

# BLOSSOM — Bridging long-term scenario and strategy analysis: organisation and methods

A cross-country analysis

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European Environment Agency  
Kongens Nytorv 6  
1050 Copenhagen K  
Denmark  
Tel.: +45 33 36 71 00  
Fax: +45 33 36 71 99  
Web: [eea.europa.eu](http://eea.europa.eu)  
Enquiries: [eea.europa.eu/enquiries](http://eea.europa.eu/enquiries)

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**The country reports (Annex 1-12) are available at:  
<http://www.eea.europa.eu/publications/blossom/>**

# Acronyms

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BLOSSOM	Bridging long-term scenarios and strategic analysis — organisation and methods
Defra	Department for Environment, Food and Rural Affairs (the United Kingdom)
EEA	European Environment Agency
EFMN	European Foresight Monitoring Network
EQOs	Environmental Quality Objectives
EU	European Union
NGO	Non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
PMO	Prime Minister's Office (Finland)
SWOT	Strengths, weaknesses, opportunities and threats analysis
SYKE	Finnish Environment Institute
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme

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The principal authors of the report were: William R. Sheate, Eoghan Daly, Owen White (Collingwood Environmental Planning) and Tony Zamparutti (Milieu Ltd), with additional support from Jonathan Baker.

The EEA project manager was Axel Volkery.

The opinions and conclusions presented here are the sole responsibility of the consultants and do not necessarily reflect those of the EEA.

Eight case study reports were completed under the BLOSSOM 2.0 project (October 2009, updated November 2010) and the remaining four (marked \*) were completed under BLOSSOM 3.0. The 12 country case study reports are provided as separate Annexes annexed to this report and were authored by:

Annex 1 *	Austria:	Jasmina Bogdanovic, Bernhard Borsche
Annex 2	Finland:	Eoghan Daly, William Sheate
Annex 3	France:	Claire Dupont, Florent Pelsy
Annex 4 *	Germany:	Bernhard Borsche, Tony Zamparutti
Annex 5 *	Hungary:	Jasmina Bogdanovic, Zita Elend, Katalin Czászár
Annex 6	Netherlands:	Coyan Tromp
Annex 7	Poland:	Ewa Świerkula, Andrzej Kassenberg, Tony Zamparutti
Annex 8 *	Portugal:	Maria Partidário, Gustavo Vicente
Annex 9	Slovenia:	Melita Rogelj, Tony Zamparutti, Jasmina Bogdanovi
Annex 10	Spain:	Juan Palerm
Annex 11	Sweden:	Martin Candell, Katarina Axelsson, Tony Zamparutti
Annex 12	United Kingdom:	William Sheate, Eoghan Daly



# 1 Introduction

## 1.1 The need for long-term thinking in government and policymaking

Today, many of society's most pressing problems are long-term policy challenges, lasting a generation or more. Policymakers and business leaders often face strategic decisions with uncertain future outcomes. Yet, despite numerous unpredictable factors beyond their control, decision-makers need to be confident that they can achieve specific outcomes. Failing to do so could result in systemic failures with major consequences for society.

The environment sector presents a good example of these challenges. Environmental policymaking is characterised by highly complex problems and uncertainty about long-term future developments. Problems often unfold over several decades, driven by a myriad of forces across multiple scales, resulting in complex interlinkages and feedback loops (Volkery and Ribeiro, 2009). And failure to manage such risks could lead to catastrophic impacts.

Over recent decades, academia and the public and private sectors have become increasingly interested in approaches and tools for long-term future analysis. The tools now available to make long-term decisions more robust include horizon-scanning approaches, model-based projections and comprehensive scenario-planning approaches (EEA, 2009; EFMN, 2009; Zurek and Henrichs, 2007).

The European Foresight Monitoring Network (EFMN) and the Woodrow Wilson Center's 'Foresight and governance' project confirm the vibrancy of the field, highlighting numerous case studies applying a diversity of methodological approaches. Public administrations and

international organisations have also established dedicated units or departments to focus on this work.

However, while academic literature has thoroughly assessed the pros and cons of different methodological approaches, systematic analysis of their use, impacts and effectiveness in environmental policymaking is still superficial or absent. The role and relevance of political context and the institutional embedding of futures thinking in governmental practice has also received little attention (EEA, 2009).

EFMN (2009) sought to map the nature and extent of foresight <sup>(1)</sup> in Europe and other regions of the world, focusing on a review and quantitative analysis of a large number of foresight studies across all sectors. The study mapped and categorised them geographically, methodologically and in terms of content. While the extent and diversity of foresight work is impressive, much is taking place in technological, medical, agricultural and business-related fields, and the report does not seek to explore environmental foresight in any detail, nor the institutional and governance aspects specifically.

It is evident that the institutional and governance aspects of foresight work need to be given more attention. Making better decisions under conditions of deep uncertainty requires more than just rigorous analysis. Even well constructed, thoroughly analysed scenarios are of little use and relevance if the organisational capacity to absorb them is poor — if there is no political backing, or if relevant characteristics of the policymaking process have not been taken into account. Valid information can be useless because it is simply not needed.

<sup>(1)</sup> Foresight is often used as an all-embracing term to cover long-term futures studies, although it tends to be used to describe particularly government-led policy or research-oriented studies aiming at 'thinking, debating, and shaping the future' (CORDIS, 2010).

## 1.2 Obstacles to adopting a long-term perspective in environmental policymaking

Embedding a long-term policy perspective in environmental policymaking poses a number of challenges for institutional and governance arrangements. Two factors are particularly relevant:

- the **problem structure**: environmental problems are long term, complex and uncertain;
- the **problem-solving context**: policymaking is often short term, compartmentalised and dominated by advocacy.

The characteristics of the problem-solving context make it very hard to introduce the long-term perspective needed to analyse environmental problems.

### *Problem structure*

To understand how the future might unfold it is not enough to rely on extrapolations of past trends. Doing so assumes that current conditions will continue in the future and that the environment will respond as it has in the past.

Technical models used to predict or forecast the future are also viewed with increasing scepticism because of the data and assumption employed and the opacity of the calculations undertaken. Often, the technical nature of models means that only experts can interpret their outputs. Non-technical policymakers struggle to use them.

Alternative techniques for thinking about the future are therefore needed — particularly techniques that can engage policymakers in the process of thinking about the future. Scenario-planning approaches can help deliver this alternative way of thinking.

The key challenge in generating robust projections of the future in this area is the complexity of the systems concerned. The environment's component parts are connected through innumerable interactions. Indeed, the more we analyse the environment the more we understand how complicated the science is. Interactions with social and environmental systems further compound this complexity, meaning that an enormous number of factors may influence an environmental issue — some of which humans can influence or regulate, others wholly outside human control.

It is important to appreciate that an issue's complexity is unrelated to how much we know about it. Contrastingly, uncertainty relates to what is known and unknown. Uncertainties in science may be due to gaps in knowledge but may also be due to not knowing what you do not know (i.e. ignorance) (Gee, 2004). Further research may help fill gaps in knowledge but may also increase uncertainty by identifying yet further gaps in knowledge.

The scope for uncertainty grows the further we look into the future. Uncertainties about the science when projected forwards into the future can be further exacerbated by uncertainties about future policy and policy responses, and about uncertainties about other external influencing factors (such as other environmental components, global politics, etc.). Climate change involves uncertainty because we do not know exactly what the effect of greenhouse gas emissions will be on global temperatures or exactly how feedback mechanisms will exacerbate or neutralise effects, or the level of emissions in the future. As we gather more data and develop better models so we also identify further areas that we do not yet fully understand.

Where there is 'ignorance' there is also the potential for vulnerability to 'surprises'. These include unexpected events that would have been difficult or impossible to predict given the combination of factors involved.

### *Problem-solving context*

The problem-solving context is the policymaking process. Policy processes vary according to circumstances but share certain characteristics:

**There are strong incentives for policymakers to adopt a short-term perspective.** This is in part because of the lack of hard, falsifiable data to underpin long-term policies. (The challenges here are apparent in the fact that all countries have struggled to implement the precautionary principle meaningfully.) But in addition to more concrete data for the short term, policymaking processes are dominated by electoral cycles (usually four or five years) and budgetary cycles (annual or periodic). Policymaking thus focuses on the short-term agenda, occasionally more medium term (5 to 10 years) but rarely long term (20 years or more).

- **Electoral cycles also imply changes of governments**, meaning that the environment's prioritisation relative to other policy areas can vary. A government that sees the environment as a high priority may recognise the need for

longer-term policymaking in this area but may not be around to see its fruition, let alone its implementation.

- **Institutional path dependencies of administrations and policies are slow to change.** Both complexity and uncertainty in the problem structure can result, in such circumstances, in institutional resilience to change and a failure to act. They may also result in a desire for more research to generate more evidence on which to base policy decisions. This may effectively postpone decisions rather than fill gaps in knowledge, and may militate against precautionary action. This may be the case particularly where there are strong competing external advocates for policy change in opposing directions. Of course, there may be very good reasons for requiring more information before taking action. The challenge is to strike the right balance.
- **Compartmentalism still often dominates government policymaking,** reflecting the desire of government departments to defend their territory and budgets. Power may reside with the larger, stronger departments (e.g. in terms of spending power), and cross-cutting issues such as long-term environmental issues may suffer under the competitiveness of departments and ministerial ambitions, particularly in times of recession and cuts in public expenditure.

- The dominance of short-term legislative cycles also means that **policymakers in government departments are subject to external advocacy pressure** by stakeholders and special interest groups who will be involved in lobbying for policy change, as they seek short-term gains and so reinforce the existing tendency towards short-termism. Strong external factors can influence the politics and therefore the direction of policies.

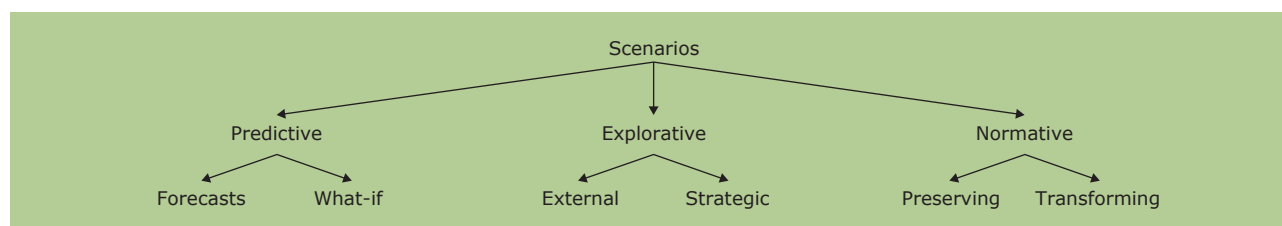
### 1.3 Current understanding of the use and impacts of scenarios

Increasingly, futures thinking and foresight is being used to inform policy, for example, through the use of techniques such as expert panels, workshops and scenario planning. Explorative or normative scenarios are often used for long-term futures thinking whereas for more short-term purposes predictive techniques such as forecasts and outlooks are more usual. Figure 1.1 presents a typology of all of these forms.

As noted above, the literature on scenario studies is extensive but far less has been written on how such studies are used or their effectiveness in influencing policymaking. Of course, many scenarios studies are academic exercises, not intended to influence policy directly. However, many are undertaken for policy purposes and their effectiveness in influencing policy is largely anecdotal.

**Figure 1.1 Typology of scenarios**

#### Scenario typology



Type of scenario	Type of question scenario seeks to answer
<b>Predictive</b> Forecasts What-if	<b>What will happen...?</b> ...if the most likely development unfolds? ...on the condition of some specified near-future event? (e.g. outlooks)
<b>Explorative</b> External Strategic	<b>What can happen...?</b> ...to the development of external factors? ...if we act in a certain way?
<b>Normative</b> Preserving Transforming	<b>How can a specific target be reached?</b> ...by adjustments to current situation? ...when the prevailing structure blocks necessary changes?

**Source:** Börjeson et al., 2006.

Other future techniques, such as foresight (large-scale, usually government-led, studies using multiple techniques including scenarios) and horizon scanning (the act of gathering new insights as well as identify new and emerging trends and developments which are on the margins of our current thinking, but which will impact on our lives in the future) often involve monitoring newly emerging trends and indicators.

The EEA report *Looking back on looking forward* (EEA, 2009) — a precursor to this study — reviewed the available evaluative scenario literature in the following areas:

- scenario typologies;
- assessments of what types of scenario work in different contexts;
- assessments of methods and institutional arrangements that enable organisations to use scenarios more effectively;
- reviews of impacts of long-term policy analysis on the decision-making process;
- analyses that evaluate the robustness of strategies over multiple scenarios.

The research found that only a few studies evaluated the actual impact of scenarios. Most of those studies found that scenarios were indeed useful in preparing corporate strategies and public policy, although most focused on the business sector. Moreover, the public sector presented several difficulties, including the varied set of goals and interests that public agencies face. The research concluded that more empirical evidence is needed particularly on what types of scenarios work in different contexts and the institutional arrangements that enable scenarios to be used more effectively, in order to demonstrate that scenarios can deliver on their promises.

An EEA workshop in 2008 with scenario practitioners from governments, international organisations and academics came to similar conclusions. It highlighted the fact that instances where scenario-planning and other future tools have been used successfully relate mainly to agenda setting within government. They seldom relate to actual processes of policy design and formulation (testing the robustness of different options under different, alternative future frameworks of action) (Volkery and Ribeiro, 2009).

Previous research for EEA (Sheate et al., 2007) found some evidence that findings from some forms of

futures studies, particularly foresight, in areas such as energy and technology had filtered through to influencing research agendas, such as the European Commission's seventh framework programme (FP7), but this was less evident in sectors where foresight practice was less mature. The same research also found a paucity of studies into trends and megatrends in relation to research foresight work ('...there is a distinct lack of research foresight that is megatrend-based', p. 37). Similarly, there were gaps in studies that incorporate unexpected events or 'surprises' into futures thinking.

