SRU German Advisory Council on the Environment

Environmental Report 2012
Responsibility in a finite world

Chapter 11:

Respecting Environmental limits: A Challenge for Policy Strategies

June 2012

Forword

This is a chapter of the Environment Report 2012 on "Responsibility in a finite world" published by the German Advisory Council on the Environment in June 2012. Guiding principle of that report is that environmental limits should be taken seriously. Unlimited physical growth is not possible in a finite world. This means that the dramatic reduction of our resource and energy use and their environmental impacts are becoming a key question of the 21st century. The report has eleven focal themes[1], ranging from the new growth debate, the protection of important ecosystems such as peatlands, forests and oceans to a strengthening of integrated environmental protection.

With its Environmental Report 2012, the SRU extends the perspective beyond the energy transition towards other important future-oriented issues in German and European environmental policy. Using a "horizon scanning" approach, the seven council members of the SRU identify important unresolved problems and point towards specific options for political action. The starting point of the report is that serious impacts for economy and society have to be feared if safe planetary boundaries and environmental limits are being exceeded. Exploiting all potential for decoupling economic growth and environmental impact is therefore a matter of priority. Such an innovation strategy would offer at the same time considerable economic opportunities for German industry.

Analysing a number of intractable problems, the SRU highlights the potential for a reduction of environmental impacts, for example:

– The use of metallic and mineral raw materials can be reduced, for example through systematic introduction of closed-loop processes. The SRU proposes in this context mandatory deposit schemes for selected electronic devices. Raw material extraction – which tends to be very energy intensive – could become more climate-friendly if ambitious reduction targets are set for the European emissions trading system (the EU 30 % target for 2020) and if exemptions are cut back.

– Even the still growing goods transport could meet ambitious climate policy targets through a comprehensive electrification on the basis of renewable electricity. In addition to a shift from road to rail, the option of an overhead-cable system for electric-powered HGVs ("trolley trucks") should be seriously pursued. The technology has already been tested in demonstration projects.

– In the area of food, policy should also provide effective incentives for decoupling. Bringing down food losses by 50 % until 2025 could decrease the environmental impact of our food consumption. Moreover, the high meat consumption which has equally negative impacts on the environment and on health, should be significantly reduced. Abolishing the reduced rate of value-added tax on animal products and introducing a tax on saturated fatty acids are therefore options to be investigated.

Despite this large untapped potential, a sufficient degree of decoupling may not be achievable. As part of a precautionary strategy, policy and society should therefore also reflect on conditions of social and political stability under conditions of low economic growth.

Ecosystems such as forests, oceans and peatlands do not only supply important resources, energy and food, but they also make important contributions to climate protection and provide other ecosystem services, including habitats for many species. These services, which are not rewarded by the market, are under threat unless economic pressures are reduced. German forests, for example, may soon reach a point where they release more greenhouse gases than they store. For this reason the SRU recommends introducing limits on forest biomass use to secure the long-term status of forests as carbon sinks. In addition, a comprehensive and integrated monitoring should be established as an early warning and evaluation system.

Environmental limits can only be observed if the remit and authority of environmental policy vis-a-vis other policy areas are considerably strengthened. As a basis for this, the SRU recommends the establishment of an encompassing national environment programme with ambitious targets which would give a new impetus to other policy areas.

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[1] The Environmental Report covers eleven topics: the new growth debate, decoupling prosperity from resource use: metallic and mineral resources, food consumption as a policy issue, freight transport and climate protection, mobility and quality of life in urban agglomerations; appreciating the value of ecosystem services: environmentally sound use of forests; peatlands as carbon sinks, cross-sectoral marine protection; reinforcing integrative approaches: Integrated environmental protection: the example of industrial permitting, integrated monitoring, environmental and sustainability strategies.

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11.1 Introduction

665. The year 2012 marks the twentieth anniversary of the Rio de Janeiro United Nations Conference on Environment and Development. The Earth Summit was an international milestone in environment and development policy, not just because of the major international agreements that came out of it, but because it established sustainable development as a guiding principle for the international community. The link between the environment and development thus gained top-level recognition for the first time. Yet, partial successes aside, even twenty years after the Earth Summit, development paths in Germany, Europe and the rest of the world have still not been systematically brought in line with sustainable development criteria. As highlighted not least by the UN-initiated Millennium Ecosystem Assessment (Reid et al. 2005), human activities go on depleting natural resources at such rates that vital ecosystem services are placed at risk. The present Environmental Report, likewise, clearly shows how limits continue to be exceeded and problems due to conflicting uses keep on growing – for example in marine environment protection (see Chapter 8), in non-renewable resources (see Chapter 2) and in forest policy (see Chapter 6). In some sectors, the trend towards overexploitation of natural resources and sinks is unbroken. The projected trend in freight transport emissions, for example, is completely at odds with climate targets (see Chapter 4). Food production (see Chapter 3) is a major cause of limits being exceeded with regard to greenhouse gas emissions, nitrate emissions and biodiversity loss.

666. The sobering overall assessment at first seems contradictory considering how environment protection has moved in the course of its development towards the centre of policy and society. This focal shift has gone still further in recent years, and in Germany today it is possible to speak of a mainstreaming of certain environmental issues (see also SRU 2011c, Section 6.4.2): Environment protection plays an increasing role in party political programmes. Energy and climate policy has become a central topic of policy debate at national and *Länder* level. There has been a noticeable increase in media reporting on environmental issues in recent years and a persistently large slice of the German population expect the country to show leadership on environmental issues (Borgstedt et al. 2010). Environment and climate policies are subject to policy integration processes in administration. A number of ministries – including the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV), the Federal Ministry of Transport, Building and Urban Development (BMVBS) and the Federal Ministry of Economics and Technology (BMWi) – are creating or augmenting environmental policy capacity, and in some cases environment responsibilities are being transferred to other ministries. Most of these developments relate to climate change policy. Recent years, however, have seen resource conservation move up the agenda to become another key issue. Concerns that some strategic resources may not be available in large enough quantities in future – not least due to growing demand from emerging markets – have not only put the goal of securing resource supplies on the policy agenda, they also heighten the importance of resource efficiency (BMWi 2010).

The fact that menacing environmental trends continue despite the outlined mainstreaming of environmental issues reflects the size of the policy challenges. In response to these challenges, the German Advisory Council on the Environment (SRU) considers that there is a need to redirect the focus of environmental policy back onto the ecological goods it aims to protect. Objective analysis of global environmental and socioeconomic trends shows that a global economy operating within environmental limits cannot be brought about by piecemeal intervention, but requires radical transformation processes (WBGU 2011, p. 33–69). Broad-based technological, economic and social realignment processes are called for not only in the energy system but also in other sectors and areas of life. Policymakers and society must urgently face up to this challenge.

667. This chapter therefore addresses the issue of how it can be made politically feasible to align development paths so that environmental limits are no longer exceeded. Although the duty of the state to protect the environment on behalf of future generations is clearly spelled out in German constitutional law, there has only been partial success in turning that obligation into environmental policy that has environmental limits and the state of the environment as its primary point of reference. This is partly due to shortcomings that can generally be put right, such as ineffective implementation, but partly also to structural causes such as conflicting interests, knowledge gaps, complexity issues, and a limited ability to influence the global environmental impacts of processes further upstream in the value chain. The SRU considers policy strategy processes such as sustainability strategies, environmental strategies and sectoral strategies to be key in effectively implementing environmental guard rails. The focus in this chapter is therefore on analysing how such strategy processes can help operationalise and institutionalise environmental guard rails, to what extent they already do so and how their effectiveness in this capacity can be improved. Institutional reforms are also needed, however, to better entrench the state's long-term responsibility by strengthening environmental interests.

11.2 Respecting environmental limits as a problem of governance

11.2.1 State responsibility for respecting environmental limits

668. Both the state and the European Union have special responsibility for protecting the environment (on the concept of responsibility see Murswiek 1985, p. 29 ff.). At national level, this responsibility stems from

the state objective set out in Article 20a of the German Basic Law (*Grundgesetz – GG*):

'Mindful also of its responsibility toward future generations, the state shall protect the natural foundations of life and animals by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order.'

The Federal Constitutional Court gives the state broad scope in discharging this responsibility (see only BVerfGE Vol. 118, p. 79 (110)). This is because environment protection issues are balanced in this context with competing constitutional concerns (fundamental rights and the social state principle) rather than having absolute priority. That broad scope is then restricted again by Article 20a of the Basic Law in that, to meet its responsibility, the state must frame a protective approach that lays down certain guard rails.

The duty to protect the environment does not imply a specific level of protection to be heeded or met by the state (Epiney, in von Mangoldt/Klein/Starck et al. 2010, Artikel 20a GG, marginal number 64). Having said that, the binding substantive core of the state objective – together with the *Untermaßverbot*, a rule in German constitutional law that the state must not fall short of a necessary minimum level of protection – must be thought of as setting an absolute limit (Brönneke 1999, p. 272 ff. and 471 ff.; Sommermann 1997, p. 439 ff.). Generally speaking, the *Untermaßverbot* means that organs of the state must give reasonable and effective protection. With regard to Article 20a of the Basic Law, what this means can mostly be inferred from the reference to future generations. This implies that the state has a special, legally binding responsibility for the long-term future (Kloepfer 1996, p. 78; on the concept additionally Gethmann et al. 1993, p. 14 ff., 26 ff., 57 ff.). This is also rightly seen as an expression of the sustainable development concept (Frenz 1999, p. 40 f.; Kloepfer 1996, p. 78; comprehensively Epiney and Scheyli 1998, p. 36 ff.; Rehbinder 2007, marginal number 81). The minimum level set by the *Untermaßverbot* can thus be specified in relation to sustainability. Hence, for example, environmental releases must not overstep the carrying capacity of environmental media (see Section 10.2.3). Renewable resources must not be used faster than they can regenerate. Non-renewable resources must be conserved as far as possible (on what are referred to as the 'management rules'), see Murswiek in Sachs 2009, Artikel 20a GG, marginal number 37 f.). These minimum requirements represent the limits that must be applied to conserve the environment as a basis of life for future generations. The broad consensus in the literature is that the environment must not be left in a generally or unacceptably worse state than before. Any unavoidable environmental impacts must therefore be compensated for (e.g. Epiney, in von Mangoldt/Klein/Starck 2010, Artikel 20a GG, marginal number 65; Murswiek, in Sachs 2009 Artikel 20a GG, marginal number 44; Rehbinder 2007, p. 149 f.; Kloepfer 2004, § 4, marginal number 35; for a critical view see e.g. Schink 1997, p. 226 f).

Beyond this limit, the task of putting the protective approach in specific terms – for example with environmental quality targets (Reese 2010, p. 345) – falls to the responsible organs of the state. These are mandated to seek an optimum where environment protection is taken as far as is legally and practically feasible (Brönneke 1999, p. 269 ff.; Sommermann 1997, p. 360 f.). In light of the state's responsibility for the long-term future, the precautionary principle must be brought into play when balancing environment protection with other constitutional concerns (von Mangoldt/Klein/Starck 2010; Schulze-Fielitz, in Dreier 2006, Artikel 20a GG, marginal number 53; comprehensively on this topic: Calliess 2001, p. 181). Because many causal chains cannot be fully traced and the exact point when a limit is exceeded may be hard to determine, safety margins must be applied, and such safety margins have to be set on a case-by-case basis. Accordingly, the protective approach used must also incorporate risk prevention (Calliess 2001, p. 153 ff.).

