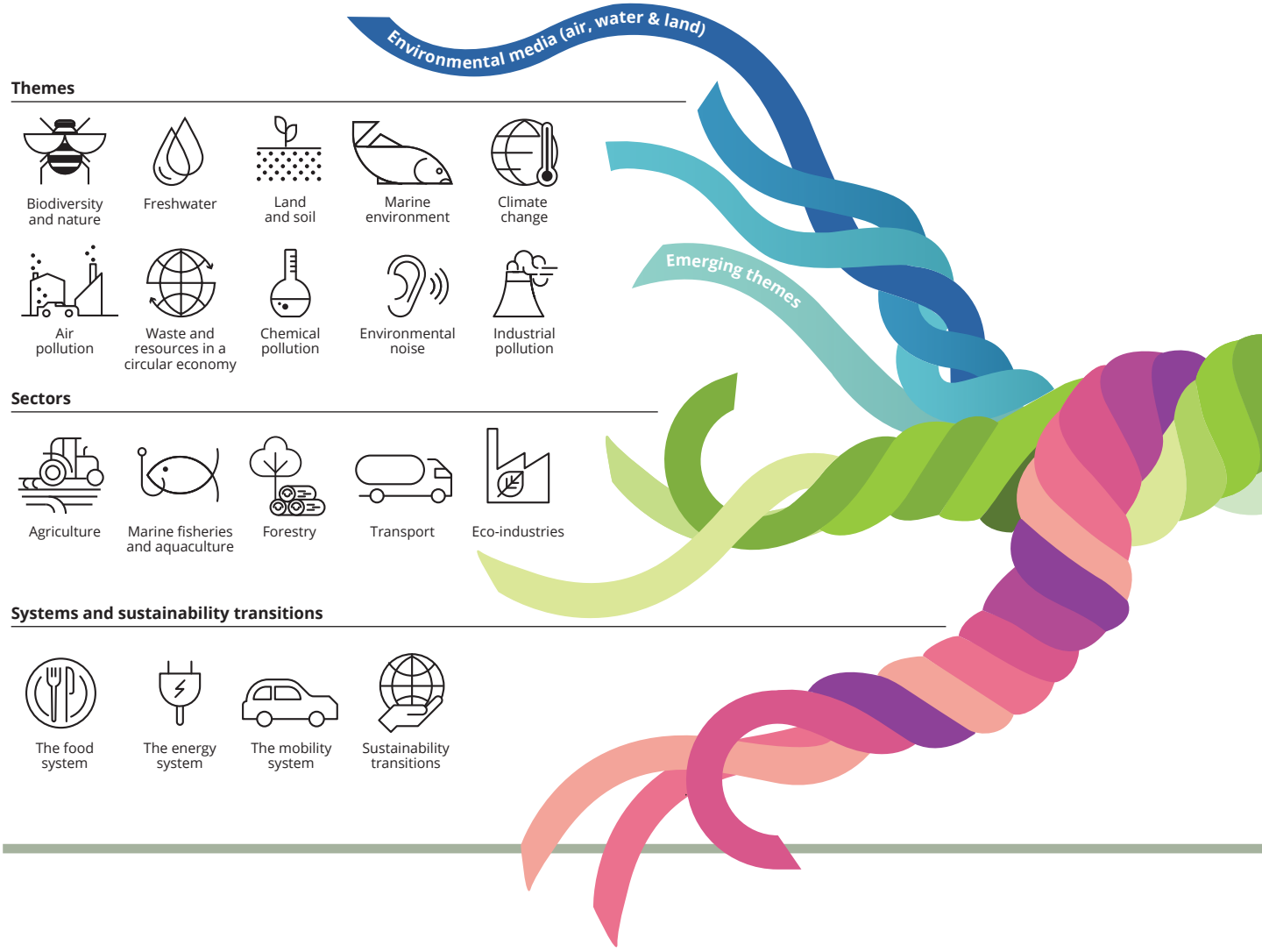


Notes: SoE, state of the environment; (*) Kosovo (under United Nations Security Council Resolution 1244/99 and in line with the International Court of Justice Opinion on the Kosovo Declaration of Independence).