### 1.4 The challenge of using futures analysis in policymaking

*Futures analysis serves several functions, requiring varied approaches and institutional arrangements*

Tools and techniques such as scenario planning, research and policy foresight, horizon scanning and analysis of trends and megatrends — collectively termed futures studies — can help understand issues of complexity, uncertainty and surprises. They facilitate thinking about the future and so help anticipate where surprises might come from, even though it may not be possible to predict them.

However, such techniques can be seen either as highly technical (in the case of models) or highly subjective (in the case of qualitative scenario studies). Both characteristics present challenges for policymakers seeking to undertake evidence-based policymaking.

Futures analysis can serve several distinct functions in relation to policy:

- **agenda setting** — identifying issues for policy attention and exploring uncertainties;
- **policy development**, including long-term (regulatory) impact assessment of policies;
- **exploratory identification of long-term issues** unconnected to policy development or agenda setting — 'blue skies' futures analysis, which may eventually lead to agenda setting or policy development.

The characteristics of the problem structure and problem-solving context outlined in Section 1.2 mean that there are significant challenges in implementing futures analysis to support policymaking. Many futures studies tend to focus on the agenda-setting purpose, implicitly or explicitly. This makes it

more difficult to integrate their findings into policy development, particularly when they are undertaken outside of government, for example in academia or private sector organisations.

It will be necessary to employ different approaches and institutional arrangements to serve each of the functions in relation to policy listed above. And the extent to which futures analysis succeeds in performing each role is likely to depend on the nature and effectiveness of the institutional and governance arrangements.

Even where futures analysis is part of policy development, its conclusions may not be immediately applicable. For example, an analysis could identify the need to consider radical options, whose adoption and implementation may be politically difficult or impossible.

*Futures analysis is often unable to provide decision-makers with the certainty that they demand for 'evidence-based' policymaking*

Futures analysis is positioned in the middle of the science-policy debate. This is because the problems addressed involve fundamental questions about the way scientific information is generated, validated and used.

While policymakers increasingly recognise the need to consider the (long-term) future in policy, the trend for policymaking to be 'evidence-based', means that they often turn to 'science' for that evidence, particularly where issues are complex and uncertain<sup>(2)</sup>. But futures work may not always be regarded as 'science' or 'evidence' in the traditional sense. It draws on a diversity of science, including qualitative and deliberative approaches, and is fundamentally interdisciplinary and transdisciplinary because the issues involve complexity and uncertainty.

The notion of 'evidence-based' policymaking is also problematic in some respects (Coote et al., 2004). Multifaceted problems with multiple actors may have many 'optimal' solutions, depending on how the ideal outcome is defined. Scientific research can provide evidence but that evidence may support one perspective or many. The way in which such scientific research is framed will also influence the extent to which it resolves uncertainty or adds to it. Is the right question being asked in the first place?

Science cannot supply the value judgements needed to determine what is a successful outcome; that is the role of politicians. Recognising that scientists may not be the most appropriate people to convey messages to policymakers, there may be a role for an 'honest broker' that can create bridges between science and policy (Pielke, 2007). Such brokers, such as advisory committees, may assist politicians in their assessment of alternative desired outcomes.

Policy is formed through a political process, which should, in theory at least, resolve conflicts and enable action. Political processes are often dominated by public debate rather than rigorous analysis or expert judgment (though the latter can inform political discussion) (Sarewitz, 2000). Science on the other hand is driven by theory and scientific method (whether natural or social science). These contrasting approaches can create areas of conflict.

- **Scientists are often unable to provide politicians with clear, definite answers that cannot be challenged easily in public debate.** For many scientists (particularly natural scientists) rationality and 'objectivity' are the stock in trade, while 'all science is, to differing degrees, uncertain' (Oldham and Willis, 2002), and there are a range of perspectives and opinions among scientists on any one subject. Scientists are unable therefore to give to policymakers the degree of desired certainty and, indeed, scientific advisers hesitate in view of complexity and uncertainty to give clear advice. Policymakers will seek to avoid offending a majority of voters and have to balance a number of different factors, often prioritising other decision-making parameters over scientific judgment.
- **Not all scientists regard the analysis of future trends as 'scientific'** as it is not based on hard data, or only trust the outcomes of modelling exercises where they can replicate the modelling structure. Consequently, many policy officers in ministries (many of whom have a scientific education) reject futures analysis as a basis for concrete policy recommendations, and many scientists think of futures analysis as non-scientific work. Policymakers may wait too long for evidence to justify action; or they may act too quickly and ignore information on negative side-effects. This suggests the need for analytical frameworks that can help address these dilemmas.

<sup>(2)</sup> Evidence-based policymaking is an approach that '...reviews existing research, commissions new research, consults relevant experts and/or uses internal and external consultants and considers a range of properly costed and appraised options' (Defra, 2005).

- **Science tends to operate on a different timescale from policymaking.** This often reflects their different purposes, with policymaking frequently determined by particular political considerations, and electoral and budgetary cycles. Policymakers will often focus on the impacts of a decision on the results at the next election and are also subject to time and resource constraints. They are not necessarily ignorant of long-term challenges, just less willing to prioritise them. For politicians more used to 'evidenced-based policymaking' the 'evidence' coming from futures studies is likely to be seen as less 'robust', more qualitative (even subjective) and presenting potentially only uncomfortable choices. Politicians under the constant media spotlight are also under pressure to react to numerous individual events, leaving little time to focus on the 'big picture'.

Structured dialogue between scientists and policymakers can be valuable, for example in identifying priority issues for policymakers where science can help (Sutherland et al., 2006). It is highly desirable as an alternative to the traditional one-way flow of information from science to policy.

The use of futures techniques, such as scenarios and horizon scanning, provide mechanisms for thinking about difficult long-term problems, bringing to the table different perspectives and disciplines and different interpretations (see, for example, Sutherland et al., 2008; Sutherland and Woodroof, 2009). Such approaches provide a platform for exchanging knowledge among the actors and perspectives (Sheate and Partidario, 2010) but do not provide definitive answers for decision-makers. Futures work offers thus opportunities and challenges to both policymakers and scientists. This may explain why embedding futures thinking effectively in policymaking presents such a challenge and has resulted in multiple approaches.

### 1.5 The BLOSSOM project: objective and approach

#### *Project overview*

In 2008, the European Environment Agency (EEA) started to analyse the success factors and barriers to a long-term perspective in public policymaking, with particular reference to environmental

planning, in the BLOSSOM project <sup>(3)</sup>. In a first phase running in 2008 (BLOSSOM 1.0) a review of the available literature and a consultation with key stakeholders came to the conclusion that scenario planning's potential to inform policy choices is often under-exploited.

A second phase running in 2009 (BLOSSOM 2.0) focused on the role and relevance of future's analysis, and practical experiences with adapting institutional arrangements to embed a long-term perspective in government in EEA member countries. Country case studies were developed for a sample of eight EEA member countries, based on interviews with practitioners in government, administration and policy advisory bodies, and a review of relevant academic and non-academic literature (see Figure 1.2).

In the third phase (BLOSSOM 3.0) during 2010, four additional case studies were included following the same approach.

Following the completion of the case studies <sup>(4)</sup>, the present report analyses their key findings and presents a cross-country comparison. The main aims of this study are:

- to identify a 'toolbox' of approaches to institutionalising long-term futures thinking in government;
- to identify which countries have introduced respective approaches and tools, in order to identify the pioneers and to see which methods have become commonplace and which have not;
- to look for commonalities and differences and identify the factors that can explain the success or failure of efforts to embed a long-term perspective in policymaking.

#### *Design and analysis of the country case studies*

The BLOSSOM country case studies were developed following a common approach. Each started by identifying several important aspects:

- institutional and governance arrangements for futures work;
- institutional and governance arrangements for policymaking;

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<sup>(3)</sup> BLOSSOM stands for 'Bridging long-term scenario and strategy analysis — organisation and methods'. Findings from the first phase of the project have been published in EEA (2009) and Volkery and Ribeiro (2009).

<sup>(4)</sup> The country case study findings are presented in Annexes 1–12 to the present report.

- the nature of the issues addressed in futures studies;
- how the preceding arrangements interact.

Information on each aspect was gathered from existing documentation, where possible, and supplemented by interviews and discussions.

There were six main stages to the research:

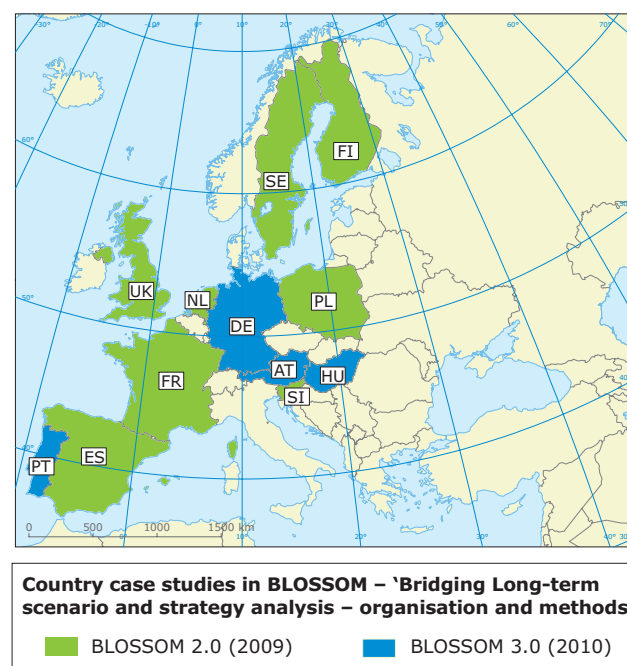
1. an initial literature review on institutional and governance arrangements for futures thinking;
2. development of the analysis framework for case study research, for the country overall and for specific studies;
3. identification and selection of appropriate case study countries in discussion with the EEA;
4. individual case study research and analysis, including document analysis, semi-structured interviews with selected high-level officials in each country, and SWOT-tail analysis<sup>(5)</sup>
5. writing up each case study country report;
6. comparative analysis of the countries studied and conclusions.

The research did not seek to evaluate the quality of individual futures studies or to explore the whole range of futures work (such as research or technology foresight). It only addressed those aspects of most relevance to environmental policymaking, notably the institutional and governance structures.

The case study countries were selected to provide a range of cultural, geographical, institutional and administrative approaches, including countries that were at very different stages of implementing futures thinking.

The interviews were conducted specifically with high-level officials, to ensure that within the limited resources available to the project sufficient emphasis was placed on understanding the real influence on policymaking and perceptions of how futures thinking was operating. Interviews included broadly similar questions tailored to specific circumstances, but covering:

**Figure 1.2 Country case studies in BLOSSOM 2.0 and BLOSSOM 3.0**



### Box 1.1 SWOT analysis and SWOT-tail diagrams

The SWOT (strength, weakness, opportunity, threat) analysis entailed the construction of a SWOT profile for each country case study, based on the findings of the country report. These were undertaken centrally, by the project lead team rather than by the country study authors, to ensure a degree of consistency in the approach used. They were, of course, reliant on the findings in the individual reports.

Having constructed SWOT profiles for each country, the factors identified through the SWOT analysis were clustered schematically in ‘SWOT-tail’ diagrams for each country. These diagrams were developed specifically for this purpose and combine the structure of the SWOT analysis with the visual presentation of an influence diagram — similar to a fishbone/fishtail (or Ishikawa) diagram.

<sup>(5)</sup> SWOT-tail analysis is a combination of both SWOT analysis (strengths, weaknesses, opportunities, threats) and fishbone/Ishikawa diagrams, developed for the purpose of BLOSSOM. It begins with a SWOT analysis which is then aggregated into a two-sided fishbone diagram (see Box 1.1).

- the interviewee's involvement in or relationship to the programme and responsibilities;
- the resources for the programme or specific study;
- the scope of the programme or study, both geographical and temporal;
- the nature and extent of engagement with stakeholders;
- the relative balance and influence of qualitative versus quantitative approaches or studies;
- the relationship between futures institutional and organisational structures and policymaking institutional and organisational structures;
- the nature of the sectoral or policy community concerned (i.e. sector-specific characteristics);
- expert opinion on success factors and barriers to success.

Appendix 1 provides the template protocol used as the basis for interviews.

In most cases, high-level officials were very supportive of the study and helpful. Interviews were sought from high-level officials involved in futures work and environmental policy. In some cases it proved difficult to arrange interviews with

high-level policymakers. For most countries the number of interviewees had to be restricted to between two and four.

The approach sought to develop an overview of futures thinking in each government, followed by a close-up of the environmental policy sector. In some countries, however, futures work related to the environment appeared to be included under other sectors; in other cases, it proved difficult to obtain information on the environment sector and more information was provided on other sectors. For this reason, the studies turned out more heterogeneous than originally planned.

Following the production of individual country case study reports <sup>(6)</sup>, SWOT analyses were undertaken for each country, providing the analysis framework for understanding — in each country — which factors facilitated knowledge exchange from futures studies or research into practical policymaking. These were then presented for each country as SWOT-tail diagrams (see Box 1.1 and Appendix 2).

Consultation on all draft case study country reports and the comparative analysis report was undertaken with case study interviewees in all the countries studied, and other stakeholders (where different) involved in the first-phase workshop (BLOSSOM 1.0). Their comments were incorporated into the final versions of the country studies and the present report.

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<sup>(6)</sup> Country case study reports undertaken in BLOSSOM 2.0 were revisited and updated to ensure they were fully comparable with the case studies undertaken in BLOSSOM 3.0 for use in the comparative analysis. This report reflects that comparative analysis undertaken in 2010.