669. In a more specific way than from Article 20a of the German Basic Law, similar requirements can be inferred for the European Union from the environment protection objective laid down in Article 191 of the Treaty on the Functioning of the European Union (TFEU) and the integration clause in Article 11 TFEU. Under Article 191 (1) TFEU, one of the aims of European Union environmental policy is to preserve the environment and hence must combat any deterioration (Callies, in Calliess/Ruffert 2011, Artikel 191 AEUV, marginal number 10; Käller, in Schwarze 2009, Artikel 174 EGV, marginal number 8). Beyond this – as under Article 20a of the German Basic Law – when balancing with other concerns, an optimum level must be sought and hence environment protection must be taken to the furthest possible extent (Calliess, in Calliess/Ruffert 2011, Artikel 191 AEUV, marginal number 44; Kahl 1993, p. 69 ff.).

The main provision with regard to the European Union's obligation to ensure that environmental limits are not exceeded is the integration clause in Article 11 TFEU, which runs as follows:

'Environment protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development.'

This reflects the fact that the state of the environment is heavily affected by decisions in other policy areas – such as transportation, agriculture and energy policy – and implementing environment protection takes a corresponding degree of policy integration. Lawmakers and government must therefore treat environment protection as a cross-cutting policy area and assess all policies for environmental compatibility at an early stage. Decisions in policy areas that affect the environment must not be geared solely to the goals of those policy areas, but must take any environmental impacts into account (Calliess, in Calliess/Ruffert 2011, Artikel 11 AEUV, marginal number 6; Käller, in Schwarze 2009, Artikel 6 EGV, marginal number 13). Because Article 11 TFEU

explicitly refers to the concept of sustainable development, the European Union, too, is constrained by the carrying capacity of environmental media and the regeneration rate of renewable resources as the limits of environmental sustainability.

670. At both national and European level, there is thus an obligation to keep within limits that must be quantified in relation to environmental sustainability. Because of the uncertainties inherent in this quantification, those limits should not be exhausted, but rather a precautionary margin should be observed. Responsibility for ensuring that this takes place falls both to the German state and to the European Union, although when it comes to implementing sustainability and integrating environmental policy into other policy areas, more specific requirements follow from Article 11 TFEU than from Article 20a of the German Basic Law. A provision based on the EU model would therefore also be desirable for German constitutional law (see Item 712).

11.2.2 Policy challenges

671. While it is possible to be quite optimistic about the technological and economic capacity to successfully tackle environmental challenges at least for large policy areas (IPCC 2011; SRU 2011c), the greatest challenge in the SRU's opinion is that of creating the political, institutional and legal conditions for transformation processes to take place.

How to launch such transformation processes sufficiently quickly and their management at national, European and even global level is a subject of intense academic and political debate. An important facet from a political science point of view is the state's limited capacity to govern (Mayntz 2005). This follows from a range of factors such as the – constitutionally guaranteed – autonomy of economic and societal actors, potential resistance from parties affected by regulation, the influence of individual interests in corporatist decision making structures, and the interwoven policymaking structures of the federal political system. Over and above the general limits to the governing ability of public policy, environmental problems also pose specific challenges of their own (Jacob et al. 2007). These include difficulties concerning the stewardship of public goods and the temporal and spatial separation of cause and effect in environmental issues. A special difficulty when it comes to mobilising political support for transformation processes is that it is not readily apparent to the public when an environmental limit is exceeded. There are three reasons for this, particularly in a highly developed industrialised country like Germany: First, successful environment protection measures have largely alleviated obvious environmental degradation in Germany while many remaining adverse environmental trends – such as surface water nutrient pollution and groundwater contamination – are less visible (Jänicke and Volkery 2001). Second, much of the negative environmental impact of German production and consumption takes place elsewhere in the world, among other things because environmentally intensive inputs like ores (Chapter 2) and agricultural feedstuffs (Chapter 3) are imported. Third, when limits are exceeded, it is often with respect to global commons, with respect to which individual countries consider their responsibility and influence to be relatively small. From a scientific, and most of all from a long-term and global perspective, the environmental challenges are therefore far more pressing than they appear to policymakers and society.

672. Despite all these problems and reservations, current climate and energy policy in Germany is not least in demonstrating that the state can indeed take action if society achieves cross-party consensus on a specific need to do so (see SRU 2011c, Section 6.4.2). Especially when it comes to gradual, low-visibility degeneration processes such as species loss and groundwater contamination, a substantial contribution is needed from research to ensure that problems are noticed (Jänicke and Volkery 2001). The targeted transformation processes that are needed therefore rely on functioning interfaces linking research with policymaking and society (see Chapter 1.6.1). Such interfaces are needed to encourage the production of relevant, robust knowledge about environmental limits and support the emergence of science-based political and social consensus on environmental targets. As the transgression of environmental limits in many cases has to be identified and communicated at the level of global systems, globally interconnected institutions of knowledge transfer assume a key role.

11.2.3 Environmental limits in environmental policy

673. Environmental policy targets are a basic requirement for successful environmental policy. They describe the 'targeted status of the environment, specified with regard to condition, in spatial terms and by time, and hence also the maximum admissible exploitation of the environment' and should principally be laid down in a phased, consultation-friendly process informed by available knowledge of environmental limits (in detail, SRU 1994, Section 2.1). The last two decades have indeed seen the development of policy approaches, mostly in European directives, establishing quality targets for numerous environmental media together with action plans for target attainment. Examples include policy on climate change, clean air, surface waters and the marine environment, plus with certain restrictions soil conservation and nature conservation. Many of the quality targets are in need of revision, however, in an ongoing, medium-term updating process. The system of targets is also strongly focused on local and regional environment problems and too little on 'planetary boundaries' (Rockström et al. 2009; 2011).

674. Systematically determining what is the 'maximum admissible exploitation of the environment', however, is non-trivial for various reasons. The concept of environmental limits (and related concepts such as 'environmental sustainability', 'planetary boundaries' and 'critical natural capital' – see Chapter 1) relates to the basic understanding that human resource use must be kept within the regenerative capacity of the environment and that there are critical thresholds for key global ecosystems

beyond which there is a risk of triggering abrupt and potentially catastrophic change. Quantification of such thresholds involves considerable uncertainty, however, for example because complex biophysical systems and regeneration processes that contribute to inherent stability are inadequately understood. This uncertainty generally means that the precautionary principle must be brought into play (SRU 2011b; Rockström et al. 2011).

675. Environmental targets are based on scientific knowledge, for example about the storage capacity of sinks and the regenerating capacity of renewable resources. Nonetheless, they ultimately involve setting normative limits for socially acceptable risks, and such limit setting cannot be left to science alone (on the example of clean air policy, Bruckmann 2010). At least implicitly, there will always be a trade-off between costs of target attainment and the anticipated benefits. The issue of competing international and intergenerational claims on natural resources likewise demands a political answer. Cost-benefit analysis is also of limited use when it comes to setting environmental targets because of the complex interrelationships involved. It is not therefore possible to set environmental targets without engaging in a trade-off between environment protection and polluter interests (Reese 2010, p. 343). At the same time, care must be taken in target setting to ensure that environment protection interests are not outweighed by economic concerns. A decisive factor in this process is scientific, technological and economic capacity for action (Jänicke 2010; von Prittwitz 1990; 2011) that publicly highlights the need for environmental policy change and illustrates the options available at the various levels (such as choice of technology, structure of the economy and rate of growth). Target setting and capacity building can operate over decades in a mutually reinforcing process (Jänicke 2010).

676. How self-reinforcing policy feedback (Jordan and Rayner 2010; see also Item 710) and acceleration (Jänicke 2010) can operate on the basis of robust global scientific consensus on environmental limit setting can be illustrated by the example of climate policy. The 2 °C target adopted internationally in 2010 at the United Nations Climate Change Conference in Cancún after some 15 years of debate is essentially based on increasingly robust scientific findings from the Intergovernmental Panel on Climate Change (IPCC) (see Chapter 1, Item 84), successful global communication of the economic effects of climate policy inaction by the Stern Review (Stern 2007; see also Hey 2009), and the illustration of those effects with great media impact by extreme events that can be attributed to climate change. At the same time, however, the capacity for ambitious climate policy had grown, not least because policymakers were presented with a range of potential problem-solving technologies (renewable energy sources, nuclear energy and carbon sequestration) (SRU 2011c, Section 5) and a promising climate policy toolkit (e.g. with emissions trading and feed-in tariffs). The associated commercial opportunities boosted industry acceptance of the 2 °C target and corresponding emission reduction targets. The reduction requirements now accepted both nationally and at European level provide the foundation for a broad-based energy and climate policy action programme. While this assures neither the success of international climate change diplomacy nor adequate target attainment, it must nonetheless be considered an advanced example of environmental targets gaining political recognition.

677. Operationalising environmental targets is thus a long-term responsibility to be discharged on a coordinated basis at various levels of policy action. Despite the clearly demanding political and legal challenges, the development of strategies based on environmental targets should continue.

11.3 Policy strategies as a means of incorporating environmental limits

11.3.1 Strategies in government action

678. Both in Germany and at European level, individual problem areas are increasingly addressed with strategy processes. Such strategies generally aim to formulate a problem in a specific subject area in consultation with societal actors, formulate the need for action, set medium to long-term targets and develop coordinated action packages. In the political science literature, the trend towards the use of strategies is explained in terms of the complex and unstable conditions in which policymaking takes place creating a 'paradoxically heightened predictability need in combination with reduced predictive ability' and hence enhanced demand for policy strategy (Raschke and Tils 2007).

679. In the context of environmental challenges, three types of strategy can be distinguished: Sustainability strategies, environmental strategies, and sectoral strategies with environmental relevance:

– *Sustainability strategies* aim to align development processes with long-term environmental, social and economic goals and hence aspire to comprehensive thematic scope. Under the Agenda 21 governance approach, sustainability strategies are framed as participative, learning-driven capacity building processes that connect situational analysis with implementation strategies and success monitoring mechanisms (Meadowcroft 2007). Although sustainability strategies also aim to make targets more binding, it would be wrong to place overly high expectations on their governing capacity. Sustainability strategies cannot take the place of a comprehensive, integrated planning and implementation toolkit. In the political science literature they are therefore regarded as a new form of 'strategic public management' (Steurer 2007; Steurer and Martinuzzi 2005) or a 'new mode of reflexive governance' (Meadowcroft 2007). Sustainability strategies are thus not hierarchical management instruments but an interactive and participative form of self-monitoring and self-governance for policymaking and society.

– *Environmental strategies* are processes or programmes developed under the leadership of environmental

administrations to influence the attainment of targets – primarily environmental targets – in various policy areas. A distinction is drawn between thematic environmental strategies (such as the National Strategy on Biological Diversity), which focus on specific problem areas, and cross-cutting environmental strategies (such as the German government Environmental Programme of 1971 and the EU Environment Action Programmes). Environmental strategies are intended to put on the agenda the need for action on the environment, to formulate targets and action, and to coordinate action between the various levels.

– The policy strategies of other ministries and arms of government (such as in transport, agriculture, research, energy, and structural policy) also increasingly have an environmental dimension. The focus of such *sectoral strategies with environmental relevance* is generally on the goals and interests of the ministry in charge and the societal actors it represents (such as agriculture or industry), although in individual cases environmental objectives can be the policy driver (as in the German government's Energy Concept).

– Sectoral strategies and environmental strategies have a selective thematic focus, while sustainability strategies take a cross-cutting perspective. Tables 11-1 and 11-2 show examples of the various strategy types at national and EU level.