Source: EEA and Eionet.


The European environment — state and outlook 2020 (SOER 2020) published
UNEP 6th Global Environmental Outlook published
IPBES Global Assessment Report on Biodiversity and Ecosystem Services published
Global Resources Outlook 2019 published
European strategy for plastics in a circular economy
Action Plan on Sustainable Finance
First Environmental Implementation Review
Quito New Urban Agenda
Sendai Framework for Disaster Risk Reduction
2030 Agenda for Sustainable Development
Paris Agreement on Climate Change
Action Plan for the Circular Economy
7th Environment Action Programme
Adaptation strategy on climate change
2019
2018
2017
2016
2015
2013
Millenium Declaration and Millenium Development Goals
Cartagena Protocol on Biosafety
Directive Public access to Environmental Information
Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
Marine Strategy Framework Directive
2020 Climate & energy package
Nagoya Strategic Plan for Biodiversity, including the Aichi Biodiversity targets
Biodiversity strategy to 2020
Energy roadmap 2050
Bioeconomy strategy
Rio+20 Conference on sustainable development
2003
2006
2008
2009
2010
2011
2012
2000
UNECE Aarhus Convention on Access to Environmental Information
Kyoto Protocol
UNEP First Global Environmental Outlook published
Europe's environment, the Dobris Assessment published
First European Environment State and Outlook report published
EEA/Eionet Establishment
Directive on the Conservation of Natural Habitats, Fauna and Flora (Natura 2000)
Rio Declaration on Environment and Development
Framework Convention on Climate Change
Convention on Biological Diversity
1998
1997
1995
1994
1992
Stockholm conference on the human environment
First Environmental Action Programme
Wastewater Framework Directive
Bathing Water Directive
Birds Directive
State of the Environment in the European Community published
Our Common Future published World Commission on Environment and Developments
Regulation initiating the EEA and the European environment information and observation network (Eionet)
1972
1975
1976
1979
1986
1987
1990
United Nations milestones
European Union milestones
EEA milestones

BOX 0.1 **State of the environment reporting in Europe at a glance (cont.)**



SOER 2020 provides a range of assessments that support the different stages of policy and decision-making.

mitigation and adaptation; air pollution; waste and resources; chemical pollution; environmental noise; and industrial pollution. In addition, Chapter 13 addresses the role of sectors in meeting environmental policy goals.

As in 2015, the thematic and sectoral assessments retain a strong focus on implementation. However, SOER 2020 provides a stronger analysis of the interlinkages across themes. In addition, country-level information is integrated to facilitate improved sharing of developments and approaches that offer wider potential. Part 2 also responds to the challenge of growing knowledge complexity by using summary assessments that take a consistent approach across the 10 thematic assessments. The summary assessments also include a new element on robustness to improve transparency regarding the quality of evidence, uncertainty and knowledge gaps. The final chapter of Part 2, Chapter 14, draws on the thematic and sectoral assessments to provide a summary assessment of past trends, outlooks and progress towards policy objectives and targets structured by the objectives of the 7th EAP.

State of the environment: tools and building blocks

Data
from

- Environmental monitoring
- Key registers and databases
- Dedicated data sources and analysis

