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The 7th Environment Action Programme:

Reflections on sustainable development and environmental policy integration

Andreas Endl & Gerald Berger

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Authors:

Andreas Endl & Gerald Berger

Contact:

ESDN Office at the
Institute for Managing Sustainability
Vienna University of Economics and Business
Welthandelsplatz 1, Building D1, A-1020 Vienna, Austria
E: esdn-office@sd-network.eu
T: +43-1-31336-4807

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The 7th Environment Action Programme:

Reflections on sustainable development and environmental policy integration

by

Andreas Endl & Gerald Berger

The main aim of this ESDN Quarterly Report (QR) is to investigate the recently adopted 7th Environment Action Programme (EAP) of the European Union, which is the European Union's main strategy for environmental policy and, in particular, environmental policy integration. In this respect, the 7th EAP builds on existing policy initiatives, such as the Europe 2020 Strategy and the renewed European Sustainable Development Strategy, and aims to tackle environmental challenges which should help achieve long-term sustainable development goals. To this context, this QR provides an analysis to investigate the 7th EAP with respect to the concepts of sustainable development and environmental policy integration.

In the first chapter, in order to better understand the logic of environmental policy and how it is linked to sustainable development policy, the QR explores the underlying concept of natural resource and environmental management (NREM) and its relation to the concept of sustainable development. The second chapter provides an overview of the most pressing environmental challenges Europe is facing by drawing on environmental monitoring data, and follow up of objectives, targets and policy implementation. The indication for urgent action of environmental impacts informed the assessment of the previous 6th EAP and, furthermore, mirrored with new aspects taken up in the recent 7th EAP. This third part of the QR is dedicated to the analysis of the 7th EAP, undertaking by applying three lenses: a conceptual and thematic one with regard to natural resource and environmental management; a she second lens refers to the way environmental policy integration has been approached in the 7th EAP; in addition, we highlighted what is the added-value when applying a sustainable development (SD) perspective. In the concluding forth chapter, we shed light on 7th EAP's contribution to sustainable development and where critical ambiguities with respect to environmental policy integration and sustainable development exist.

Contents

1 A Conceptual basis: natural resource and environmental management, sustainable development and environmental policy integration

The first part of this section elucidates the conceptual differences between **natural resource and environmental management (NREM)** and **sustainable development (SD)** in order to better understand the complementarity of the two concepts. This section elaborates on the different interpretations of the integration principle within SD and NREM, which is an essential context for this report. In a next step, the conceptual underpinning of SD and NREM are explicated on the example of the renewed European Sustainable Development Strategy (EU SDS) and environmental policy in general.

The second part describes the concept of **environmental policy integration (EPI)** by outlining its theoretical basis and the context in which it is applied. In this respect, we refer to EPI as i) a guiding principle for policy making, ii) a procedural (governance) aspect, or iii) an outcome of a policy process, which will inform the analysis of the 7th EAP.

1.1 Sketching the conceptual foundations: natural resource and environmental management and sustainable development

In order to better understand the similarities and differences between the two seemingly different concepts yet associated policy fields of sustainable development (SD) and natural resource and environmental management (NREM), this part of the QR sheds light on their conceptual and theoretical underpinnings. In doing so, we enage in a three-pronged approach by:

1) outlining the most common principles of SD while referring to convergent, complementary, as well as divergent aspects of natural resource and environmental management (NREM);

2) comparing the renewed European Sustainable Development Strategy's most crucial characteristics to NREM in general and, more specifically, to environmental policy in general;

3) sketching briefly the concept of environmental policy integration – the bridge between SD and NREM.

1.1.1 A conceptual note on sustainable development: a principle based view

A multitude of different interpretations have been provided by a wide range of authors describing the concept of sustainable development and associated policies and instruments (for more information see Waas et al., 2011 or Kates et al., 2005). Notwithstanding the importance of this pleothora of definitions, this QR will outline the concept and related policies by explaining the underlying principles. Since a single and reasonably short definition cannot provide sufficient guidance for implementation, a set of normative principles of sustainable development are often used in addition to the definition of the Brundtland Commission (or other authors). In doing so, and as pointed out by Kiss (2003), the concept of sustainable development and its underlying principles

can be more easily explored and translated in a specific context and through specific policies (e.g. urban planning, energy, education etc).

Essentially, one of the most basic observations is that of the sustainable development principles guiding policy making, ***environmental policy integration (EPI)*** is one of many. In this respect, it is ***perceived as being an intrinsic part of SD*** (for further information on EPI please see chapter 2). We list below the most commonly agreed principles of SD:

Principle of balancing

Arguably the most important principle of sustainable development is the principle ***of balancing environmental and social concerns (UN, 2012, para. 39) with issues for economic development***. Although this principle is usually referred to as the principle of integration, here the authors relate to its most fundamental rationale, namely balancing the concerns of the social, environmental, and economic dimension (for further differentiation see "The principles of balancing and integration"). The principle of balancing different sectoral policy areas and their related needs and challenges is one of the most significant principles of sustainable development. This principle is linked to the other principles related to SD (e.g. participation of stakeholders representing environmental, social, as well as economic concerns, or achieving social and economic development within the limits of the environment).

Principle of inter-generational equity

In broad terms, inter-generational equity takes into account ***future generations' needs*** (UN, 2012, para. 39). Essentially, it renders an important dimension of SD, as it implies long-term thinking and the current commitment to safeguard against the likelihood of adverse future impacts. By taking an early precaution against potential adverse impacts, this principle is closely linked to the 'precautionary principle'.

Principle of intra-generational equity

Intra-generational equity refers to the ***fairness of the distribution of resources*** (e.g. economic or environmental resources with regard to access, use, and benefits) and risks (e.g. minimisation of ecological or social burden shifting) within the current generation (UN, 2012, para. 19-20). Thus, a heterogeneous spatial distribution of benefits and risks has social and economic implications, and consequently impacts human well-being within global society, predominantly affecting the poor in developing countries.

Principle of environmental limits

The ***functioning of the bio-geophysical system*** (i.e. provision of natural resources and raw materials, ecosystem services such as the ozone layer, and the absorption of waste originating from production as well as consumption processes) constitutes the material and immaterial basis for human development. Unsustainable use of natural resources contributes to climate change and the depletion of the non-renewable resource base, which irreversibly deteriorates the bio-geophysical system's functions. Damaging this system beyond its regenerative capacity will constrain global society's capability to fulfil its basic needs, for present as well as future generations.

Principle of public participation

The Rio Declaration's Principle 10 essentially summarises what has later become the Aarhus Convention: "Environmental issues are best handled with ***participation of all concerned citizens***, at the relevant level." More specifically, the principle of public participation is well-established in the European Union (e.g. the Aarhus Convention and the regulation related to its application, European Governance: A White Paper, etc.), and is widely recognised as a necessary requirement for a democratic society.

Principle of (Good) Governance

As discussed by Rogers et al. (2008), the principle of ***governance for sustainable development*** depicts an important enabler for all beforementioned principles. More specifically, with regard to policy making, it requires horizontal integration of sectoral policies, closer co-operation between different tiers of government (vertical integration), integrating different stakeholders in decision-making (participation), considering different types of knowledge throughout the policy-making process (reflexivity), and balancing short- and long-term time scales (intergenerational equity).

1.1.2 A conceptual note on natural resource and environmental management

In its broadest sense, natural resource and environmental management (NREM) represents ***actual decisions and actions concerning policy and practice on how resources and the environment are managed*** (Mitchel, 2002). The aspect of actions and decisions encompasses interactions between the social/societal and ecological spheres (i.e. not only about the functioning and activities of the environment itself), while the questions of management (the "how") involves diverse functions such as research, planning, or more specifically, policy decision making.

With regard to the ecological sphere, NREM involves the management of all components of the ecological sphere, both living (biotic) and non-living (abiotic) due to their interconnectedness (i.e. living organisms and their habitats), whereas the social sphere encompasses inter alia technological, organisational, cultural, and other aspects.

Barrow (2006) indicates that the goal of NREM is to improve environmental stewardship by integrating means such as ecology, policy making, planning, and social development. In this respect, Barrow lists a series of goals needed to achieve NREM, which can be ultimately linked to underlying concepts or principles (some of which are listed in the table below).

Goals for NREM	Associated with principles
Sustaining and, if possible, improving natural resources	Environmental protection and stewardship
Establishing limits	Respecting ecological boundaries/carrying capacity
Prevention and resolution of environmental problems	Precautionary principle and polluter pays principle
Founding and nurturing institutions that effectively support environmental research, monitoring, and management	Environmental governance

Table 1 Goals of NREM and associated underlying principles; adapted from Barrow (2006)

1.1.3 NREM and SD: Reflections on conceptual differences and similarities

First of all, it needs to be recognised that both concepts have been influencing each other on policy as well as scholarly debate. More specifically, Diduck et al. (2012) pointed out that sustainable development has been highly influential in NREM, impacting policy and management goals as well as shaping principles, concepts, and tools for achieving those goals.

In general, SD concerns (human) development framed within the context of two axioms – needs and limits (Daly et al., 1994; Goodland & Daly 1995; Mitchell, 2002). With regard to the former, sustainable development clearly goes beyond NREM when it comes to addressing needs of humans varying across time and space. Referring to the latter, sustainable development envelopes ecological limits (besides technological, organisational etc.), which are central to the concept of natural resource and environmental management.

A more systematic comparison between the concepts of sustainable development and NREM is indicated in the table below, referring to the underpinning principles of sustainable development and their relation to NREM. Nonetheless, the principle of integration will be given an outstanding role during the reflections outlined further below (see part on "Environmental policy integration").

Principles underpinning the concept of sustainable development	Relation to natural resource and environmental management
Principle of balancing (also referred to as principle of integration)	Compared to sustainable development, for NREM integration means making sure that environmental concerns are incorporated into the many areas of decision making, rather than balancing different sector issues on an equal basis. More specifically, in the case of policy-making, the principle of environmental integration becomes crucial (for further information please refer to "Reflections on conceptual differences and similarities")
Principle of Inter-generational equity	*The precautionary principle, which is related to this principle, is also central to NREM. It is particularly important for environmental protection: "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." (Principle 15 of Rio Declaration).*
Principle of Intra-generational equity	In this context, NREM refers to equitable access to fundamental eco-system services and natural resources in order to facilitate human development. Besides the access and the associated benefits through their use, intra-generational equity also means taking care that the burden of the negative environmental impacts produced by different groups of society or in different geographical regions are not to the disadvantage of others (e.g. predominantly affecting the poor in developing countries).
Principle of environmental limits	The concern for sustaining the functioning of ecological systems (in terms of service provision and natural resource production) is the ultimate objective of NREM. In this regard, respecting the limits to their regenerative and productive capacity is undoubtedly the foundation for NREM, towards which all efforts are directed at.
Principle of good governance	Regarding good governance, aspects such as integrating environmental concerns, or making use of knowledge on environmental impacts and ecological thresholds for decision-making, become crucial to enable goals for NREM. Since

Principles underpinning the concept of sustainable development	Relation to natural resource and environmental management
principle	environmental concerns are not per se part of various policy fields such as transport, agriculture, or finance, integrating these concerns is central to environmental governance. A more thorough discussion can be found in chapter 2 on environmental policy integration.
Principle of participation and access to information	Participation with regard to NREM might entail the advocacy of or inclusive decision-making for environmental concerns via different stakeholders or groups of society. These stakeholders might not be the explicit benefactor or burdened group with regard to environmental issues, but might be represented by larger bodies such as environmental NGOs, public institutions such as ministries, or research (e.g. providing the necessary knowledge on environmental issues for decision-making)

Table 2: SD principles and their relation to NREM

1.1.4 The principle of balancing and integration: differences and complementarity between SD and NREM

Compared to NREM, the balancing principle of SD engages in a tripartite approach by balancing the environmental dimension with social and economic ones. In this respect, it goes beyond mere environmental concerns (i.e. including the so-called social sphere) and emphasises the interdependencies (synergies and trade-offs) between them. Originally, SD was primarily perceived as the integration of environmental considerations in other policy fields (Berger & Steurer, 2009), however, the focus has shifted from the predominance of environmental concerns to socio-economic development throughout its evolution as a concept.