## 2 Understanding the institutional and governance landscape of long-term futures thinking in government

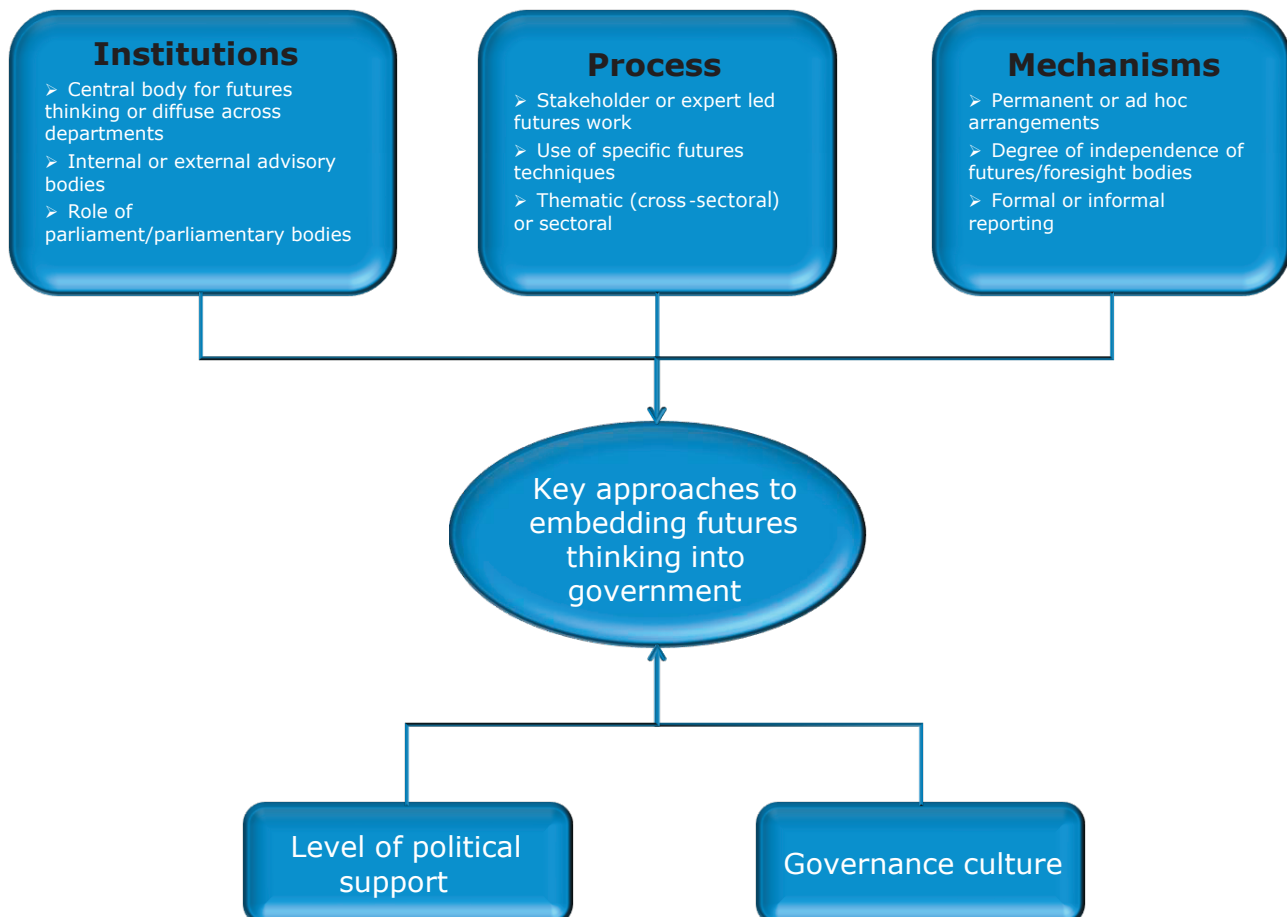
### 2.1 Approaches for embedding futures thinking

At a general level, embedding futures thinking in policymaking can be approached in a number of different ways. The choice will be influenced by a range of factors, including the administrative culture of the country concerned, the timescale over which futures thinking has been developed in the country, the receptiveness of the policymaking process to futures thinking, and the reasons for undertaking futures thinking in the first place, for example particular triggers or events.

Drawing on the cross-country analysis from the case studies, this chapter briefly sketches some of the key approaches for embedding futures thinking in environmental policymaking. Figure 2.1 summarises the main institutional, process and other regulatory mechanisms available for embedding futures thinking in government.

These approaches are briefly sketched out below to provide a proper understanding of their basic aspects. Examples are described in greater detail in the country case studies.

**Figure 2.1 Key approaches to embedding futures thinking in government**



### 2.1.1 Institutions

#### *Central body for futures thinking or diffuse across departments*

Futures thinking for environmental policy may be driven by a central government body or agency, or it may be undertaken within individual departments. A central body can be located within or formally attached to the office of the head of government, or it can be within the remit of a discrete office or agency within a particular department. Equally it may be some combination of these.

The more that responsibilities are spread across different areas of government, the greater the likelihood for duplication of efforts if cross-cutting issues are tackled. However, a centralised approach increases the risk that futures thinking may be too distant from the information needs of individual government departments and result in a lack of ownership and acceptability. Moreover, the need to cooperate across departmental boundaries can stimulate interaction and policy learning.

In some cases, futures work might be carried out both in a central office and also in individual ministries and agencies. This may create its own tensions regarding ownership of particular studies, responsibility for taking the initiative or coordination of networks of futures thinking.

#### *Internal or external advisory bodies*

Advisory bodies are commonly founded to assist ministries and agencies, mainly by collecting and evaluating relevant information and producing analysis, either on request or independently. Advisory bodies differ from the centralised or diffuse approaches to futures thinking outlined above mainly through their organisational arrangements, i.e. they are attached to the organisational structure of a ministry but are not fully bound by instructions from the ministry. While internal advisory bodies are generally staffed with government officials, external advisory bodies are staffed with non-government staff, either fully academic or comprising a mix of academics and civil and corporate representatives.

#### *Parliamentary bodies*

There is clearly a role for parliament and parliamentarians (elected representatives) to have a role in futures thinking. Parliament itself can have a role in futures work, for example by requesting reports or studies from government

on an ad hoc or periodic basis. Parliament and its committees can scrutinise government departments working in areas where futures are important, for example impact assessment of ministries and budget assessments. Foresight work undertaken by government may be reported to and scrutinised by parliament. Parliament may also be able to conduct its own studies, initiate relevant legislation around long-term futures issues and request debates. There may also be a role for parliamentary scrutiny of specific futures bodies within government and for science and technology parliamentary offices to provide information to parliamentarians.

### 2.1.2. Process

#### *Stakeholder or expert-focused futures work*

Futures work may be expert-led or involve stakeholders or the general public, or some combination of these alternatives. The nature and extent of stakeholder (and citizen) involvement in futures studies is likely to influence (or reflect) the nature of the futures techniques employed in a particular study. For example the more participative it is the more likely it is to draw on qualitative and deliberative techniques; the more expert-led the study is the more it may depend on quantitative modelling techniques.

Many studies are combinations of these approaches, but the effectiveness of the techniques in embedding futures work in actual policymaking may depend more on the nature of the issue at hand. The degree to which futures work is stakeholder- or expert-led is also likely to influence the way in which the agenda for futures work is set, i.e. who has most power to influence the agenda.

For stakeholder-led studies, a further question can relate to which stakeholders are involved. These may be different offices within government (an important element, as communication across the many government offices can prove difficult); a restricted group, for example representatives of the research community; or a much broader set of stakeholders from across various economic and social sectors. Where parliament has a strong role in futures studies this may also be linked to stakeholder and citizen engagement processes.

#### *Use of specific futures techniques*

Numerous futures techniques are available for very different, specific purposes. One principal distinction can be made between qualitative and quantitative approaches, with mixed qualitative/

quantitative approaches as hybrids in between. Another principal distinction is whether the aim is to develop fully-fledged scenarios or to scan various sources for information on emerging trends (horizon scanning), which do not require a formal scenario framework.

Formal modelling approaches can provide a better overview and understanding of causal relationships and facilitate an analysis of the influence of interlinkages between factors. However, they do not help with factors that do not fit into the modelling framework. Broader scenario approaches, on the other hand, can incorporate much more and varied information, but can fail to be coherent in their data and analysis or bring too much complexity into the analysis.

Normative approaches, for example involving a preferred vision of the future, usually involve backcasting techniques to identify the policy measures needed to achieve the vision. Strongly cross-sectoral studies, with potentially high levels of complexity, may lend themselves to techniques such as complex mapping (causal analysis) and scenarios.

Horizon scanning is a valuable and innovative technique, which may be used in a wide variety of ways. According to Defra (2010), horizon scanning '...is a distinct futures methodology that researches and draws out key trends which are on the margins of our current thinking, but which will impact on our lives in the future. These trends and drivers interact with each other and with the policies and strategies we put in place to create new conditions and new futures. By analysing trends and drivers, threats and opportunities to the department can be discovered and explored strategically. This will help to improve the evidence which underpins policymaking.'

Because horizon scanning often involves scanning non-traditional literature, for example newspapers, websites and blogs, it is possible that it may be met with some scepticism within ministries. Horizon scanning can operate effectively not just at the highest strategic levels but at all levels, for example scanning for relevant new technological developments within a sector.

#### *Thematic or sectoral*

Long-term environmental futures work may be undertaken within sectoral boundaries, for example in different ministries such as agriculture, energy and transport, as well as environmental departments and agencies. Alternatively, it can be undertaken

thematically (cross-sectorally) either under the guidance of one or more departments or by a cross-departmental or central futures body.

Centralised futures work may have a greater tendency towards thematic studies that cut across departmental boundaries, whereas departmental work may be more sector-specific. However, this generalisation may be less appropriate in relation to environmental futures work and policymaking, because so much environmental policy is by nature cross-sectoral. For example, climate change affects the environment, transport, energy, planning and industry departments. Environmental futures work might, therefore, be a motivator for establishing or improving cross-departmental futures work more generally.

#### *2.1.3 Mechanisms*

##### *Permanent or ad hoc/on demand arrangements*

Futures work may reside in a permanent futures or foresight body (centrally or diffuse across government departments) or in ad hoc arrangements in response to particular needs. It may be the case that ad hoc arrangements eventually give rise to more permanent institutions if they provide real benefit to policymaking. Ad hoc arrangements might allow for greater flexibility in responding to new issues, as expertise can be put together in a targeted manner.

Permanent structures provide the opportunity for learning and capacity-building, developing a shared understanding and skills, and avoiding repeating errors, which can easily occur with ad hoc approaches. Moreover they allow for building up a reputation and thus increase the visibility and acceptability of analysis, although it may be possible for government to exert greater regulatory control over permanently mandated bodies. Within these permanent or ad hoc arrangements, networks, whether formal or informal, are likely to be important to bring actors in futures work together across government departments and from outside government.

##### *Degree of independence of futures and foresight bodies*

The independence of futures bodies will depend on a range of factors, not least the way that the body is resourced, for example with its own budget and regular staff. If established through legislation or regulation, they body may be more powerful because it is more difficult to abolish or constrain.

These factors will also determine the body's independence in setting its agenda. A cross-sectoral body that works across ministries within central government may have considerable independence in setting its priorities. In practice, however, it will need to establish good cooperation and ownership by sponsoring departments if its studies are to be effective and ultimately influence policymaking. Independence does not necessarily imply any greater degree of respect or influence for the studies undertaken, and may even militate against them being viewed as policy relevant. On the other hand an independent body may have more influence on senior government officials or ministers than a sectoral, less independent body that is considered to be territorially biased.

### *Formal or informal reporting*

Reporting of futures work can be formal or informal. Often futures work undertaken within ministries or agencies will be for internal use and inform their own strategy or evidence base for policymaking. Major foresight studies may have a more formal function in reporting, for example to parliament or to government ministers, and to the wider public and stakeholders.

Reporting on futures thinking will tend to reflect its institutional and regulatory basis. Where futures thinking is part of the policy cycle (i.e. well embedded) it is likely to be a routine part of policy development, informing the evidence base, for example, through regular horizon-scanning reports, but with its internal focus less likely to be directed at the wider public. Major set-piece foresight studies, on the other hand, will tend to have a much more formal basis of reporting and follow-up (where it exists). They will often also involve a formal process of response by government, for example by the sponsoring department in the form of consultation documents on new policy initiatives.

These studies are often underpinned by substantial scientific components, such as technical modelling. However, such large studies normally involve large numbers of actors and perspectives, and multiple interim and final reports and documents. As a result, they are not very responsive to events or changing circumstances. Consequently when such a study does report (e.g. after one or two years) the real impetus for the study may have changed, or the politics of the situation may be quite different. Shorter set-piece studies that have a simpler final formal reporting process may be more appropriate in some circumstances.

## **2.2 Factors that influence embedding**

### *2.2.1 Level of political support*

High-level political support — by ministers and senior officials — is important if futures work is to achieve its objectives, particularly in terms of influencing policymaking. Such high-level support may be provided by prominent references to the futures work in, for example, a coalition treaty, ministerial speeches, press releases or briefings, or assignment of personal responsibilities and approval processes.

The level of political support has many facets. Futures work may be 'institutionalised' through policy documents that call for its use and through broad awareness across government. Alternatively, sponsoring ministers may be formally obliged to approve foresight reports. Elsewhere, it may depend much more on the support of individual officials or politicians.

Political resonance may be achieved through good anticipation of information needs and the choice of the right information format, which in turn requires good insight and experience in governmental decision-making processes. Relevance may derive from exploiting an opportunity in a clever way. However, futures work that has been undertaken with a clear political focus but has not been explicitly requested can have uncomfortable political or financial implications. Another risk is that when ministers or officials change, high-level support for futures work is lost.