Indicators
showing environmental

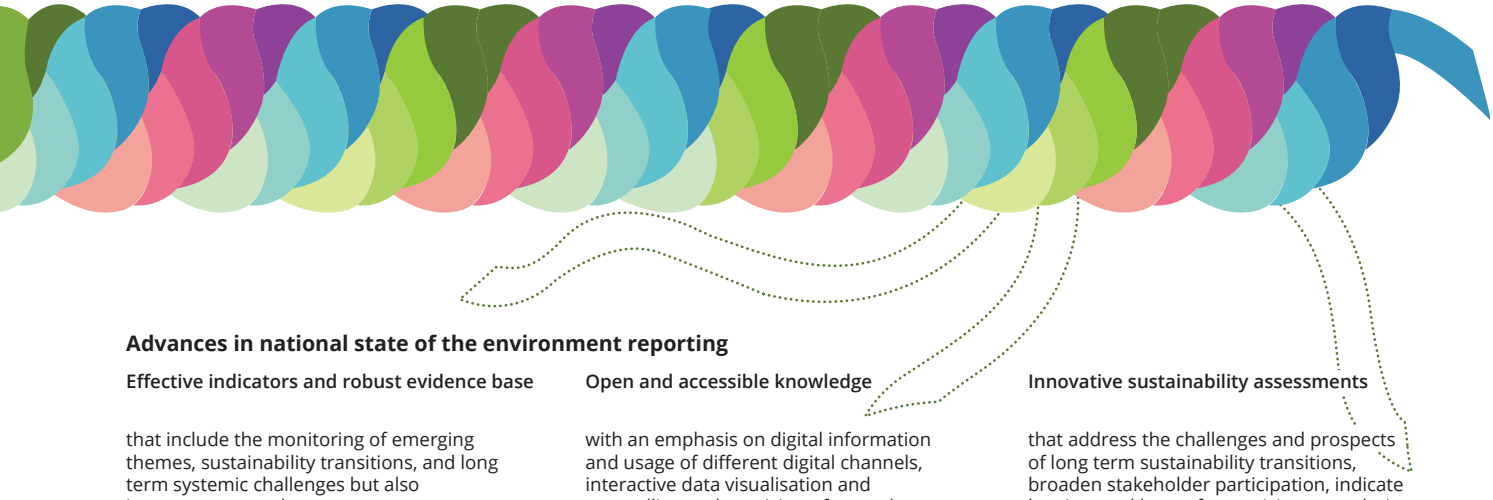
- **D**riving forces
- **P**ressures
- **S**tates
- **I**mpacts
- **R**esponses

Scoreboards
giving insight into

- Environmental trends
- Policy progress

Assessments
providing knowledge on

- The state of the environment
- Trends and outlooks
- Systemic challenges and responses



Advances in national state of the environment reporting

Effective indicators and robust evidence base

that include the monitoring of emerging themes, sustainability transitions, and long term systemic challenges but also incorporate new data sources.

Open and accessible knowledge

with an emphasis on digital information and usage of different digital channels, interactive data visualisation and storytelling and provision of open data and models.

Innovative sustainability assessments

that address the challenges and prospects of long term sustainability transitions, broaden stakeholder participation, indicate barriers and levers for participatory solutions and links assessment knowledge to action.

Part 3: '**Sustainability prospects'** comprises three chapters and assesses long-term prospects (2030-2050), global interactions and opportunities for systemic transitions to achieve the EU's sustainability objectives. Chapter 15 introduces the shift to a broader sustainability and more systems-oriented perspective. Chapter 16 responds to the need for an increased focus on understanding and assessing the systemic character of today's environmental challenges, including key production-consumption systems such as energy, mobility and food. Finally, in response to the growing demand for knowledge on solutions and responses, Chapter 17 complements the analysis of environment, climate and sustainability challenges with a greater emphasis on how Europe can respond.

Part 4: 'Where do we go from here?' reflects on the implications of the findings of Parts 1, 2 and 3. This includes reflections on the current state of, trends in and outlook for Europe´s environment, opportunities for Europe's environmental governance, and broader enabling conditions to put Europe on a path to a prosperous and sustainable future.

Translating knowledge into action requires the involvement of a wide range of stakeholders. In response, the EEA has designed SOER 2020 as a process, extending over 2019 and 2020. The present SOER 2020 report, represents the first component in this process and provides the foundation for subsequent stakeholder interactions aimed at exploring its conclusions and their implications. The second component will be a set of stakeholder events that will inform the development of a 'knowledge for action' report that the EEA will publish in 2020.

BOX 0.2 EEA-Eionet cooperation in building anticipatory knowledge for sustainability transitions

E3I Sustainability transitions: now for the long term

Recognising the need to develop new knowledge to support environmental governance, the EEA and Eionet initiated the Eionet Improvement and Innovation Initiative (E3I) after the publication of SOER 2015. Focusing initially on the theme of sustainability transitions, E3I work combined two major functions. First, EEA and Eionet partners engaged in a shared learning process about sustainability transitions and related knowledge needs. Second, the work produced empirical evidence about transition activities across Europe, providing inputs to EEA work.