However, difficulties may emerge when prioritising objectives in one dimension, which might jeopardise the achievement of objectives in other areas. Thus, when engaging in a balancing approach in SD policy making, ***potential trade-offs need to be made transparent***, which might allow for the development of ex-ante mitigation measures. At the same time, this strength potentially relates to its most crucial shortfall: The complex interdependencies between environment, social, and economic dimensions might compromise the capability of stakeholders to act, due to the wickedness and ambiguity of challenges emerging out of them. This problem of inherent ambiguities associated with sustainable development becomes especially imminent when formulating more concrete policy objectives (Lenschow, 2002a; Collier, 1994). Persson (2004) highlights that the balancing of environmental, social, and economic issues as an undoubtedly enormously complex endeavour.

1.2 Environmental policy integration – an overview

In general, environmental policy integration (EPI) is the process of placing environmental considerations at the heart of decision-making in other (non-environmental) sectoral policies, such as transport, energy, and agriculture. More specifically, EPI has been referred to as an early process of coordination between sector and environmental objectives, in order to find synergies between the two or set priorities for the environment in sectoral policy fields (Hey 2002).

Jordan and Lenschow (2010) attribute fundamental importance to the concept by claiming that it "constitutes one of ***the*** **guiding axioms of green thinking and practice**" for both the policy sphere as well as the societal sphere in general.

1.2.1 The concept of environmental policy integration

Jordan and Lenschow (2010) refer to the ascent of environmental policy integration (EPI) in the 1990s, when it garnered not only widespread attention in the policy-making, but also in academic research. In this respect, many scholars developed different definitions and interpretations for EPI (i.e. normative versus rational/positive principle according to Jordan and Lenschow, 2010; Persson, 2004) and what EPI constitutes in a different contexts:

1) at **policy governance as well as political context** (Jordan and Lenschow, 2010; Schout and Jordan 2005; Lenschow 2002a; Lafferty and Hovden 2003);

2) at **different scales - the EU, the national, as well as sub-national level** (Weale, Pridham et al. 2000; Hertin and Berkhout 2003; Walti 2004) and

3) in **different sectoral environmental areas** - transport, energy, agriculture (Nilsson, 2005; Jordan and Lenschow, 2002).

At first, we give credit to the way EPI is used as a principle in policy-making (i.e. answering the question what EPI means and "Why" or on what basis it is applied), while in a next step we elucidate on the context in which EPI is applied and used (i.e. Answering the question of "How" and "Where" does integration take place).

1.2.2 EPI as normative necessity or rational choice

In general, there are two ways in which environmental policy integration can be perceived in policy-making: As pointed out by Persson (2004), the concept of EPI first developed as a normative concern (i.e. "the environment needs higher priority in sector policy-making"). Furthermore, it can be placed in a rationale context, where environmental concerns are considered earlier or in a more preventive way in sector policy decision-making processes.

In this respect, Persson (2004) provides the following arguments for a normative or rationale concept of EPI:

- Arguments for choosing a **normative** approach "could be that the existence of inherent trade-offs between policy objectives is such a dominating feature of EPI that it must be reflected at the conceptual level".
- On the other hand, a **rationale** stance on EPI allows for a more general and flexible position on integration. That is, "even when environmental concerns are given less weight [i.e. contrary to the normative approach] and integration is only marginal, it could be seen as a first step in a long-term process.", and, furthermore, "integration does not always take place at the political level, where important normative judgements should be made, but is sometimes dealt with by civil servants [e.g. at the administration and implementation level, respectively]".

1.2.3 EPI in the context of policy processes and outcomes

The following paragraphs should enlighten the reader about the widespread, contextualised use and interpretation of EPI. Further elaborating on this will help the reader to understand the manifold manifestations of EPI with respect to practical environmental policy processes, instruments, or institutions, such as the analysis of the 7th European Environment Action Programme (see chapter 3). In other words, this should clarify the meaning of EPI in the context of the policy process (governance) level as well as in policy outcomes (for more information refer to Jordan and Lenschow, 2010 or Persson, 2004.). Essentially, in these contexts EPI is widely applied not only in a more tangible and explicit but also in an implicit and/or inherent way.

Moreover, the reflection on EPI as a process or outcome becomes particularly critical when linking the process to the actual outcome thereof: In this respect, a policy process with a high degree of EPI might lack justification, particularly if the respective policy outcome (e.g. legislation) does not deliver a positive environmental impact (Lafferty and Hovden, 2003). This problem, however, can be interpreted differently with regard to the conceptual view of EPI: with regard to a rational approach to EPI, for example, an outcome of low representation of environmental concerns would be acceptable if it has arrived through a rational decision making process (Persson, 2004).

1.2.3.1 Process (governance) oriented view on EPI

One of the most fundamental aspects of EPI happens at the level of governing processes and practices (and) among different institutional levels.

The most common approach in this respect refers to the terms of **vertical and horizontal policy integration** in general: In the case of the former, integration takes place among multiple levels or hierarchies of different political levels (i.e. from European to national down to sub-national political-administrative levels) , whereas in the case of the latter, integration takes place within departments of political institutions (e.g. departments in a national ministry)

EPI as a vertical integration process

"Vertical integration" is in this context 'government oriented', and refers to compliance to procedures and strategies from central bodies within a particular ministry or between central government and sub-national bodies. Lafferty and Hovden (2003) refer to vertical integration, or Vertical Environmental Policy Integration (VEPI) as "indicating the extent to which a particular governmental sector has adopted and sought to implant environmental objectives as central in the portfolio of objectives that the governmental body continuously pursues".

EPI as a horizontal integration process

As outlined by Lafferty (2002), horizontal environmental policy integration (I.e. spanning across governmental institutions/sectors), on the other hand, refers to "the extent to which a central authority has developed a comprehensive cross-sectoral strategy for EPI" (e.g. European Environment Action Programmes or National Sustainable Development Strategies). In that sense, recognition (and ultimately follow up on the implementation level) of such a so-called umbrella strategy at the various sectoral or individual institutions becomes very important (Persson, 2004). With regard to an umbrella strategy for horizontal EPI, Lafferty and Meadowcroft (2000) argue that a

National Sustainable Development Strategy is extremely important, as it provides a platform for transcending difficult goal conflicts.

EPI at different stages in the policy cycle

Another perspective focuses on the different points of intervention for EPI in the policy cycle. In this respect, EPI and its associated instruments attempting to intervene in the policy cycle (agenda setting, policy design, monitoring, and assessment etc.) provide a practical approach for EPI in every-day policy making (Jordan and Lenschow, 2010).

Stage in the policy cycle	Purpose of the EPI instrument	Examples for EPI instruments
Agenda setting	Influence objectives of sectoral policy making ex-ante	Cross-sectoral strategy or umbrella strategy for EPI
Policy design	Target the allocation of resources in support of certain sectoral policy objectives	Green budgeting/housekeeping
Policy design	Focus on structuring the interaction of sectoral policy makers during policy formulation and decision making	Inter-ministerial committees, liason officies
Monitoring and evaluation	Monitor and evaluate the impacts of past instruments	Environmental impact assessment

Table 3: Examples for policy cycle intervention and associated instruments to achieve it; adapted from Jordan and Lenschow, 2010

EPI in the context of political attention and embedded paradigms

Another aspect when considering EPI as a governing process is the role of political commitment (i.e. will and leadership). There exist a multitude of different factors on which political attention given to EPI depends (Jordan and Lenschow, 2010), for instance, 1) the political composition of the ruling party in government, or 2) individual political leaders.

Taking this thought further, political commitment is deeply embedded in societal paradigms or cognitive frameworks (i.e. a set of ideas "which pre-structures the thinking within a policy sector", Lenschow, 2002). According to Jordan and Lenschow (2010) these frames, for example, are perceived corresponding to national predilections, e.g. technological problem solving (Germany), social responsibility (Sweden), good governance, and efficiency (UK).

1.2.3.2 Outcome (impact) oriented view on EPI

While the first part dealt with the question of "How should the process for EPI be conducted", the second question dedicated to this part refers to the questions "What are the properties of the outcome and the environmental objectives to be achieved". In other words, whether the policy process was conducive to integration and whether the adverse environmental impacts have been mitigated or positive ones achieved.

In this respect, the European Environment Agency (2004) provides a rather elaborate and still up-to-date example of policy outcomes (in this case responses) at the procedural level (i.e. mechanisms) for achieving EPI and the consecutive results of EPI. However, on the procedural (governance) level for EPI none of the abovementioned criteria involved much of a scale indicating the degree of EPI (Perrson, 2004).

Type of response	Examples of responses
Mechanisms to support environmental policy integration	
• High-level political commitment	Sustainable Development Strategies or integration strategies (e.g. Environment Action Programme)
• Governance organisational changes to break down walls	Linkage to multi-annual planning, budgetary, or auditing processes
• Resource and capacity building	Training and awareness raising, including inter-departmental committees
• Tools to improve decision-making	Ex-ante assessment of policies (e.g. environmental impact assessment)
• Policy instruments to implement EPI	Voluntary agreements
• Monitoring, reporting, and information	Monitoring against indicator progress
Results of environmental integration	
• Greening of sector policies	Application of polluter pays, precautionary, and prevention principles
• Changes in drivers, pressures, states, and impacts on the environment	Improved eco-efficiency, reduced GHG emissions

Table 4: Type of response/outcome with regard to procedural EPI as well as consecutive results of EPI; adapted from EEA, 2004.

2 Environmental problems and policy in the EU: a stock-taking of past developments and future challenges

The following paragraphs of this chapter provide an overview on environmental challenges faced in the EU in the context of different environmental sectors (such as waste management) or different levels of impact (i.e. from global to regional/local). The State of the European Environment Report 2010 (EEA, 2010) provides the basis for this stock-taking exercise. Moreover, the embeddedness of environmental challenges in a global context, necessitates to take a global perspective. Therefore, we provide a glance on planetary environmental boundaries and the urgency for action in the respective area.

