

The European environment – state and outlook 2020

SOER 2020



The SOER has a long history at the EEA

1995



SOER 1995

- report (151 pp) + summary
- addresses 5 EAP targets
- focus on sectoral integration

1996

1997

1998

1999



SOER 1999

- big report (446 pp) + summary
- addresses environmental trends
- focus on DPSIR, link between issues

2000

2001

2002

2003

2004

2005



SOER 2005

- bigger report (569 pp, Parts A, B & C)
- addresses air, water, land
- focus on DPSIR, core set of indicators

2006

2007

2008

2009

2010



SOER 2010

- several reports (Parts A, B, C + Synthesis)
- addresses 6EAP priority areas
- focus on systemic challenges

2011

2012

2013

2014

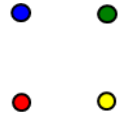
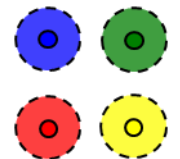

2015



SOER 2015

- several reports (A, B, C + Synthesis), largely web-based
- addresses 7EAP priority areas
- focus on the need for systemic transitions

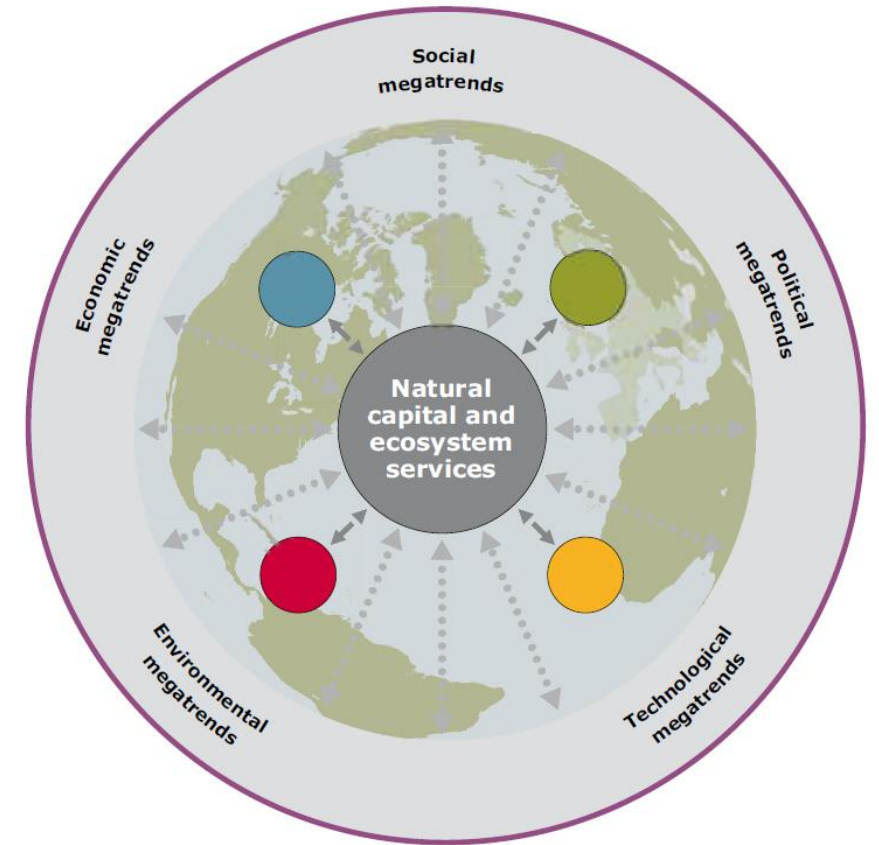
Evolving understanding of challenges and responses

| Characterisation of key challenges | Key features | In the spotlight in | Policy approaches (examples) |
|---|---|-------------------------------------|--|
| Specific  | linear cause-effect large (point) sources often local | 1970s / 1980s (continuing today) | targeted policies and single-issue instruments |
| Diffuse  | cumulative causes multiple sources often regional | 1980s / 1990s (continuing today) | policy integration and raising public awareness |
| Systemic  | systemic causes interlinked sources often global | 1990s / 2000s (continuing today) | policy coherence and systemic approaches (a green economy?) |







SOER both reflects and informs EU environmental policy

SOER 2010's analysis of the European environment's state, trends and outlook reflected the logic of the EU's 6th Environment Action Programme

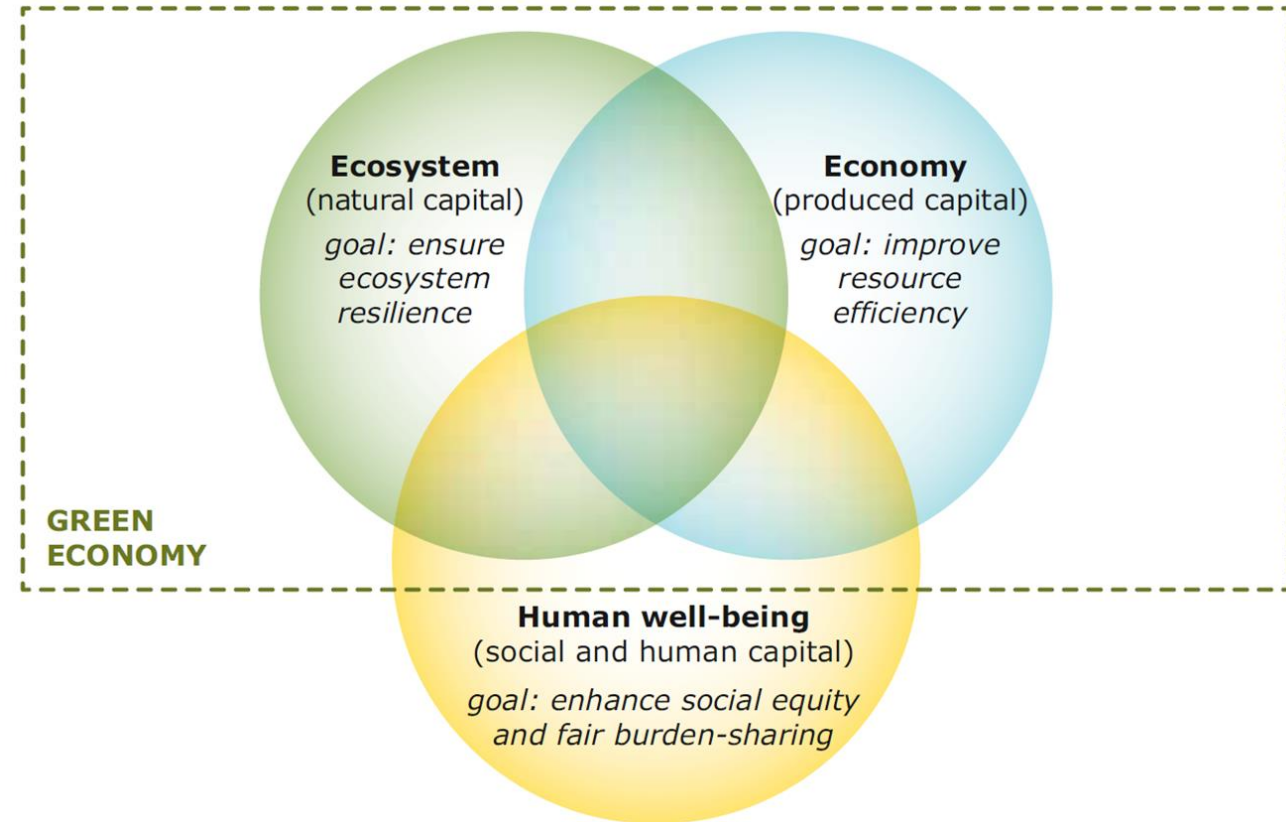


Environment policy priority areas

-  Climate change
-  Nature and biodiversity
-  Natural resources and waste
-  Environment, health and quality of life

SOER 2010: influence on the 7EAP

SOER 2010's emphasis on natural capital, resource efficiency and human well-being was subsequently taken up in the 7EAP's priority objectives 1-3.



Other key messages on topics such as policy integration, implementation and knowledge development were reflected in the other 7EAP priority objectives.

SOER 2015

The European environment — state and outlook 2015

Based on a thorough review of Europe's environmental state, trends and outlook, SOER 2015 reflects on how to bring policies, knowledge, investments and innovations into line with Europe's 2050 sustainability vision.

The structure reflects the MDIAK logic – building up from data and indicators to provide a comprehensive assessment of past trends and future outlooks.