### *2.2.2 Governance culture*

Cultural differences and legal and governance styles vary considerably across EU Member States (Perlitz and Seger, 2004; Trompenaars and Hampden-Turner, 2000; Hofstede, 1991). They influence significantly the management of political and public issues as well as the management within government bodies and therefore also play an important role in influencing the success of forward-looking studies and programmes.

One important aspect of a broader notion of governance culture is the extent of 'power distance'. Power distance is defined as the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally (Perlitz and Seger, 2004). It also provides information about the dependence relationships in a country. A high score means that the 'power distance' is very significant,

a low score means that power is distributed more equally and is typical of more consensual societies such as the Netherlands and Sweden.

Other relevant aspects of governance culture include the openness of administrations to approaches for analysing and acting upon uncertainties; the degree of individualism or collectivism; the degree of hierarchical or networked governance; and the extent of participative approaches to governance. A final factor is the universalism or particularism of administration and policymaking, i.e. whether they follow the rule of law and strict procedural rules or there is greater room for 'gentleman's' agreements and flexible cooperation driven by demand rather than by rules (Trompenaars and Hampden-Turner, 2000).

More hierarchical cultures may be more likely to have centrally arranged futures programmes that are more expert led. However, a more participatory culture may engage parliamentarians more in the process, which may also, by necessity, involve quite a centralised approach. The influence of governance culture on futures thinking may therefore be complex. While it has been studied extensively (especially in terms of corporate management), it remains a controversial topic in social sciences (McSweeney, 2002). However, with increasing European integration and exchanges among governments regarding methods for futures work, these factors might become less important over time.

### 2.3 Reflections on approaches to futures thinking

From the foregoing discussion it is clear that a suite of institutional arrangements, processes and mechanisms can be put in place to help embed futures thinking in government and policymaking. These approaches will be influenced by the level of political support and the governance culture of the country concerned.

Many countries are likely to exhibit a combination of the approaches described above which at times

are synergistic or antagonistic in promoting futures thinking in environmental policymaking. A mixture of factors needs to be considered. To establish effective futures thinking for environmental policymaking not only requires the right methodology or expert, but also the right approach, the right timing, the right context and the right political backing.

There is unlikely to be one single measure that will enable futures thinking to be embedded successfully in governmental policymaking. Futures thinking takes time to become accepted and widely adopted — the development of the necessary skills and expertise is an evolutionary one and may not be optimal even in relatively mature systems.

The descriptions of approaches summarised above and in the country case studies in Chapter 3 raise some important issues. For example:

- If institutional structures are important to how futures thinking works in government, what is the effect of upheaval in institutional structures and decision-making processes on the skills and capacity for undertaking futures thinking?
- Are certain types of structures more common or effective than others?
- Are there any patterns or correlations (not necessarily cause and effect) distinguishing different governance cultures and their respective tendency to undertake futures work, or the nature of the processes established (e.g. expert or stakeholder led, qualitative or quantitative approaches)?
- How coordinated or fragmented are the institutional and governance arrangements for futures work in practice?

Chapter 3 summarises the range of approaches applied in the country case studies and draws out key strengths and weaknesses. Full country case study reports can be found in Annexes 1–12 to the present report.

## 3 Lessons from Member States

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### 3.1 Introduction

The following sections provide a concise summary of each of the 12 country case studies examined in this research. For each country the summaries contain the following items.

1. Brief description of main institutional characteristics to reflect the broader context:
  - (a) formal horizontal coordination: the role and power of the head of government; single or multiple executive; the degree of intra-governmental autonomy of departments; parliamentary and semi-presidential/presidential types of democracy might be interesting;
  - (b) formal vertical separation of powers: centralised versus federal system of policymaking;
  - (c) executive–legislative relations: the degree to which parliament is involved and especially involved/specifically mandated to engage in forward-looking activities;
  - (d) electoral system and the party system — close parliamentary majorities and strong party competition versus legacy of cross-party consensus-building.
2. Brief description of the main institutional settings/actors/mechanisms with reference to the key approaches/factors mentioned in the chapter:
  - (a) main actors;
  - (b) institutional basis: informal or formal by legal obligation;
  - (c) main mechanisms;
  - (d) main processes.
3. Summary assessment of the maturity of the futures work and SWOT analysis/SWOT-tail diagram.
4. Good-practice examples and relevant follow-up information/links to the country report.

Each section therefore seeks to draw out only the most distinctive elements of each country's approach to futures thinking in relation to environmental policy. Alongside the text for each country is a SWOT-tail diagram, focusing on the most significant strengths, weaknesses, opportunities and threats in relation to the futures processes in those countries. The more detailed analysis on which these summaries are based — individual country case study reports — can be found in the separate files Annexes 1 to 12.

## 3.2 Austria

### 1. Institutional characteristics

- (a) *Formal horizontal coordination*: Austria is a federal republic based on a constitution from 1920 (re-established in 1945). The federal president is elected by popular vote and appoints the federal chancellor, who is the head of government. The parliament has two chambers, the National Council and the Federal Council.
- (b) *Formal vertical separation of powers*: Austria has a federal level, nine regions (*Länder*) and local governments (including districts, cities and municipalities). The regions each have a parliament and a governor and they retain important powers in several fields, including planning, nature protection (as well as hunting and fishing) and farming. Moreover, the governor of each region has a duty to implement federal laws at regional level.
- (c) *Executive–legislative relations*: The lower chamber of the Austrian parliament, the National Council (Nationalrat), is directly elected by a mixed, proportional voting system. While the president is free to appoint the chancellor, the National Council can remove chancellors by a vote of no confidence and thus this post in effect must be supported by a majority in the Council. The upper chamber, the Federal Council, is made up of representatives of the regions. It has a weak power of veto that can be overridden by the Council.
- (d) *Electoral and party system*: No party has won an absolute majority in recent elections and party coalitions are necessary to form governments. While Austria was dominated for several decades after WWII by two main parties (on the centre-left and centre-right), they have been weakened in recent elections and now hold power together as part of a grand coalition.

### Scenarios on raw materials consumption

The development of Austria's 1994 National Environmental Plan reviewed the consumption of raw materials by the country's economy. Several scenarios were prepared to estimate future development of raw materials consumption and consider the effects of policy actions to stabilise or reduce consumption.

Further information can be found in see the country report (Annex 1).

Austrian politics used to be described as corporatist — i.e. based on compromises among the elites, leading major parties and sectors of society — but this structure has broken down with the rise of new parties and demands. No information has been identified regarding a role of the parliament in terms of future-oriented studies.

### 2. Description of the main institutional settings/actors/mechanisms

- (a) *Main actors*: The Austrian Environment Agency (AEA) plays a central role in terms of preparing forward-looking studies on the environment. Other government bodies also carry out future-oriented studies: for example, the AEA, together with the Federal Ministry of Agriculture, Forestry, Environment and Water, the Austrian Institute of Economic Research (WIFO), the Austrian Energy Agency and the Energy Economics Group worked together on a synthesis report on energy issues that included future scenarios. The Austrian government's first futures initiative, however, was a technology foresight programme carried out by the then Ministry of Science and Transport in the 1990s.

1994	1996–2008	2002
National Environment Plan introduced scenario use as a required policy instrument	Austrian foresight programme: 'Delphi Austria'	Development of the Austrian Strategy for Sustainable Development

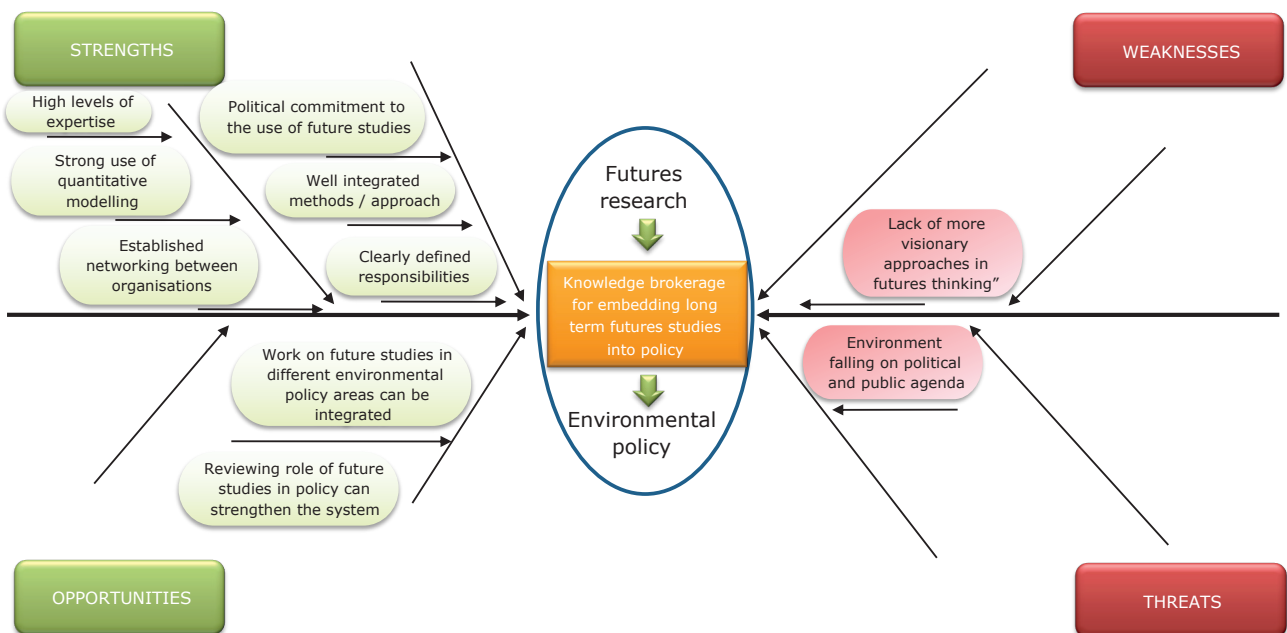
- (b) *Institutional basis*: Austria's Strategy for Sustainable Development called for the use of forward-looking analysis in policy development, and as a result it is now common practice for the Austrian Environment Agency to prepare futures studies for the Federal Ministry of Agriculture, Forestry, Environment and Water as part of its review and revision of specific policy areas, such as waste management. In addition, government bodies as well as independent institutes collaborate on an ad-hoc basis, as in the case of the energy study cited above.
- (c) *Main mechanisms*: Futures studies related to the environment are embedded in the analytical work of the Austrian Environment Agency, and these studies are carried out as part of the regular policy process, as called for in the Sustainable Development Strategy. In energy as well, futures studies are closely linked to policy work.
- (d) *Nature of processes*: The futures work of the Austrian Environment Agency is mainly expert-led, and it appears that this is the case for studies carried out in other parts of the government. Many of the studies have a strong quantitative focus. Major strategies, such as the Sustainable Development Strategy and the Energy Strategy (both cited above),

include participatory mechanisms such as working groups that bring together different government bodies as well as key stakeholders; however, the use of participatory approaches in the preparation of the futures studies that support these policies has not been found. The studies identified in general have a short- or medium-term time frame (e.g. to 2020), and few consider a longer period, such as 2050.

**3. Summary assessment**

The Austrian federal government uses futures studies on a regular basis as analytical background for the preparation and the revision of environmental policies. As a result, forward-looking thinking has become a regular part of the policy process. The Austrian Environment Agency prepares many of these studies and has built its institutional capacity in this area. Federal government bodies have also worked together on futures studies, notably in the area of energy. In this and other areas – notably technology foresight – futures studies have influenced policymaking. The analysis has not, however, identified more exploratory studies carried out in Austria. Moreover, most of the studies identified focus on quantitative methods.

**Austria SWOT-tail diagram**





### 3.3 Finland

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination:* Finland enacted a new constitution in 2000 which shifted the country towards a more parliamentary system and curtailed presidential powers. Government power relative to the opposition has grown, and individual ministries within government have assumed greater decision-making powers at the expense of government-level decision-making. This has not reduced the collegial working method of the cabinet, which is necessary to maintain a multiparty government. Government foresight reporting resides within the Prime Minister's Office.
- (b) *Formal vertical separation of powers:* Finland is quite decentralised, divided into six administrative provinces which function as divisions of state organisation. State services operate under their administration, and there is a degree of regional autonomy in allocating funds and shaping policy. Finnish administrative/governance culture is quite informal and generally highly participative.
- (c) *Executive-legislative relations:* In 1992 an initiative by parliament called on the government to prepare and present strategies for Finland's future. Once per electoral period, the Government Foresight Report Task Force produces a foresight report on long-term future prospects and the government's targets, which should be submitted to parliament by the end of the second year of government. The subject of the report is selected by the prime minister in consultation with cabinet members. The Committee for the Future, appointed by parliament, prepares a statement in response to the report. Reporting to parliament facilitates a dialogue between government and parliament on national futures issues.
- (d) *The electoral system:* Since the introduction of proportional representation in 1906, Finland has used the d'Hondt constituency list system with only slight modifications. Under this system, elections are based on proportionality, and seats are allotted to parties commensurately with the number of votes polled. The presidential election occurs every six years in the month of January.

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors:* The Government Foresight Report Task Force and Steering Group are located

#### Long-term climate and energy policy: Towards a low-carbon Finland (2009)

*Towards a low-carbon Finland (2009)* aims to help build the consensus required to shift Finland to a low-carbon society. It reviews the long-term challenges of climate and energy policy from global and national perspectives, and outlines targets and measures marking out the road to a thriving and low-carbon Finland. The time horizon of the report extends until the mid-century and beyond as necessary, covering measures both to mitigate climate change and to adapt to its impacts. Besides energy production, the report discusses energy consumption, transport, forests and other themes central to climate protection. The preparation of the report included commissioning a number of studies on climate and energy policy issues as background material. Stakeholder panels and online discussions provided feedback. The background scenarios included in the report are also based on a participatory approach.