Table 11-1

Examples of environment-relevant strategies at national level in Germany

Strategy	Ministry in charge
Sustainability strategies	
National Sustainability Strategy	Federal Chancellery
Environmental Strategies	
German Resource Efficiency Programme	BMU
National Strategy on Biological Diversity	BMU
Strategy of the German Government on the Use of Off-shore Wind Energy	BMU
German Strategy for Adaptation to Climate Change	BMU
Sectoral strategies with environmental relevance	
Federal Government Action Plan for the Industrial Use of Renewable Resources	BMELV
Freight Transport and Logistics Action Plan	BMVBS
Energy for Tomorrow: Opportunities for Rural Areas Action Plan	BMELV
Energy Concept for an Environmentally Sound, Reliable and Affordable Energy Supply	BMWi / BMU
High-Tech Strategy 2020	BMBF / BMWi
National Development Plan for Electric Mobility	BMWi / BMVBS
Raw Materials Strategy	BMWi
Forest Strategy 2020	BMELV
White Paper on Inner Cities	BMVBS

BMU: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BMELV: Federal Ministry of Food, Agriculture and Consumer Protection
BMVBS: Federal Ministry of Transport, Building and Urban Development
BMWi: Federal Ministry of Economics and Technology
BMBF: Federal Ministry of Education and Research

SRU/UG 2012/Tab. 11-1

Table 11-2

Examples of environment-relevant strategies at EU level

Strategy	Directorate general in charge
Cross-cutting strategies	
EU Strategy for Sustainable Development	Secretariat-General
Europe 2020	Secretariat-General
Environmental strategies	
Roadmap for Moving to a Competitive Low-Carbon Economy in 2050	DG Climate Action
Roadmap to a Resource Efficient Europe	DG Environment
EU Biodiversity Strategy to 2020	DG Environment
Review of EU Air Quality and Emissions Policy	DG Environment
Sectoral strategies with environmental relevance	
Energy Roadmap 2050	DG Energy
European Energy Efficiency Plan	DG Energy
Flagship Initiative: Innovation Union	DG Research and Innovation
White Paper: Roadmap to a Single European Transport Area	DG Mobility and Transport
Communication: Tackling the Challenges in Commodity Markets and on Raw Materials	DG Enterprise and Industry
Flagship Initiative: An Industrial Policy for the Globalisation Era	DG Enterprise and Industry
Action Plan for Sustainable Consumption and Production and Sustainable Industrial Policy	DG Environment / DG Enterprise and Industry
Communication: Trade, Growth & World Affairs	DG Trade

DG: Directorate General

SRU/UG 2012/Tab. 11-2

11.3.2 Policy strategies and their functions in relation to environmental limits

680. The SRU regards policy strategy processes as key points of departure for better aligning policy decisions so that environmental limits are not exceeded. The three types of strategy – sustainability strategies, environmental strategies, and sectoral strategies with environmental relevance – can contribute in a different, complementary and mutually reinforcing way towards environmental policy that is systematically geared to the observance of environmental limits (see Figure 11-1). It is important, however, to have a realistic assessment of the possible contribution of the respective strategic approaches and of their interactions.

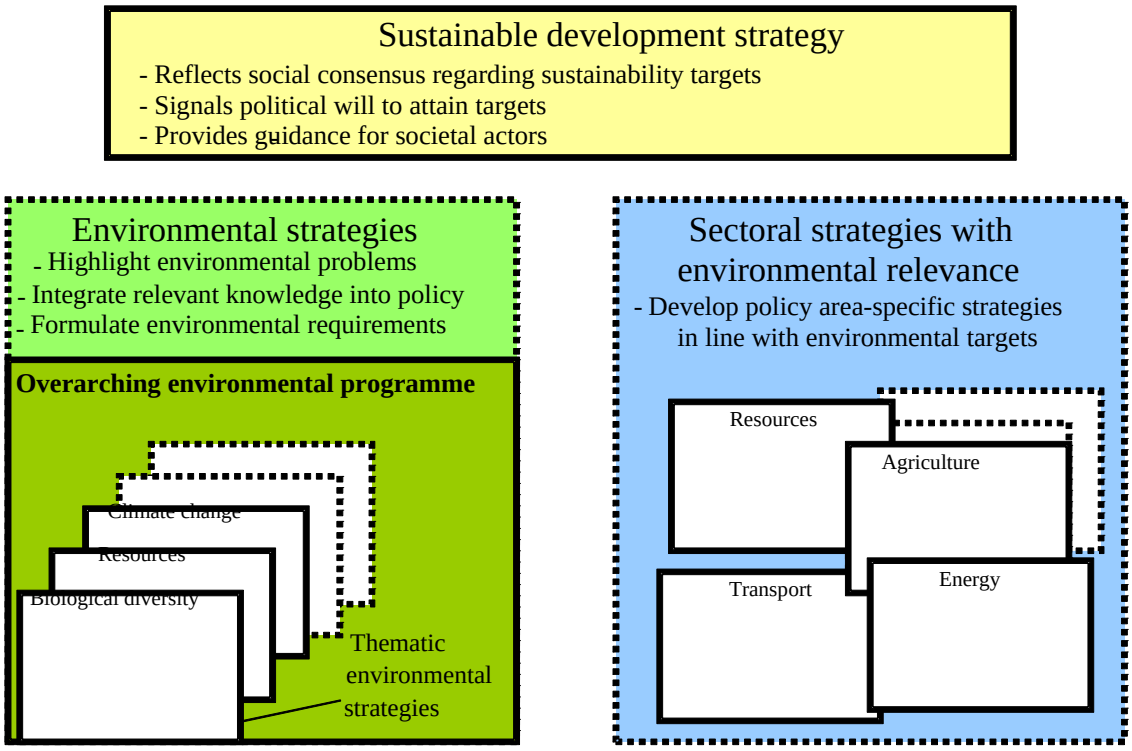
A key function of *sustainability strategies* is to generate broad social consensus on sustainability objectives. With regard to conservation of the natural foundations of life, it is essential that the target system in sustainability strategies should centre on long-term targets relating to the various elements of the environment. These should be complemented with short-term and medium-term environmental action targets. International and national climate targets are salient examples of how such targets can act as signals and provide guidance.

Environmental strategies based on environmental limits should establish a comprehensive set of environmental guard rails for the use of natural resources and sinks subject to a process of ongoing review. Targets should be formulated with regard not only to national variables, but preferably also global commons and their fair use by Germany and the EU. The targets should be set so as to avoid critical tipping points and thresholds while also taking into account technical and economic mitigation potential and its cost at various levels. This requires a broad and knowledge-intensive preparation process.

Other policy areas should incorporate relevant environmental targets when developing *sectoral strategies with environmental relevance* and should align their policies with the targets. Environmental targets provide the basis for an economy operating within sustainability limits, and hence for allocations and restrictions using market or command-and-control instruments and sectoral transformation strategies. They thus require a relatively long-term time horizon.

Figure 11-1

SRU proposal for an architecture for policy strategies and their functions relative to environmental limits



SRU/UG 2012/Fig. 11-1

11.3.3 The 'green economy' as guiding vision in policy strategies

681. The concept of the green economy has become established at global level as a new guiding vision in environmental policy (Bär et al. 2011; OECD 2011; UNEP 2011). The 'green economy', 'green growth' or 'sustainable growth' discourse also plays an increasingly important part in strategy processes at national and European level. The green economy concept both presents new opportunities for environmental policy, especially with regard to incorporating environmental limits, and poses risks, which will be addressed in the following.

The career of the green economy model follows on from a long-term tendency in the environmental policy discourse to incorporate elements of economic analysis. Increasing importance is thus attached to a frame of argument under which the various facets of environmental policy are centrally analysed in economic categories (cost, benefit, capital, market, efficiency, productivity, etc.), from which need for action is identified and potential solutions are derived. Analysis of environmental problems from an economic perspective is not new and in fact has a long academic and political tradition (Pearce 2002). What is remarkable about recent developments, however, is the dominance that the economic discourse has now attained.

682. The common core tenet of the current green economy discourse is that environment protection should not be generally seen as a cost factor and instead presents major economic opportunities. Beyond this central tenet, however, national and international debate on the subject varies considerably – not just with regard to the key terms used, but also with regard to choice of focus, rationale and conclusions drawn (see Table 11-3). The green economy concept as used by the United Nations Environment Programme (UNEP), for example, is based on an analysis not only of economic and environmental crises, but also of their social causes and effects (UNEP 2011). Emphasis is placed among other things on the great importance of stable ecosystems for the alleviation of poverty, not least in view of the dependence of rural populations in developing countries on local environmental conditions. The OECD's analysis, on the other hand, is rooted in a tradition of promoting efficient, market-friendly economic policies, which it supplements by taking into account environmental limits. It consequently centres on the goal of permanently sustaining global economic growth despite finite resources and ecosystems under pressure. Economic growth thus remains the main measure of economic success, although the need is noted for a 'broader concept of progress' (OECD 2011, p. 22). The concept of the green economy was also a subject of heated debate in advance of the Rio+20 conference. Critics of the concept, most of all from developing and emerging economies, raised fears of an attempt to water down the concept of sustainable development and that the new agenda could lead to neglect of social equity and to environmental protectionism (Khor 2011; AS-PTA et al. 2012).

Table 11-3

Key models of the environmental policy discourse

Model	Core tenet	Source
Green economy	There is no inescapable trade-off between environmental sustainability and economic progress. Creating a socially more equitable and greener economy is an instrument of sustainable development, both for industrialised and developing countries. However, the transition to a green economy requires policymakers to create enabling conditions. Approaches include shifting public and private investment towards climate-friendly technologies, resource efficiency and natural capital.	UNEP 2011
Green growth	Green growth means fostering economic growth while conserving the resources and ecosystem services on which our well-being relies. To do this it must catalyse investment and innovation which will underpin sustained growth and give rise to new economic opportunities.	OECD 2011
Green New Deal	The economic crisis is an opportunity for a Global Green New Deal. A green recovery programme to stimulate the economy can lay the foundations for technological change, environment-friendly public infrastructure and green jobs.	Barbier 2010; French et al. 2009
Sustainable growth	Sustainable growth means building a resource efficient, sustainable and competitive economy. In a world that is cutting carbon emissions and in which resources are scarce, Europe should exploit its leadership in the race to develop new processes and technologies. The aim is not only to secure Europe's economic success, but at the same time to protect the environment and to strengthen Europe's social and territorial cohesion.	European Commission 2010
Ecological industrial policy	Major markets of the future will have a strong ecological dimension. Countries that achieve technological leadership in green markets will secure global competitive advantages and safeguard prosperity and jobs. Technological leadership of this kind must be promoted, however, by active ecological industrial policy that adapts the economy to scarcer resources, strengthens strategic industries of the future, initiates advances in technology and helps innovative technologies reach the market more quickly.	BMU 2006
Ecological modernisation	The economy and the environment are not necessarily opposed. In certain conditions, development and diffusion of clean technologies can bring about a decoupling of economic growth and environmental exploitation. However, this requires policy strategies to promote such ecological modernisation. These include binding environmental targets, dynamic policy instruments, consensus-based policymaking processes, long-term policy planning and both horizontal and vertical policy integration.	Jänicke 1984; 1993; Hajer 1997; Mol 2001

SRU/UG 2012/Tab. 11-3

683. Despite the highly varied nature of the analysis, three recurring and related lines of argument can be seen:

– *The environment as an economic resource:* This discourse is based on the root tenet of environmental economics that overexploitation of natural resources and sinks should essentially be treated as a problem of market failure. Because environmental goods are often public goods whose non-exclusivity means they are not market-traded, scarcities do not feed through into the price and overexploitation results. Diverse events and developments such as the dramatic warnings from the IPCC, renewed energy price inflation, inflated and wildly fluctuating prices for agricultural products, the initially mysterious deaths of bee colonies in the USA and Europe, and emerging global competition for scarce strategic resources have helped raise awareness that even technologically and economically highly developed countries rely on functioning ecological foundations and are prone to environmental crises. To better measure the economic cost of resource overexploitation, numerous analyses and studies have been compiled in recent years that highlight the dependence of human society and economic activities on nature (Reid et al. 2005). Many such studies also attempted to put an economic value on ecosystem services (Costanza et al. 1997; Stern 2007; TEEB 2010). The studies also show, in line with the insights of environmental economics, that there is very little or no scope for substituting many services associated with natural capital with other forms of capital.