SOER 2015 Synthesis report

SOER 2015 Assessment of global megatrends

**Global
megatrends**

11 briefings

**European
briefings**

25 briefings

**Cross-country
comparisons**

9 briefings

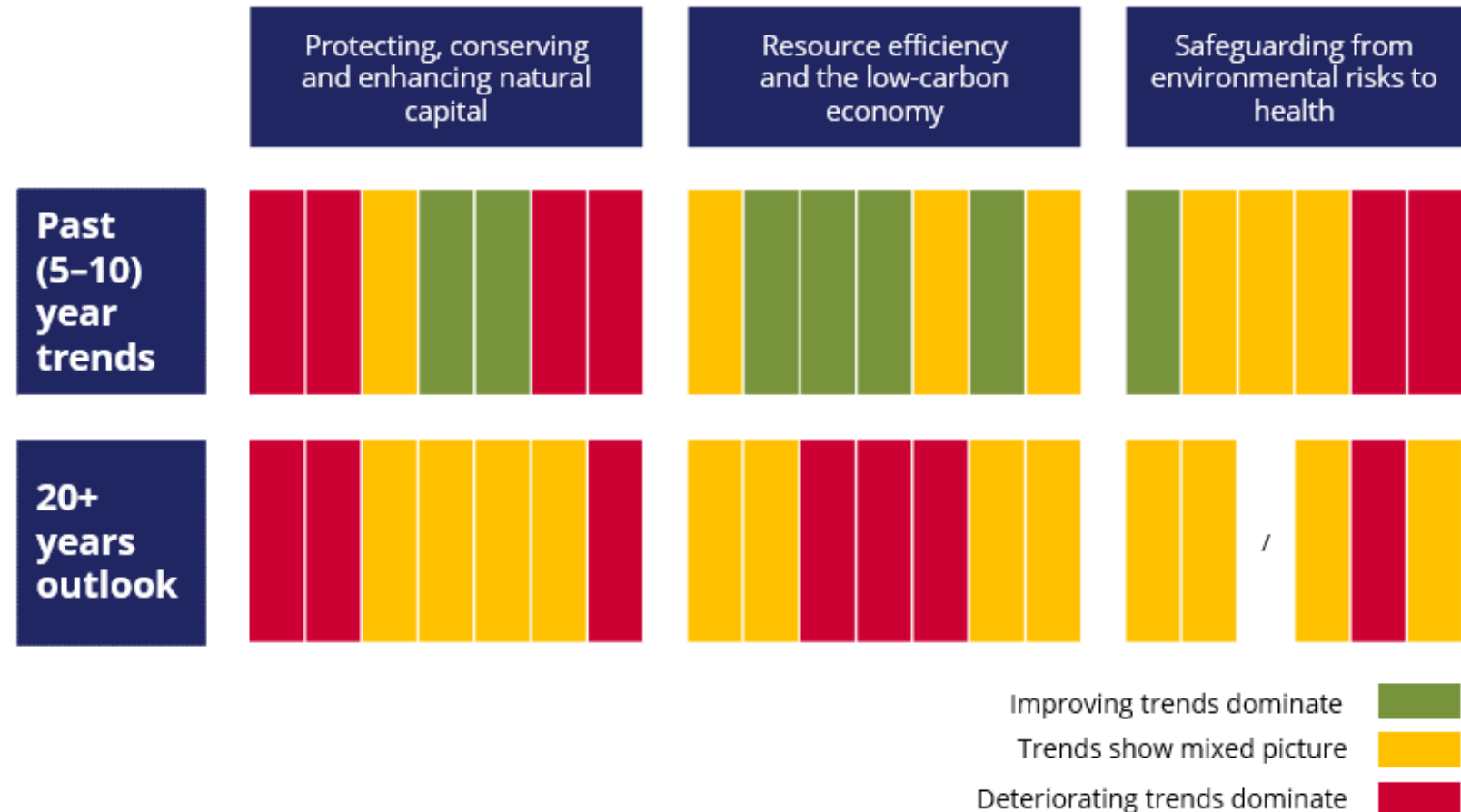
**Countries and
regions**

39+3 briefings



Recent trends and outlook in 7EAP priority areas 1-3

SOER 2015 highlighted notable progress on efficiency but challenges with resilience and well-being. The long-term outlook is worrying.



Understanding past trends and future outlooks

Two major factors explain the uneven progress and prospects:

The changing global context

- Competition for resources
- Pressures from outside Europe
- Planetary boundaries

The systemic characteristics of environmental challenges

- Complexity and uncertainties
- Interdependencies within and across systems
- Lock-ins, feedbacks, trade-offs

Achieving sustainability will require systemic transitions



THE EUROPEAN ENVIRONMENT STATE AND OUTLOOK 2015

SYNTHESIS REPORT

“Living well within ecological limits will require fundamental transitions in the systems of production and consumption that are the root cause of environmental and climate pressures.

“Such transitions will entail profound changes in dominant institutions, practices, technologies, policies, lifestyles and thinking.”

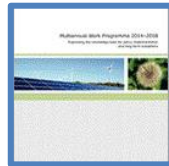
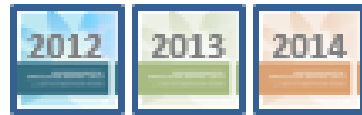
SOER 2020 planning

Factors shaping planning for SOER 2020

The need for more solutions-oriented knowledge

Understanding systemic challenges and the need for transitions

Identifying knowledge, skills and governance approaches for transitions



PROBLEM-FOCUSED

MORE SOLUTIONS-ORIENTED

Factors shaping planning for SOER 2020

The changing context for SOER 2020

- The evolving institutional and policy context
- The need for collaboration and co-creation of knowledge
- Evaluations of SOER 2015 and the related EEA Action Plan

Four guiding principles for SOER 2020

Project approach
lean, mean, distributed

Outputs

two assessments, one synthesis

Investments

knowledge, methods and partnerships 2017–2019

Stakeholders

technical for assessments, political for synthesis



SOER 2020 report structure

Synthesis = 1 + 2 + stakeholders

Part 1: State of the Environment Assessment

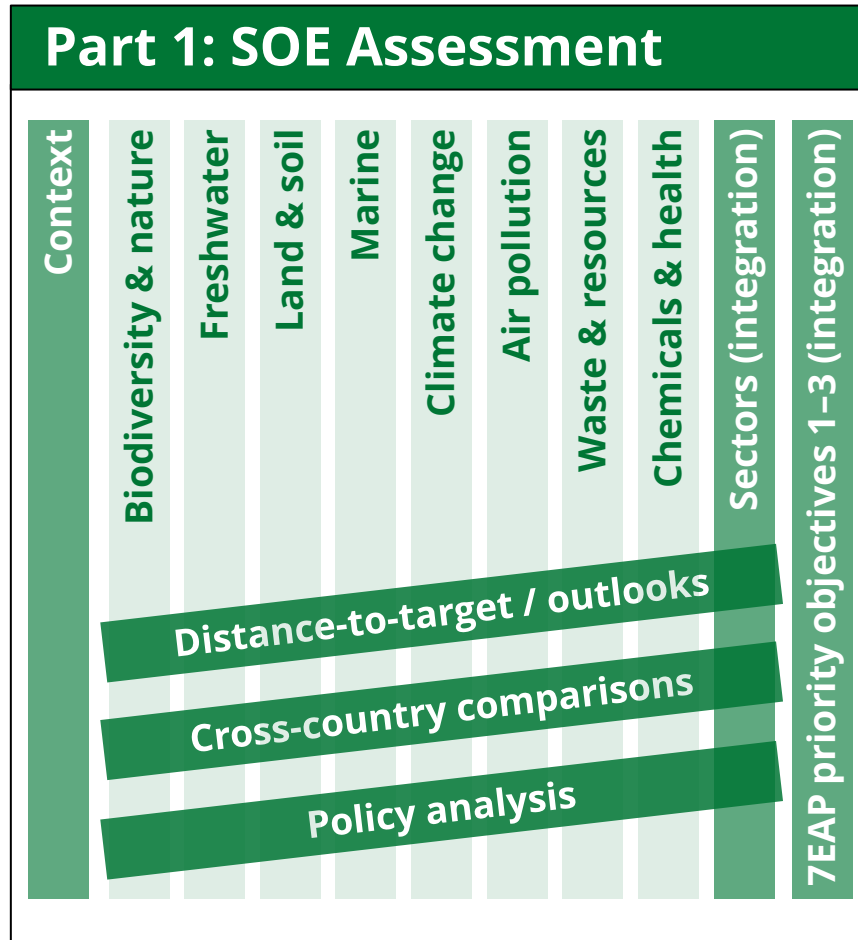
- Focusing on the state of Europe's environment in the context of drivers and policy responses

Part 2: Systems Assessment

- Focusing on long-term, global and systemic challenges, and transitions to sustainability



Part 1: Proposed aims, logic and structure



Policy context: Environmental acquis

Timeframe: Medium-term (1990-2005-2020-2030)

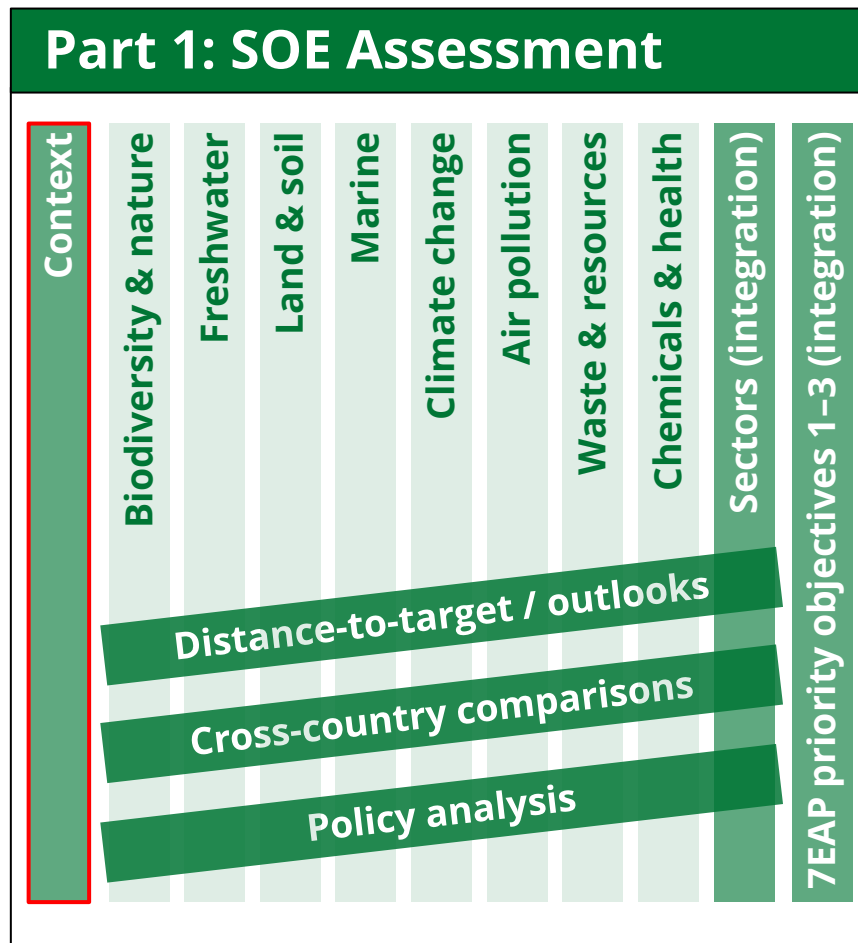
Analytical focuses: Environmental themes, sectors, integrated analysis

Fwd-looking analysis: Thematic outlooks (BAU scenario plus sensitivity analysis)

Stakeholder inputs: Eionet country information inputs, etc.