In the report the government sets its target to actively contribute towards limiting the rise in the global average temperature to 2 degrees Celsius at most.

Further information can be found in the country report (Annex 2) and at <http://www.government.fi/toiminta/tulevaisuusselonteko/en.jsp>.

in the Prime Minister's Office and lead on Government Foresight Reports. The Committee for the Future contributes to the Government Foresight Report, providing cross-government input into the studies, ensuring the outcomes of the work are communicated to regional actors and providing a mechanism by which feedback from regional stakeholders is incorporated into the committee's response to the government. The Government Foresight Report is also informed by research institutes, experts (often from academia and industry) and government ministries. The Finnish Environment Institute (SYKE) is the national research and development institute within the environmental administration of Finland, the Ministry of the Environment, which also undertakes its own futures studies. All ministries produce medium-term strategies (for 10 to 15 years).

#### 1993

Parliament calls on the government to prepare and present strategies for Finland's future

#### 2000

The Committee for the Future is granted permanent status in 2000

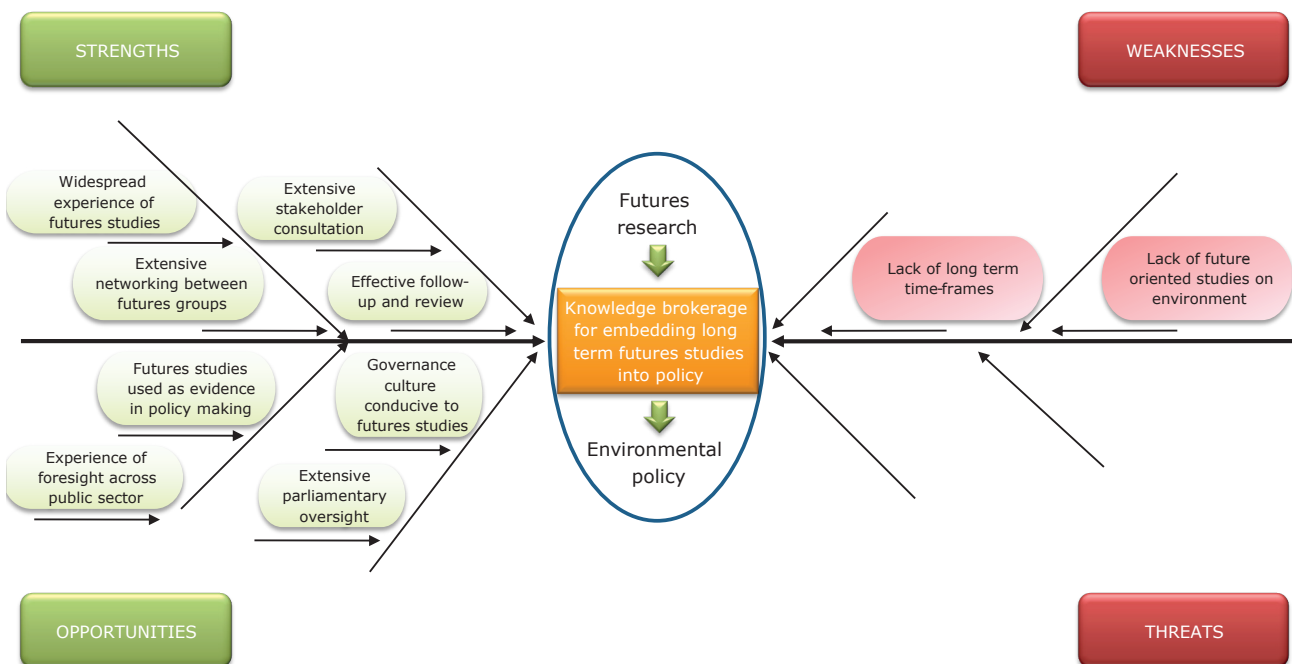
- (b) *Institutional basis*: The institutional basis for government futures work is formal, as it is a requirement by parliament for government to report once per electoral period.
- (c) *Main mechanisms*: The Government Foresight Network is an inter-ministerial forum for cooperation and exchange of futures thinking in governmental ministries. It contributes to the strategic planning and direction for the administrative sector as well as the government's decision-making. The network is a forum for discussing the results of futures work carried out in ministries, connecting specialists in each of the ministries. In addition, the network seeks to develop ministries' foresight processes, promote foresight activities at the regional level and ensure that the outcomes of foresight processes are put to use in policymaking. The network's team, composed of members from all ministries, is appointed by the Prime Minister's Office and lasts the length of the government's term of office. The Committee for the Future was made permanent in 2000.
- (d) *Nature of processes*: Major foresight studies involve extensive participation of stakeholders, including through the Committee for the Future undertaking regional consultations. Studies use a mixture of quantitative and qualitative approaches, though the shorter medium-term

time frame for ministerial strategies tends to mean a more quantitative approach and a degree of scepticism about qualitative scenarios.

### 3. Summary assessment

The Committee for the Future, and the Government Foresight Report, are key success factors in the successful uptake of futures thinking into (environmental) policymaking. Members of government have also in the past served on this committee. The issues raised by the Government Foresight Report are bigger than the government of the day, and the temporal scale they cover demands a response that will necessarily span over the term of more than a single government. The Government Foresight Reports are used to engage stakeholders at regional level and to set the context for strategic policymaking across the ministries, making explicit links to the operational side of policymaking through ministerial strategies. Although this time frame does not always fit well with the longer-term perspective of futures studies, it does provide a mechanism by which futures can be incorporated into policymaking. One potential downside of the once per electoral cycle reporting requirement across government is that it is quite inflexible and less able to address new issues as they arise, which in turn could reduce the relevance of such studies to government strategic priorities.

### Finland SWOT-tail diagram



### 3.4 France

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination*: The French political system is based on the Constitution of the Fifth Republic of 1958, which gives strong powers to the president, who since 1962 is elected by direct universal suffrage. The president names the prime minister and these two positions share executive power. Parliament overall has a limited role. The prime minister is the head of government and has a coordinating role but does not have hierarchical power on other ministers. As a result, each ministry is quite independent.
- (b) *Formal vertical separation of powers*: France is a centralised unitary state and the national administration with a strong central government has offices at regional and department level. Since the beginning of the 1980s, a decentralisation process has given greater power to the regions, departments and communes (local governments), the three territorial units in France.
- (c) *Executive-legislative relations*: The French parliament is bicameral and divided into two chambers, the National Assembly and the French Senate. In October 2009, the French Senate established a Delegation on Future Perspectives <sup>(7)</sup>; moreover, the Senate now considers foresight as its third mission, together with law-making and with oversight of government activities.
- (d) *Electoral and party system*: France has a two-stage electoral system which has led to two major right and left party coalitions that have dominated politics since the beginning of the Fifth Republic. France is not characterised by cross-party consensus-building but rather by strong divergences between left and right. Such features of the French political landscape should not facilitate the embedding of a longer-term perspective in French policymaking.

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors*: Two main governmental institutions are promoting and carrying out environmental foresight studies in the French government,

#### France 2025

France 2025 is a strategic assessment project launched by the CSA. It aims at identifying possible future development scenarios for the country and to recommend winning strategies. It was requested by the prime minister in 2008.

Eight different groups participated in the production of France 2025. The group on scarce resources and environment, led by the CSA, focused on the following issues:

- energy and climate change;
- raw mineral material economics;
- French agriculture (how to produce and respect the environment);
- biodiversity threatened by economic development.

Further information can be found in the country report (Annex 3). The reports produced by France 2025 are available on the website of the CSA: [http://www.strategie.gouv.fr/rubrique.php3?id\\_rubrique=239](http://www.strategie.gouv.fr/rubrique.php3?id_rubrique=239).

It is too early to assess how France 2025 has influenced policy decisions.

the Foresight Studies Mission (FSM) <sup>(8)</sup> within the Ministry of Ecology, Energy, Sustainable Development and of the Sea (MEESDS) <sup>(9)</sup> and the Centre of Strategic Analysis (CSA) <sup>(10)</sup> affiliated to the prime minister under the State Secretary of Foresight Studies and of the Development of E-economy <sup>(11)</sup>. A Delegation on Future Perspectives was established in October 2009 by the French Senate (see above). The two main government bodies working on environmental foresight studies, the CSA and the FSM, cooperate but do not have a hierarchical relationship. A government coordination mechanism has been established for future programmes: an informal inter-ministerial committee that meets once a month.

<sup>(7)</sup> La Délégation à la Prospective.

<sup>(8)</sup> La mission prospective.

<sup>(9)</sup> Le ministère de l'Ecologie, de l'Energie, du Développement durable et de la Mer.

<sup>(10)</sup> Centre d'analyse stratégique.

<sup>(11)</sup> Secrétaire d'Etat chargée de la prospective et du développement de l'économie numérique.

1957	Early 1990s	1992	2000	2006	2008	2009
International Centre of Foresight Studies	Several ministries, including the Ministry of Environment, establish offices in charge of foresight studies	The Centre of Monitoring and Foresight Studies is established	Dept of Research and Foresight Studies in the Ministry of Environment is established	The Council of Strategic Analysis is established	The Foresight Studies Mission, which also incorporates the Dept of Foresight Studies of the former Ministry of Infrastructure, is established	French Senate creates a Delegation on Future Perspectives

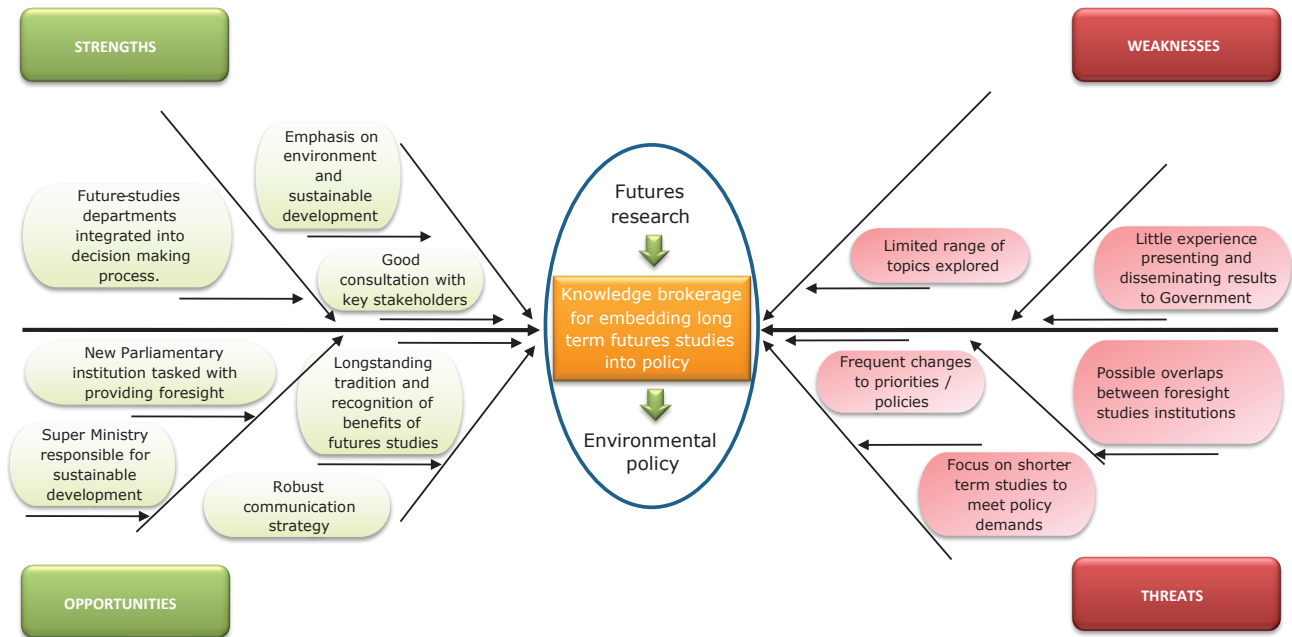
- (b) *Institutional basis*: The government and the French Senate are not legally bound to develop environmental foresight study activities. The CSA, the FSM and the Delegation on Future Perspectives were set up to meet a policy decision to provide long-term perspective in policymaking.
- (c) *Main mechanisms*: The CSA and the FSM and the Delegation on Future Perspective are permanent institutions and were not set up for a specific project or programme. With the establishment of the CSA and FSM, environmental foresight studies have been more closely integrated into the French decision-making process: these two institutions are closely linked to decision-makers <sup>(12)</sup> and they support and advise them in their sustainable development and environmental choices. This close relationship can be considered as a success factor, but there is a concern that foresight studies may become technocratic tools in support of the decision-making process, limiting more exploratory studies. Despite a long history of foresight in France, the institutional set-up in government is relatively new, as is the Senate's Delegation, and it is too early to assess the results.
- (d) *Nature of processes*: Despite a strong technocratic tradition in France, foresight studies led by the CSA and FSM are increasingly developed with the participation of stakeholders (the government follows a 'rule of five' for stakeholders: the State, local authorities, NGOs, employer organisations and labour unions).

### 3. Summary assessment

The French government now sees future-oriented studies as an important input to policymaking. It has set up a large ministry responsible for environment, energy and sustainable development with a strong role for futures studies to inform policymaking. A foresight study institution with a sustainable development department has been established under the authority of the prime minister. Such changes show that environmental foresight studies are increasingly integrated into the French decision-making process. Foresight studies are elaborated with the consultation of the relevant stakeholders and a new communication strategy to disseminate the findings of futures work is well established and regarded as effective. This new role could, however, limit the development of long-term exploratory studies. While the French government has a fairly long tradition of futures studies, only recently have they been brought in as an important component of the policy process, and it is not yet possible to assess how effective this new role will be.

<sup>(12)</sup> The FSM is part of the General Commissariat of Sustainable Development in charge of the strategic choices of the MEEEDS on priorities and cross-cutting issues relating to sustainable development. The CSA is an advisory body under direct responsibility of the prime minister.