The indication for urgent action of environmental impacts will be the basis for the assessment of the past 6th Environment Action programme (EAP) in the consecutive section. Furthermore, this chapter informs the comparative analysis whether the EU (i.e. with respect to the 7. EAP) is coming up to or adequately dealing with environmental challenges and associated commitments (see chapter 3).

In the second part, this chapter outlines the main features of EU environmental policy and, environmental policy integration (EPI) in the context thereof. At first, we describe the evolution of EU environmental policy and EPI in particular and contextualise the role of Environmental Action Programmes (EAP) for EPI. In a next step, we offer a short summary of the evaluation of the previous (6th) EAP, which will inform the analysis of the current 7th EAP outlined in the last chapter of this Quarterly Report.

2.1 An outlook on global environmental challenges

Due to the global nature of most environmental problems such as climate change or biodiversity loss, it is crucial to shed light on the urgency thereof in an global context. In this respect, an international group of scientists identified and quantified a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come ([1]) - the so-called 'safe space for humanity'. Essentially, the definition of critical planetary boundaries provides us with an indication about the urgency of action in one particular environmental topic. As outlined by the figure below, **most urgent actions need to target biodiversity loss, nitrogen cycle and climate change** in order to avoid unacceptable and undesirable environmental change.

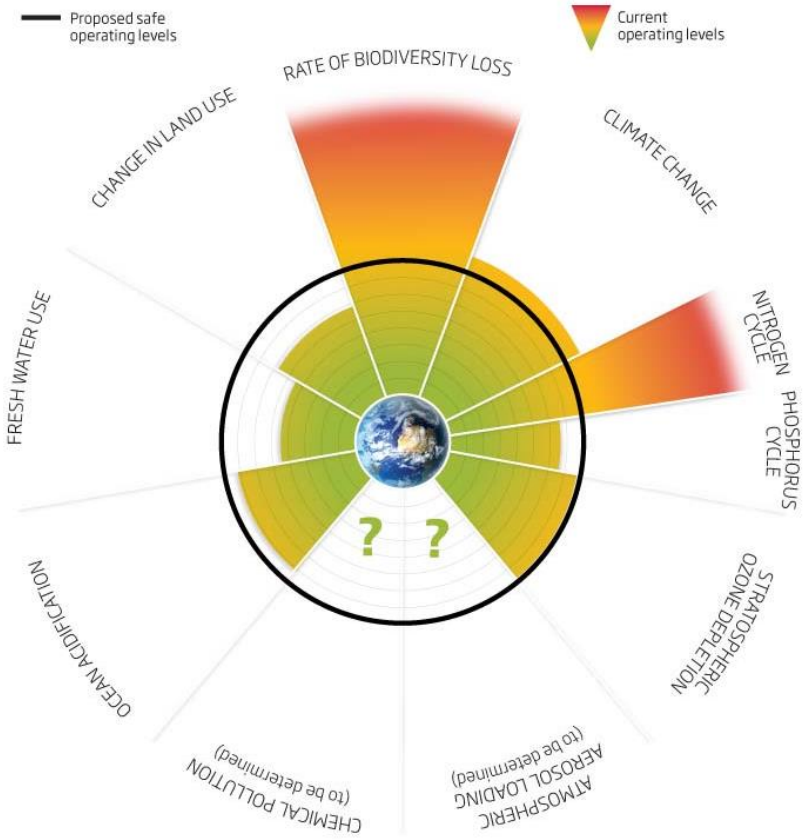

Figure 1: Planetary boundaries and safe operating levels; based on Rockström et al., 2009.

2.2 The European environment - state and outlook 2010

The State of the Environment Report (SOER) 2010 provides an assessment of the current state of Europe's environment and its likely future state. Furthermore, it deals with the questions of what is being done (e.g. policies), what could be done to improve it, and how global megatrends might affect future trends.

The following paragraphs provide a summary of 1) the integrated assessment (the synthesis of the SOER) and, for reasons of complementarity, 2) some aspects of the European-wide thematic assessments of key environmental themes (e.g. climate change, soil, consumption and the

[1] http://www.stockholmresilience.org/planetary-boundaries

environment). More specifically, the table below indicates performance of the EU regarding agreed objectives and targets as well as status of urgency for action and implementation of related policies.

Environmental issue	EU-27 target/ objective	EU-27 — on track?	EEA-38 — trend?	policy response ([2])
Climate change				
Global mean temperature Change	To limit increases to below 2 °C globally	☒	(↗)	*See climate change mitigation*
Climate change mitigation: Greenhouse gas emissions	To reduce greenhouse gas emissions; by 20 % by 2020	☑	↘	Further reductions were achieved as a combined result of policies and measures implemented to reduce GHG emissions, such as the EU Emission Trading Scheme (EU ETS). **policies are in status of implementation**
Climate change adaptation	*to manage impacts even if global temperature stays below a 2 °C increase above the pre-industrial level*	*n.a.*	*n.a.*	*The Adaptation White Paper of the European Commission constitutes a significant step in the development of an EU strategy. So far 11 European countries, and a few regions and cities, have adopted adaptation strategies.* ***policies are In status of development***
Energy efficiency	To reduce primary energy use; by 20 % by 2020 vs. business-as-usual	☐	↗	In the EU, significant improvements in energy efficiency occurred in all sectors due to technological development in, for example, industrial processes, car engines, space heating and electrical appliances. Key related efforts include the expansion and strengthening of the EU Emission Trading System, as well as setting legally binding targets for increasing the share of renewable energy to 20 % of overall energy consumption and increasing energy efficiency by 20 %. **policies are in status of implementation**
Renewable energy sources	To increase energy consumption from renewables; by 20 % by 2020	☐	↗	
Nature and biodiversity				
Pressure on ecosystems (from air pollution, e.g.	Not to exceed critical loads of eutrophying substances	☒	→	The new global and EU targets to halt and reverse biodiversity loss by 2020 are ambitious but achieving them will require better policy implementation, coordination across sectors etc.

[2] The column provides a rough qualitative estimate on the status of the associated policy response predominantly with respect to the EU level (based on EEA, 2010)

eutrophication)				
Conservation status (safeguard EU's most important habitats and species)	To achieve favourable conservation status, set up Natura 2000 network	☐	→	Recognising the need for an integrated ecosystem-based approach to reduce pressures, the EU Integrated Maritime Policy allows for the development of sea-related activities in a sustainable manner. Its environmental pillar, the Marine Strategy Framework Directive, aims to deliver 'good environmental status' of the marine environment by 2020, and the **Common Fisheries Policy will be reformed in 2012** with the aim of achieving sustainable fisheries. The success in extending Natura 2000 — the only supranational network of protected areas worldwide, now covering 18 % of EU land — is overshadowed by the fact that **biodiversity protection has not been adequately integrated into sectoral policies**. ***policies are In status of implementation and development***
Biodiversity (terrestrial and marine species and habitats)	To halt the loss of biodiversity	☒ (both terrestrial and marine)	(↘) (both terrestrial and marine)	
Soil degradation (soil erosion)	To prevent further soil degradation and preserve its functions	☒	(↗)	**Legislation** for the protection of soils **has been proposed** at EU level. **policies are in status of development**
Land use	*Data on land-cover change in Europe from 2000–2006 show that growth in built-up areas and forest land leads to a continued loss of agricultural land. Policy responses are needed to help resolve conflicting land-use demands and to guide land-use intensity to support environmental land management.*			**Integrated programmes include the EU objective for Territorial Cohesion and the Water Framework Directive**. Future directions of the EU Common Agricultural Policy (CAP) and implementation of renewable energy targets will have a significant impact on forest and agricultural land use and its intensity. **policies are In status of development or implementation**
Natural resources and waste				
Decoupling (resource use from economic growth)	To decouple resource use from economic growth	☐	↗	The policy focus on resource efficiency has recently been reinforced — resource efficiency has been identified as one of the seven flagship initiatives within the European Commission's Europe 2020 strategy

				(EC, 2010a) The Resource Efficiency Flagship Initiative (EC, 2011c) describes the scope for resource efficiency in the EU to include land, soil, air, water and biodiversity along with the more traditionally understood material inputs of, inter alia, energy carriers, metals and minerals. On the whole, even though new policies have begun to address the challenges related to the growing, efficient use of resources, the response to date has not been robust (EEA, 2012). **policies are In status of development or implementation**
Waste generation	To substantially reduce waste generation	☒	(↗)	The **6th EAP** also specifically aims at reducing the overall generation of waste and its hazardousness and moving away from waste disposal towards re-use, recycling and recovery. The **Thematic Strategy on the sustainable use of natural resources (EC, 2005a) and the Thematic Strategy on the prevention and recycling of waste (EC, 2005b)** set out a number of measures. This is reinforced by the 2011 **Roadmap to a resource-efficient Europe**, calling for virtual elimination of landfilling and limiting energy recovery to non-recyclable waste. Europe needs to curb illegal shipments of waste, tackle illegal or sub-standard landfilling, and **fully implement its waste legislation**. On the whole, even though new policies have begun to address the challenges related to the growing, efficient use of resources, the response to date has not been robust
Waste management (recycling)	Several recycling targets for different specific waste streams	☑	↗	

				(EEA, 2012). **policies are In status of development or implementation**
Water stress (water exploitation)	To achieve good quantitative status of water bodies	☐	→	Many water bodies are at risk of **failing to meet the aim of the EU Water Framework Directive (WFD)** to achieve good status by 2015. Future policies should encourage demand management through actions such as increasing water efficiency. **policies are In status of development or implementation**
Environment and health				
Water quality (ecological and chemical status)	To achieve good ecological and chemical status of water bodies	☐	→	Driven by the EU Urban Wastewater Treatment Directive (UWWTD), improvements in the collection and treatment of wastewater in some regions of Europe have led to a reduction in the discharge of some pollutants to fresh and coastal waters. Challenges remain, however, because **UWWTD implementation remains incomplete and other significant sources of water pollution exist**, especially agriculture and urban storm flows. **policies are In status of development or implementation**
Water pollution (from point sources, and bathing water quality)	To comply with bathing water quality, urban wastewater treatment	☑	↘	
Transboundary air pollution (NOX, NMVOC, SO2, NH3, primary particles)	To limit emissions of acidifying, eutrophying and ozone precursor pollutants	☐	↘	**Greater international cooperation**, also focusing on links between climate and air pollution policies, is required more than ever to address air pollution. **policies are In status of development or implementation**
Air quality in urban areas (particulate matter and ozone)	To attain levels of air quality that do not give rise to negative health impacts	☒	→	The Air Quality Directive (24) has set legally binding limits for PM2.5 and for organic compounds such as benzene. It has also introduced additional PM2.5 objectives, based on the average exposure indicator (AEI) (H) to determine a required percentage reduction to be attained in 2020. However, exposure to particulate matter (PM) and ozone (O3) remain

				of major environment-related health concern, linked to a loss of life expectancy. **policies are In status of development or implementation**
LEGEND				
Positive developments		Neutral developments		Negative developments
↘ decreasing trend		→ stable trend		(↗) increasing trend
↗ increasing trend				(↘) decreasing trend
☑ EU on track (some countries may not meet target)		☐ mixed progress		

Table 5: key environmental themes and assessment of European trends ([3])

As more detailed in the table above, we conclude with an indication on the status of environmental policies (based on EEA data) targeting the abovementioned environmental areas. In our view, environmental areas which are in the **status of implementation and follow up** are **climate change mitigation**, **energy efficiency** and **renewable energy,** whereas areas which **lack concrete policies** for addressing these challenges are **climate change adaptation and soil degradation** (see table below).