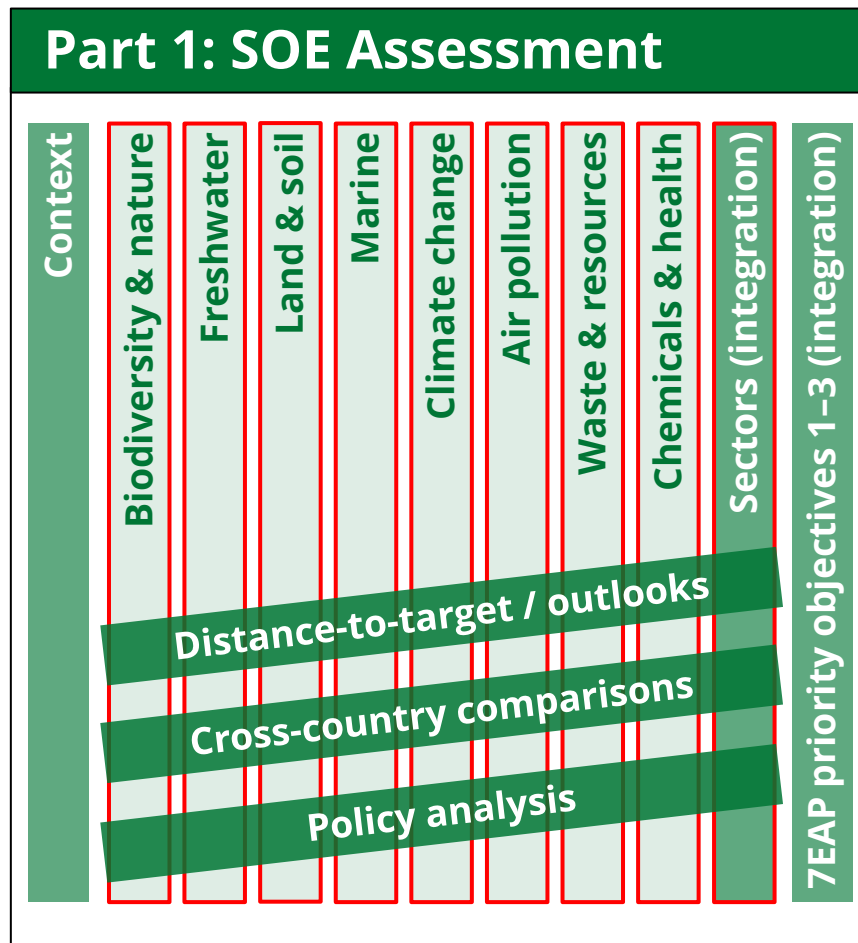
Capacity-building: Distance to target methodology, outlook methodology

Part 1: Proposed logic and structure



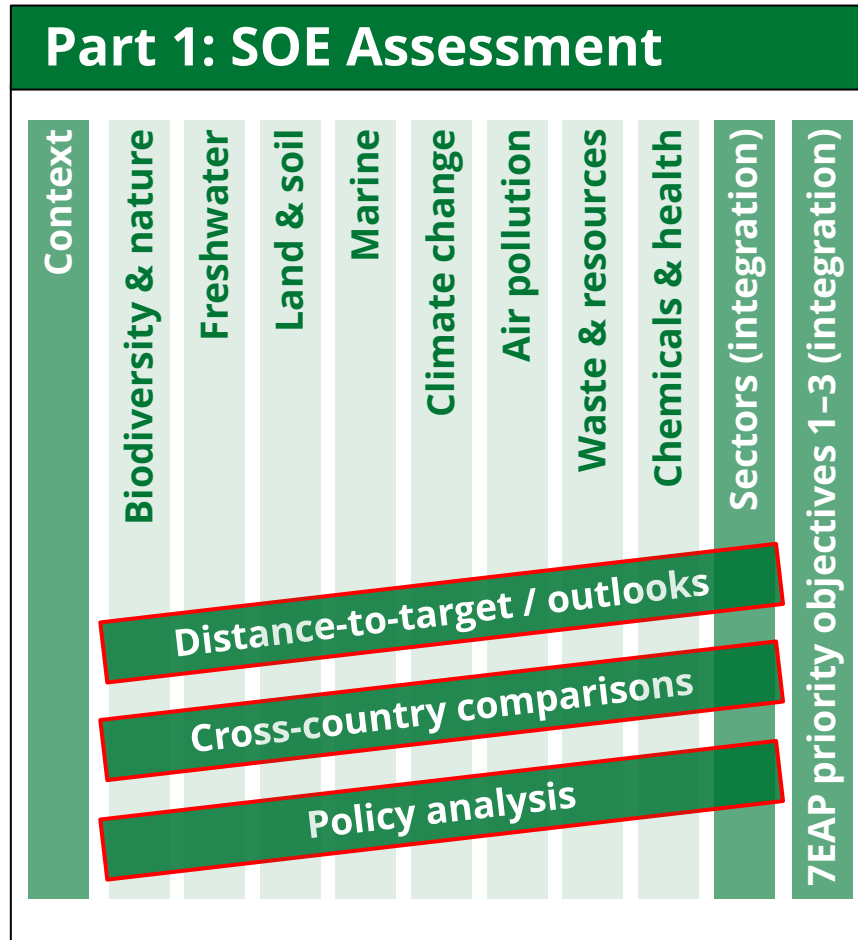
- Context: setting the scene, mapping out the policy context and explaining the relationship to Parts 2 and the Synthesis

Part 1: Proposed logic and structure



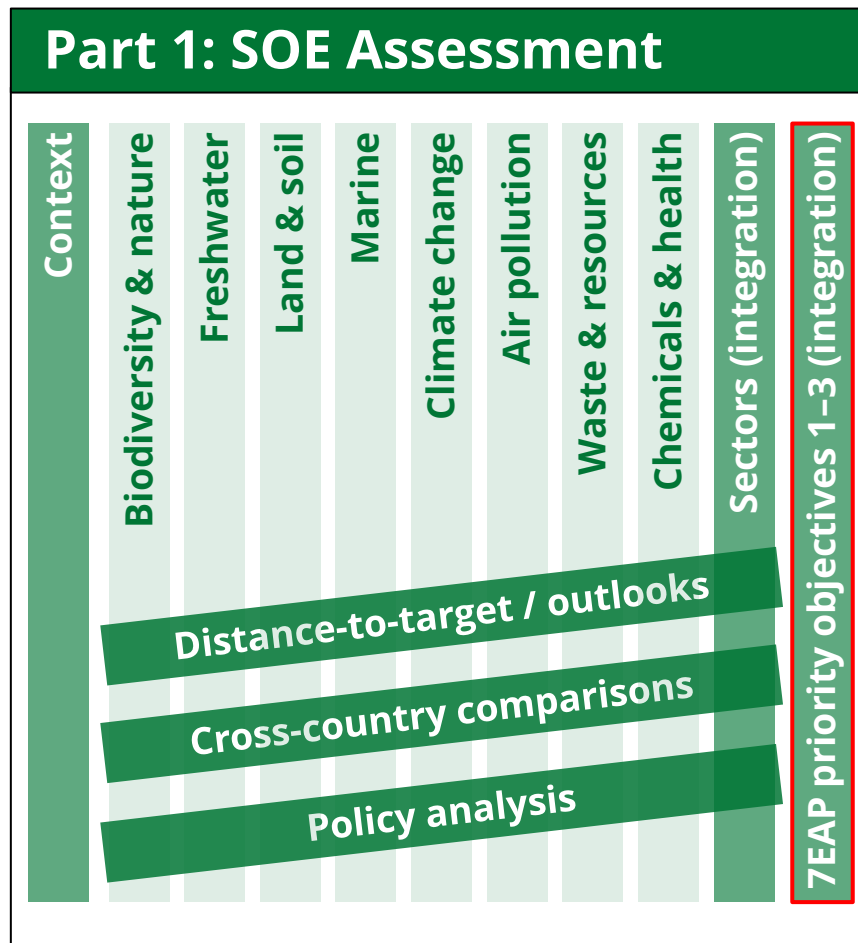
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- Core themes selected based on the EU's environmental acquis

Part 1: Proposed logic and structure



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- Core themes selected based on the EU's environmental acquis
- Cross-cutting elements integrate country perspectives and address policy implementation and analysis

Part 1: Proposed logic and structure



- Context: setting the scene, mapping out the policy context and explaining the relationship to Parts 2 and the Synthesis
- Core themes selected based on the EU's environmental acquis
- Cross-cutting elements integrate country perspectives and address policy implementation and analysis
- The integrated assessment focuses on Europe's performance against the 7EAP priority objectives 1-3

Part 2: Proposed aims, logic and structure

| |
|--|
| Part 2: SYSTEMS ASSESSMENT |
| SUSTAINABILITY GOALS AND CHALLENGES |
| 7EAP vision: 'Living well within the planet's limits' Circular economy Decarbonisation Natural capital Health and wellbeing |
| Global context Global megatrends Planetary boundaries SDGs |
| UNDERSTANDING SYSTEMS |
| Core societal systems with most environmental burden (food, energy, mobility, urban) and key supporting systems (fiscal, finance) |
| Socio-technical, -economic and -ecological perspectives |
| Systems interactions, feedbacks, lock-ins |
| Environmental impacts and resource nexus |
| SUPPORTING TRANSITIONS |
| Pathways, trade-offs, systemic risks |
| Learning, innovation and experimentation |
| Policy coherence, innovative and adaptive governance |
| Knowledge, networks and partnerships |

Policy context: 7th EAP (and related long-term policy, e.g. LCE, CE), Juncker agenda, SDGs

Timeframe: To 2050+

Analytical focuses: Global context; socio-technical, socio-ecological, socio-economic systems and transitions

Fwd-looking analysis: Global megatrends, horizon scanning, transitions, systemic risks

Stakeholder process: Selected stakeholders, reflection on forward-looking aspects, Eionet

Capacity-building: Sustainability assessment / forward-looking assessment

Part 2 responds to the challenges identified in SOER 2015

“The systemic nature of the problems and dynamics identified here necessitates systemic solutions.”

