The European Environment State and Outlook 2015

‘Soil’ fiche

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SOER 2015
A suite of product(s): short briefs + up-to-date indicators

Related (flanking) activities
- Synthesis report
- 3 indicator reports & stakeholder workshop
- Signals 2015 and other derivatives

Synthesis & Derivatives

Global Megatrends (Europe in global context)

3 indicator reports &-up-to-date indicators

Flaking FLIS

A

B

C

GMT fiches

Thematic fiches

Country fiches & cross-country comparison fiches

Flaking FLIS

SOE online

European Environment Agency
SOER 2015
The path from SOER 2010 to SOER 2015

Draft selection of Part B and Part C topics (incl. Eionet consultation)

SOER 2015 Implementation Plan

SOER 2015 Project Plan

Publication of SOER 2015

2011 - Reflecting
2012 - Planning
2013 - Preparing
2014 - Producing

Final selection of focus for all parts (by Dec) - Phase 1

First Draft Part B & Part C (by Mar), Part A & Synthesis (by May) - Phase 2

Quality assurance and Eionet consultation (including MB Seminar★) - Phase 3

Final Draft Part B & Part C (by Jul), Part A & Synthesis (by Sep) - Phase 4

Final quality assurance, final updates, SOER 2015 Online finalisation (by Nov) - Phase 5
SOER 2015
Part B – Thematic fiches

• **Focus:** A series of brief summaries of state and trends in key environmental themes, guide through EEA knowledge base.

• **Progress (2014):**
  - first draft of 25 thematic fiches by end of March
  - Eionet review process until 02 May, feedback from 25 countries
  - additional feedback from DG ENV, DG CLIMA, DG MARE, JRC, SC

• **What’s next (until summer):**
  - second draft fiches to be developed by Jul 2014;
  - final fiches (i.e. data updates) to be developed by Nov 2014
SOER 2015
Focus: SOER 2015 Thematic Fiches
<table>
<thead>
<tr>
<th>Environmental themes cluster</th>
<th>Socio-economic dimensions cluster</th>
<th>Systemic perspectives cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air (*)</td>
<td>Agriculture</td>
<td>Green economy</td>
</tr>
<tr>
<td>Biodiversity (*)</td>
<td>Consumption</td>
<td>Natural capital and ecosystem services</td>
</tr>
<tr>
<td>Climate change adaptation, impacts and vulnerability</td>
<td>Energy (*)</td>
<td>Land System</td>
</tr>
<tr>
<td>Forests</td>
<td>Industry</td>
<td>Hydrological systems</td>
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<tr>
<td>Freshwater (*)</td>
<td>Maritime activities</td>
<td>The air and climate system</td>
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<tr>
<td>Soil</td>
<td>Tourism</td>
<td>Urban systems</td>
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<tr>
<td>Marine and coastal environment</td>
<td>Transport (*)</td>
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<tr>
<td>Mitigating climate change (*)</td>
<td>Health and the environment</td>
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<tr>
<td>Noise</td>
<td>Resource efficiency (*)</td>
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<td>Waste (*)</td>
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</tbody>
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Note: (*) indicates that topic corresponds to a topic for cross-country comparison fiche (Part C).
SOER 2015
Part B – Fiche structure

Title title title


Section 1: context

Economic expansion has imposed ever greater demands on natural systems—both in terms of the amount of resources that we extract and harvest and the volume of emissions and waste that we expect the environment to absorb and neutralize.

As is increasingly understood, this cannot continue indefinitely, the environment has natural limits in terms of how much it can provide and absorb.

Consider the basic facts. If global GDP grows at 3.8% annually, then a century from now the world economy will be almost 20 times larger than today. Already, humans appropriate more than half the available freshwater and exploit most of the good-quality soil resources. We are using up more carbon in our atmosphere and greenhouse gases and waste. And this is creating critical environmental thresholds, leading to greenhouse and irreversible damage to ecosystems.

We have to reflect on the damage these trends are already starting, or the economic growth isn’t just a preferable path to economic development. On the contrary, in the long term it’s the only way to sustain economic growth. “Green growth” destroys our natural systems can’t be justified by a given price. It offers, ultimately, will diminish our prosperity in every sense.

In contrast, the objectives of a green economy are to meet our needs—for food, transport, energy and so on—in a sustainable and equitable way.

Section 2: key trends

This aspect is crucial for a variety of reasons. For one thing, the benefits we derive from the environment or the harm that we suffer due to degradation are not always reflected in prices and economic decision-making and thus require separate consideration.

Equally important, there is a need to ensure an equitable distribution of the benefits (and also the costs) of the transition to a green economy. In balancing environmental, economic and social elements, the green economy concept evidence has much in common with the notion of sustainable development—albeit with a focus primarily on the environmental and economic aspects.

EOA analysis SOER 2010, environmental indicator report 2012, 2013, 2014 => have looked at the GS issue from different angles...

Independent of environmental, economic and social domains means that building an effective green economy can require very diverse areas of activity.

By itself, however, this does not mean that it is possible to achieve green growth. We need actions to reduce the environmental impact of economic activities and improve efficiency.