France SWOT-tail diagram



### 3.5 Germany

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination:* Germany is a federal republic in which the federal parliament holds a central role. The federal chancellor is elected by the parliament AND determines the political guidelines; he or she is supported by the cabinet of ministers. The federal government and the ministries are advised by agencies, independent councils and other bodies, including in the areas of environment and sustainable development.
- (b) *Formal vertical separation of powers:* Germany has a federal structure: it is divided into the federal, regional (*Bundesländer*) and local levels. Germany's Basic Law sets the division of powers and confers extensive rights to the *Bundesländer* and the municipalities for self-government. The *Bundesländer* have their own parliaments and executive bodies. The *Bundesländer* also participate in the federal law-making process through the *Bundesrat*, a body of their representatives, which has rights to assent or veto legislation.
- (c) *Executive-legislative relations:* The parliament must adopt all important decisions, and important political strategies approved by the federal government must also go to the parliament. The parliament has played only a small role in futures studies, though in 2004 it established an Advisory Council on Sustainability to monitor the implementation of the national and European Sustainable Development Strategy; from the beginning of 2010 this council reviews proposed laws on their compatibility with the national Sustainable Development Strategy.
- (d) *The electoral system* at the federal and regional level uses proportional representation. National and *Landër* governments are typically coalitions as one party rarely holds an absolute majority. The current coalition government at federal level is made up of the Christian Democrat and Liberal Democrat parties.

#### Energy scenarios for an energy concept of the federal government

The coalition agreement for the government that took power in 2009 included the elaboration of a new energy concept on the basis of 'scenario-related guidelines for a clean, reliable and affordable energy supply'. This concept was adopted on 28 September 2010.

The federal government commissioned a consortium of research institutes to elaborate a study on 'energy scenarios for an energy concept of the federal government'. The scenarios were based on assumptions that were developed in consultation with the Ministry of Economy and Technology and the Ministry of the Environment, Nature Conservation and Nuclear Safety. After its publication the study was extensively discussed in political circles and the adopted Energy Concept explicitly identifies the study as its scientific basis.

The study develops one reference and eight target scenarios that project different developments of the energy sector taking into account a time span until 2050.

In addition to this study, the new German Energy Concept draws on a series of other studies in the fields of climate change and energy.

Further information can be found in the country report (Annex 4).

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors:* No central body exists for forward-looking studies at the federal level, either as a whole or for studies on environment. Instead a range of federal bodies have undertaken or commissioned forward-looking studies, including the Federal Environment Agency (UBA), the Advisory Council on the Environment (SRU) and the Advisory Council on Global Change (WBGU). A range of private institutes also undertake futures work, which

1971	1991	2002	2008	2010
Environment programme established; introduces principle of precautionary 'long-range environmental planning'	Federal Ministry of Education and Research begins to undertake a series of technology foresight programmes	Federal government adopts German Sustainable Development Strategy	Federal government adopts Strategy for the Adaptation to Climate Change, based on international and national forward-looking work	Adoption of the Energy Concept, which incorporates results of several forward-looking studies

is also carried out in some of the *Bundesländer*. The Federal Chancellery supported by the Committee of State Secretaries and the Council for Sustainable Development is responsible for the implementation and update of the national Sustainable Development Strategy, a process that supports forward-looking thinking. The Federal Ministry of Education and Research (BMBF) has a long tradition of forward-looking work, including the foresight process launched in 2007.

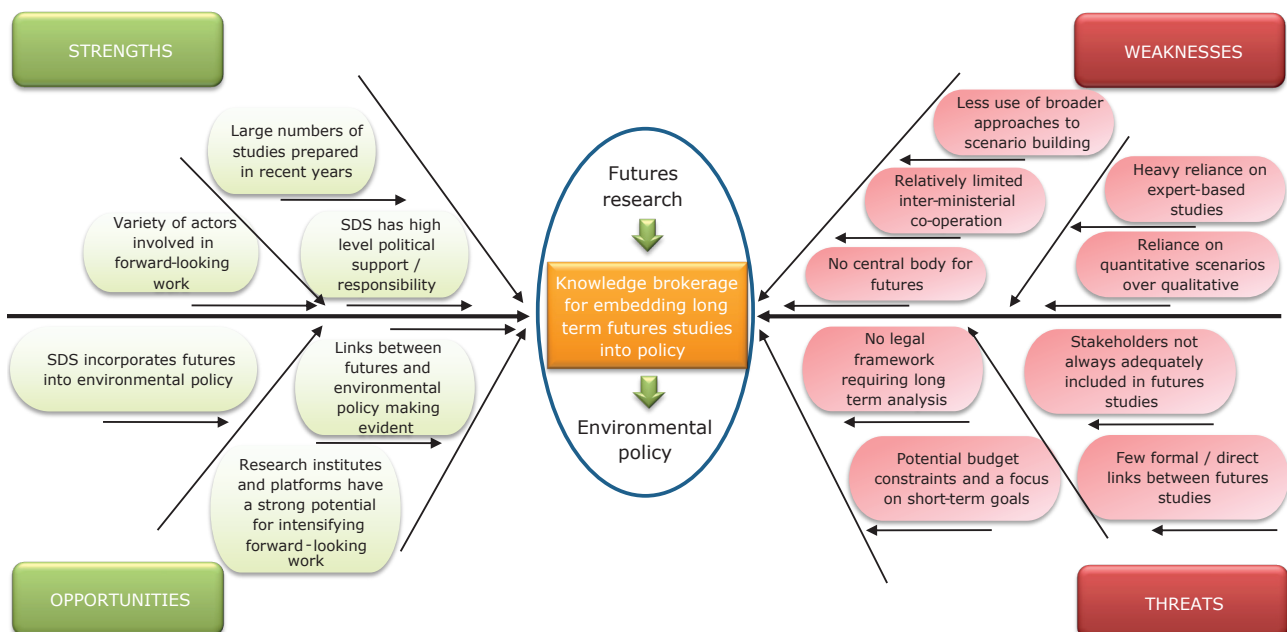
- (b) *Institutional basis*: Germany does not have formal legal or policy requirements for forward-looking work, which is carried out on an ad-hoc basis.
- (c) *Main mechanisms*: Future-oriented studies are carried out and commissioned by federal ministries, agencies and councils. While the Federal Environment Agency has a division whose work includes sustainable strategies and scenarios, in general the government does not have structures specifically for this work. Some of these studies are carried out in the context of policy decisions. The foresight work carried out by the Ministry of Education and Research serves as a tool to provide input to the process for setting research policy and agendas. A number of government bodies have prepared studies in the process to develop a new Energy Concept (approved by the cabinet in September 2010).
- (d) *Nature of processes*: Forward-looking studies in Germany have a strong expert-led component: many use a quantitative approach and have limited stakeholder involvement. Within the

UBA, a change has been seen towards the use of more qualitative approaches and broader consultation. The process to update Germany's Sustainable Development Strategy has used new tools, including external peer reviews and online forums for interested citizens. The BMBF's new foresight process also uses a range of participative tools, including online forums, workshops, conferences and the consultation of expert teams.

**3. Summary assessment**

Forward-looking thinking is not institutionalised in the federal government or in environmental policymaking; nonetheless, forward-looking studies are regularly commissioned – often from federal agencies as well as external institutes on a case-by-case basis. Other studies are prepared by federal agencies and councils on their own initiative as part of their mandate to inform the policy process. Most of the studies carried out for the federal government have followed a quantitative approach with limited stakeholder consultation, though moves towards greater participation have been seen. A large number of forward-looking studies have been carried out in the areas of climate change and renewable energy in recent years, and these have had an impact on major recent policy decisions.

**Germany SWOT-tail diagram**



### 3.6 Hungary

NB: Recent national elections in Hungary have made it difficult to gather information for this case study. It is hoped that the information presented here will be updated in the near future.

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination*: Hungary is a parliamentary democracy, with a multi-party democratic system, with a unicameral National Assembly that elects the president and the prime minister. Hungary, as other central European countries, experienced a period of rapid and intensive social and economic transition from 1989 onwards and joined the EU in May 2004.
- (b) *Formal vertical separation of powers*: Hungary is divided into 20 counties, including the capital of Budapest. The counties are further subdivided into 174 districts. Since 1996, for statistical and economic development planning the counties have been grouped into seven regions.

#### Technology Foresight Programme – TEP

(National Committee for Technological Development, 1997–2003)

The key objective of TEP was to 'make a contribution to improving the long-term competitiveness of the country, resulting in a better quality of life'. Taking into account Hungary's ongoing fundamental economic and social changes during transition, the TEP also aimed to strengthen collaboration between different stakeholders, the public and private sectors, industry and academia.

The TEP identified key areas for Hungary's development, including: human resources; health and life sciences; IT; telecommunications and media; protection and development of the natural and built environment; manufacturing and business; agriculture and food; transport; energy.

In the assessment phase of the programme (1997–2000) a steering group and seven thematic panels analysed the existing situation, outlined scenarios for the future and made recommendations for implementation of the most favourable options.

In the implementation phase (2001–2003) results were disseminated to policymakers and other stakeholders together with specific recommendations for implementation.

Further information can be found in the country report (Annex 5).

- (c) *Executive–legislative relations*: Hungary's government has separate legislative, executive and judicial powers. Legislative power is exercised by the National Assembly; executive power by the president and Cabinet of Ministers; and judicial power by the courts and tribunals. The Hungarian government only started to introduce forward-looking thinking in the mid-1990s, as in the years immediately following 1989 there was an aversion to the long-term planning approach of the former regime. Elections were held in May 2010 and subsequent ministerial restructuring has made it difficult to establish clearly the current status of foresight within the Hungarian government.
- (d) *The electoral system*: The previous one-party national political system was replaced by the parliamentary democratic system in 1989. The president is elected by the National Assembly (five-year term). The prime minister is also elected by the National Assembly of Ministers on the recommendation of the president.

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors*: A number of different institutions and organisations have been involved in specific forward-looking initiatives identified in Hungary. These include: the Hungarian Technology Foresight Programme led by the National Committee for Technological Development; the long-term National Sustainable Development Strategy coordinated by the National Development Agency in partnership with the former Ministry of Environment and Water; studies related to the National Energy Strategy drafted by the former Ministry of Economy and Trade; and studies linked to the National Climate Change Strategy, drafted by the former Ministry of Environment and Water. Outside of government, high-level officials from industry, universities and research institutions have been involved in futures elements of strategic planning, such as through steering groups in relation to the Technology Foresight Programme.
- (b) *Institutional basis*: There is no legal requirement or policy obligation for futures work. The institutional basis for existing futures work has been relatively informal and linked with specific policy initiatives (e.g. technology foresight, sustainable development, energy policy). There is no centralised or formal foresight body within Hungary.
- (c) *Main mechanisms*: There are no formalised mechanisms for futures work in Hungary. Rather, studies to date have been developed on an essentially ad-hoc basis.



1997–2003	2004	2005 onwards
Hungarian Technology Foresight Programme (TEP), coordinated by the National Committee for Technological Development (OMFB)	National Office for Research and Technology (NKTH) established with responsibility (among other things) for the Mid-term Science Technology and Innovation Policy Strategy (2007–2013), which includes a forward-looking approach to strategic planning	The development of a number of national strategies includes forward-looking approaches/ elements, including: long-term National Sustainable Development Strategy (2007–2013); Hungarian energy policy (2007–2020); National Climate Change Strategy (2008–2025)

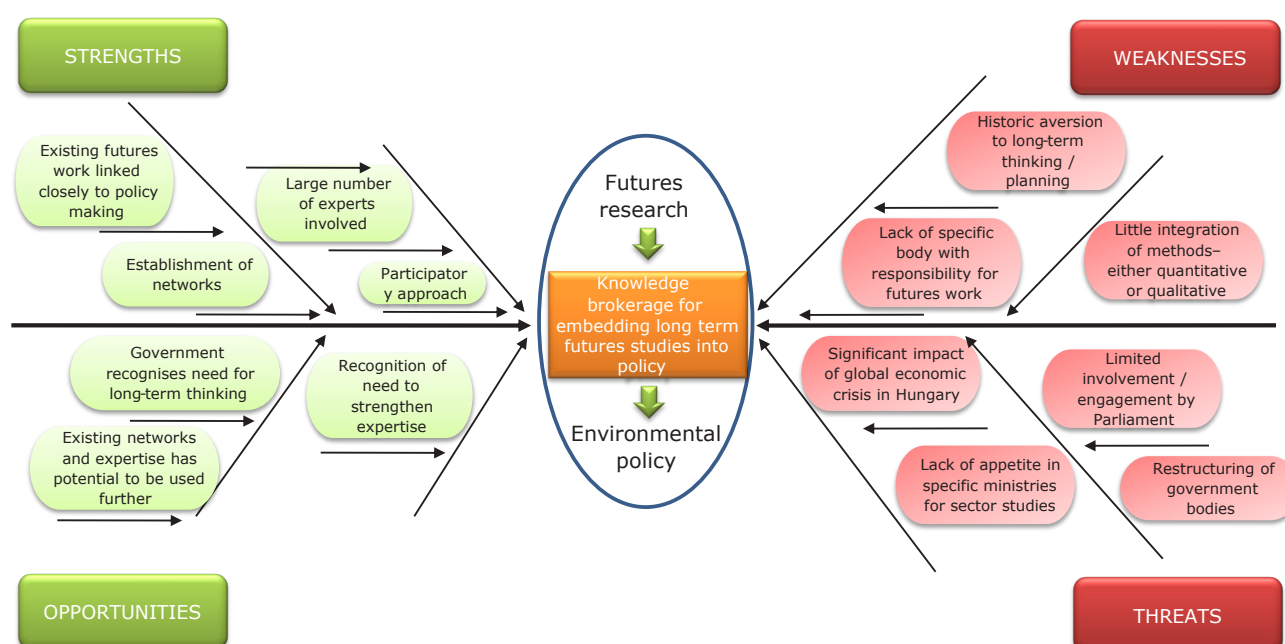
(d) *Nature of processes*: The processes adopted have differed between specific studies, reflecting the lack of formalised provision and requirements for forward-looking studies. The Technology Foresight Programme brought together experts from the scientific community, industry and public sectors in a participative approach, for example through workshops and a steering group. By contrast the Sustainable Development Strategy and other strategic policy documents have been developed within specific government institutions, and then presented as draft documents for public and stakeholder comment. In the case of the development of the energy policy, an external viewpoint was presented in a paper by a grouping of NGOs and other independent organisations: 'Sustainable Energy Strategy for Hungary – in relation to the long-term energy strategy under development by the government'.