SOER 2015 Synthesis

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Why do we need change?

Long-term sustainability goals and the changing global context

What do we need to change?

Understanding core societal systems and barriers to transformation

How can we achieve needed change?

Initiatives, policies, knowledge and governance approaches to support transitions

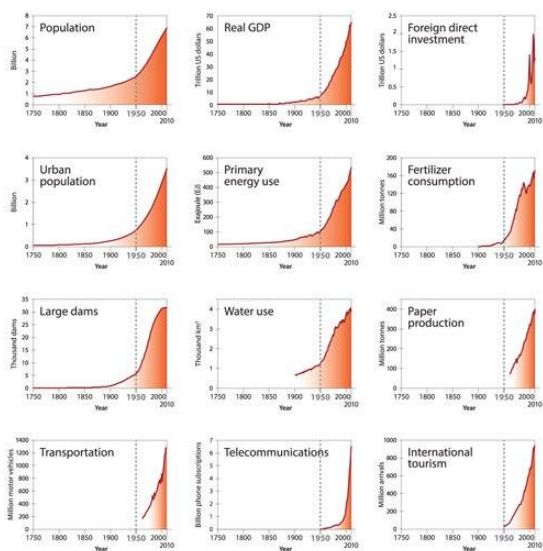


Why do we need to change?

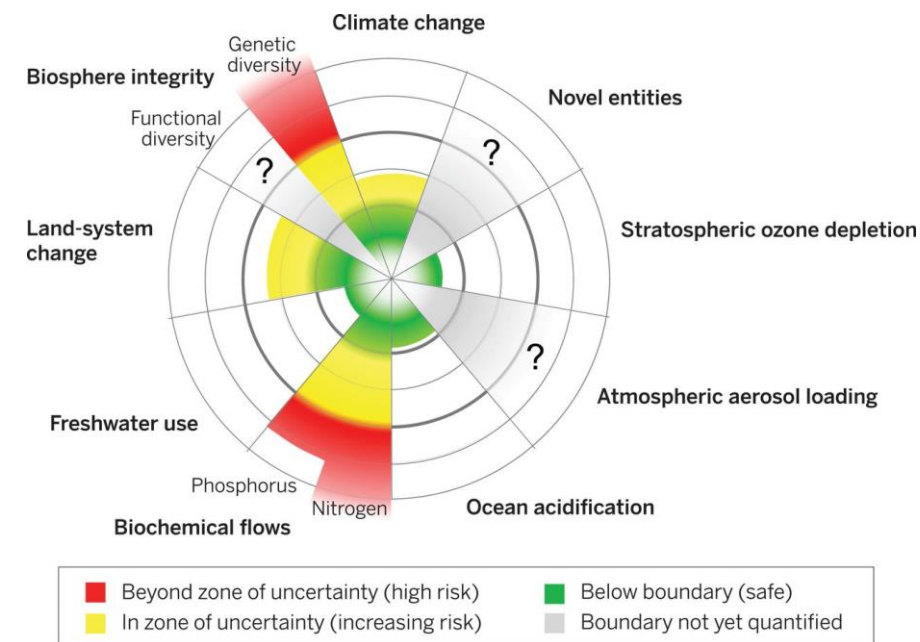
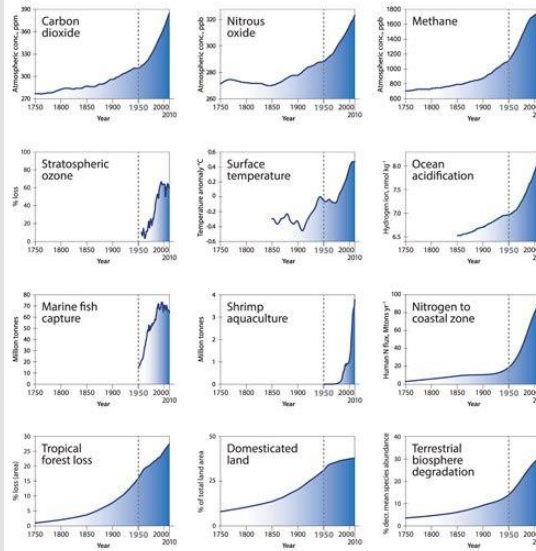
The Anthropocene: **global megatrends** and **planetary boundaries** necessitate action



Socio-economic trends



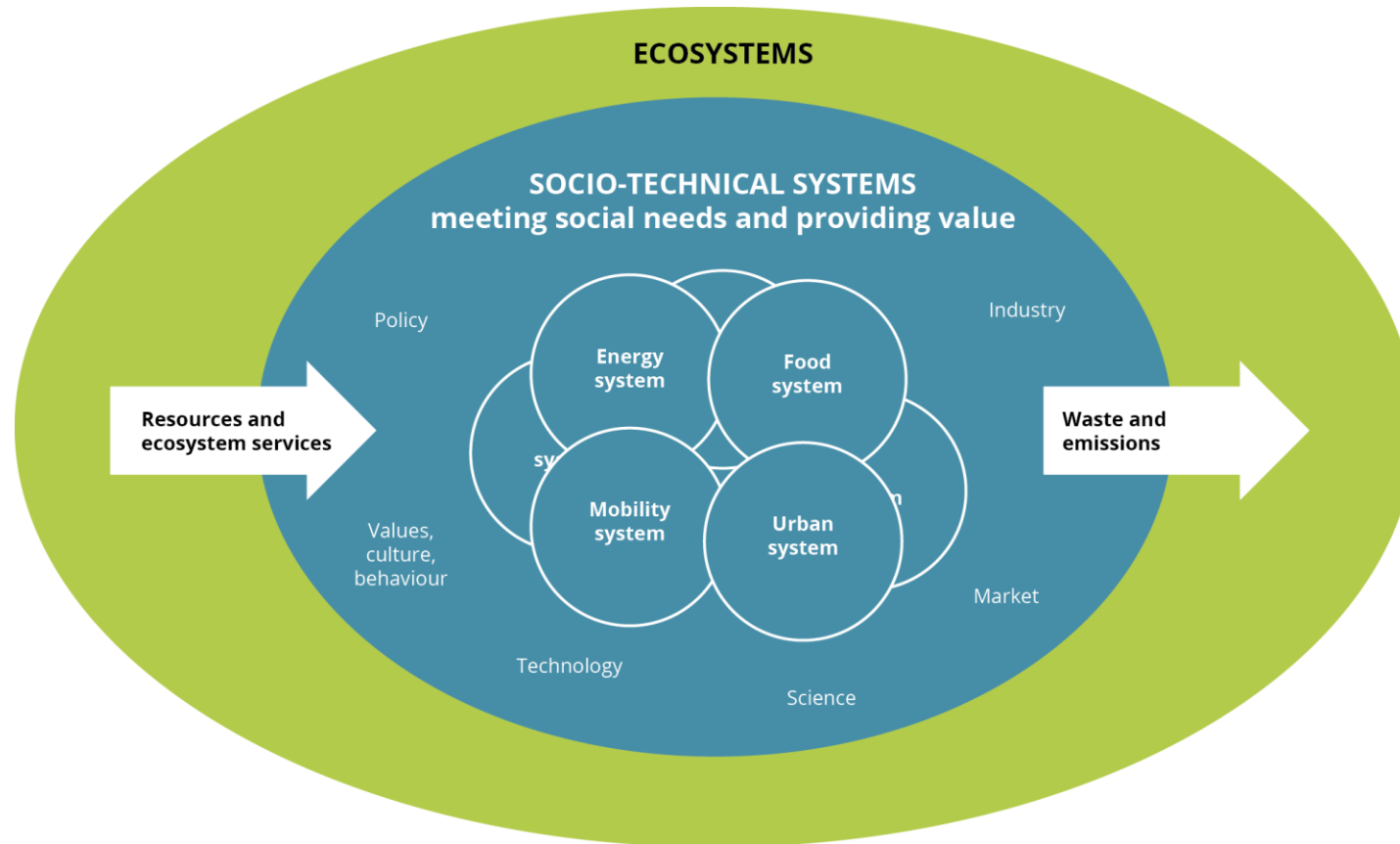
Earth system trends



What do we need to change?

*“Living well within ecological limits will require **fundamental transitions** in the systems ... that are the root cause of environmental and climate pressures.”*

SOER 2015 Synthesis



Analysing key systems

In addressing key societal systems, Part 2 could:

- Explain the **logic of systems thinking and transitions**
- **Map systems** and their characteristics, including environmental impacts
- Illustrate **lock-ins, feedbacks, uncertainties, leverage points, etc.**
- Describe **systemic interactions** (e.g. resource nexus)

Identifying which systems to address and which analytical approaches to employ is an initial priority.