Policies are in place and implementation achieves progress	**More stringent efforts implementation/revision and follow up due to unachieved progress**	**Policies need to be developed ([4])**
climate change mitigation	Pressure on ecosystems	Climate change adaptation
energy efficiency	Conservation status	Soil degradation
renewable energy	Biodiversity	
	Land use	
	Decoupling resource use from economic growth	
	Waste generation	
	Waste management	
	Water stress	
	Water quality	
	Water pollution	
	Air quality in urban areas	
	Transboundary air pollution	

Table 6: Policy response for achieving progress in environmental areas

[3] EEA-38 = EEA member countries (EEA-32) + EEA cooperating countries (Western Balkans).
[4] Refers to policy which are in the state of adoption or agenda setting / negotiation of objectives

2.3 The emergence of EU environmental policy and policy integration

Environmental policy, in general, and the integration of environmental concerns in different sectoral policy fields (EPI), in particular, emerged in four consecutive steps.

- 1992 Maastricht Treaty
- 1997 Amsterdam Treaty
- 1998 Cardiff process
- 2001 first EU sustainable development strategy

The integration of environmental policy in sectoral policy fields traces back to the 1st Environment Action Programme (EAP) of 1973 (Lenschow, 2002a). In the view of the first EAP, "[e]nvironment protection required the consideration of environmental consequences in all technical planning and decision-making processes at the national and Community level" ([5]).

According to Perrson (2004), the more explicit need for sectoral integration of the environment has been articulated in the 3rd EAP in 1983, resulting in a legal status in the Single European Act (1987). This has been later subsumed and strengthened in the **1992 Maastricht Treaty** (Article 130) by stating that "[e]nvironmental protection requirements must be integrated into the definition and implementation of the Community policies and activities referred to in Article 3 in particular with a view to promoting sustainable development." Environment integration was continued in the **1997 Amsterdam Treaty** which elevated the integration principle to a guiding objective of the EU (Article 6). In this respect, the Treaty also mentioned environmental policy integration to be a means of promoting sustainable development:"[E]nvironmental protection requirements must be integrated… , in particular with a view to promoting sustainable development". Despite its explicit imperative to integrate environmental protection requirements into sectoral policies, however, EPI does not have any autonomous normative meaning but rather acts as a rule of reference for other norms (Nollkaemper, 2002). In other words, "environmental protection requirements" are interpreted according to other norms, leaving its definition open to the institution in charge of designing sectoral policies.

The **Cardiff Process** ([6]) – started in 1998 – was designed to give prominence to environmental policy integration by fostering the incorporation of environmental issues into all Community policies. A major impetus of this process was the general acknowledgement that the segmented and hierarchical EU institutions produced incoherent policies (Persson, 2004), and the advocacy by some EU Member States and a network of major NGOs (Hertin and Berkhout, 2001). In order to further foster the progress of EPI, the European Council of ministers was asked to (Lenschow, 2002a):

- collect evidence for best practices of EPI at EU Member States level and develop a basis for improved Community procedures;

[5] Official Journal of the European Communities, 1973. Declaration of the Council of the European Communities and the representatives of the governments of the Member States Meeting in the Council of 22 November 1973 on the Programme of Action of the European Communities on the Environment, C112 (20 December)

[6] Later subsumed in: European Commission, 1998. PARTNERSHIP FOR INTEGRATION: A strategy for Integrating Environment into EU Policies. COM(1998) 333 final

- identify priority actions for EPI and create mechanisms for monitoring their implementation;
- ensure that environmental requirements are explicitly reflected in their decisions on new proposals; and
- commit themselves [European Council of ministers] to review their current organisational arrangements to ensure effective implementation of this integration strategy.

The results of the Cardiff Process communicated a rather diversified picture. The Commission concluded (EC, 2004) that there is need for improving the consistency of strategies across Council formations, emphasising the implementation of commitments and increasing political support at the highest level. In this regard, the whole spectrum of approaches and strategies in order to facilitate environmental policy integration through the Cardiff Process reflects theoretical underpinning of how EPI can be achieved elaborately outlined in chapter 1 (see "1.2. Environmental policy integration - an overview")

The **EU Strategy for Sustainable Development** - firstly adopted in 2001 - (European Commission, 2001) was a major milestone for the further integration environmental concerns into the policy decision making regime (see also "Box XX: SD principles and their relation to NREM"). More specifically, it goes beyond mere environmental concerns and argues that "[s]ustainable development should become the central objective of all sectors and policies". (European Commission, 2001). In that sense, Perrson (2004) argues that EPI (or rather sustainability policy integration in this case) has a central role in the strategy. Environmental policy in general, and EPI in particular, continuous to be one of the cornerstones in the 2006 Renewed European Sustainable development Strategy (see also chapter "A discourse on similarities and differences: the renewed EU SDS and environmental policy")

In conclusion, the evolution of EPI from putting it on the policy agenda (i.e. 3rd EAP) to taking real action within sectors (i.e. the Cardiff Process) took about 15 years (Persson, 2004). Furthermore, similar to the concept of sustainable development, Persson (2004) argues that the evolution of EPI in the EU "[i]s a good example of the dilemma of either being politically explicit – and risking a slow and resource-demanding process characterised by controversy and confrontation – or being more vague and pragmatic – risking empty commitments and ineffective and unfocused work processes".

2.4 The nature and history of Environment Action Programmes

Since 1973, the legacy of environmental protection concerns, and in particular environmental policy integration, is represented in the series of Environmental Action Programmes (EAPs) of the EU, from the 1st EAP in 1973 to the 7th EAP in adopted 2013. Essentially, the EAPs set the course for forthcoming initiatives and legislative proposals as well as broader approaches and principles for EU environmental policy. The EAPs, provide medium-term guidance for EU environmental policy over a 10-year period in both substantive (in terms of environmental objectives in general and environmental policy integration in particular) and political process related terms.

The EAPs are ***formally legally non-binding*** and reflect the ***strategic framework for the environment policy planning process by the European Commission***. In this regard the responsibility for elaborating EAPs lies in the responsibility of DG Environment. Further, other DGs

and specific European institutions (e.g. European Economic and Social Committee or Committee of the Regions) as well as external stakeholders (NGOs, SMEs etc.) provide significant input and feedback to the first draft version and, therefore, have the opportunity to influence the elaboration.

Throughout their evolution, the 5th EAP established EPI for the first time as a priority objective. In this respect, it followed an approach of dialogue and joint responsibilities for integrating environmental concerns into the key sectors of industry, energy, agriculture, transport and tourism to pursue the sustainable development agenda. Lenschow (2002a) critised, however, that "[r]ather than attempting to regulate integration, the 5th EAP hoped to involve policy makers and stakeholders in a cooperative process that would result in the penetration of the idea of sustainable development and EPI into all sectors of society and public policy".

2.5 The 6th EAP: stock-taking and lessons learnt for future programmes

The 6th EAP was adopted by the European Parliament and the Council in 2002 with a 10 year time frame. It has been adopted, for the first time, by a legislative co-decision process which lent the process and the final document more legitimacy than previous programmes and created a wider sense of ownership for consecutive policy proposal.
The 6th EAP basically consisted of 4 priority areas (7) targeting specific environmental challenges in Europe, whereas a range of policy-making approaches and instruments (i.e. 5 areas for strategic action[8]) including coherence and integration, finance and implementation and enforcement from the policy framework approach for addressing these priority areas. Furthermore, seven thematic strategies ([9]) were developed in order to strengthen policy integration and to improve the knowledge base in the respective area.
The following paragraphs provide an overview on the assessment of the 6th EAP which is based on an external assessment (Ecologic 2011), the results of a public consultation ([10]), and the EEA report "The European Environment - State and Outlook 2010" (EEA, 2010). More specifically, the next pages offer a summary on selected aspects – governance process, priority areas, policy-making approaches and instruments – and their implications and challenges to be met by the 7th EAP.

A co-decision process and its caveats

While the primary intent of EAPs is to provide an overarching framework for action (i.e. define policy priority objectives), the co-decision procedure lead to a document of a different nature. Essentially, this process resulted in a larger number of actions, varying both in scope and effect, with no long-term vision compromising the programmes capacity to deliver a clear message (European Commission, 2011). In this view, the thematic strategies were developed at significant

[7] Nature and biodiversity, climate change, environment and health, Management of natural resources and waste
[8] improving the implementation of existing legislation; integrating environmental concerns into other policies; working in partnership with business; empowering citizens and changing their behaviour; and taking account of the environment in land-use planning and management.
[9] air, pesticides, waste prevention and recycling, natural resources, soil, marine environment, urban environment
[10] http://ec.europa.eu/environment/newprg/pdf/6EAP%20stakeholders%20meeting%20report.pdf

costs in terms of time and human resources (i.e. the last thematic strategy was adopted as late as 2006).

Assessing the progress towards EAP priority areas

The table below provides some major shortfalls and lessons learnt of the 5 priority areas ([11]) in the 6th EAP with regard to important implications for the 7th EAP (European Commission, 2013).

Priority areas	
Shortfalls	**Lessons learnt**
Nature and biodiversity	
Despite putting the spotlight on sustainable use of soil in the 6th EAP (i.e. priority objective), the Council has **not been able to make progress** on this issue, in particular by **adopting the proposed Soil Framework Directive** ([12]).	Lack of progress towards the goal of halting the decline of biodiversity by 2010 was due to less **political attention and financial commitments** from **both EU and Member States**
Environment and health	
A number of **gaps in legislation** exist - not exclusively environmental - for example in relation to **indoor air**, and on **emissions from domestic and commercial appliances**. In addition, national **emission ceilings have yet to be revised** and excess atmospheric nitrogen deposition is still an issue across the EU.	More attention is needed to **support implementation at both national and regional** levels. **Research findings and information on the impacts** of environmental quality on health should be better integrated into the broader policy objective of improving public health. The **underrepresentation of the urban environment** in policy development.
Natural resources and waste	
In absolute terms **resource use is still increasing** which is **not compatible with** the goal of **respecting the carrying capacity** of the environment in the longer term. In contrast to the 6th EAP objective of reducing the overall volume of waste generated in the EU, **waste generation has at best stabilised.**	**Increased focus on the food and drink, private transport and housing sectors and on eco-design** is needed in order to tackle the environmental impacts of consumption. **Increased efforts** on the **implementation of waste legislation** are necessary, especially as trade in waste is increasing.
Climate change	
Quantifiable targets, such as the **renewable energy target of 12 % of total energy use by 2010**, were **more aspirational in nature and were more difficult to achieve**. In addition, the increases in GHG emissions in the transport sector continue to be closely linked to economic growth	The 6EAP contributed to **increased public interest in the issue**. However, what proved to be **more important** was the ability to make a **clear cost and benefits case for action**, as well as **political commitment** at EU Heads of State level to key policy objectives.
International issues	
Despite the EU's efforts to strengthen multi-lateral cooperation and demonstrate its commitment to international conventions and agreements, **little progress was made towards improved global environmental governance.**	An **agreed vision setting out key objectives should be the starting point** for future EU action to tackle global and regional environmental problems.