### 3. Summary assessment

Overall, future-oriented studies in Hungary have been developed on an ad-hoc, case-by-case basis. There is no centralised body with responsibility for conducting foresight studies, and no formal or informal programme of futures work. However, the Technology Foresight Programme in particular has influenced policymaking; so have studies in the areas of climate and energy.

National elections were held in Hungary in May 2010 and subsequent ministerial restructuring has made it difficult to establish clearly the current status of foresight within government.

### Hungary SWOT-tail diagram



### 3.7 Netherlands

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination:* The Netherlands is a constitutional monarchy, with the monarch as head of state and a single executive with a prime minister and cabinet of ministers, consisting of heads of government departments. The bicameral States General (Staten Generaal) consists of the First Chamber, elected by provisional councils, and the Second Chamber, elected by popular vote.
- (b) *Formal vertical separation of powers:* The Netherlands has a strong decentralised and corporatist tradition. Besides the 13 national departments/ministries, the country is divided into 12 administrative provinces which have a certain degree of regional autonomy in allocating funds and shaping policy. Dutch administrative/governance culture is quite informal – the 'power distance' is low – and generally highly participative.
- (c) *Executive-legislative relations:* Forced by its geographical position, the Netherlands has a strong and long-standing tradition in long-term planning where its environment is concerned. This has resulted in a rather diffuse, though firmly institutionally embedded, network of agencies and research bodies that are concerned with futures studies, whose advice is by law to be taken seriously by policymakers.
- (d) *The electoral system:* After recent intercalated elections (June 2010) and extensive formation efforts, the Netherlands has per October a coalition government of Christian Democrats and Liberals, with the far-right Peoples' Party for Freedom (PVV) of Geert Wilders in a 'permitting' role. The many efforts it took to form a coalition are a strong indication of the confusion in the Dutch political landscape. If this coalition and 'support act' is to stay, then the role of futures thinking to inform policymaking might drastically change in the Netherlands.

#### Eururalis

The Eururalis project sought to answer a series of questions about the future of Europe's rural areas, including the effects of accession, the impacts of biofuels policy, and possible future developments of global and European markets. The study was undertaken by the Alterra Institute and the Land Dynamics Group, both at Wageningen University, together with the national Environmental Assessment Agency and the Agricultural Economics Institute.

The study looks to 2030 and develops four scenarios, closely based on IPCC scenarios: global economy, global cooperation, continental market, and regional communities. Among its conclusions, the study notes that global forces – including population and economic growth – will play a key role in shaping the future of Europe's rural areas.

The project has so far had two iterations: Eururalis 1.0, released in 2004 under the Dutch Presidency of the EU Council, and Eururalis 2.0, released in 2007. A third version is currently under way.

Further information can be found in the country report (Annex 6).

Source: [www.eururalis.nl](http://www.eururalis.nl)

#### 2. Institutional settings/actors/ mechanisms

- (a) *Main actors:* The Netherlands does not have a principle, centralised futures or foresight body in government. Instead, it has a number of bodies within and outside government involved in long-term futures studies. In the environmental domain, the Environmental Assessment Agency (PBL) and the National Institute for Public Health and Environment (RIVM) are key agencies. Other general councils that have an important function with regard to environmental planning are the Netherlands Bureau for Economic Policy

1947	1953	1974	2002	2006	2008
Establishment of the Netherlands Bureau for Economic Policy Analysis (CPB)	Establishment of the first Delta Committee	Networks Foresight established	Some responsibility for environmental research at the National Institute for Public Health transferred to the Netherlands Environmental Assessment Agency	Netherlands Environmental Assessment Agency becomes independent organisation	Fusion of the National Institute for Spatial Research and former Environmental Assessment Agency into a new Environmental Assessment Agency, to become the national institute for strategic policy analysis in the field of environment, nature and spatial planning

Analysis (CPB) and the Scientific Council for Government Policy (WRR).

- (b) *Institutional basis*: The publicly funded independent research agencies that carry out futures work are mostly permanent and embedded within the institutional structure, without losing a strong degree of independence. Futures thinking is incorporated into the normal policymaking process, and the institutional basis for most futures work is formal (legal requirement). An exception is the Delta Committee, which is an ad-hoc body. While this enables cooperation over various departments, and new forms of cooperation are certainly demanded in view of the increasing complexity and uncertainty of developments regarding environmental issues, the advice of the committee is no less embedded than that of permanent advisory organs (cf. the Delta Law).
- (c) *Main mechanisms*: In the relationships between the agencies that perform futures work and the government, a systematic policy cycle is at work in which evaluative research, future-oriented research and policymaking go hand in hand; for example the environmental balances and outlooks provide input for the National Environmental Plan, ensuring that futures studies are incorporated into policymaking.

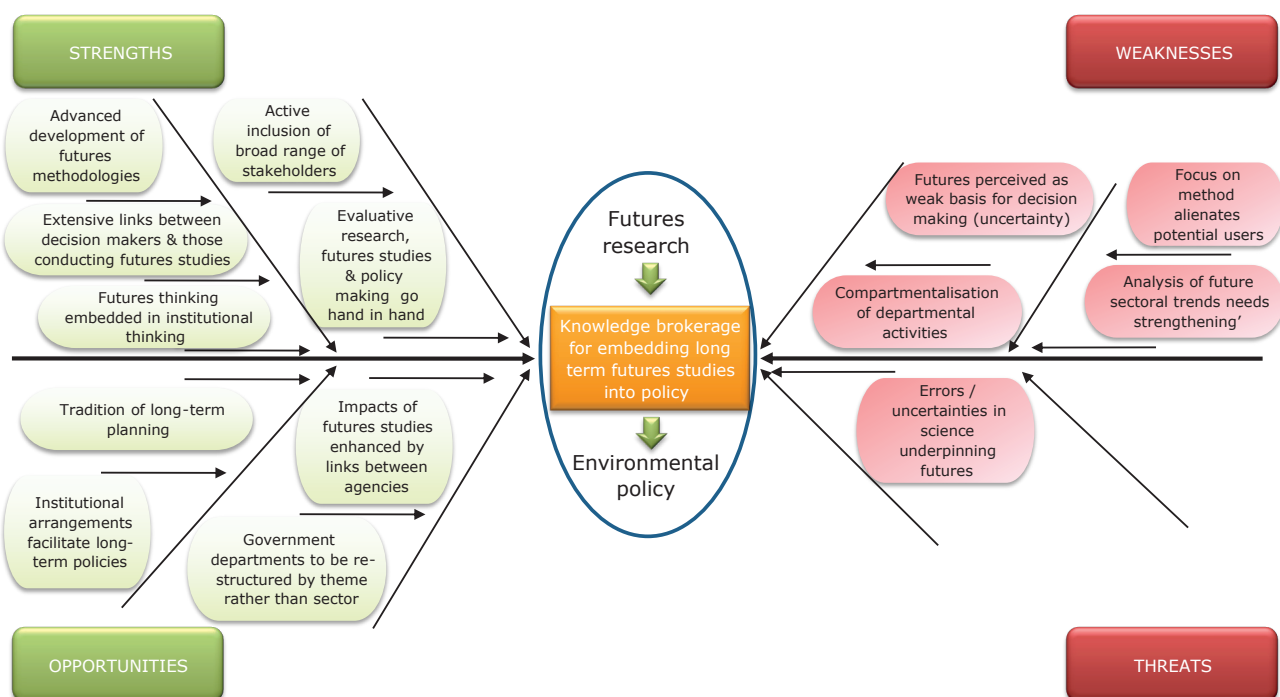
In addition futures methodologies are well developed in the Netherlands: government bodies have taken a leading role in developing futures techniques, and as a result, many systematic methods and tools are available.

- (d) *Nature of processes*: Major foresight studies are essentially science-based, though consultation and stakeholder participation is extensive in futures studies, as the Netherlands relies on consensus-building in its (environmental) policymaking. Since an integrated approach is often considered paramount in conducting futures studies, studies are usually a mixture of quantitative and qualitative approaches, with the former forming the basis for the latter.

### 3. Summary assessment

Though futures work in the Netherlands is not institutionalised in a central body, the networks of agencies and research bodies that are concerned with futures studies are firmly embedded in the regular policy process and help improve the policy decisions. One specific major foresight study is very influential in informing environmental policy (Delta Plan II), particularly because it had ministerial support, i.e. clear policy demand. With the new government, though, the future of futures thinking in the Netherlands seems rather uncertain.

### Netherlands' SWOT-tail diagram



### 3.8 Poland

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination:* Since the breakdown of the communist system in 1989, Poland has moved to a parliamentary democracy. The bicameral legislature consists of an upper house, the Senate, and a lower house, the Sejm.
- (b) *Formal vertical separation of powers:* The Republic of Poland is a unitary state, though the Polish constitution of 2 April 1997 decentralises public power, transferring many political, fiscal and administrative tasks to subnational levels of government. The territory of Poland is divided into 16 voivodships, 315 provinces, 65 urban provinces (cities with province status) and 2 478 communes (gmina). Their autonomy varies: the main executive power in each *voivodships* is a representative of the Council of Ministers.
- (c) *Executive-legislative relations:* Legislative power is vested in the Sejm and the Senate (bicameral parliament); executive power in the president as a head of state and in the Council of Ministers; and judicial power in the courts and tribunals. The Polish government centres on the Council of Ministers (the Cabinet), led and represented by the prime minister. In the current government, there are 17 ministries.
- (d) *The electoral system:* The previous one-party national political system was replaced by the parliamentary democratic system in 1989. The president is elected by popular vote (five-year term), prime minister and deputy prime minister are appointed by the president and confirmed by the Sejm. Under the bicameral legislature, the Senate (upper house) is elected on a provincial basis (four-year terms) and the Sejm (lower house) is elected under a system of proportional representation.

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors:* Two bodies were founded in the 1990s with responsibilities in long-term planning and strategic programming: the Council for Social and Economic Strategy (founded in 1994) was an independent advisory body to the Council of Ministries; and the Government Centre for Strategic Studies (founded in 1996) under the Council of Ministries and prime minister. Both of these institutions

#### 'Poland 2030' and the Long-Term National Development Strategy — Board of Strategic Advisors to the Prime Minister

The aim of the report *Poland 2030 — Development challenges*, published by the Board of Strategic Advisors to the Prime Minister in May 2009, is to outline a perspective on potential routes for Poland's development in the next 20 years. It focuses especially on the fields of economic and social policies, infrastructure, energy safety and efficient management of the administration.

The study draws on quantitative forecasts as well as qualitative analysis for Poland's future in areas including demographic changes, transport and energy. The study has been led by the Board of Strategic Advisors to the Prime Minister, which cooperates with the Chancellery of the Prime Minister (CPM) and the Ministry of Regional Development. Within CPM, a key office is the Department of Strategic Analyses, which will carry out long-term analysis and policy preparation.

The Development challenges report forms the basis for the development of the Long-Term National Development Strategy, which should be completed late in 2010.

Further information can be found in the country report (Annex 7).

were dissolved in 2006. A National Foresight Programme covering sustainable development, ICT and safety was established in 2006, having been piloted in 2003. In addition the Committee for Development Policy Coordination at the Chancellery of the Prime Minister (created in 2009) and the Board of Strategic Advisors to the Prime Minister (created in 2008) have been established since 2006 to strengthen medium- and long-term policy programming and strategic thinking. The Ministry of Regional Development is playing a key role in the preparation of the Long-Term National Development Strategy. The Ministry of Science and Higher Education has also been important, developing the National Foresight Programme, focusing on technology and technological trends.