UNDERSTANDING SYSTEMS

Core societal systems with most environmental burden (food, energy, mobility, urban) and key supporting systems (fiscal, finance)

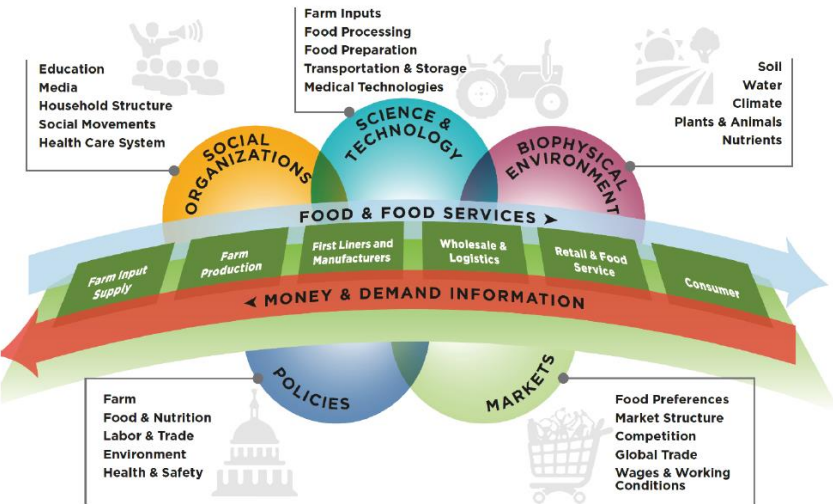
Socio-technical, -economic and -ecological perspectives

Systems interactions, feedbacks, lock-ins

Environmental impacts and resource nexus

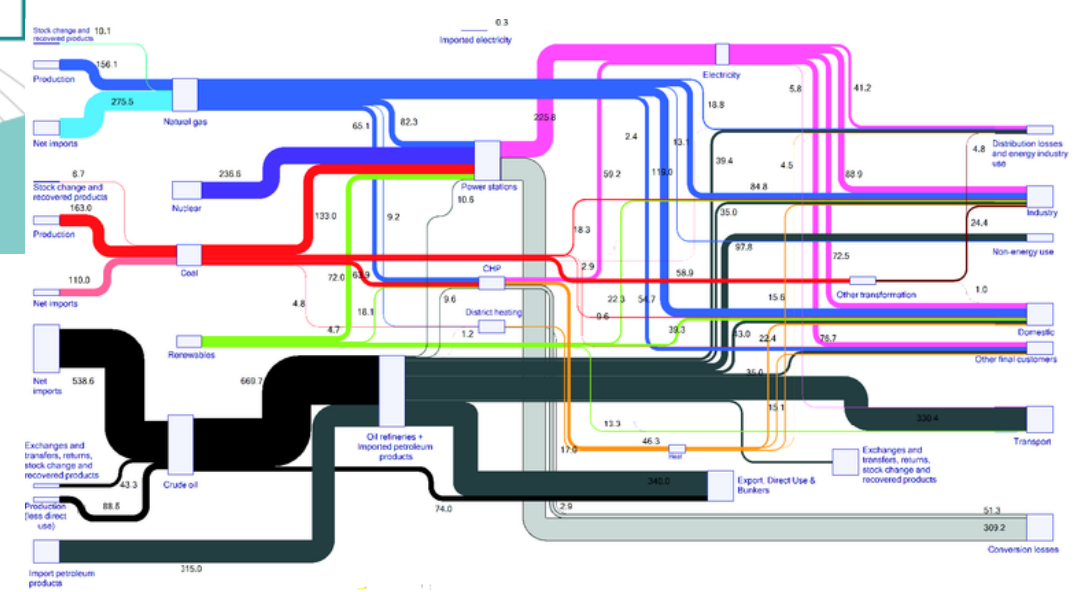
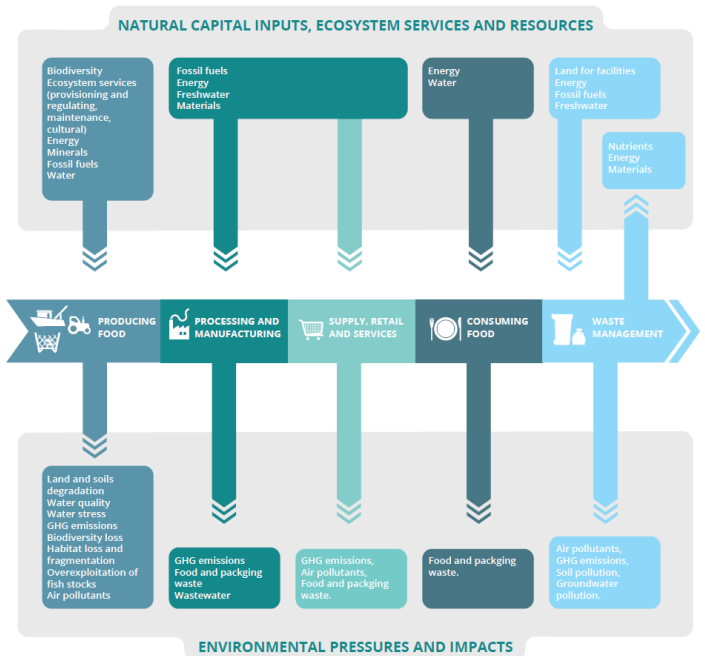
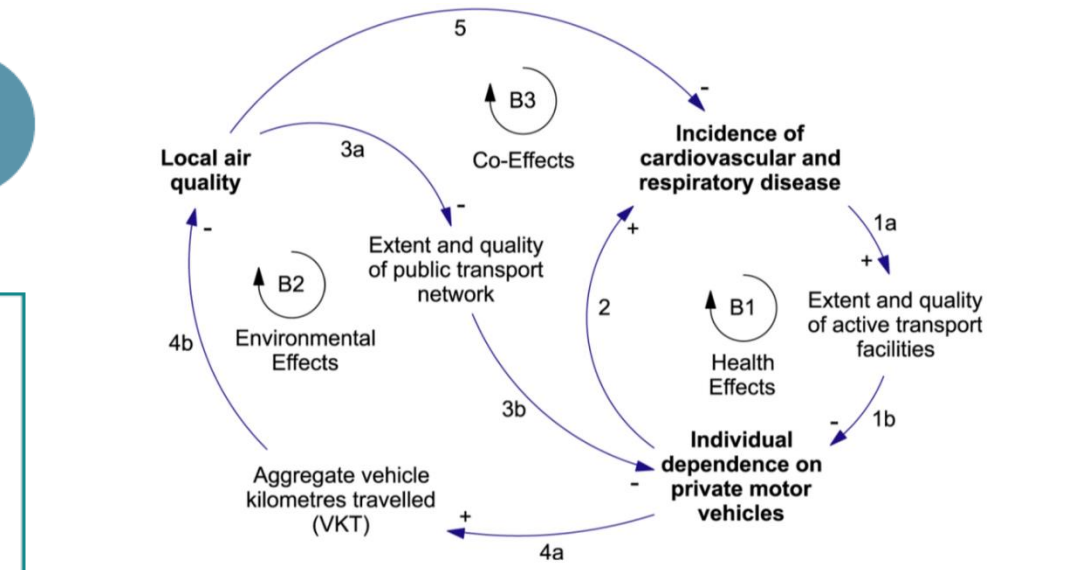
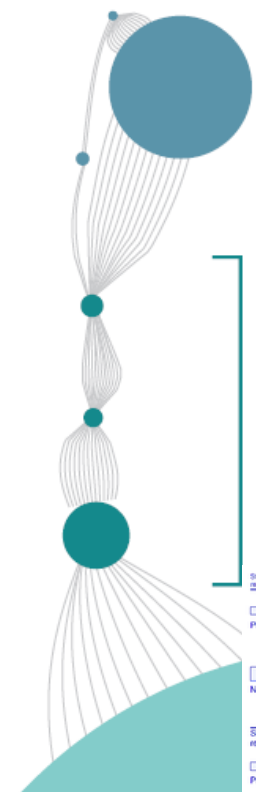


How to map core production-consumption systems?



Enterprises

| | |
|-------------------------------|-------------|
| INPUT INDUSTRY | 47,000 |
| FARMERS AND HORTICULTURALISTS | 11,989,000 |
| FISHERS AND AQUAFARMERS | 98,000 |
| FOOD AND DRINK MANUFACTURERS | 289,000 |
| WHOLESALE AND SUPPLIERS | 208,000 |
| RETAIL AND SERVICES | 2,550,000 |
| CONSUMERS | 505,572,000 |



How can we achieve the needed change?