The E3I transitions activities were led by a working group of Eionet national focal points and EEA staff, who gathered case studies and inputs from 26 EEA member countries and five European topic centres. The work culminated in the publication of the first Eionet publication, *Sustainability transitions: now for the long term* (EEA and Eionet, 2016), which used case studies and interviews to explain and illustrate key concepts and to give a sense of the transformative activities already under way at local levels.

Mapping Europe's environmental future: understanding the impacts of global megatrends at the national level

Drivers of change, including global megatrends, are likely to bring risks and opportunities, whose relative magnitude largely depends on the variability and specificity of local environmental, economic and social conditions. The EEA and the National Reference Centre for Forward-Looking Information and Services (NRC FLIS) have engaged in a joint activity to develop a methodological toolkit to facilitate analysis of the implications of global megatrends at the national level (EEA and Eionet, 2017).

Many countries or regions in Europe have now investigated how global megatrends and other drivers of change may affect their environment and society (Table 0.2). The majority of these studies were prompted by the EEA's reporting on global megatrends (EEA, 2010, 2015a, 2015b) as well as the publication of the methodological toolkit. While differences exist in the focus and scope of these studies, climate change has been analysed most frequently, followed by pollution loads, population and urbanisation trends, and economic trends (Table 0.2).

Several countries (or regions) have included the findings of these studies in their national state of the environment reports. The global megatrends analysis for Switzerland (FOEN, 2016) is an example of clear articulation of these efforts. The study mainly followed the logic of the methodological toolkit (EEA and Eionet, 2017). One of the key findings used to inform the Swiss national state of the environment report (Swiss Federal Council, 2018) is that Switzerland's environmental challenges are all influenced by global megatrends. For example, the Swiss food production system is expected to be significantly affected by climate change, leading to both opportunities and risks. Additional in-depth studies confirmed that a longer growing season could be beneficial for agricultural production, but it might also lead to water resource conflicts. Heat waves, new diseases and water scarcity could also exert stress on dairy farming and meat production, both being very important economic activities. As only 60 % of Swiss food consumption is accounted for by domestic production, the country will be vulnerable to future price fluctuations in global food commodities triggered by climate change. Developing adaptation strategies will therefore be crucial to ensure ecological and societal resilience in Switzerland. ■

TABLE 0.2 Studies on implications of global megatrends at the national/regional scale and their thematic focus

		Focus of national/regional study										
		Environment						Resources		Environment and society			
EEA global megatrends		**Switzerland** (FOEN, 2016)	**Hungary** (MA, 2017)	**Slovenia** (SEA, 2018)	**Flanders** (BE) (Flemish Environment Agency, 2014)	**Slovakia** (Slovak Environment Agency et al., 2016)	**Sweden** (Naturvårdsverket, 2014)	**Western Balkans** (ETC/ICM, 2018)	**Northern Europe** [a] (Naturvårdsverket, 2014)	**Finland** (Valtioneuvoston kanslia, 2017)	**United Kingdom** (DEFRA, 2017)	**Netherlands** (PBL, 2013)	Frequency (%)
Social	Diverging global population trends	×	×		×	×	×		×	×	×	×	82
	Towards a more urban world	×	×		×	×	×		×	×	×	×	82
	Changing disease burdens and risks of pandemics		×		×	×	×		×		×		55
Technological	Accelerating technological change				×	×	×		×	×	×	×	64
Economic	Continued economic growth?	×	×		×	×	×		×	×	×	×	82
	An increasingly multipolar world				×	×	×		×	×	×		55
	Intensified global competition for resources			×	×	×	×	×	×		×		64
Environmental	Growing pressures on ecosystems	×	×		×	×	×	×	×		×		73
	Increasingly severe consequences of climate change	×	×	×	×	×	×	×	×	×	×	×	100
	Increasing environmental pollution	×	×		×	×	×	×	×	×	×		82
Political	Diversifying approaches to governance				×	×	×		×	×	x		55

Note: [a] 'Northern Europe' refers to a case study run for Germany and Sweden.

Source: EEA, based on NRC FLIS inputs.