– *The economic opportunities of environment protection:* In contrast to the traditional discourse, in which environment protection was treated as a cost factor, here it is emphasised that in many ways environmental policy can have positive economic effects. This relates not only to direct savings for industry, but also to the

launch of modernisation processes with positive results for the economy (Jänicke 2008), secondary benefits in other sectors and, not least, international competitive advantages in growing future 'green' markets for environmental technologies (OECD 2011; BMU 2006).

– *Market-based environmental policy:* The core of this line of argument is the rationale for market-based environmental policy. To conserve the environment as an economic resource and maximise economic opportunities, environmental policy should be designed to correct the identified market failure by internalising external costs (OECD 2011). To this end, environmental policy instruments should be made business-friendly and innovation-friendly to attain environmental targets at minimum cost. This position follows on from the longstanding critique of command-and-control regulation and stresses the benefits of economic instruments.

The green economy discourse in relation to environmental limits

684. In the SRU's opinion, the growing importance of the green economy discourse is essentially positive for the development of strategies to keep within environmental limits, but it also harbours risks. It is positive that the green economy concept brings out the economic importance of functioning ecosystems. Even if loss of ecosystem function is only viewed selectively from an economic perspective, this is an important precondition for the development of strategies that are adequate to the problem and incorporate environmental limits. The green economy discourse enhances the economic legitimacy of environmental policy and can thus be a strong driver of measures and instruments with a clearly positive cost-benefits relationship. It also improves the acceptance of instruments that can help internalise external costs and hence serve what is considered a fundamentally legitimate goal of correcting market failure (OECD 2011).

685. On the other hand, the green economy discourse can restrict the analysis in unacceptable ways. First of all, it restricts the legitimation of environment protection to economic benefit. This is questionable not only on ethical and legal grounds; most of all, it raises problems in the face of limited knowledge, uncertainty and methodological difficulties. In practice, it can be seen that incorporating economics into the environmental policy discourse poses a challenge for environmental administrations, which come under greater pressure to justify any action where the costs are known but the benefits are uncertain or methodologically impossible to determine (e.g. Ginzky and Rechenberg 2010, who speak in this context of a reversal of the burden of proof). This creates a systematic bias to the detriment of environmental goods and issues whose operation is more complex and about which knowledge is less advanced. In particular, it is important when making trade-offs to prevent environmental aspects that can be monetised with greater reliability and less effort from being given greater weight than those which are economically hard to capture. There is also a danger of economic analysis at a specific geographical level failing to take into account potential impacts at other levels, resulting in the neglect of displacement and shifting effects (Brondízio and Gatzweiler 2010). Even greater problems are raised, however, when the line of argument based on the economic opportunities of environment protection becomes the sole policy driver – a rationale echoed, for example, in the Europe 2020 growth strategy (see Section 11.4.2.1). The danger here is of environmental policy forfeiting its independent rationale and hence losing policy influence.

11.3.4 Analysis of sustainability strategies

11.3.4.1 EU level: EU Strategy for Sustainable Development and Europe 2020

686. The strategy debate in the EU has been dominated since 2000 by two in part politically competing, in part complementary strategy processes: on the one hand the economic policy Lisbon Strategy and on the other the European Sustainable Development Strategy with its greater emphasis on environment and social policy goals. The indeterminate relationship between the two strategies, their insufficient adequacy to the problems and their lacking regulatory effectiveness along with the weakness of their links with national and international strategy processes have been criticised on repeated occasions (synoptically, SRU 2008, Chapter 1; RNE 2009; Ehnmark 2009; Berger And Hametner 2008; on the weak regulatory approach in the Lisbon Strategy, Schäfer 2005; Homeyer 2010).

687. In its Europe 2020 strategy for 'smart, sustainable and inclusive growth' (European Commission 2010; see Table 11-2) of March 2010, the EU has presented a cross-cutting strategy document for the decade to 2020 that succeeds the economic policy Lisbon Strategy but in the European Commission's current view is also intended to replace the European Sustainable Development Strategy. As of the end of 2011, the European Council has likewise not yet set a date for a comprehensive review of the Sustainable Development Strategy, even though such a review was initially planned (Council of the European Union 2006). Whether the Europe 2020 strategy is indeed of such a comprehensive nature that it can accommodate the environmental targets of a sustainability strategy or an environment action programme, however, is viewed with scepticism (for such a critical view, Berger et al. 2010, p. 9). There are also fundamental goal differences between a strategy that draws upon notions of green growth and ecological modernisation and an understanding of sustainability that at least in its original sense clearly incorporates environmental limits and hence more radical change in industrialised nations (Baker 2007).

The broad thematic scope of the Europe 2020 strategy covers key policy areas from the Sustainable Development Strategy. The strategy is formulated in concrete terms in seven 'flagship' initiatives. 'Resource efficient Europe', the flagship initiative intended to advance European environmental policy, in turn includes

numerous, in some cases exceptionally far-reaching programmes for climate change policy through to 2050, for the reform of European agricultural and structural policy and for the conservation of biodiversity. The goal of resource efficiency is very broadly defined and takes in many major areas of environmental policy. Overall, the Europe 2020 strategy is expected to generate significantly greater impetus and innovation than the EU Sustainable Development Strategy. For one thing, it launches new, complex policy processes with far-reaching goals such as climate-neutral electricity supply. For another, the implementation process is managed on a far tighter and more hierarchical basis by the Secretariat-General of the European Commission.

In its environment-related sections, the Europe 2020 strategy can be seen as an example of a strategy geared towards the guiding vision of the green economy, thereby reflecting the problematic restrictions of focus that go with that concept (see Section 11.3.1). Ambitious targets are thus indeed to be found in the Roadmap for Moving to a Competitive Low Carbon Economy in 2050 (European Commission 2011a), the Roadmap to a Single European Transport Area White Paper (European Commission 2011f; see Chapter 4) and the renewed Biodiversity Strategy (European Commission 2011c). However, these targets are not systematically backed up by a credible programme of action (EEAC 2011a). These various EU environmental policy strategies also stand under a growth imperative that the European Council reiterated in its conclusions (Council of the European Union 2010a; Berger et al. 2010). Growth and competitiveness are unequivocally the central themes of the Europe 2020 strategy ('smart', 'sustainable' and 'inclusive' being merely secondary criteria). The European Council describes the strategy as 'a new European strategy for jobs and growth' (Council of the European Union 2010b, p. 1). Even the Resource Efficient Europe flagship initiative, the sole environmental policy pillar in the Europe 2020 strategy, emphasises: 'In response to these changes, increasing resource efficiency will be key to securing growth and jobs for Europe' (European Commission 2011d, p. 4). The same primarily economic rationale applies for the EU Biodiversity Strategy (NeFo 2011). How the task of *'addressing trade-offs'* is to be discharged when economics and the environment fail to deliver a win-win situation is something the environment-related strategies developed under Europe 2020 leave unanswered. A separate formulation of environmental objectives such as that set out in the European Sustainable Development Strategy – 'Safeguard the earth's capacity to support life in all its diversity' and 'respect the limits of the planet's natural resources' (Council of the European Union 2006) – is no longer to be found in the Europe 2020 strategy.

In 2006, it was still possible to assume a duality between growth and sustainability objectives, with the sustainability strategy having the function of an overarching long-term framework (Council of the European Union 2006, at 7). In Europe 2020 this pecking order is evidently reversed: Environmental targets must largely have an economic rationale. As overarching objectives and the framework of discourse allocate opportunities to exert influence, particularly in the EU (Daviter 2007), and symbolise collective identities (Baker 2007), the change of reference model on the part of the European Commission must be viewed critically.

688. For these reasons, the need remains for a separate European Sustainable Development Strategy (Deutscher Bundestag 2011a; Bundesregierung 2012, p. 66; EEAC 2011b). The environmental guard rails to be laid down in the light of the responsibility towards the future and global equity have, with a view to economic policies with a long-term perspective, priority over short-run growth targets (see Section 11.1) and need their own separate target setting. The EU Sustainable Development Strategy must therefore continue to be updated as an overarching long-term strategy.

The European Sustainable Development Strategy is also important for effective multilevel governance. This constitutes the European link in the chain between the international Rio agenda (SRU 2004, Chapter 13) and national and regional sustainability strategies. Associated with this is the establishment of institutions and networks such as the European Sustainable Development Network, the Sustainable Development Observatory of the European Economic and Social Committee, and the Network of European Environment and Sustainable Development Advisory Councils (Reimer 2009; Schomerus 2011; Bundesregierung 2012). Without a renewed European Sustainable Development Strategy, these institutions that have come into being under the framework of sustainability policy are under threat. The renewed EU Sustainable Development Strategy should also be linked into the system of environmental policy targets to be developed under the 7th Environment Action Programme (see Section 11.3.5.1), either by formulating the general rationale for such targets or by picking up on individual targets.

11.3.4.2 Germany: National Sustainability Strategy

689. The German government published a National Sustainability Strategy entitled 'Perspectives for Germany' in April 2002. Four progress reports (2004, 2005, 2008 and 2012) had the task of reporting on progress with the strategy and furthering the development of key policy areas. The following consists of an updated version of a comment on the draft Progress Report 2012 submitted in September 2011 (SRU 2011a).

The SRU welcomes the continuation of the Sustainability Strategy. In an international comparison, the German Sustainability Strategy is exemplary (Niestroy 2005; OECD 2006). Its main strengths lie in its target-based approach and the inclusion of management instruments and an independent monitoring process (SRU 2008, Section 1.3). Another positive aspect is that the strategy is institutionally well integrated, coordinated by the Federal Chancellery and receives attention at the highest policy level (Stigson et al. 2009). The progress report shows that the German Sustainability Strategy is a serious and active process that shows continuity over several legislative

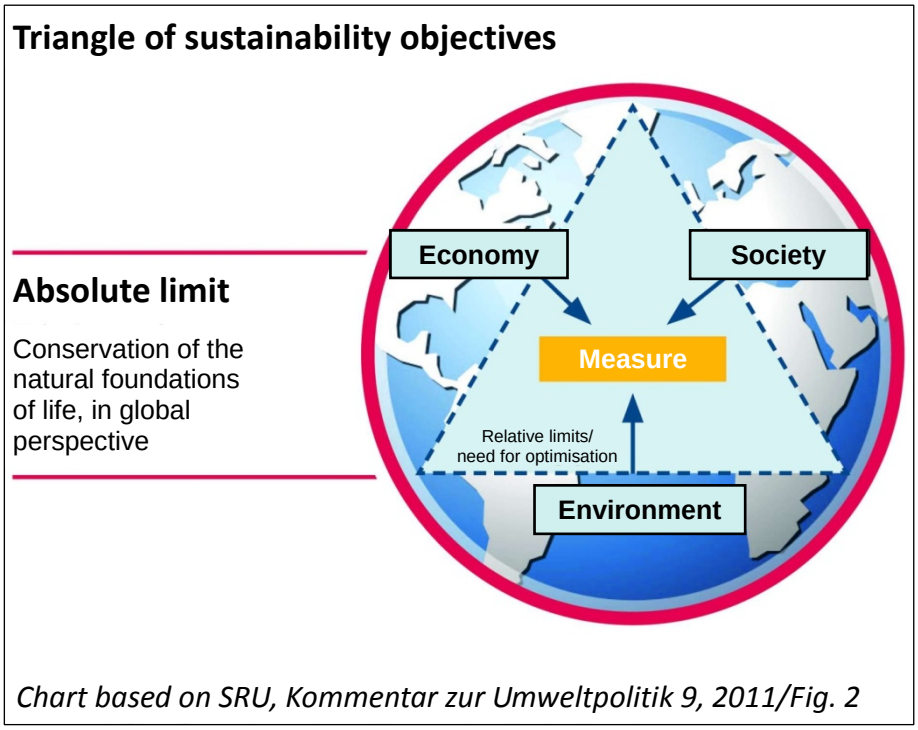
periods and different governments, requires government to act on sustainability targets and gives key impetus for society. Further improvements are nonetheless needed to attain the Sustainability Strategy's self-assigned objectives.