SUPPORTING TRANSITIONS

Pathways, trade-offs, systemic risks

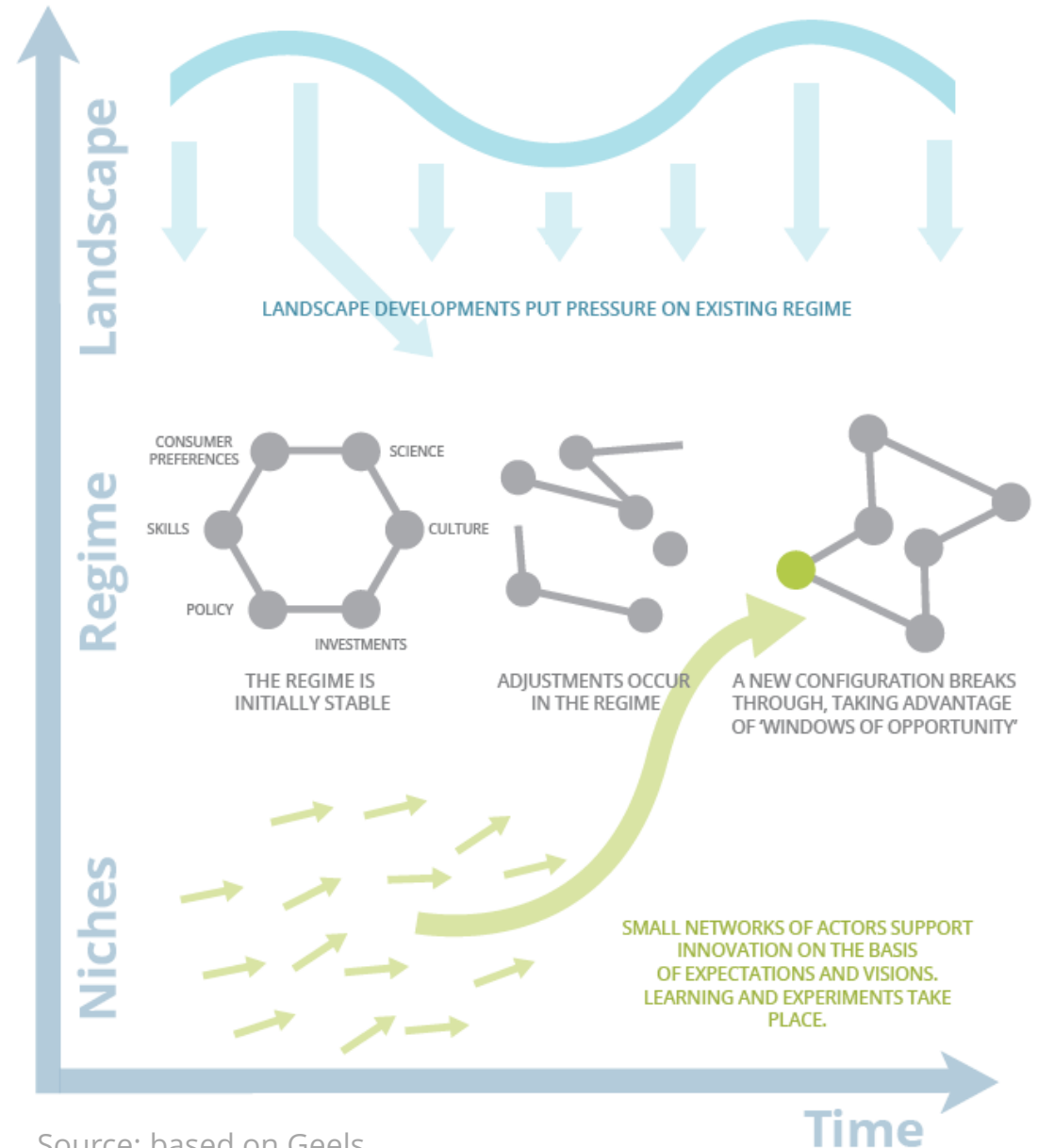
Learning, innovation and experimentation

Policy coherence, innovative and adaptive governance

Knowledge, networks and partnerships

Transitions are complex, emergent processes, entailing changes in institutions, practices, technologies, policies, lifestyles and thinking.

They cannot simply be managed in a top-down way (although governments have an essential role to play).



Source: based on Geels



How can we achieve the needed change?

Part 2 could explain and illustrate the role of:

- The EU, governments at all scales and policy mixes in enabling transitions
- Innovation, experimentation, investment, upscaling – addressing new technologies, practices, lifestyles, values, policies, institutions
- Institutional change, open governance and networking for creating and sharing knowledge and supporting upscaling
- Forward-looking assessment tools and adaptive governance approaches in steering highly complex and uncertain transition processes

Case studies will help integrate country perspectives, illustrate and explain concepts, and engage audiences

Partnerships will be key given the EEA's constraints in capacity and resources

Synthesis: proposed aims, logic and structure

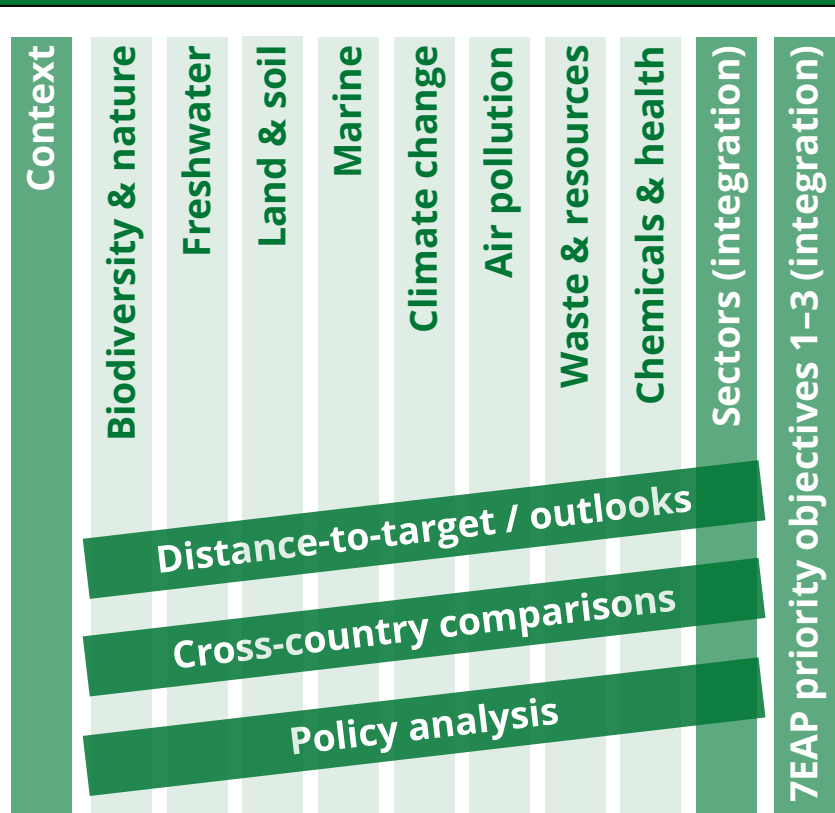
SYNTHESIS = 1 + 2 + stakeholders

| | |
|----------------------------------|---|
| Policy context: | Environmental acquis, 7th EAP, Juncker agenda, SDGs |
| Timeframe: | Medium to long term (1990-2015-2050) |
| Analytical focuses: | No new analysis, stakeholder reflection on Parts 1 and 2, updated piano table |
| Forward-looking analysis: | Updated piano table, green growth, low-carbon /circularity prospects |
| Stakeholder process: | Engagement with key EEA stakeholders (EC, EP, countries) to reflect on the findings in Parts 1 and 2, in particular piano table and forward-looking aspects |

SOER 2020: the complete structure

Part 3: SYNTHESIS = 1 + 2 + stakeholders

Part 1: SOE Assessment



Part 2: SYSTEMS ASSESSMENT

SUSTAINABILITY GOALS AND CHALLENGES

7EAP vision: 'Living well within the planet's limits'

Circular economy Decarbonisation
Natural capital Health and wellbeing

Global context

Global megatrends Planetary boundaries SDGs

UNDERSTANDING SYSTEMS

Core societal systems with most environmental burden (food, energy, mobility, urban) and key supporting systems (fiscal, finance)

Socio-technical, -economic and -ecological perspectives

Systems interactions, feedbacks, lock-ins

Environmental impacts and resource nexus

SUPPORTING TRANSITIONS

Pathways, trade-offs, systemic risks

Learning, innovation and experimentation

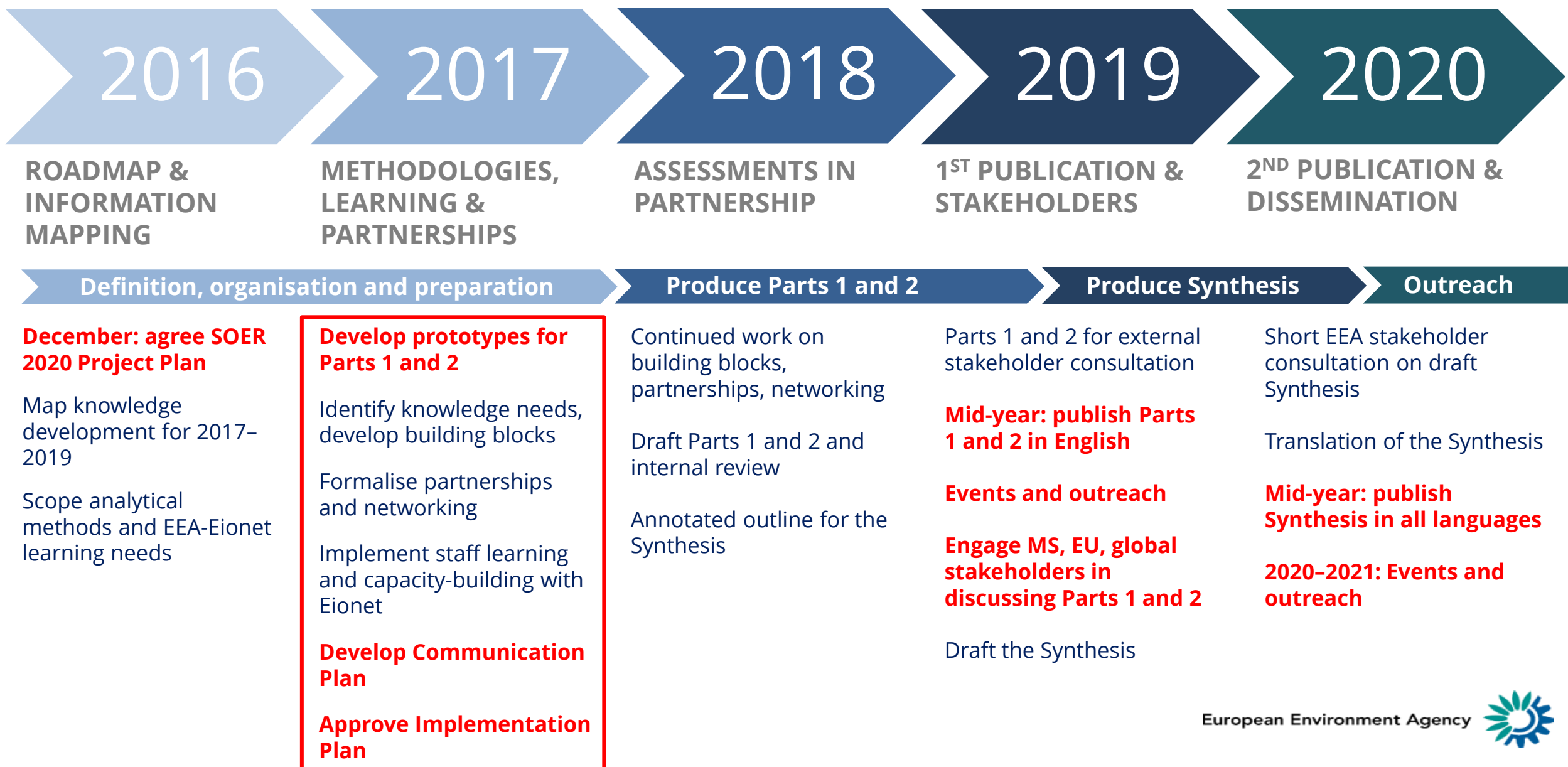
Policy coherence, innovative and adaptive governance