Table 7: Selected aspects of the 6th EAP priority area assessment; based on European Commission, 2011

[11] The priority area „international issues" has been added in the 6th EAP Assessment and was not originally part of the 6th EAP priority areas (but rather identified as an enabling framework factor.

[12] COM(2006)232

The problem of timing: Different priority areas demand different time horizons

Difficulties emerged when it comes to the appropriate time-frame of the 6th EAP and its impact on long-term policy making: Essentially, the 10-year time frame proved to be long enough to cover policy formulation, adoption and the early stages of implementation in some areas (e.g. waste), while in others (e.g. resources, biodiversity) it proved to be too short because of the need for more information or because of other obstacles – e.g. implementation on EU MS level (European Commission, 2011). Furthermore, with regard to the impact on EU budgeting, the 6th EAP influenced the 2007-2013 multi-annual financial framework, but not the period of 2000-2007.

In conclusion, the table above shows that priority areas such as **"International issues"** (with respect to international environmental governance) and **"Nature and biodiversity"** (with respect to sustainable soil use) demand more **focused attention for the formulation and adoption of new policies**. On the other hand, priority areas of **"environment and health"** as well as **"Natural resources and waste"** which have advanced in the policy process require the **revision of already adopted policies and increased efforts for implementation** are needed.

Assessing the effectiveness of means for achieving priority areas

Besides the priority areas for tackling specific environmental issues in the EU, the 6th EAP also refers to a range of policy-making approaches and instruments for achieving environmental targets and objectives.

Strategic approach and instruments	
Shortfalls	**Lessons learnt**
EU Member States policy implementation	
Despite the 6th EAP providing predictability for forthcoming legislation, policy **implementation on the EU Member States level needs considerable improvement** (i.e. environmental infringement procedures still account for approximately one fifth of all).	The changing nature of environmental challenges (rising complexity and connectedness) requires **better coherence from policy formulation to delivery**: both between priority areas (e.g. climate change and air policy) as well as in environmentally important sectors
Timing and budgetary planning	
The political debate on the 6th EAP took place in the aftermath of the financial framework debate, leading to **already established lines for the budget** of the first half of the 6th EAP (until 2006).	**Maximising the effectiveness of financing from programmes** whose primary objective is not environmental protection need careful consideration. Furthermore, the possibility to **mobilise private sector capital** needs to be addressed early on in the policy process.
Availability of environmental data	
Environmental information, in particular official data and statistics, is still **incomplete** and **availability** on time is **restricted**.	A **more extensive environmental knowledge base** is required together with a better understanding of the **drivers and barriers to improvements and implementation of legislation**.
Environmental policy instruments (subsidies and taxation)	
Measures to phase out **environmentally harmful subsidies** did not achieve the anticipated progress and the potential to orient **taxation** to promote better sustainability has not been exploited. The full **potential of market based instruments** still needs to be tapped.	**Policies** with a clear added value in creating a **green economy** and that can be **delivered** in the **short/medium term should be prioritised**, e.g. Green Public Procurement. Existing **counter-acting or incentivising policy** measures need to be revised or strengthened in their efforts, respectively.

Table 8: Selected aspects of the 6th EAP strategic approach and instruments assessment for EPI; based on European Commission, 2011

Based on the findings above we conclude that efforts for increasing **policy coherence** across the whole policy cycle (from agenda setting to policy monitoring) with regard to topical environmental challenges (i.e. between 6th EAP priority areas) as well as specific sectors and environmental objectives need to be considered in future programmes. With respect to **instruments for achieving EPI**, efforts for i) better timing of budgetary planning (i.e. streamlining financial capacity towards environmental objectives), ii) market based instruments (e.g. subsidies and taxation), and iii) information on environmental impacts as well as the status of policy implementation need to be envisaged and strengthened.

3 An analysis of the 7th EAP: insights on conceptual and environmental policy integration aspects

This third chapter of the QR is dedicated towards the analysis of the 7th Environment Action Programme (7th EAP).

At first, the authors descriptively make the reader familiar with the 7th EAP's main structure and development process to better grasp the results of the analytical discourse in the second part of the chapter.

Secondly, by guiding the reader through the analytical discourse of the 7th EAP, we apply three lenses ([13]): The first is a conceptual and thematic one which highlights the relation of the 7th EAP to the concept of natural resource and environmental management (NREM) and makes particular reference to sustainable development elements (i.e. SD principles). For more information on the conceptual approach to NREM and SD – its convergent, complementary and divergent aspects - please see chapter 1 of this report. The second lens refers to the way environmental policy integration is approached in the text from a process-oriented as well as outcome oriented view (see also chapter 1).

3.1 A rationale for action

The 7th Environment Action Programme (EAP), entitled "Living well, within the limits of our planet", was adopted on 20 November 2013 by the Council and European Parliament and will be guiding document for European environment policy until 2020. In order to give a more long-term direction, the following 2050 vision is intended to help guide action up to and beyond 2020:

"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." (European Parliament and the Council of the European Union, 2013; para. 1)

Although the ex-post assessment of its predecessor – the 6th EAP from 2002 to 2012 (European Commission, 2011) – provided evidence that an Environment Action Programme is no guarantee for action or implementation of environmental policy (see chapter 2), the general message was that environmental policy would still benefit from a coherent overarching policy framework. More specifically, it was pointed out that the 6th EAP provided predictability for business operators in the EU Member States regarding future policy developments, increased ownership and mobilisation for action on environmental policy among key stakeholders. Furthermore, as an overarching policy environmental policy strategy, it recognises the complexity of an increasingly inter linked nature of environmental challenges in both a global context and across different sectoral policy areas.

[13] The authors apply a discursive text analysis of the EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION document with regard to two analytical approaches.

3.2 Environmental policy in the context of a wider policy framework: Affiliation to other policy strategies

The 7th Environment Action Programme (EAP) draws upon and is coherent with the most fundamental and recent policy initiatives of the EU: It is embedded and builds upon the framework of the Europe 2020 strategy, including the Union's climate and energy package, the Commission Communication on a Roadmap for moving to a low-carbon economy in 2050 ([14]), the EU Biodiversity Strategy to 2020 ([15]), the Roadmap to a Resource Efficient Europe ([16]), the Innovation Union Flagship Initiative ([17]), the European Union Strategy for Sustainable Development, as well as forthcoming policies such as the blueprint to safeguard Europe's water (European Parliament and the Council of the European Union, 2013).

In that sense, the 7th EAP is one of many sectoral policy strategies fighting for political attention like so many other sectoral strategies, unlike all Flagship Initiatives or Roadmaps embedded in the context of Europe 2020.

3.3 Actors and processes: Elaborating the 7th EAP

As first step in the process of elaborating the 7th EAP the European, the Commission prepared an extensive impact assessment ([18]) providing the rationale for defining key environmental challenges and means for achieving environmental thereof in the first proposal lead by DG Environment in 2012 ([19]).

The elaboration and drafting process of the impact assessment was supervised by 18 Directorates-General and chaired by DG Environment. This impact assessment consisted, inter alia, of findings from the SOER 2010 (EEA, 2010), views expressed by the other EU institutions (e.g. European Economic and Social Committee) and as well as by a broad range of stakeholders, and other scientific studies on, for example, the state of environmental policy implementation. The public consultation, conducted between 12 March and 1 June 2012, was characterised as an open consultation process mainly through public meetings and a public web consultation. In this respect, major stakeholders of the business community (including SMEs), NGOs, academia, implementation bodies in EU Member States, and civil society got the opportunity to bring in their perspectives.

This process resumed political agreement and formal adoption of the first proposal between the European Commission, the Council and European Parliament in November 2013 ([20]).

3.4 A structural outline

The following paragraphs outline the structure of the 7th EAP and summarize its main content features. Overall, the 7th EAP comprises **9 priority objectives for tackling important environmental challenges until 2020**.

[14] COM(2011) 112.
[15] COM(2011) 244
[16] COM(2011) 571
[17] COM(2010) 546
[18] SWD(2012) 398 final
[19] COM(2012) 710 final
[20] Decission No .../2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 November 2013 on a General Union Environment Action Programme to 2020 "Living well, within the limits of our planet"

9 priority objectives (see Figure 2 below) are further subdivided into

- **three key thematic priorities objectives** (**green**),
- **four enabling framework priority objectives** (**black**), and
- **two horizontal priority objectives** (**blue**)

The priority objectives thus include **three key environmental challenges** (i.e. "thematic priorities") which are delivered through enabling factors or means. These key environmental areas are particularly important in the context of two horizontal priority objectives related to environmental challenges in different scales – namely at the global level and at the level of European cities.

Figure 2: 7th EAP - 9 priority objectives

The **three thematic priority objectives** are:

- **Ensuring that Europe's natural capital is sufficiently resilient to pressure and change ("Natural capital")**: Deals with the natural capital, including the ability of ecosystems to provide food, water and fuel as well as to regulate the environment through services such as carbon storage or flood control.
- **Ensuring that its economy is highly resource efficient and low-carbon emitting ("Resource-efficient economy")**: Engages in the shift towards an economy that is efficient in the way it uses all resources, absolutely decouples economic growth from resource and energy use and its environmental impacts, and enhances competitiveness through efficiency and innovation.
- **Ensuring that the health and wellbeing of EU citizens continue to benefit from high degrees of environmental protection ("Healthy environment for healthy people)**: Covers environmental stressors (e.g. water or air pollutants) that pose significant health threats to humans.