Indicator and target system

690. The German government's sustainability model treats economic, environment and social objectives as three fundamentally equal-ranking elements in the sustainability triangle while making clear that 'maintaining Earth's carrying capacity' is an 'absolute outer limit' (Bundesregierung 2012, p. 27) for trade-off processes. This gives priority to conservation of the natural foundations of life, as illustrated in Figure 11-2.

Figure 11-2

German government sustainability model



Source: Bundesregierung 2012

691. One of the strategy's main shortcomings, however, continues to be the inadequate elaboration of this core facet of sustainable development. In the SRU's opinion, the Sustainability Strategy should place stronger focus on the threats to the natural foundations of life, which are what enable the stable functioning of the economy and society in the first place. In operationalising sustainability with indicators and targets, insufficient attention is paid to the responsibility for conserving the natural foundations of life (for a full analysis of the indicators and targets, see SRU 2011a):

– Of the Sustainability Strategy's 38 indicators, only five monitor the condition of the environment. Key environmental challenges are left out (e.g. surface waters) or are addressed inadequately (e.g. biodiversity). The strategy is also insufficient in capturing the extent to which agriculture, forestry and fisheries sustainably manage natural resources.

– Not all targets are adequate to the problem. The targets for land use, nitrogen surpluses and specific air pollutants, for example, need to be made more stringent in the long term.

– Many of the environmental targets also do not have a sufficiently long-term horizon. The targets for improvements in air quality and reductions in nitrogen surpluses, for example, only run to 2010. Climate change policy is one policy area which shows that it is analysis of *long-term* environmental needs that makes it possible on the one hand to identify the appropriate level of action required and on the other to build sufficient capacity for far-reaching technological and institutional change.

– Finally, a number of targets relate to efficiency indicators, meaning they are specified in relative terms (such as passengers transported per unit GDP). As a result, only the relative intensity of a figure is reported in relationship to economic output, not any absolute increase or decrease (SRU 2002, Item 280). The main problem with this is that for various reasons, efficiency gains can act indirectly to increase consumption (therebound effect). If, as with passenger transport, a

certain degree of decoupling is achieved but the absolute level stays beyond acceptable limits, then efficiency indicators will paint an inaccurately positive picture of developments.

Recommendations

692. Overall, in terms of breadth, target levels and time horizons, the indicator and target system in the Sustainability Strategy is not yet capable of providing policymakers and societal actors with decision making guidance with regard to the threat to the natural foundations of life. In the SRU's opinion, the existing indicator and targets system can be modified at limited effort and expense so that it is better able to provide guidance for the conservation of those natural foundations of life. In particular, it is possible to draw upon the National Strategy on Biological Diversity, under which an ambitious and robust system of targets has been developed that should be more prominently reflected in the Sustainability Strategy. In the medium term, the SRU considers it necessary – partly with regard to the increasingly interconnected environmental targets – to further develop the target system under the framework of an integrated environment programme at national level (see Section 11.3.5.2).

693. In the short term, the German government should:

– Replace the resource conservation, freight transport and passenger transport targets with targets based on absolute figures to make them more effective and avoid giving out inaccurate all-clear signals;

– Update the targets that are relatively closely linked with environmental quality (land use, nitrogen surpluses, organic farming, air pollution) for the 2030 and 2050 time horizons;

– Add a number of indicators relating to important elements of the environment, indicators of significant health relevance, and indicators measuring sustainability in agriculture, forestry and fisheries. Specifically, indicators should be added in the following areas: Ecological status of surface waters, conservation status of Habitats Directive habitats and species, endangered species, agricultural biodiversity loss, sustainable forestry, sustainable marine fisheries, road noise, and air pollution (for a full presentation and explanatory information, see SRU 2011a, p. 10).

694. In the next reporting period (2012 to 2016), the German government should further elaborate on the goal of conserving the foundations of life on a global perspective. The importance of global and local ecosystem services should first be analysed to show the drawbacks and risks of continuing to overexploit natural resources. The most important and threatened elements of the environment should be analysed to identify priority environmental action areas. In light of these outcomes, the current indicator and target system should then be reviewed for its adequacy to the problem, with the review conducted in a transparent process involving relevant stakeholders. For important elements of the environment not yet taken into account (such as surface waters and genetic diversity), efforts should be stepped up to develop suitable indicators and data sets (see Chapter 10). In the long term, the indicators should also be made to better reflect environmental impacts in other countries.

695. Despite a comprehensive appraisal of the debate on alternative indicators (Bundesregierung 2012, p. 192 ff.), economic prosperity is still only operationalised by a single indicator, GDP per capita. It is generally undisputed that GDP is not an adequate measure of social wellbeing (see Chapter 1, Item 91). The SRU therefore recommends that in the next reporting period, the GDP indicator should be supplemented with other indicators to draw attention to any divergence between economic growth and social wellbeing.

696. The SRU welcomes that the German Federal Statistical Office reports regularly, comprehensively and in its own responsibility on changes in the sustainability indicators and that the Federal Statistical Office assessment is now complemented with a political evaluation by the Federal Government. The analysis of problem areas has so far remained cursory, however. In its conclusions on the analysis by the Federal Statistical Office, only three of the 19 indicators whose trends raise problems – national deficit, transport intensity, and wage difference between women and men – are addressed expressly. Of the five indicators directly or indirectly reflecting the condition of the environment, only the greenhouse gas emissions indicator shows a trend towards target (see Table 11-4). The four remaining indicators show a trend below and in some cases well below target. Particularly worrying is the statistically significant deterioration in the species diversity and landscape quality indicator, which in 2009 was only at 67 percent of the target level.

697. Particularly where indicators fall far short of target or are on trend away from target, the negative finding should be taken as the point of departure for an analysis to identify sectors where further action to keep within environmental limits is imperative because previous strategies have reached their limits. As called for in the peer review of the German Sustainability Strategy (Stigson et al. 2009), the Sustainability Strategy should be better geared to the development of sectoral roadmaps in consultation with social groups. In the SRU's opinion, these should include sectoral roadmaps for agriculture (SRU 2009) and freight transport (Chapter 4). Particularly in sectors with high growth rates and long-lasting infrastructure, and where environmental impacts are cumulative, it would be advisable to apply a time horizon of 2050 so that protracted transformation processes can begin in good time. Examples of existing long-term approaches include the climate targets and the expansion targets for renewable energy as adopted by the German government in its revised Energy Concept of July 2011 (see SRU 2011c).

Table 11-4

Status of indicators relating to the condition of the environment in the National Sustainability Strategy[1]

Indicator no.	Target	Status[2]	Target adequate to problem in environmental terms?
Climate change			
2) Greenhouse gas emissions	21 percent reduction by 2008/2012, 40 percent by 2020 and 80 to 95 percent by 2050, each relative to 1990		Yes[3]
Land use			
4) Increase in land use for housing and transport	Increase to be reduced to 30 ha per day by 2020		Further reduction necessary in long term[4]
Species diversity			
5) Species diversity and landscape quality	Increase to index value of 100 by 2015		Yes
Farming			
12a) Nitrogen surplus	Reduction to 80 kg/ha farmland by 2010, further reduction by 2020		Long-term target lacking; further reduction necessary in long term[5]
Air quality			
13) Air pollution (SO_2, NO_x, NH_3, NMVOC)	Reduction to 30% relative to 1990 by 2010		Long-term target lacking; further reductions necessary in NH_3 and NO_x; this is not reflected in single target for all pollutants[6]

[1] Greenhouse gas emissions and increase in land use for housing and transport are impact rather than state indicators. They are included here with the environment state indicators, however, due to their close link with the condition of the environment.

[2] Symbols used for status: sun: trend towards target (< 5% deviation) or target attained; sun/cloud: trend towards target but 5-20% deviation; cloud: trend away from target.

[3] Targets constitute adequate German contribution to global efforts to limit global warming to 2 °C. On current knowledge, this limitation is sufficient to avoid harmful climate change; see SRU 2011c, Section 2.3.2.

[4] SRU 2008, Item 535

[5] UBA 2009

[6] SRU 2008, Item 240 ff.

SRU/UG 2012/Tab. 11-4

Sustainability management

698. The institutions and processes grouped under the general heading of sustainability management since the Progress Report 2008 are, in the SRU's opinion, a valuable contribution towards increasing the regulatory capacity of the Sustainability Strategy. However, it is not yet fully possible to determine how far the institutional reforms implemented to date have influenced specific decisions. No evaluation has yet been performed because the processes are so recent, and in any case such evaluation would face methodological problems. Nonetheless, going by the processes currently underway, any change achieved can be expected to be incremental. Despite institutional improvements, the Strategy's lack of connectedness with ongoing political developments remains a key deficiency. It is therefore to be welcomed in principle that the Progress Report advocates further reinforcement of the Sustainability Strategy. Relative to the size of the challenges, however, the initiatives put forward so far to this end are not binding or ambitious enough.

699. A central element of sustainability management is the procedure for sustainability impact assessment. This was introduced in 2009 to supplement the existing regulatory impact assessment procedure with sustainability aspects. The revised Joint Rules of Procedure of the Federal Ministries lay down that ministries must show 'whether the impacts of a proposal conform to sustainable development and in particular what are the long-term impacts of the proposal'. The German Bundestag Parliamentary Council on Sustainable Development (PBNE) has taken on the role of watchdog for the conduct of sustainability assessments. It checks relevant legislative proposals to ensure that the Sustainability Strategy has been taken into account in regulatory impact assessment and that the described impacts of each proposal are plausible. An evaluation of the sustainability assessment procedure by the PBNE for the period March 2010 to June 2011 identified deficiencies in the sustainability assessment for more than half of the 306 evaluated proposals – including both primary and secondary legislation – because information on sustainable development was absent or implausible (Deutscher Bundestag 2011b). The PBNE also found that 'sustainability assessments are in many cases cursory or at least do not go to sufficient depth' (Deutscher Bundestag 2011b, p. 5). As the number of assessments found to be wanting decreased in the course of the evaluation, the PBNE considers sustainability assessments overall to be 'on the right track' (loc. cit., p. 4).

700. The SRU regards sustainability assessments as an important and essentially positive approach to giving greater weight to the Sustainability Strategy's targets in the law making process. It must be noted, however, that sustainability assessments display the same structural weaknesses as regulatory impact assessment overall (Hertin et al. 2009b; Veit 2010). The main problem is that regulatory impact assessment is largely decoupled from the policy analysis and formulation process. In practice, the ministry in charge does not compile its account of regulatory impacts in the explanatory notes to an item of legislation until it has already decided on a certain implementation of its legislative initiative. The account of regulatory impacts given in the explanatory notes is therefore geared to justification of the proposal. Presentation of undesirable impacts and alternative ways of framing the legislation is avoided wherever possible. Until regulatory impact assessment is made integral to policy formulation, sustainability assessments, too, will be largely prevented from being a useful addition to the legislative evaluation toolkit. Due to structural obstacles, the effect of opening up and formalising pre-parliamentary decision making processes that regulatory impact assessment was intended to help bring about is unlikely to be achieved in the near future (Hertin et al. 2009a; Jacob et al. 2008; Veit 2010).