Knowledge, networks and partnerships



SOER 2020 project plan and implementation in 2017

SOER 2020: overall timeline and milestones



SOER 2020 – Eionet interactions

Eionet involvement in the SOER 2020 process will be described in the Implementation plan alongside other stakeholder engagement. It is likely to include:

- **NFP coordination in countries and link to MB**
- **Review**
- **Dialogue EEA-Eionet and within Eionet** (exchange views, feedback)
- **Inputs** (existing data and information provided via regular processes, plus potential additional inputs e.g. case studies)
- **Co-created knowledge/ information**
- **Participation in the Advisory group for Part 2 (and 1?)**
- **Participation and contribution to the ‘winter school’**



SOER 2020: NRC SoE and FLIS contributions

NRC SoE contributions to Part 1 (and 2)

Feedback on SOER2020 prototypes and Implementation plan

Capacity-building and **sharing experiences**, for example on summary trends assessments (piano table)

Support the organisation of **review process**

Discussion on **potential country inputs and ways to link to national SoE** and processes

Is an advisory group needed for Part 1?

NRC SoE

NRC FLIS contributions to Part 2

Co-creation of information on:

- Horizon scanning – detection and analyses of key emerging issues, risks and opportunities
- GMT impacts at national and European levels – Eionet report in 2018

2 working group: expression of interest by 13 March 2017

Capacity-building forward-looking and systems assessments:

- ‘Winter school’ contribution
- Guidebook on sustainability assessment

Advisory group Part 2 - participation

SOER 2020 NRC SoE/FLIS activities 2017

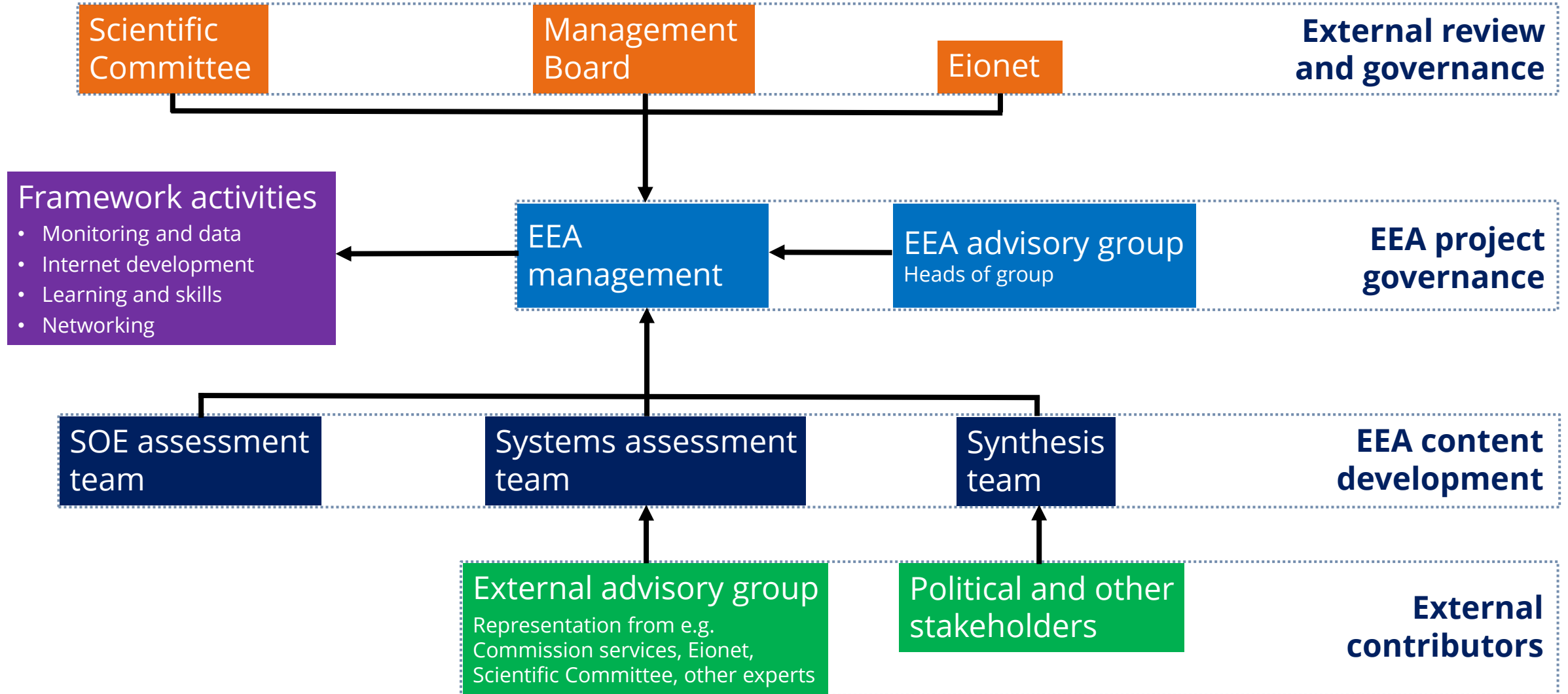
- **Joint NRC FLIS/SoE meeting 26-28 September in Bratislava (SK)**

| | 26 Sept | 27 Sept | 28 Sept |
|----------|-------------------|-----------------------------|---------|
| NRC FLIS | ½ day WGs meeting | Joint session on prototypes | Annual |
| NRC SoE | | | Annual |

- NRC FLIS: 2 expert meetings, 2 or 3 webinars (tbd)
- NRC SoE: 1 webinar (tbd)

Thank you

SOER 2020 content development and governance structure



Essential framework activities

- **Data and indicator systems:** dynamic, interactive, accessible systems to support the SOER 2020 'snapshot', e.g. Reportnet
- **Partnerships and stakeholders:** EKC, Eionet, academic partners to support co-creation and manage resource constraints
- **Training and capacity-building:** focusing learning on knowledge and skills needed for SOER 2020
- **Web presentation:** website navigation, presentation, visualisation

Next steps in 2017

Prototypes for Parts 1 and 2 will clarify the assessment focus and structure, knowledge needs and investment priorities

Communication Plan: COM will prepare a plan for production, dissemination, events and outreach