In order to progress towards the three thematic priorities, the 7th EAP outlines **4 enabling framework priority objectives** (i.e. a means/enabling factors for achieving thematic priorities):

- **Better implementation of legislation ("Implementation")**: Addresses inadequate implementation of and gaps in the existing environment policy acquis at Member State level

- **Better information by improving the knowledge base ("Information")**: Strengthen the knowledge base, raising awareness and improving the confidence of policy-makers and the public in the evidence which underpins policy in order to better understand complex environmental and societal challenges and create coherence due to increasingly interlinked challenges
- **More and wiser investment for environment and climate policy ("Investment")**: Tackles problems related to incentives for investment in environment-related measures
- **Full integration of environmental requirements and considerations into other policies ("Integration")**: Addresses the lack of coherence in tackling increasingly interlinked challenges, which also requires efforts in other policy fields

Furthermore, **two horizontal priority objectives** account for specific contexts (i.e. the global level and at the level of cities) of environmental challenges:

- **Making the Union's cities more sustainable ("Sustainable cities")**: focuses on actions for sustainable planning and design in urban and peri-urban areas in order to resolve environmental problems such as poor air quality, high levels of noise, greenhouse gas emissions, water scarcity, and waste
- **Increasing the Union's effectiveness in addressing international environmental and climate-related challenges ("International challenges")**: addresses the wider global challenges in the context of the UN Rio+20 post 2015 development framework (e.g. the development of Sustainable Development Goals)

Although the 7th EAP is divided into 3 different types of priority objective that are ultimately inter-linked, they have a structural and sequential skeleton in common that consists of and is referred to as:

- **rationale section**: a extensive section outlining the underlying problems and justification for action and increased efforts (e.g. priority objective 1: para. 17-27)
- **objectives section**: gives an overview about the policy objectives related to this priority objectives, which in most cases originate from different policy strategies (e.g. priority objective 1: para. 28; first part)
- **policy section**: relates either to concrete policy strategies or more general actions needed to follow up on beforementioned objectives (ibid.; second part)

3.5 A conceptual and thematic lens: identifying elements of natural resource and environmental management and sustainable development

The purpose of this first part of the analysis is to elucidate on the question whether the 7th EAP is a policy strategy exclusively dealing with environmental aspects (i.e. NREM) or whether it includes certain sustainable development (SD) among these aspects. The authors are aware of the fact that the 7th EAP as an umbrella strategy for environmental policy is ultimately based upon principles of NREM, but, nevertheless, to pinpoint NREM elements is the initial point for discovering SD elements.

Therefore, in this first part, our analytical focus (i.e. a screening of 7th EAP text compartments) is directed towards finding examples on the conceptual and thematic elements of natural resource and environmental management (NREM) as highlighted in chapter 1. In a next step we indicate particular elements among these NREM aspects which make reference to sustainable development elements (i.e. SD principles).

In this respect, our analytical framework focuses on finding elements of two principles underlying the concept of NREM: 1) Environmental protection and stewardship and 2) Ecological boundaries/carrying capacity.

Principles of NREM	Conceptual meaning	
1) Environmental protection and stewardship	Sustaining and improving management of all components of the ecological sphere, both living (biotic) and non-living (abiotic)	The spin on SD
2) Ecological boundaries/carrying capacity	Establishing operating limits with regard to certain resources and components of the ecological sphere to avoid unacceptable and undesirable environmental change	
3) Precautionary principle and polluter pays principle	Ex-ante prevention and resolution of environmental problems	
4) Institutions for environmental governance	Founding and nurturing institutions that effectively support environmental research, monitoring, and management	

Table 9: Analytical framework: Principles of NREM and their conceptual meaning

In the case of the two latter aspects mentioned above (i.e. Prevention and resolution of environmental problems; Institutions for environmental governance), we consider them to be important elements of environmental policy integration (i.e. processes and outcomes for environmental policy integration). Therefore, these principles are elaborated in the second part of this chapter – an analytical lens of EPI elements in the 7th EAP.

3.5.1 Principles of NREM – Environment protection and stewardship

As already indicated in the structural outline of the 7th EAP, most references of the elements of environmental protection and stewardship can be found in the first part on the three thematic priority objectives.

In particular, the **first priority objective "To protect, conserve and enhance the Union's natural capital "** gives credit to NREM principles by referring to the EU's natural capital (7th EAP, Art. 2, para. 1). In this view, natural capital refers to the basic components (i.e. provision of natural resources and raw materials, ecosystem services such as the ozone layer, and the absorption of waste originating from production as well as consumption processes) which are supposed to be sustained and well managed in the sense of environmental protection and stewardship.

Recognising Environmental protection and stewardship on multiple scales

Explicit indications on natural resources, raw materials, and ecosystem services can be found in the rationale and the respective targets' section of **priority objective 1**. Generally in the context of environmental protection and stewardship, the 7th EAP rationale section refers to (1) **specific natural resources** (e.g. ground and surface water as a resource), (2) **ecosystems and its respective services** (e.g. good status of ecological systems such as surface water bodies) as well as (3) larger **global geo-physical systems** (e.g. global climate).

More specifically, the 7th EAP gives credit to **environmental challenges in a more global context** in many areas, such as **biodiversity, water, land use, soil, nutrient cycle, forest and agriculture, and climate change**. For example, with regard to water and marine environments in the Black Sea and the Mediterranean, the EU makes reference to pollution reduction (litter and noise) as well as overfishing which directly effects non-EU Member States and their coastal regions (7th EAP, para. 19). Furthermore, the global nature of environmental challenges becomes particularly clear when accounting for GHG emissions (priority objective 2, para. 33) as well as biodiversity loss (priority objective 1, para. 18).

More explicit reference to global environmental challenges is given in **priority objective 9 "To increase the Union's effectiveness in addressing international environmental and climate-related challenges"** making specific reference to the commitments and objectives at Rio+20 for international environmental governance.

The spin on SD: In this respect, the 7th EAP takes into account the **inter-connectedness of environmental challenges on multiple geographical scales.** Essentially, this means the 7th EAP extends the view from a pure resource-extraction and provision perspective in a regional or national context to a global ecological approach (i.e. accounting for the functioning of ecosystems and related limits to resource extraction) towards environmental challenges. Recognising the embeddedness of environmental challenges in a larger global context is particularly relevant with regard the SD principle of **intra-generational equity.** This aspect explicates the global responsibility for environmental challenges in the sense that negative environmental impacts produced by different groups of society, or in different geographical regions, are not to the disadvantage of others (e.g. predominantly affecting the poor in developing countries).

Recognising the cross-thematic linkages of environmental protection and stewardship

Environmental protection and stewardship in itself is linked to various other economic as well as non-economic sectors, activities and uses. The next paragraphs highlight the occurrence of NREM aspects together with or linked to other more cross-sectoral non-NREM aspects.

In this sense, some of the NREM aspects in the 7th EAP indicate an explicit link to issues of economic or social development, and, thus it seems to point towards the integration of these issues (as highlighted by the balancing principle of SD).

With regard to management of natural resources as well as ecosystems, the 7th EAP (in particular priority objective 1 and 9) provides some **examples where the consideration of economic and social concerns** (i.e. potential interdependencies - synergies and trade-offs) are given credit for. For example, in para. 21 on the exploitation of **marine environment** in terms of resources (i.e.

fishing, energy, raw materials) needs to be compatible with sustainable management of marine and costal ecosystems (environmental concerns) as well as maritime spatial planning and management (for different economic and non-economic uses: e.g. recreational or subsistence fishing). In this respect, it seems that the 7th EAP takes consideration of several aspects when it comes to the use and concerns for marine ecosystems (i.e. economic, social as well as environmental ones). A more explicit example of taking into account interdependencies by balancing economic, social and environmental concerns is mentioned in the context of different **land use patterns and associated soil degradation** (para. 23, 25 and 33). In this respect, the 7th EAP argues that "…decisions, relating to land use, at all relevant levels give proper consideration to environmental as well as social and economic impacts" (para. 25). In this view, the argument of explicit interdependencies among various concerns is taken up by outlining that, with regard to land use, "long-term changes are difficult or costly to reverse, and nearly always involve trade-offs between various social, economic and environmental needs". Another example can be found with regard to **biodiversity and natural resource conservation**, where the 7th EAP states that "…biodiversity conservation and the protection of soil and water should be fully taken into account in decisions relating to renewable energy" (para. 22).

However, the 7th EAP provides a quite **comprehensive approach to integrating environmental, social and economic concerns into policies** when it comes to the **procedural or process level** (see also next chapter on environmental policy integration). In this respect, **priority objective 7** explicitly deals with instruments increasing the coherence among different policy areas. More specifically, the 7th EAP calls for "addressing potential trade-offs in all policies in order to maximise synergies and avoid, reduce and, if possible, remedy unintended negative effects on the environment" (para. 89).

The spin on SD: From this analysis, it seems that in some concrete environmental areas (e.g. land use and soil, water/marine environment, biodiversity conservation) concerns about the prevalence of certain trade-offs are at least articulated in theory in the rationale section of environmental protection and stewardship (i.e. priority objective 1). However, the recognition of potential trade-offs is outlined as an enabling framework factor for environmental policy integration and coherence on a process level.

In **outlining these trade-offs and synergies**, the 7th EAP refers to **an intrinsic part of SD declared through the principle of balancing**. A SD angle to specific policy objectives entails a tripartite approach (see chapter 1 "A conceptual note on sustainable development: a principle-based view"): This involves balancing the environmental dimension with social and economic ones, making potential trade-offs among different and sometimes contested concerns more transparent, and, consequently, taking care of counteracting forces in achieving these objectives.

However, areas of environmental challenges exist where these trade-offs and the need for balancing different or contesting concerns have not been raised, but in which policy objectives have been formulated. These are agriculture and forestry, nutrient cycle (nitrogen and phosphorus cycle) as well as air pollution. Nevertheless, how these trade-offs and even potential synergies are played out in actual policy processes and strategies, goes beyond this report. Therefore, a more thorough analysis is need for further differentiating whether so-called interdependencies (synergies and trade-offs) among the environmental, social and economic

concerns are not only evaluated but explicitly taken up and accounted for within the concrete policy strategies.

Notwithstanding these shortcomings, it appears that the logic of the rationale section - outlining the underlying problems and rationale for action as well as increased efforts – should also make clear and explicit what the potential trade-offs and compromises involved are. Charting these aspects, could further help to negotiating among different responsibilities (e.g. institutions) and concerns (e.g. social and environmental) in order to come up with ex-ante mitigation measures.

3.5.2 Principles of NREM – Ecological boundaries

In terms of limits to certain ecological boundaries, this report referred to a number of global environmental challenges in chapter 2. Among these 10 global environmental challenges and associated boundaries ([21]), most urgent actions need to target biodiversity loss, nitrogen cycle and climate change where boundaries have been surpassed. In this respect, the following paragraphs explore where the ***concept of ecological boundaries – a concept both central to the NREM and SD*** (see chapter 2) – is taken up by the 7th EAP.

The notion of terms such as "long-term", or "sustainable" in relation to natural resources and the environment often imply sustaining the functioning of ecological systems and respecting limits to their regenerative capacity. Nevertheless, the following paragraphs try to elucidate on more concrete mentioning of absolute limits and thresholds instead of procedural targets (i.e. reduction or increase) with regard to pollutant emissions or resource abstraction. In that sense, the analysis mainly sheds light on the different thematic priority objectives which frame environmental challenges.

Generally, the 7th EAP addresses the concept of ecological boundaries by identifying some **concrete targets and notions on limits in a European context instead of a global context**. Essentially, the 7th EAP makes several references towards specific thresholds: halting the biodiversity loss (para. 28), water abstraction, air pollution, global warming limits (para. 41, 28/54 and 43 respectively). However, the non-recognition of these limits in terms of explicitly outlined objectives (which does not apply for climate change/global warming as well as air pollution), somehow diminishes their importance on the policy level and with regard to concrete actions.