701. In the final analysis, the SRU is somewhat more critical of sustainability assessments than the PBNE. A positive aspect is that the express inclusion of sustainability impacts in the explanatory notes to legislation enhances the status of the Sustainability Strategy. Divisional heads in all ministries must familiarise themselves with the Strategy's targets and management rules and may develop an awareness of specific problem areas and long-term trends as a result. Given the experiences of the past, the SRU considers it unlikely that the instrument of sustainability assessments in its current form will have an appreciable influence on decisions in favour of sustainability. The SRU also regards with some concern the fact that following a recent expansion of the mandate for Germany's National Regulatory Control Council (*Normenkontrollrat*), more attention is now given to compliance costs (for example of environmental policy measures) without an equal increase in the weight given to environmental impacts of legislative initiatives in other policy areas. The SRU considers that further changes are necessary to ensure that 'unintended side effects of legislative initiative' indeed are 'taken into consideration – from an intergenerational and global point of view – as soon as possible during the process of legislation' (Bundesregierung 2008).

The SRU recommends action as follows in the short term:

– The German government should act to ensure that ministries begin and suitably document sustainability impact assessments for all legislative initiatives early in the policy formulation process (green paper/ministerial draft stage).

– The government should step up efforts to improve the quality of sustainability assessments and ensure that not only positive impacts (with regard to sustainable development) but also negative impacts are stated.

– The scope of sustainability impact assessments should be extended so that they are carried out for a mandatory basis not only on ministerial legislative proposals, but also for legislation initiated in the Bundestag and the Bundesrat.

For the medium term, the SRU advocates the development of a comprehensive integrated policy impact assessment process with uniform requirements, guidelines and guidance documents on the model of the EU Impact Assessment procedure (European Commission 2009), with account also given to long-term impacts and impacts outside Germany. An integrated policy impact assessment process of this kind should be designed to be transparent, to commence at an early stage of drafting, and to include a separate impact assessment report to be published online. The process should be subject to independent quality control comparable with the existing assessment by the National Regulatory Control Council, although the latter so far only looks at economic costs. The quality control body concerned should be given extended powers. Consideration should be given, for example, to whether it could be given the power to require improvements before a legislative proposal is presented to government for adoption.

11.3.5 Analysis of environmental strategies

11.3.5.1 EU level: Environment action programmes

702. Under Article 192 TFEU, the EU's environment action programmes (EAPs) have a general guidance function by setting general objectives and broad lines of environmental policy (Calliess, in Calliess/Ruffert 2011, Artikel 192 AEUV, marginal number 33; Knill 2003, p. 48 f.). Whereas earlier environment action programmes were launched once every five years, the 5th and the current 6th EAP each run for ten years (the 6th EAP from 2002 to 2012). Environment action programmes both past and present formulate the basic environmental policy approach for their respective period (Hey 2005; Homeyer 2009) and provide an opportunity for an overall assessment (European Commission 2011e). Even if there is a certain amount of scepticism as to their regulatory effectiveness (Homeyer 2010; Homeyer and WITHANA 2011), EAPs have significantly greater legitimacy than simple Commission communications. They are adopted in the regular legislative procedure by the European Parliament and the Council (see also Calliess, in Calliess/Ruffert 2011, Artikel 192 AEUV, marginal number 34) and can consequently help achieve broader identification with policy (European Commission 2011e; Council of the European Union 2011).

One of the most far-reaching European environment programmes is considered to be the 5th EAP of 1992, notably because it was developed on the model of the Netherlands National Environmental Policy Plan, in which environmental policy targets are formulated on the basis of environmental guard rails (SRU 1994; 2000). The

5th EAP aimed to encourage the integration of environmental aspects in other sectors by formulating sectoral approaches. The 6th EAP of 2002 was far more low-key in terms of target-driven policy approach. A number of strategic goals were formulated as overarching principles (Article 2). Only some targets, however, were quantified and operationalised in the 6th EAP itself (Homeyer and Withana 2011, p. 11 f.). This task was left, albeit with very varied success, for seven thematic strategies. As a result, the 6th EAP made only a limited contribution to the setting of environmental policy targets as such (SRU 2008; Homeyer and Withana, 2011).

Despite this, subsequent to the evaluation of the 6th EAP, the Environment Council and the European Commission unanimously identified important tasks and functions for environment action programmes (Council of the European Union 2010a; 2011; European Commission 2011e; Homeyer and Withana 2011, p. X and 21). Of outstanding importance is the environmental policy guidance function of an EAP and the heightened legitimacy and political backup enjoyed by a programme jointly adopted by Council and Parliament. An EAP can provide overarching rationale for various environmental policy initiatives and strategies and thus help ensure cohesion between them, facilitate the communication of and mediation between individual targets and measures, and propose instruments to operationalise higher-level objectives such as those formulated in the European Sustainable Development Strategy. Overall, an EAP can thus make an important contribution towards policy visibility and so serve as a symbol for the high standing of European environmental policy. Not least, the absence of comparable environment strategies in many member states, including Germany (Section 11.3.5.2) constitutes a key argument in favour of a 7th EAP as a general guiding framework. For it to fulfil this function, however, a programme needs to be given a clear profile with an overarching approach and identifiable focus areas (Volkery et al. 2011).

703. The Council of Environment Ministers formulated programmatic requirements for a 7th EAP as early as December 2010 (Council of the European Union 2010a):

– An ambitious vision for environmental policy to 2050 with priorities and realistic targets for 2020;

– Improved coherence, complementarity and synergies with other EU strategies and better integration of the environmental dimension into other Community policies;

– Consideration of the global environmental impacts of economic and policy action in the EU;

– Incentives for an absolute decoupling of economic growth and environmental degradation.

704. Practical implementation of these general principles and requirements raises the conceptual question of what programmatic value is gained relative to the many other environment-related strategies presented by the European Commission in recent times (Volkery et al. 2011). The European Commission raised this problem in connection with the Roadmap to a Resource Efficient Europe (European Commission 2011b), which applies a concept of resources that encompasses the entire environment and so pre-empts an EAP in programmatic terms. The Roadmap includes a number of far-reaching and thematically broad-based visions for 2020 and 2050. The Commission mentions the goal of respecting environmental limits, for example. It aims to abolish environmentally harmful subsidies by 2020. A green tax reform is to be brought about in Member States by shifting taxation from labour to environmental impacts. This is to be effected in line with best practice in Member States. The net land take is to be reduced to zero by 2050. Far-reaching environmental targets are also formulated for waste, surface waters, air and biodiversity. The roadmap also picks out the three consumption sectors of greatest environmental relevance: food, buildings, and mobility. Overall, numerous environmental policy action areas are addressed under the general tenet that the environment is a central economic resource and efficiency is the key to a solution. With this in mind, the 7th EAP can offer programmatic added value if it is given a profile of its own with regard to the following aspects:

– An EAP can deliver a more fundamental rationale than the efficiency-based approach taken in a resource roadmap. For example, the formulation and observance of environmental limits certainly cannot be achieved exclusively or primarily via technological efficiency strategies. Instead, this would require a suitable system of long-term targets based on environmental limits; the 7th EAP can contribute to the development of such a target system.

– Environment and climate change policy are divided within the European Commission between two directorates-general. One outcome of this somewhat arbitrary organisational arrangement, which is replicated in only a very small number of member states, is inadequate programmatic provision for interrelationships such as those between climate change and nature conservation policy. Because it was compiled under the leadership of DG Environment, the roadmap does not systematically address climate change. The 7th EAP should ensure coherence between these two environmental policy objectives in particular to avert the emerging shift in problem focus.

– The Roadmap does not develop a consistent environmental policy agenda to move towards to its ‘visionary’ goals. The focus is on market-based and information-based instruments, plus tentative proposals for indicators. There is a need for additional detail and elaboration throughout regarding the standard of protection required under environmental law and the objectives of the Roadmap.

– Another central regulatory medium for environmental policy and environmental policy integration alongside the law is money. How to align the EU budget to the conservation of environmental public goods and to investment in sustainable infrastructure is one of the central structuring challenges of the decade (EEAC 2009). The Roadmap does not include any

programmatic policy with regard to the EU budget, that is to say to the integration of resource efficiency targets into EU spending. The 7th EAP can contribute towards implementation of the target proposed by the European Commission in connection with the multiannual financial framework of spending 20 percent of the EU budget on climate-related expenditure.

– Finally, the Roadmap to a Resource Efficient Europe does not make a perceptible contribution to setting the environmental policy focus for the decade ahead. The 7th EAP should formulate a small number of clearly identifiable thematic focus areas so that limited capacity can be successfully concentrated.

705. Three main options for giving profile to the 7th EAP are currently under debate: Better enforcement and better coordination of environmental policy, a contribution towards operationalising the Roadmap to a Resource Efficient Europe, and communication of the concept of environmental limits (Volkery et al. 2011). Of the three options, bringing policy into relation with the concept of environmental limits is the most demanding and the most appropriate to the problem situation. The groundwork laid for the Roadmap should be drawn upon here with regard to target formulation and the conceptual framework. It is also important to establish a knowledge-based process for dynamic updating of selected medium-term environment targets, particularly for central thematic areas such as nitrogen input, land take and land use, water availability and maintaining the functioning of key ecosystems (e.g. oceans, forests and wetlands). A programme that merely documents previously agreed targets or only aims for better implementation of measures that have already been decided would fall short of what is required. A 7th EAP should provide well-prepared and well-founded impetus for greater environmental policy integration and a European sustainability strategy. A survey of limits exceeded, medium-term problem trends and action needed is already available in the form of the State of the Environment Reports from the European Environment Agency (EEA 2007; 2010a; 2010b).

11.3.5.2 Germany: A new Environment Programme

706. Germany does not have a pronounced tradition of cross-cutting strategy development. The first Environmental Programme developed in 1971 was not renewed on an ongoing basis, partly because a planning-based, future-focused approach of this kind did not fit in the more reaction-driven German pattern of environmental policy (SRU 2002, p. 162). A second attempt with a draft Environmental Policy Priority Programme (Umweltpolitisches Schwerpunktprogramm) in 1998 was not formally adopted by Cabinet due to a change of government. A number of goals from the Environmental Policy Priority Programme were taken up in the 2002 Sustainability Strategy, however, significantly enhancing their status (SRU 2000, p. 89 ff; SRU 2002, p. 162). The practical importance of the conceptual groundwork for the Priority Programme can be seen in particular from the fact that a programme developed in the years 1996 to 1998 continues to shape the structure of targets in the environmental dimension of the current Sustainability Strategy fourteen years later. The system of targets was substantially updated by the Energy Concept (SRU 2011) and the National Strategy on Biological Diversity (Doyle et al. 2010; BMU 2010; 2007). Germany's system of environmental policy targets is nonetheless in need of revision overall. A separate national Environment Programme can help implement and generate acceptance for the European Environmental Action Programme in the national context and also create further impetus for the EU. The environmental policy of pioneering states has been the precondition for and precursor of demanding European environmental policy in the past (Héritier et al. 1994; Andersen and Liefferink 1997; Jörgens 2004).