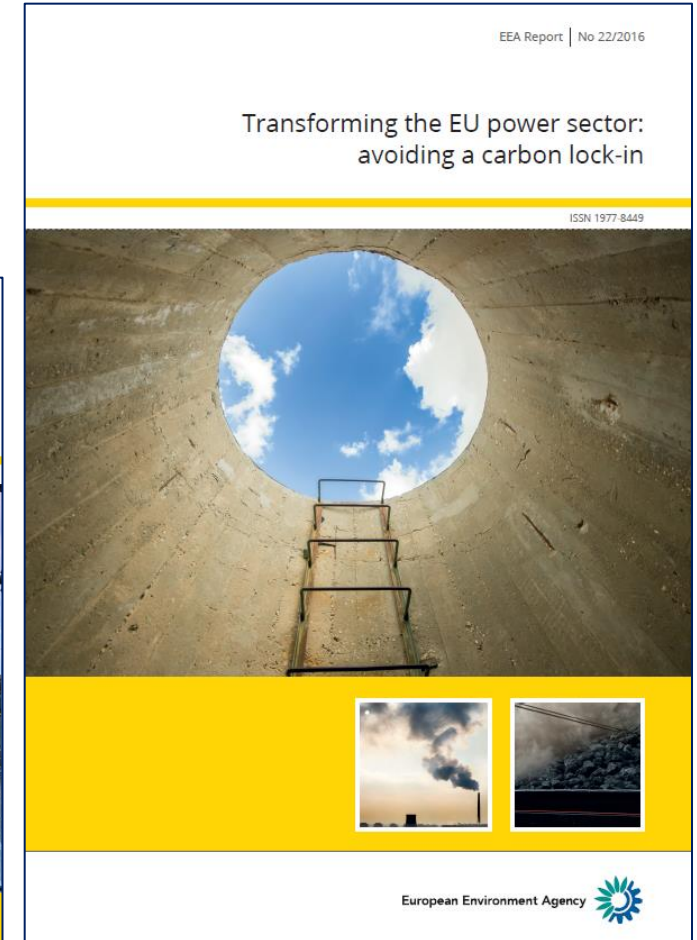
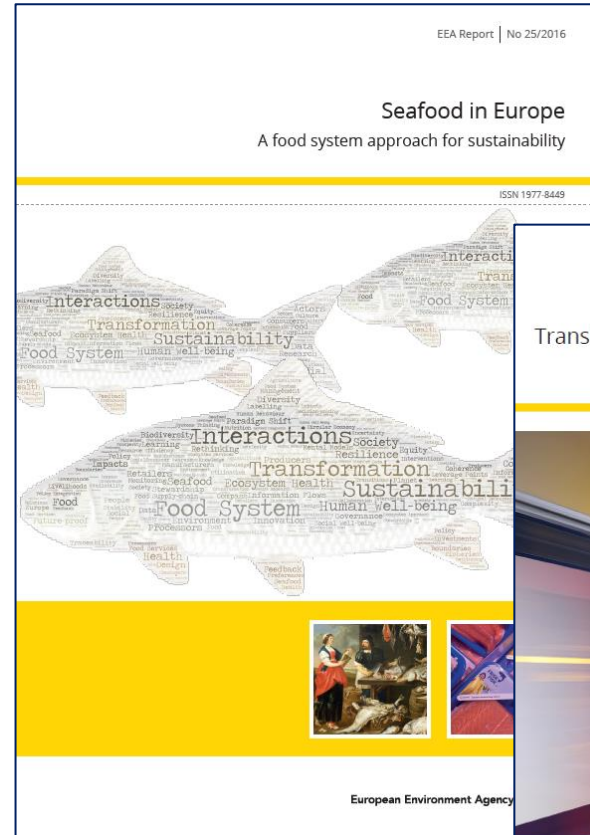
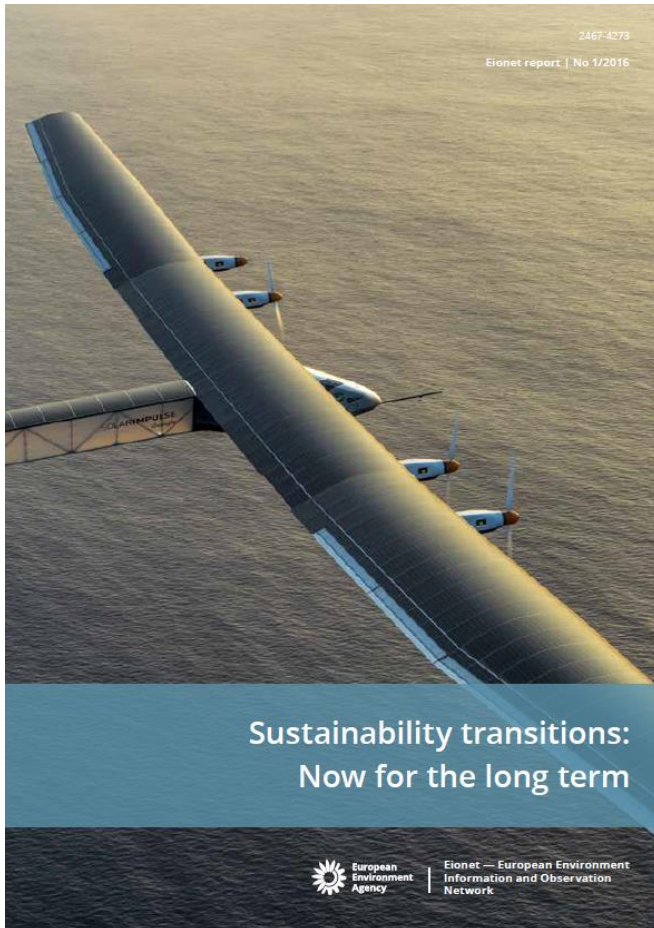
Implementation Plan: complementing the Project Plan and prototypes with more detail on outputs, timelines, resources, etc.

Meetings with stakeholders: Scientific Committee, NFPs and Management Board (March), NRCs (Autumn), Commission services, etc.

Building blocks and learning: developing needed evidence and skills to deliver Parts 1 and 2



EEA is exploring different systems and analytical approaches



The systemic perspective and the SDGs

Acknowledging that sustainability depends on transforming multi-functional societal systems leads to **a narrative addressing the many dimensions of human well-being**



| Part 2: SYSTEMS ASSESSMENT | |
|--|--|
| SUSTAINABILITY GOALS AND CHALLENGES | |
| 7EAP 2050 vision | Green, circular, low-carbon economy |
| | Natural capital, green infrastructure |
| | Well-being, SDGs |
| Global context | Global megatrends |
| | Planetary boundaries |
| UNDERSTANDING SYSTEMS | |
| Core social-ecological-economic systems: food, energy, mobility, urban, water, land, fiscal, finance, etc. | Environmental impacts |
| | Lock-ins, feedbacks, trade-offs |
| | Systemic risks |
| | System interactions |
| SUPPORTING TRANSITIONS | |
| Policy mixes and public administration | Innovation, learning, experimentation |
| Visions, pathways, adaptive governance | Knowledge, networking and partnerships |



The 7EAP priority objectives and the SDGs

Priority objective 1: to protect, conserve and enhance the Union's natural capital (SDGs 6, 14, 15)

Priority objective 2: to turn the Union into a resource-efficient, green, and competitive low-carbon economy (SDGs 7, 8, 9, 11, 12, 13)

Priority objective 3: to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing (SDGs 2, 3)



Potential roles for the Scientific Committee

- Quality assurance of analysis across SOER 2020
- Seminars to explore key topics
- Membership of the Part 2 external advisory group
- Contributions to training (e.g. 'summer school')
- Individual contributions and interactions re the assessments



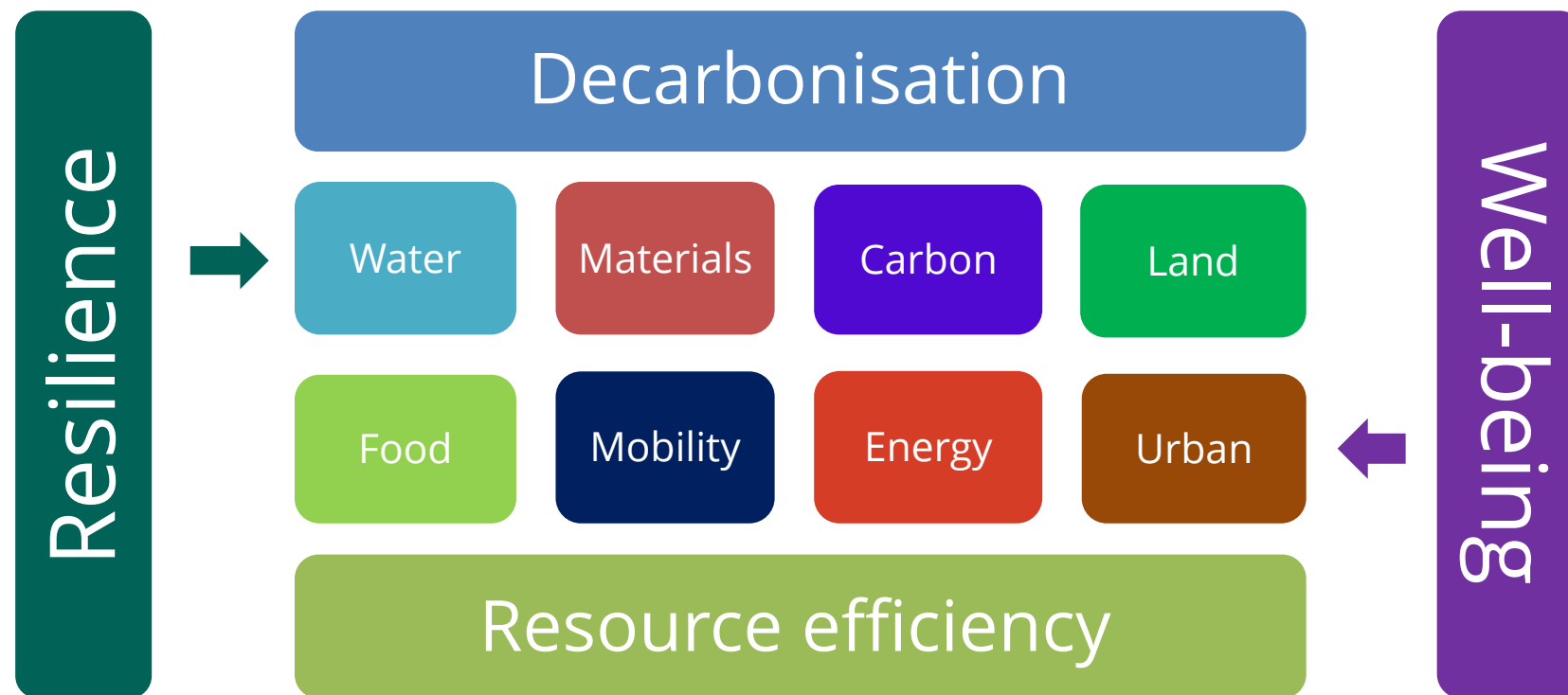
SOER 2020 Project Plan development

Autumn 2016 – February 2017

- Internal meetings and consultations to agree SOER 2020 structure, governance, resource needs and framework activities (data, web, training etc.)
- DG ENV consultations in October and December
- SMT review of the draft project plan on 28 November
- Initial discussion with Management Board and Bureau in December and January
- **Finalisation of the project plan due by mid-February**

Systems, resources and EU policies

Low carbon economy



Circular economy



Shared barriers to change across diverse systems

Scientists have analysed complex societal systems from diverse disciplinary perspectives.

Their analysis points to various **shared systemic characteristics and barriers to change.**