Yet, in order to fully grasp the global concept of ecological boundaries, actions taken at the EU level need to take a global stance: More specifically, since ecological boundaries refer to the global bio-geophysical system, it seems confining them to national borders might be an inappropriate approach for designated European policies and processes. This is particularly true considering the global impact of EU consumption and production patterns which are often outsourced to other parts of the world and, therefore, do not directly impact at European level. Therefore, the EU addresses its **global responsibility for ecological boundaries** with regard to impacts outside of Europe, yet driven by its material consumption within Europe, in **priority objective 9** ([22]). In this view, the 7th EAP clearly recognises the need for action on ecological

[21] biodiversity loss, climate change, nitrogen cycle, phosphorus cycle, ozone depletion, atmospheric aerosol loading, chemical pollution, ocean acidification, fresh water use and change in land use

[22] "To increase the Union's effectiveness in addressing international environmental and climate-related challenges"

boundaries "ensuring that economic and social progress is achieved within the carrying capacity of the Earth" (para. 106).

The spin on SD: As outlined above, the 7th EAP recognises environmental limits at the European level through a number of objectives. Due to the global nature of ecological boundaries, the 7th EAP refers to the **UN development process for post 2015 framework** which addresses global goals and targets for ecological boundaries. Although no concrete actions are yet foreseen to follow up on these issues at EU level, ([23]) the 7th EAP makes explicit reference to follow up on the commitments towards the post 2015 framework (para. 106). In that sense, by adhering to the UN post 2015 framework, the 7th EAP implicitly commits European environmental policy to the **SD principles of intra-generational equity and environmental limits**. Although the EU did not yet account for specific actions ([24]), global negotiation on burden sharing of environmental through the UN post 2015 framework might as well influence future environmental policy objectives with regard to global ecological boundaries.

However, apart from the fact that ecological boundaries have been mentioned in the 7th EAP ([25]) – more explicitly in an European context than on the global – there seems to be no indication as to whether they are given more weight in comparison to economic or social concerns when it comes to actual policy targets or policy strategies. This is particularly important since the **SD principle for environmental limits** argues that the functioning of the bio-geophysical system **constitutes the material and immaterial basis for human development**. In other words, trade-offs at the expense of the bio-geophysical system for human development cannot be compensated by the latter.

Nevertheless, although it seems SD principles are qualitatively and implicitly mentioned in the rationale section of the 7th EAP, this does not give any indication what it implies for practical implementation. This particularly refers to practical considerations in policy making and integrated SD aspects as well as consecutive policy instruments and processes. However, in order to attain a more detailed picture about in-built SD principles in the more sectoral policy areas of soil, water or agriculture and forestry, the reader is advised to have a closer look at the concrete level of policies (e.g. soil Framework Directive or Water Framework Directive) which is beyond the scope of this report.

3.6 A governance lens: identifying aspects to environmental policy integration

The aim of this second analysis part is to **explore the manifold manifestations of environmental policy integration (EPI)**, its contextualised use, and interpretation in the 7th EAP. In this respect, we focus our analysis on

1) **EPI approach**: the way EPI is used as a principle in policy-making, essentially answering the question what EPI means - Why or on what basis it is applied?;
2) **EPI processes**: governance - How should the process for EPI be conducted?; and

[23] i.e. the RIO+20 follow up on a post 2015 framework for global Sustainable Development Goals engages in the development of metrics and goals for sustainable development on a global level http://sustainabledevelopment.un.org/index.php?menu=1300

[24] Except for GHG emissions, ozone depletion and biodiversity loss

[25] In particular in the vision for 2050 (para. 1.)

3) **EPI outcomes**: instruments and impacts - What are the properties of the outcome and the environmental objectives to be achieved?.

For more information on the conceptual underpinnings of EPI please refer to chapter 1 (Environmental policy integration - an overview).

Overall, the 7th EAP in itself as a umbrella strategy for environmental policy can be considered as a tool for environmental policy integration into other sectoral policy areas. Yet, having a closer look at its structure and content, several different approaches to EPI can be found within the document itself – the rationale, objective as well as policy sections of the respective priority objectives. More specifically, approaches to EPI are either implicitly dispersed among the varous priority objectives or are explicitly outlined in priority objective 7 "To improve environmental integration and policy coherence". The next paragraphs will explicate on these implicit and explicit approaches to EPI.

In order get a better understanding of our analytical approaches to EPI, the table below visualises these:

<table>
<tr><td colspan="4">Environmental policy integration</td></tr>
<tr><td colspan="3">Normative versus positive approach

Why or on what basis is EPI applied?</td><td rowspan="5">The spin on SD</td></tr>
<tr><td rowspan="4">How should the process be organised?</td><td rowspan="4">Process-oriented view</td><td>Horizontal integration</td></tr>
<tr><td>Vertical integration</td></tr>
<tr><td>Political and embedded paradigms</td></tr>
<tr><td>Policy cycle intervention</td></tr>
<tr><td rowspan="2">What are the properties of the outcome / environmental objectives achieved?</td><td rowspan="2">Outcome-oriented view</td><td rowspan="2">EPI instruments or impact</td><td>Environment</td></tr>
<tr><td>Implementation</td></tr>
</table>

3.6.1 The normative and positive role of the 7th EAP in EPI

An overarching distinction of EPI outlines its normative and positive (rationale) meaning in decision-making in general. The normative dimension in EPI calls for a higher prioritisation of the environment in sector policy-making, whereas the latter dimension generally argues for an inclusion of environmental concerns into sectoral policy areas.

As already outlined above, an Environment Action Plan in itself as a umbrella strategy for environmental policy can be considered as a tool for environmental policy integration into other sectoral policy areas. Consequently, the 7th EAP fulfils a symbolical and strategic role for a long-term vision in environmental policy and that the environment needs to be placed higher on the political agenda in various sectoral policies. In this regard, one could argue that the rationale section in each priority objective outlining the performance of major environmental indicators and trends thereof provides an objective reasoning why the environment needs to be more generally integrated (positive approach) or put higher on the agenda (normative approach).

The spin on SD: Referring to a normative approach, the **concept of sustainable development implies societal and normative choices**, on what is to be sustained, and thus, places the environment (i.e. see principle of environmental limits) in the forefront being the basis for human development. With a view on sustainable development, this is **particularly relevant when difficulties emerge in prioritising partly conflicting objectives** (e.g. environmental protection and economic growth) or when there is a need to balance trade-offs when pursuing conflicting objectives.

3.6.2 Process-oriented approaches to EPI

One of the most fundamental aspects of EPI happens at the level of governing processes and practices (and) among different institutional levels. The following paragraphs will outline examples in the 7th EAP of how these approaches are applied. The most common approach in this respect refers to the terms of vertical and horizontal policy integration in general.

Vertical policy integration

Vertical policy integration means compliance to procedures and strategies from central (government) bodies within or across jurisdictions. In the case of the latter, the 7th EAP particularly relates to follow up and implementation of EU level strategies (e.g. EU Directives) on the EU Member State level as a major challenge for EPI. More specifically, the 7th EAP addresses this angle on EPI in two ways: 1) Topic-wise priority objectives 1 to 3 comprise concrete environmental challenges which in the policy section relate to specific EU policies to be implemented on EU MS level; 2) process-wise priority objective 4 in general addresses inadequate implementation of and gaps in the existing environment policy acquis at Member State level by proposing series of generic measures (enabling framework).

Table 10 below points towards the environmental challenges with the highest need for vertical integration (implementation at EU MS level): biodiversity loss, water pollution, waste management, air quality in urban areas. For example, policies demanding concerted efforts for implementation to achieve EU-wide objectives and targets are the EU Biodiversity Strategy, the

Union air quality legislation, the renewed Union forestry strategy, (para. 28, i, iv, viii) Union waste legislation (para. 43, viii).

In the case of the latter, **objectives and measures to increase vertical policy integration at the EU MS level, are clearly outlined in priority objective 4** ([26]). These comprise inter alia "compliance with specific environmental legislation" or "Union environment law is enforced at all levels" (para. 65, a-e) and refers to **soft** (e.g. information and monitoring system on EU environmental legislation implementation) **as well as legislative tools** (e.g. effective Member State surveillance and inspections).

The Spin on SD: A **third layer of vertical policy integration** for environmental challenges relates to the so-called **'ceiling for environmental governance'**: Essentially, the 7th EAP argues that "[it] can only be fully achieved as part of a global approach" (para. 98). In this respect, the 7th EAP ensures that by 2020 "the outcomes of Rio + 20 are fully integrated into the Union's internal and external policies" (para. 106). More specifically, these outcomes refer inter alia to the **UN Rio+20 post-2015 development framework**. This international framework is the ultimate means for tackling global environmental challenges through concerted action by cooperation on the international level. Essentially, on the international level, the 7th EAP supports the development and adaptation of a global set of sustainable development goals.

Horizontal policy integration

As outlined by Lafferty (2002), horizontal environmental policy integration (i.e. spanning across governmental institutions/sectors), on the other hand, refers to "the extent to which a central authority has developed a comprehensive cross-sectoral strategy for EPI" (e.g. European Environment Action Programmes or National Sustainable Development Strategies).

In particular, **priority objective 7 is most crucial**, since it **explicitly explicates on measures for promoting EPI**: "sectoral policies at Union and Member State level are developed and implemented in a way that supports relevant environment and climate-related targets and objectives." (para. 89, a). In this regard, the assessment informing the actions and enabling framework factors outlined by priority objectives 4-7 in the 7th EAP particularly **indicates a lack of coherence in addressing increasingly interlinked challenges**. Consequently, this does not only require efforts in the institutions solely responsible for environmental concerns but also in other policy fields at the same level. The following table provides a good overview on where (i.e. sectors) the most fundamental underlying problems are located with regard to policy coherence.

[26] "To maximise the benefits of Union environment legislation by improving implementation"

		Underlying problems			
Environmental Issue		Implem-entation	Knowl-edge	Invest-ment	Coher-ence
Ecological and climate resilience	Pressure on ecosystems (from air pollution, eutrophication)	++	+	+	+++
	Conservation Status (safeguard the EU's most important habitats and species)	++	+	+++	++
	Biodiversity (terrestrial and marine species and habitats)	+++	++	++	+++
	Soil degradation (soil erosion)	+	++	++	++
	Water quality (ecological and chemical status)	++	+	+	++
	Water pollution (from point sources and bathing water quality)	+++	+	++	+
Sustainable, Low-carbon growth	Global mean temperature change	++	+	+++	+++
	Greenhouse gas emissions	++	+	++	+++
	Energy Efficiency	++	++	+	++
	Renewable Energy Sources	+	++	+++	+
	Decoupling (resource use from economic growth)	+	++	+	+++
	Waste generation	++	++	+	+++
	Waste management (recycling)	+++	++	+	++
	Water stress (water exploitation)	++	+	+	++
Human health and well being	Transboundary air pollution (NOx, NMVOC, SO2, NH3, primary particles)	+	+	+	++
	Air quality in urban areas (particulate matter and ozone)	+++	+	+	++
	Chemicals	++	+++	+	++

Table 10: Indicative table of strength of the underlying problems ([27]); Source: SDW(2012) 397 executive summary

Basically, the table above indicates that a series of environmental issues still are subject to a lack of policy coherence with other sectoral policy areas and, therefore, it seems that they have not yet been fully integrated into sectoral policy making and consecutive strategies. The only exceptions comprise the area of renewable energy and water pollution. **Environmental issues in need of concerted efforts to increase policy coherence** with other sectors are **pressures from ecosystems, biodiversity, global mean temperature change, GHG emissions, decoupling, and waste generation**.