707. In Germany, too, the system of environmental policy targets should therefore be revised and brought into line with current knowledge on a comprehensive and ongoing basis. A linkage of this kind between the current state of research in relevant disciplines and policy is best achieved in the SRU's opinion under the framework of an integrated Environment Programme. A comprehensive Environment Programme could promote the integration of environmental policy in other relevant policy areas, highlight interrelationships between different environmental policy targets, enhance the effectiveness and implementation of the planned 7th EAP at national level, and at the same time provide new impetus for European and national environmental policy. Not least, such a programme would raise the visibility and importance of environmental policy beyond climate change issues and generate new impetus for the updating of environment-related targets and indicators in the National Sustainability Strategy.

The most recently published review of environmental targets was published by the Federal Environment Agency in 2000 (UBA 2000). The environmental quality and action targets currently in place are in the process of being surveyed in a research project (Environmental Research Plan, project number UM10 17 907). This work and the targets developed in connection with sectoral strategies and thematic environmental strategies (such as the Energy Concept and the National Resource Efficiency Programme) can be used for an updated national Environment Programme (for an analysis of individual environmental strategies, see e.g. Section 6.3 (Forest Strategy 2020) and Chapter 10 (National Strategy on Biological Diversity)).

11.3.6 Analysis of sectoral strategies with environmental relevance

708. Sectoral strategies under the responsibility of the Agriculture, Transport or Economics Ministry offer an opportunity to reconcile sectoral, usually industry-related interests and policy paths with environmental needs and potentially to achieve synergies in the process. Occasionally, however, environmental needs only receive selective attention or ministries follow policy approaches that result in problems being shifted elsewhere.

709. An existing interdepartmental agreement to produce (albeit voluntary) ministerial reports can essentially serve as a procedural instrument for incorporating the targets of the Sustainability Strategy in the work of the individual ministries (BMU 2009; BMWi 2009; BMVBS 2009; 2011; BMBF 2009). Due to a lack of consensus so far on priorities for the ministerial reports and the sustainability aspects to be covered in them, however, the reports vary considerably in their conception, focus and relation to the Sustainability Strategy (Berger and Steuerer 2009). They show that in many cases, environmental targets are not sufficiently systematically integrated into central and strategic priority setting (Jordan und Lenschow 2010; see also Stigson et al. 2009, p. 59). The integrating impetus of cross-sectoral institutions (the Committee of State Secretaries for Sustainable Development, the German Council for Sustainable Development, Parliament) that address the all-inclusive nature of sustainable development is often not enough to overcome the resistance of actors whose interests are firmly rooted in sectoral decision making structures and procedures. In some cases, sectoral strategies appear to be used as a way of retrospectively explaining and justifying policy initiatives that have emerged from other policy and institutional processes and are not necessary geared to sustainability goals (Volkery et al. 2006, p. 2061).

In some policy areas, not enough attention is paid to environmental problems. This applies especially to the conservation of biodiversity, for example in the Forest Strategy (see Chapter 6), policy on renewable energy sources (and in particular biomass to energy, see SRU 2011c; 2007), transport policy (see Chapter 4) and the German government's position on reform of the Common Agricultural Policy (see SRU 2007). In part, the practised solutions have the result of shifting problems to other areas or abroad. There is also so far insufficient coherence between policy areas, with uncoordinated and contradictory outcomes (such as environmentally harmful subsidies, see UBA 2010; Grunwald and Kopfmüller 2006, p. 134).

Subsidies to increase the use of biofuels provide a prime example of a strategy that is compatible with strategic sectoral interests but creates new environmental problems. The expansion targets for biofuels harbour various risks of shifting problems elsewhere (OECD and FAO 2011; Laborde 2011; Beringer et al. 2011; Bowyer and Kretschmer 2011; Goklany 2011; Hiederer et al. 2010; WBGU 2009; SRU 2007; EEA 2011). Boosting the share of biofuel is an attractive way of substituting conventional climate-damaging fuels but can lead to far-reaching social and environmental problems through direct and indirect land use changes. Conversion to electric mobility does not rule out problems being shifted elsewhere either. This applies especially when the electricity used is not renewables-generated or if the added electricity consumption slows the rate of increase of renewables as a share of total electricity generation. The introduction of electric mobility is also questionable as a climate change measure if efforts to improve the economy of conventional vehicles are subsequently neglected. The adoption of electric mobility makes no difference to the fact that the vast amount of land taken up for personal transportation can only be reduced through successful integration with sustainable urban mobility strategies (see Chapter 5). Conversely, highly ambitious efficiency standards for cars or more rigorous efforts to influence choice of transportation could reduce environmental pressures without a risk of shifting problems elsewhere, but such policies are far harder to reconcile with sectoral interests. A further dimension of problem shifting results from production being transferred abroad, as seen in the timber industry. Imports account for most timber and timber products used in Germany (see Chapter 6). A large share of these imports comes from countries with lower statutory standards than Germany and from non-sustainable forestry – and some even comes from illegal felling (Hirschberger 2008).

710. Such examples illustrate that environment-related strategies are now incorporated into various sectoral policies, but also that environmental topics are addressed only selectively and realigning strategic sectoral interests poses difficulties (Jacob 2008). The main cause is that environmental needs do not appear to be capable of being reconciled with sectoral interests. Coordination between environmental and sectoral policies within one and the same government agency comes up against its limits for the same reason. Progress in environmental technology, however, can be achieved by positive feedback between the policy process, innovation and market dynamics (Jänicke 2010). The German government's model of environmentally compatible growth (Bundesregierung 2002, p. 110; see also Chapter 1) plays an important part in this regard in that it can lead to a redefinition of sectoral interests: The market dynamics of environment-friendly solutions brings into play synergies with economic interests and new policy actors that alter the balance of sectoral interests. The role of the renewable energy industry in the transformation of energy supplies is probably the most topical example in this connection (SRU 2011c, p. 193 ff. and 225). Policy innovation, which is mostly only incremental, eventually creates the conditions for forces of change to become mutually reinforcing. A new policy trajectory that is self-reinforcing in the long term can emerge if preliminary, as yet insufficient, institutional innovations and measures prompt calls for further reform, thus taking the trajectory to the next level (policy feedback – see Pierson 1993; Jordan and Rayner 2010).

An important factor in environment-oriented sectoral transformations is the mobilisation and encouragement of 'pioneers of change' (WBGU 2011; on third-party interests ('*Helferinteressen'*) see von Prittwitz 1990) and actor coalitions that can help redress the traditional predominance of polluter over environmental policy interests. Sectoral environmental policy can succeed if innovators are deliberately given better access to formal and informal sectoral policy consultation networks and established actor networks undergo a systematic shakeout. Environmental policy, too, can be intentionally made to stand out as an engine of innovation in this regard (see for

example the discussion of trolley truck systems in Chapter 4).

Increasing the involvement and problem-solving capacity of innovators also makes it easier to put demanding environment problems on the agenda because they begin to be regarded as solvable (von Prittwitz 1990; 2011). Targeted policy to promote research and market introduction plays an important part in this regard. This strengthens the capacity for action to elicit sectoral acceptance of demanding environmental targets.

Alongside problem awareness and the creation of problem solving capacity, other key factors in the implementation of sectoral environmental strategies are political opportunities and decision making opportunities (Kingdon 2011). Situational success factors of this kind cannot be directly influenced. It is very important, however, for robust, sustainable problem solving approaches to be available when favourable conditions or temporary opportunities emerge. The decision to abandon a reprieve granted for the German nuclear power industry and reinstate the original, faster phase-out schedule for nuclear power stations following the Fukushima accident is an interesting example of such a favourable situation where it was possible to pull out a ready-made solution (Matthes 2011; Glaser 2011).

Sectoral environmental strategies such as the Integrated Energy and Climate Programme and the National Strategy on Biological Diversity continue to be of great importance for environmental and sustainability policy. They help create an overarching framework for environmental and sustainability policy and also the political will to lay down and implement targets and time schedules.

Recommendations

711. The SRU considers the following approaches helpful in opening up sectoral strategies to the accommodation of demanding environmental targets:

– *Regulatory framework based on environmental guard rails:* The basis for the success of sectoral environmental strategies is an effective regulatory framework that uses the environmental guard rails specified by policy to identify operational targets and action. These can include binding and verifiable limits and indicators, action plans and packages, economic incentives, evaluation and monitoring. A positive example is the German government's cross-departmental strategy to promote offshore wind power (BMU et al. 2002), which is supported by a research and monitoring process on biodiversity impacts, information from which is used in turn for the planning of wind farms and to set standards for their construction.

– *Sectoral responsibility for observing environmental limits and identifying risks:* Both the European Roadmap for Moving to a Competitive Low Carbon Economy (European Commission 2011a) and the German government's Energy Concept (BMWi and BMU 2010) are examples of a phased approach for assigning sectoral responsibility. From the general policy goal of significantly reducing greenhouse gas emissions, sectoral targets are derived that give guidance for the onward development of sectoral policies. A systematic approach of this kind should be deliberately promoted in other environmental policy action areas. Sectoral environmental strategies are a further essential component of environmental and sustainability policy. They should be supplemented with long-term environmental quality targets and linked with environment-relevant sectoral policies.

– *Transforming and strengthening established structures:* Important forms of institutional support for a gradual modification of sectoral strategies include modified reporting obligations, evaluation methods, responsibilities and resource structures (Volkery et al. 2006, p. 2051 ff.). Sustainability reports compiled by ministries and containing sector-specific targets and well-founded programmes of work should show in particular how the Sustainability Strategy targets are systematically transformed into each ministry's operating activities and how the related responsibilities are assigned. The ministerial reports should be incorporated as a mandatory requirement within the Sustainability Strategy, set out to a uniform pattern and operationalised with binding targets, action items and time schedules. Ministries should be required to report at regular intervals and to publish the reports. Progress in sectoral sustainability policy should be independently evaluated and effective remedial instruments should be deployed in the event of deviation from target (Deutscher Bundestag 2010, p. 5).

– *Promoting innovators and redressing asymmetries:* Economic interests are often directly represented by powerful lobbies. Environmental interests, in contrast, are communicated and represented by relatively weak organisations (Aden 2012; Feindt and Saretzki 2010). To better incorporate the attainment of environmental targets into the administrative system and heighten awareness of potential undesired side-effects of action in a given policy area, a greater voice should be given to actors who bring such impacts to notice or have a real interest in a solution to the problem concerned. Capacity should be enhanced with which solutions are attained that are preferable from a systemic perspective and through which environmental impacts can be prevented or eliminated.

– This can be achieved by promoting environmental technologies, involving environment advocates in decision making processes and setting sustainability standards. It is particularly important in this connection to involve environment and nature conservation organisations, which are often quick to bring attention to side-effects of sectoral strategies biased towards economic interests (Oswald von Nell-Breuning-Institut für Wirtschafts- und Gesellschaftsethik der Philosophisch-Theologischen Hochschule Sankt Georgen 1996). Project-based, cross-departmental working groups whose tasks explicitly include monitoring environmental target attainment in the

policy process can also be helpful in this regard. The Federal Environment Ministry should be provided with more staff for processes requiring inter-ministerial coordination (Jacob 2008).

– *Sub-national pioneers:* Local governments and the German *Länder* can take on a pioneering role. Innovative approaches are developed at these levels that should be assessed for their suitability for replication at national level. Examples include the promotion of renewable energy sources for heat generation in Baden-Württemberg (NAST et al. 2009, p. 74 ff.), numerous regions aiming for a wholly renewable electricity supply (SRU 2011c, p. 226), GMO-free regions (PICK 2009, p. 162 ff.) and best practice waste management, mobility or climate policies of individual *Länder* and local governments.

11.4 The necessity of institutional reform

712. Strategy processes can fulfil important functions with regard to aligning government action to environmental targets. In the opinion of the SRU, however, further institutional arrangements are needed to strengthen environmental interests in the policy process.