In conclusion, the development of a green economy will require a clear understanding of the sustainability challenges that we stand today and how we are progressing. As set out in the “Sustainable Development Report” (UNEP, 1997), that means translating the strategic vision into concrete and measurable goals, targets and indicators, supported with appropriate communication, participation, continuing assessment and institutional capacity.

In Europe today, many of these elements are to be found in environmental and economic policy. The EU has established policy goals extending as far ahead as 2050 in a few areas, along with numerous others across a much wider range of policy fields as part of its Europe 2020 strategy.

In many cases, these goals are accompanied by relevant targets and indicators for their implementation.


NOTE: Layout and design of fiches is still under discussion.
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Part B – Fiche structure

Section 3: prospects

EIR 2012 sought to quantify progress towards environmental targets and objectives, indicative of ecosystem resilience and resource efficiency. With its environmental indicator report 2012, the EEA undertook its first analysis of Europe’s progress in green economy, using ten key indicators to assess resource efficiency and a further six addressing ecosystem resilience (EEA, 2012b). The findings, summarised in Table 1.1, indicate a mixed performance, although they appear to suggest that Europe has made more progress in improving resource efficiency than preserving ecosystem resilience.

Table 1.1: Resource efficiency and ecosystem resilience

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource efficiency</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td>Ecosystem resilience</td>
<td>50%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Global response: MEDG, MEAs, institutions of global governance.


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Part B – Thematic fiches: Soil

  (access with Eionet credentials)

• **Focus**
  • Soil functions and soil degradation processes
  • Selection of most relevant, i.e. non-exhaustive

• **Policy context**
  • EC Soil Thematic Strategy (COM(2006)231)
  • UN Rio+20 Summit outcome (A/RES/66/288)
  • EU Environment Action Programme to 2020 (Decision 1386/2013/EU)
Soil delivers a range of ecosystem services to society, the most visible of which is biomass production - the production of plant and animal materials for food and other uses.

In addition, soil provides many other ecosystem services that are indirectly used by humans. These services include the storage and release of carbon, water, and nutrients. Such services are more difficult to value in economic terms.

Human activity plays a key role in soil degradation processes. Some of these processes are close to irreversible (e.g. soil sealing) or costly to resolve (e.g. soil contamination). However, other processes (such as the decline in soil organic carbon) are manageable by choosing an appropriate land management option.

Sustainable land use and soil management are therefore imperative in sustaining the functions of soils. Soil management approaches that have proven successful should be encouraged in addition to exploring innovative routes.

Continued efforts to survey the state of soil and the many pressures affecting the soil resource are required.
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Part B – Thematic fiches: Soil

• Key trends
  • Biomass production as a provisioning service of soil
    😞 Affected by ... – focus on ‘land take’
  • Soil organic carbon pool as a regulating service of soil
    😞 Affected by ... – focus on erosion
  • Storage, filtration and transformation as a supporting service of soil
    😞 Affected by ... – focus on contamination and soil management intensity
• **Prospects**
  
  • Information and knowledge gaps at pan-European level!
  
  • Example: SOC change under different land use and soil management scenarios

Note: the values are projected to the year 2100 using two climatic scenarios, the variability (grey area) associated to the climate data has also been calculated. Source: CAPRESE-Soil project: JRC, 2013; Lugato et al. (forthcoming).
**Feedback from Eionet consultation**

- Consultation period: 21 Mar – 30 Apr 2014
- Who?
  - DG ENV – B1, DG CLIMA
    - Note: JRC co-author
  - 10 comments in SOER Fiche Management System
    - Member: AT, CH, FR, HU, IT, NL, SK, UK
    - Cooperating: MK
    - Shared via NFPs & NRCs SOE
    - Reflecting NRC Soil input?
  - *EEA Scientific Committee*
• Feedback from Eionet consultation – Main messages
  • Agreement
    • Language needs:
      • target audience: policy-making agents
      • accessible and action-oriented
    • Be exhaustive in listing soil functions and soil degradation processes (beyond Soil Thematic Strategy)
  • Increase attention to role of soil biota/biodiversity
  • Elaborate climate change impact, mitigation and adaptation dimensions
  • Make ‘Prospects’ section more policy-oriented (e.g. CAP)
• Feedback from Eionet consultation – Main messages
  • Elaboration requested on – Mind the 1600-words limit
    • Off-site/wider environmental impacts of soil erosion
    • Effects of landscape fragmentation
    • Sustainable urban soil management
    • Effects of soil contamination on ecosystems and health
  • Controversial
    • Focus on soil degradation processes/threats rather than on soil functions
    • Suggestion to mention/include country data
COMING SOON

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Main question

Soil-related ecosystem services: contribution to ‘urbanised’ economy?

Working title:

‘Land resource efficiency – soils in urban and peri-urban zones’
Main question

Definition and assumptions
- urbanised: core urban and peri-urban (transition)
- soil is a *non-renewable* natural resource
- resource use to maximise long-term social welfare
Joint JRC-EEA technical report – planned 2015

In support of planned EC Communication on land as a resource
Thank you!

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