Mirroring these six aspects with global environmental challenges (see chapter 2) shows that 4 out of these six (i.e. pressures from ecosystems, biodiversity, global mean temperature change, GHG emissions) are also one of the most urgent areas where immediate action is need in order to avoid unacceptable and undesirable global environmental change.

[27] The number of pluses in the table indicates the severness for lack of policy coherence

When having a closer look at the 7th EAP priority objective 1, it appears that pressures from eco-systems such as climate change adaptation, soil degradation, and emission of nitrogen and phosphorus (para. 28, iv, vi and vii) indicate the most urgent need for action. Although these three aspects have been explicitly mentioned in the objective section (para. 54, g; para. 28 e and f), there seems to be a lack of concrete policy actions. Essentially, in this respect, no concrete policy actions (e.g. no follow up or strategy development) have been proposed with regard to these three environmental concerns. Being at an early stage in the policy cycle (i.e. agenda setting and policy design) and, consequently, being not integrated into other sectoral policies (no mentioning of concrete strategies), places these two concerns into the centre for immediate action. Among these three, climate change adaptation is to some extent an exception, since it still accounts for some progress towards the development of an EU strategy on adaptation to climate change ([28]).

With regard to biodiversity loss - one of the major environmental challenges at both EU and the global level – the EU is stepping up efforts for to achieve the targets of the current EU Biodiversity strategy, however, implementation and policy coherence is lacking.

Concludingly, we perceive these three environmental challenges - **soil degradation, emission of nitrogen and phosphorus, and climate change adaptation - as rather immature or young policy fields** since they are not yet related to i) concrete or well-defined targets, ii) political institutions and/or iii) policy strategies as compared to other pressing environmental policy concerns such as climate change. For example, in the case of climate change specific targets for GHG emission reduction and institutional backup in the form of a separate Directorate General exist on the EU level next to a series of policy strategies such as the Climate and Energy Package. Due to this combination of unfavourable factors, we argue that **stepping up EPI with regard to policy coherence (i.e. horizontal policy integration), policy design and consecutive implementation seems crucial for soil degradation, emission of nitrogen and phosphorus and climate change adaptation**.

The spin of SD: Taking this thought further, what becomes particularly important with regard to these three environmental concerns, is the consideration of trade-offs at an early phase for horizontal policy integration. In this respect, engaging in a balancing approach by making transparent potential trade-offs (and target ambiguities) or designing ex-ante mitigation measures at an early stage could help to resolve problems for EPI. Therefore, EPI might draw on the experience of the **SD approach** (i.e. the principle of balancing) **as a platform for identifying and transcending the interdependencies (synergies and trade-offs) among different policy fields**, and, thus, **support the policy process at an early stage**. In this regard, Lafferty and Meadowcroft (2000) argue that a **National Sustainable Development Strategy** is extremely important, as it provides a platform for transcending difficult goal conflicts.

EPI at different stages in the policy cycle

Another perspective focuses on the different points of intervention for EPI in the policy cycle. More specifically, EPI and its associated instruments attempt to intervene in the policy cycle (agenda setting, policy design, monitoring, and assessment etc.).

[28] COM(2013) 216 final

The **7th EAP** on its own is recognised as a so-called **umbrella strategy** at the various sectoral or individual institutions and, thus, **influences many stages of the policy cycle**, depending on the respective priority objectives and sections. For example, the rationale sections independent of priority objectives inform about the urgency on particular environmental challenges which might in turn influence the agenda setting for sectoral policy issues and respective environmental objectives. Moreover, priority objective 7 makes the explicit case that EPI needs to be nurtured at all levels of the policy cycle and suggests a series of instruments for achieving this. These require inter alia carrying out ex-ante assessments or addressing potential trade-offs in all policies in order to maximise synergies (para. 89, i-v).

The spin on SD: Within a strategy process, the policy learning cycle was one of the early characteristics for governance for SD and now applied in various policy processes. However, the policy learning cycle in the context of SD specifically looks into four aspects: 1) long-term focus, 2) balancing different policy sectors, 3) participation, and 4) reflexivity (Zwirner et al., 2007). In that sense, **governance for SD engages in a holistic approach encompassing the whole policy cycle in a systemic way by operating these four aspects**.

EPI in the context of political attention and embedded paradigms

Another aspect when considering EPI as a governing process is the role of political commitment (i.e. will and leadership). The existence of a cross-cutting umbrella strategy indicating the urgency for action on inter-linked environmental challenges is per se no guarantee that other bodies will mainstream environmental objectives. Institutional back-up and high level political commitment are important framework conditions which might draw attention for EPI.

In this regard, the 7th EAP is one of many sectoral policy strategies fighting for political attention like so many other sectoral strategies, unlike all Flagship Initiatives or Roadmaps embedded in the context of Europe 2020. More specifically, the 7th EAP makes concrete reference to 1) objectives related to the context of Europe 2020 as well as 2) concrete policy deliverables drafted in the course thereof. Essentially, priority objective 2 "resource efficient economy" rationale, objectives and policy section has a direct link to 1) Europe 2020 priority "Sustainable growth" and its associated targets, 2) the overarching Flagship Initiative "A resource efficient Europe", 3) and its main deliverables such as the Roadmap for a resource-efficient Europe or the Energy Roadmap 2050.

The spin on SD: For example, a strong push on the international policy agenda such as the **UN Rio+20 post 2015 framework and consecutive development** of global sustainable development goals might **garner considerable attention** for concerted action on **EPI in the context of sustainable development**.

3.6.3 Outcome-oriented approaches to EPI

While the first part of the analysis tried to answer the question "How should the process for EPI be conducted", the second question dedicated to this part refers to the questions "What are the properties of the outcome and the environmental objectives to be achieved".

Since the outcomes of EPI cannot yet be quantified, the **7th EAP**, however, **provides a rich picture on a number of prospective responses to foster EPI**. These responses are highlighted in the table below and, here again, are encompass the whole policy cycle:

Type of response	Examples of responses
Mechanisms to support environmental policy integration	
• Governance organisational changes to break down walls	Linkage to multi-annual planning (i.e. European Semester) (para. 43, iv; 84, vi)
• Resource and capacity building	developing training programmes geared towards green jobs (para. 43, vi)
• Tools to improve decision-making	using ex-post evaluation information relating to experience with implementation of the environment acquis (para. 89, iv)
• Policy instruments to implement EPI	integrating environmental and climate-related conditionalities and incentives in policy initiatives (para. 89,i)
• Monitoring, reporting, and information	developing and applying a system for reporting and tracking environment-related expenditure (para. 84, v)
Results of environmental integration	
• Greening of sector policies	phasing out environmentally harmful subsidies (para. 84, i)
• *Changes in drivers, pressures, states, and impacts on the environment*	*Halted biodiversity loss, reduced waste generation*

4 Conclusion and discussion

This QR had the aim to analyse the recently adopted 7th Environment Action Programme (EAP) in the context the concept and principles of sustainable development and the environmental policy (incl. natural resource and environmental management and the environmental policy integration approach).

To this end, in our analytical discourse, we applied **three lenses**: The first is a conceptual and thematic one with regard to natural resource and environmental management. The second lens refers to the way environmental policy integration, from a process- and outcome-oriented view, has been approached in the 7th EAP. In addition, and essential to the analytical discourse, we highlighted what is the added-value when applying a sustainable development (SD) perspective. Drawing on the results of chapter 3, we conclude with SD aspects which can have a mutually supportive and strengthening role for driving environmental policy and, in particular, environmental policy integration at the EU level.

Overall, this report shows that when one tries to identify concrete SD objectives and actions, the 7th EAP's main reference is the **UN Rio+20 post-2015 development process**. Essentially, the 7th EAP perceives the Rio+20 framework as an substantial cornerstone in garnering global efforts for tackling environmental challenges, and, thus complementing the 7th EAP (para. 98). In this respect, the UN process, and in particular, the development of sustainable development goals, might **act as a catalyst for pushing the sustainable development** agenda on the international level. Consequently, the urge for action on the international level will most likely provide **renewed (external) impetus for political attention, leadership and will for implementing sustainable development and environmental policy in Europe**.

In general, the **7th EAP contributes in multiple ways to the sustainable development agenda**:

- Firstly, in an explicit way by positioning itself in the wider **global approach ([29]) to tackle environmental challenges (SD principles of intra-generational equity and environmental limits).** Further elaborating on this thought, the 7th EAP accounts for the inter-connectedness of environmental challenges on multiple geographical scales, indicating the EU's global responsibility for its impacts;

- Secondly, in an implicit way, by **recognising the cross-thematic linkages of environmental policy** with other policy areas (i.e. environmental policy integration[30]). With regard to sustainable development this is, essentially, an important first step towards a comprehensive approach to integrating environmental, social and economic concerns into policies;

[29] EAP priority objective 7.
[30] EAP priority objective 7.

- Thirdly, on the level of concrete objectives and actions, the 7th EAP progresses the green economy concept ([31]), which is in line with the Rio+20 outcome for **green economy as a means for sustainable development**.

Besides important synergetic aspects between the 7th EAP (i.e. environmental policy) and sustainable development, there exist some **critical ambiguities with respect to environmental policy integration**:

- From our analysis, it seems that in some environmental areas concerns about the prevalence of trade-offs with other policy sectors are articulated in the rationale section only, but never referred to in the policy sections of the 7th EAP. In general, however, recognising potential trade-offs is an important factor for environmental policy integration and, ultimately, coherence. Essentially, **making trade-offs transparent**, could further help to negotiate among different actors (e.g. individual stakeholders or institutions) and concerns (e.g. social and environmental) in order to come up with ex-ante mitigation measures.

- Furthermore, in order to make environmental policy integration an intrinsic aspect along the whole policy cycle, it might **benefit from the conceptual and practical experience from governance for SD**. More specifically, constantly reviewing the whole policy cycle in a systemic way (i.e. policy learning cycle).

Ultimately, a sectoral policy strategy like the 7th EAP (although it includes references and initiatives to policy integration and cross-sectoral requirements) will not be able to achieve the *balancing*, i.e. policy coherence, that is a requirement to achieve sustainable development. This is underlined by the impact assessment for the 6th EAP which shows that there are critical deficits in the EAPs to achieve policy coherence across various policy sectors. Therefore, **balancing different policy sectors** to progress toward successful policy coherence for sustainable development, will **only be possible by a meta-strategy, like a sustainable development strategy** for Europe and in the Member States.

[31] EAP priority objective 2.

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