– *Environmental policy integration clause:* A precondition for the observance of environmental limits is that environmental policy is not only made by the Environment Ministry, but decisions in other, polluter-related policy areas are made giving consideration to the environment. This also applies in view of the fact that environmental limits have now been reached in several areas or will be reached in the foreseeable future (see Section 1.2.4). To promote the protection of the environment as a cross-cutting responsibility, the SRU considers it helpful to enshrine the objective of environmental policy integration in all policy areas in the constitution in the same way as has already been achieved at European level (see Section 11.2.1). Based on the cross-sectional clause in Article 11 TFEU, a constitutional law obligation of this kind could be formulated as follows in a new Article 20a (2) of the German Basic Law: 'The needs of environment protection shall be taken into account in the determination and implementation of all state policies and action, in particular in the interests of future generations. The Federal Government and the Bundestag shall make suitable institutional and organisational arrangements for this purpose.'

– *Right of Environment Ministry to propose legislative initiatives in other policy areas:* The SRU is in favour of giving the Environment Ministry the right to propose legislation outside of its own area of responsibility in order to launch environmental policy initiatives in other policy areas. This could significantly enhance the Environment Ministry's scope and influence. The Federal Ministry of Family Affairs, Senior Citizens, Women and Youth already has such a right with regard to matters of relevance to policy on women under Section 15a of the Rules of Procedure of the Federal Government.

– *Suspensive right of objection for the Environment Ministry:* The Environment Minister could additionally be given a suspensive right of objection in Cabinet in matters of substantial environmental importance. Under Section 26 of the Rules of Procedure of the Federal Government, the Federal Minister of Finance already has a right of objection against Federal Government resolutions on matters of fiscal importance. This can however be overruled in a subsequent meeting (Subsection 1). The same applies for the Minister of Justice and the Minister of the Interior, although subject to the objection being based on an incompatibility with prevailing law (Subsection 2). A suspensive right of objection of this kind has long been debated in the academic literature (Calliess 2001, p. 515 ff.; Jacob and Volkery 2007; Müller 1995; 2002; Pehle 1998) and there is a strong rationale for it, particularly by analogy with budgetary policy. The observance of environmental limits likewise entails an institutional arrangement to ensure that government action respects a budget determined by policy. The effectiveness of such an instrument, however, is mutually dependent on the importance society accords to conserving the natural foundations of life. It is not expected that the right of objection would be regularly exercised – just as the existing rights of objection have not been exercised in the past (Busse and Hofmann 2010, p. 87). Instead, it is intended to have pre-emptive effect, that is to say the suspensive right of objection is intended to provide added impetus for early constructive dialogue with the Environment Ministry and to strengthen the latter's negotiating position in matters of substantial environmental importance (Müller 1995; Pehle 1998). It can also be understood as a remit to the Environment Ministry, however, to be more insistent and attentive in examining initiatives from other ministries. If the Environment Minister actually made use of the right of objection in a specific instance, it would merely have the effect of postponing a decision, not of blocking it entirely. Both the right to initiate legislation and the suspensive right of objection for the Environment Minister could be introduced by simple government resolution.

– *Inter-Ministerial Working Group on Nature Conservation and Environment Protection:* With the mainstreaming of environmental issues, other ministries besides the Environment Ministry increasingly have to deal with environmental challenges (see Item 666). This creates a need for coordination that cannot be fully met in strategy processes but must additionally be reflected in the institutional arrangements. To allow more intensive and earlier coordination between ministries and a reconciliation of ministerial activities with overarching environmental quality targets, an Inter-Ministerial Working Group on Nature Conservation and Environment Protection could be brought into being under the chairmanship of the Environment Ministry. The Working Group would include all ministries, such as the Federal Ministry of Economics and the Federal Ministry of Transport, whose activities directly or

indirectly have a substantial influence on the condition of the environment. The task of the Inter-Ministerial Working Group would be to support attainment of the Federal Government's priority environment protection targets – as laid down in an integrated environment programme (Section 11.3.3.2) – in the relevant ministries. The Working Group would have to report regularly to Cabinet whether environmental targets such as those in relation to climate change, species conservation and resource conservation are being attained. The current Inter-Ministerial Working Group on Implementation of the National Strategy on Biological Diversity could be integrated into the new Inter-Ministerial Working Group on Nature Conservation and Environment Protection.

– *Mobility of staff in federal ministries:* Application of the cross-cutting approach within the government is also to be improved by stepping up efforts to motivate staff to move positions within and between ministries. The German federal administration – for example in comparison to the EU administrations and governments in the English-speaking world – is characterised by a high degree of subject specialisation and a relatively low degree of mobility between ministries. The related problem of ministerial 'fraternities' with sectoral loyalty has been the subject of critical analysis as a mental barrier to integrative problem solving approaches (Hey 1998, p. 52).

– *Environment-oriented subsidy monitoring:* A further important approach for environmental policy mainstreaming within the government apparatus is evaluation of the environment compatibility of budgetary decisions. Existing environmentally harmful subsidies should be reviewed and eliminated on a priority basis. A suitable means to this end would be a systematic environment-oriented subsidy monitoring system as proposed by the Federal Environment Agency (UBA 2010).

– Environment-friendly public procurement: Existing efforts to use the instrument of public procurement to promote environmental targets should be continued and intensified. An example is the revision of the Regulation on the Award of Public Contracts (VgV), which now requires products and services to be procured that conform to the highest standards of energy efficiency and are of the highest efficiency category. More requirements of this kind should be established in other areas and at *Länder* and local government level.

– *Vertical integration:* The observance of environmental limits is a responsibility that must be fulfilled jointly by national government, the *Länder* and local governments. Sectoral cooperation in established federal/*Länder* bodies (primarily under the framework of the Conference of Environment Ministers) should move cross-sectoral and strategic environmental policy issues further up the agenda. Closer cooperation between national government and the *Länder* is also needed in sustainability policy. Moves towards closer cooperation between the national and *Länder* administrations on the Sustainability Strategy have existed since 2008 (Bundesregierung 2012, p. 58 f.). In a Working Group on Sustainability, which meets on an ad-hoc basis, *Länder* representatives (from *Länder* chancelleries and environment departments) have met on occasion with representatives of national government (the Federal Chancellery and individual ministries) to discuss key thematic areas. These have included sustainability indicators and targets, sustainable public procurement, and reducing land take. The SRU considers that this cooperation should be made permanent in a fixed Federal/*Länder* Working Group on Sustainability at the level of *Länder* chancelleries under the leadership of the Federal Chancellery. To promote environmental policy integration in the *Länder* and hence in federal/*Länder* cooperation, the *Länder* should assess whether it would be helpful to adopt at *Länder* level the instruments recommended here for the national government level (environmental policy integration clause, environment minister's right to propose legislative initiatives and of objection, integrated environment programme, inter-ministerial working group, environment-oriented subsidy monitoring, environment-friendly public procurement, and promotion of staff mobility).

11.5 Summary

713. In view of global population growth, the ongoing industrialisation of emerging economies and sustained economic growth in industrialised countries, it will take an enormous world-wide effort to attain development paths that avoid environmental limits being exceeded with momentous consequences (EEA 2010b; Reid et al. 2005; IPCC 2007). A process of this kind poses major challenges – including policy challenges – that so far are scarcely reflected in the broader public debate. In this chapter, the SRU has identified three approaches for national and European policy to respect environmental limits: Strengthening interfaces between research and policymaking, aligning policy strategies to environmental quality targets, and strengthening environmental policy institutions.

Strengthening interfaces between research and policymaking

714. Environmental limits are identified and put on the agenda at the interfaces between research and policymaking. At global level, scientific advisory institutions for policymaking capable of initiating such processes have emerged in various environmental policy areas on the model of the Intergovernmental Panel on Climate Change (IPCC) (see Chapter 1, Item 84). At national and European level, the SRU does not see a need for any new institutions, but considers that existing strategies should be further developed along the following lines:

– Development of the 7th EAP should be framed as a science-based process for the ongoing review of medium-term environmental targets. Programmatically it should reflect the interrelationships between the

different arms of environmental policy – such as climate policy and nature conservation – and it should set environmental policy priorities so that limited capacity for action can be concentrated.

– In Germany, the environmental policy target system should be thoroughly revised and adapted on an ongoing basis to current knowledge. A linkage of this kind between the current state of research in relevant disciplines and policymaking is best achieved in the SRU's opinion under the framework of an integrated environment programme. A comprehensive environment programme could promote environmental policy integration in other relevant policy areas, highlight interrelationships between different environmental policy targets, enhance the effectiveness and implementation of the planned 7th EAP at national level and in turn provide new impetus for European and national environmental policy. An updated national environment programme should be based among other things on relevant sectoral strategies and thematic environmental strategies (such as German's Energy Concept, National Strategy on Biological Diversity, and national Resource Efficiency Programme).

Alignment of policy strategies to environmental quality targets

715. Policy strategies in non-environmental policy areas can go a long way in bringing policy development in line with environmental limits. To achieve this, however, it is vital for such strategies to be related to medium-term and long-term environmental targets. Cross-cutting processes such as the Europe 2020 strategy and the German national Sustainability Strategy give useful guidance for national and European policy processes. In particular, they provide a reference framework for the general environmental policy discourse. The dominance of the green economy discourse seen in many of these processes (see Item 681) is a problem, however, if it means that the legitimation for environmental policy is reduced to a question of economic benefit.

Sustainability strategies must continue to provide a framework for long-term, inclusive, participatory strategy processes that are geared to quantitative targets and include suitable processes for monitoring and evaluation. At the same time, it is increasingly becoming necessary to refocus sustainability strategies on environmental limits and ensure that they are respected. The green economy should be seen as a means of achieving sustainable development. With this in mind, the SRU has the following recommendations:

– The European Sustainable Development Strategy should continue to be updated as a long-term overarching strategy, not least for continuity in the institutions and actor networks that have grown up under the strategy at European and national level.

– Future revisions of Germany's national Sustainability Strategy should give greater weight to the aim of conserving the natural foundations of life within the sustainability model and within the indicators and targets system. Sustainability assessments should be strengthened, better integrated into the policy formulation process and developed in the long term towards an integrated impact assessment modelled on the European impact assessment process.

– Sectoral strategies with environmental relevance should be more strongly and systematically related to environmental quality and environmental action targets so that the focus is not placed on isolated technological solutions that merely shift problems elsewhere or fall quantitatively short of the necessary level of improvement.

Strengthening environmental policy institutions

716. A major obstacle to environmental protection remains the structural imbalance between the under-represented, dispersed, long-term environmental interests of the commons and the relatively concentrated interests of polluters that are well represented in policymaking. While the ongoing growth of markets for environmental and efficiency technologies goes some way towards redressing this imbalance, an institutional strengthening of environmental policy and long-term interests continues to be necessary. The SRU considers that a number of approaches can help achieve this:

– An environmental policy integration clause on the European model, enshrining in German constitutional law the objective of environmental policy integration in all policy areas;

– A right of the Environment Ministry to propose environmental policy initiatives in other policy areas;

– A suspensive right of objection for the Environment Ministry in Cabinet in matters of substantial environmental importance;

– An Inter-Ministerial Working Group on Nature Conservation and Environment Protection to allow closer and earlier coordination between ministries and, most of all, a reconciliation of ministerial activities with overarching environmental quality targets;

– Promotion of staff mobility in federal ministries, both within and between ministries;

– Environment-oriented subsidy monitoring;

– Promotion of environment-friendly public procurement;

– Implementation of integration mechanisms at the level of the German *Länder*.

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