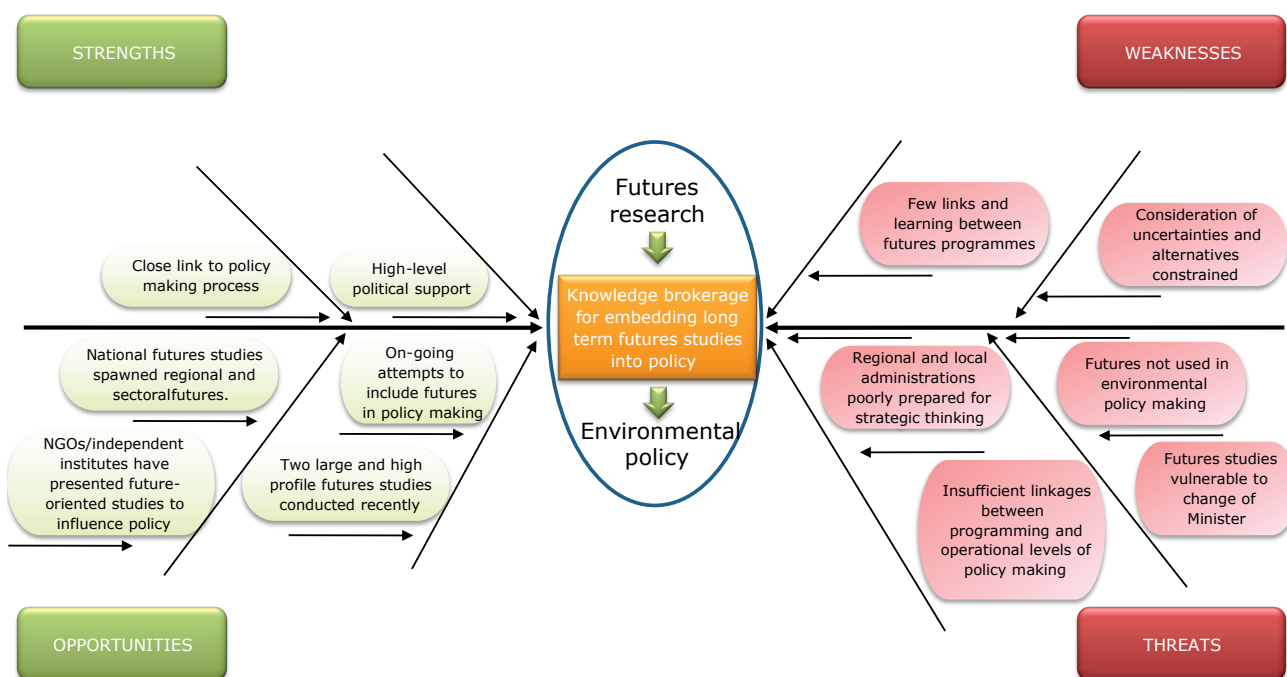
2003–2006	2006	2009
National Foresight Programme pilot in health and life research	Formal National Foresight Programme introduced, covering sustainable development, ICT and safety	Review and streamlining of strategic planning in Poland, and development of the 'Poland 2030' study

- (b) *Institutional basis:* The Board of Strategic Advisors to the Prime Minister has responsibility for the development of the Long-Term Development Strategy for Poland. The Board of Strategic Advisors is an independent, consultative body. The Board of Strategic Advisors to the Prime Minister cooperates with the Chancellery of the Prime Minister (CPM) and the Ministry of Regional Development (MRD) (which contains a research and forecast centre). Within CPM, a key office is the Department of Strategic Analyses, which will carry out long-term analysis and policy preparation. Other institutions have played a role in policy-specific long-term planning, such as the Ministry of Economy which is the leading body in relation to energy policy (including forecasts to 2030). Current activities are geared towards creating broad strategic planning frameworks and processes. Environmental policy issues are not necessarily prominently featured within these frameworks.
- (c) *Main mechanisms:* In 2009 the Committee for Development Policy Coordination carried out a review of government policies and strategies and proposed a plan to simplify and reorganise strategic and long-term planning. Under Poland's new approach to policy programming, MRD will prepare national medium-term socioeconomic and spatial planning programmes (i.e. with a time frame of 4 to 10 years), in cooperation with CPM, the Board of Strategic Advisors and

other ministries. Individual ministers will then be responsible for the preparation of sectoral strategies and development programmes in their fields. The 'Poland 2030' study and the forthcoming Long-Term National Development Strategy are both important elements of the new approach.

- (d) *Nature of processes:* The approaches used in three key studies have been rather different. The National Foresight Programme's 'Poland 2020' study used the participation of scientists and wider society in a debate about the future of Poland and used scenarios to illustrate possible alternative directions. The study on 'Poland 2030' was prepared by a small group of experts inside government (coordinated by the Board of Strategic Advisors to the Prime Minister), using an analysis of past and current situations to provide recommendations for the government's long-term development strategy. The new energy policy is a sectoral strategy developed by the Ministry of Economy using external studies of the future energy situation. In general, government-led futures activities have followed rather traditional approaches to consultation and participation in content development. It is envisaged that the Board of Strategic Advisors will meet with the National Foresight Programme experts in the autumn of 2010 to exchange knowledge and experiences.

**Poland SWOT-tail diagram**



### 3. Summary assessment

While there are specific, high-profile examples of futures thinking in relation to specific policy areas and broader strategic development planning in Poland, it is still not common practice to use such approaches. In addition the focus is on broader strategic and long-term planning rather than the environment. The National Foresight Programme has drawn on a broad range of techniques,

although it is not apparent that these have been followed up or referred to in subsequent future-oriented policy initiatives. The recent reform of national development programming is seen as having the potential to lead to more coordinated and comprehensive futures thinking in relation to policy (including environmental) making, by providing a framework that lasts beyond a single election cycle.

### 3.9 Portugal

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination:* Portugal is a parliamentary representative democracy, a republic since 1910, with the most recent republican constitution established in 1976. The president is head of state of a parliamentary representative democracy, and a prime minister heads a, currently, single-party cabinet government, consisting of individual ministers with sectoral decision power. The government in Portugal is highly hierarchical and compartmentalised, with weak horizontal coordination mechanisms between sectors and departments.
- (b) *Formal vertical separation of powers:* Portugal is highly centralised, with only two autonomous administrative regions in the Atlantic islands of Madeira and Azores, which have most powers of national government replicated for their regional context, including legislative power and all issues pertaining to environment and spatial planning. In mainland Portugal some devolution of competences concerning environment and spatial planning towards the regional representative bodies of central government was undertaken a couple of years ago. Local municipalities also have a certain degree of environmental management and planning powers.
- (c) *Executive–legislative relations:* Portugal does not have a strong tradition of using foresight to inform long-term policymaking and planning in public decision-making, although ad-hoc foresight studies are sectorally undertaken. In 2007 the preparation of the National Strategic Reference Framework, that supported Portugal's medium-term planning and budgetary application to European Structural Funds, was supported by foresight studies developed for that purpose. Parliamentary commissions scrutinise government policies, namely through the activities of ministries where futures work is occasionally undertaken.
- (d) *The electoral system* adopted by Portugal is the proportional system, with closed party-list; the voters vote in parties' lists. The seats are allocated by the d'Hondt formula; voting is not compulsory. The electoral rules have remained essentially unchanged from the first election in 1975 to the constitution of 1976, the electoral law of 1979 and later revisions of the constitution. The single-Chamber Assembly is elected for a period of four years.

#### POLIS programme (2000)

The POLIS programme was launched as a national programme for urban environmental rehabilitation policy, to improve the quality of life in cities, through key urban and environmental enhancement interventions.

The programme aimed at developing urban rehabilitation priorities, identifying models of intervention and reflecting on possible instruments for implementation, with particular focus on the improvement of urban environmental conditions and attractiveness.

Its work is based on informal foresight studies and brainstorming to discuss the key challenges and priorities, contributing to set the vision and conceptual framework for urban environmental rehabilitation.

The programme has been instrumental in shaping government policy and high-profile initiatives in urban rehabilitation, changing the image and the functionality of many cities. The POLIS model of governance has been used for the rehabilitation of coastal zones, and is now being applied also to rehabilitation of rivers.

Further information can be found in the country report (Annex 8) and on the POLIS website (<http://www.polis.maotdr.gov.pt/>).

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors:* The Department of Foresight and Planning (Departamento de Prospectiva e Planeamento — DPP) established an economic and social Strategic Foresight Unit in 1995. From 2007 the DPP was integrated into the Ministry responsible for environmental affairs. The DPP provides technical support to policy formulation, strategic and operational planning, supports inter-ministerial cooperation for environment and inter-sectoral policies at EU and international levels, and development cooperation. It also carries out foresight studies at the request of government institutions, particularly to assist the development of medium-term economic development plans, but restricted to central government planning. Typically when engaged in a foresight study, the DPP provides qualitative and quantitative scenario studies on the evolution of the Portuguese economy. Government institutions currently requesting foresight studies based on scenarios' development include the Council of Ministers and the Ministry of Environment, Spatial Planning and Regional Development.

1949	1975	1987	1990	1995	2001–2005	2007	2007
Early institutions responsible for the preparation of economic medium-term development plans	Foresight perspective applied in environmental policy in preparation of UN Conference on Environment and Human Settlements	Foresight perspective applied in environmental policy discussions around National Environmental Policy Act	Ad-hoc task force established to provide foresight input into White Paper on the environment	Ad-hoc task force to provide foresight input into the National Environmental Policy Plan. Department of Foresight and Planning is established within ministry with planning and development responsibilities	Ad-hoc task force applies foresight to establish vision for 2015 as part of National Strategy for Sustainable Development	Department of Foresight and Planning moves to ministry with environmental and spatial planning responsibilities	Foresight used in the development of the National Strategic Reference Framework (established to apply to European Structural Funds for the 2007–2013 period)

(b) *Institutional basis:* Most futures work in Portugal is done by the DPP, either required by specific studies or seeking to pursue a DPP initiatives' agenda.

(c) *Main mechanisms:* In recent years the DPP has increased efforts to apply foresight to environmental decision-making, specifically related to the implementation of a sustainable development strategy for Portugal. This includes providing technical support associated with strategic and operational planning, and monitoring the evolution of economic, social and environmental indicators. Within the DPP there two units which use foresight to provide evidence to policymakers and to support strategy development: the Strategic Foresight Unit (evidence) and the Sustainable Development and Competitiveness Unit (evaluation of policy impact).

(d) *Nature of processes:* Stakeholder engagement in foresight studies is often limited to government and administrative officers, increasingly involving experts, consultants and academics,

NGOs and the business sector. Key features include:

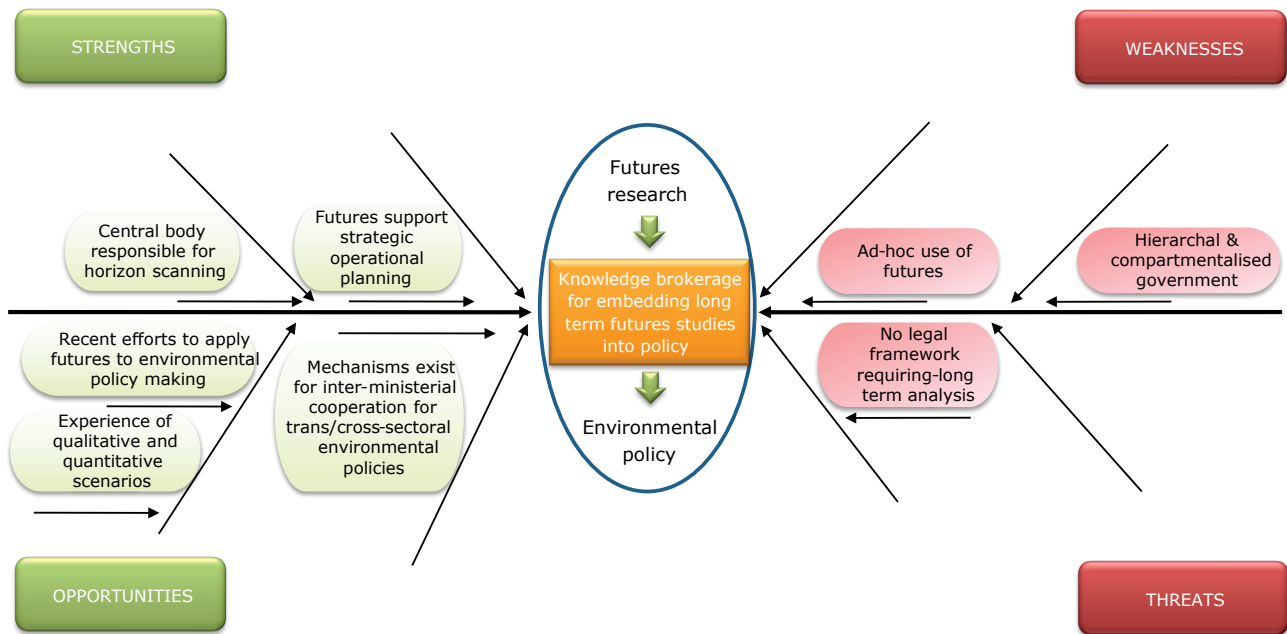
- limited amount of foresight work; generally located in one specific department;
- ad-hoc studies focused on modelling qualitative and quantitative economic scenarios; and
- when foresight is applied, it is used to provide evidence and inform policymakers.

### 3. Summary assessment

Formal foresight programmes designed for environmental policy are ad hoc in Portugal. There is effectively one national institution undertaking foresight studies at the request of government institutions, DPP — Departamento de Prospectiva e Planeamento — established in 1995. Foresight is not seen as a formal component of planning and policymaking. The relatively limited resources made available for foresight studies are also, perhaps, an indication of the importance that the government attributes to formal forecasting.



Portugal SWOT-tail diagram



### 3.10 Slovenia

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination*: Slovenia is a republic with a largely ceremonial president, a prime minister who presides over a cabinet government, and a parliament.
- (b) *Formal vertical separation of powers*: Slovenia has a centralised government. The country has two regions for the purpose of EU cohesion policy (eastern and western Slovenia), and the national government has debated the creation of administrative regions. Slovenia has over 200 municipalities, of which the most important is Ljubljana with over 10 % of the country's population.
- (c) *Executive-legislative relations*: The parliament is divided into two bodies, the National Assembly which has legislative power, and the National Council that brings together major economic and social interests (employers, employees, farmers, crafts, artists and others; and local interests, which hold just over half the seats). The parliament does not have a special body for futures studies, but it has followed work by the independent Bled Forum.
- (d) *The electoral system* is proportional, and Slovenia has a multi-party system. Government coalitions form around two major parties, one on the centre-left and the other on the centre-right. Beyond the sometimes sharp political contrasts that draw also on major past events (including WWII and Yugoslav socialism), Slovenia has a strong corporatist framework involving negotiations among major interest groups, as seen in its National Council (though discussions often occur outside this structure).

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors*: Several government offices have prepared one-off futures studies. These have included: the former Government Office for European Affairs, which prepared 'Vision Slovenia' (2004); the Institute of Macroeconomic Analysis and Development, which developed Slovenia's development strategy to 2013; and the former Government Office for Growth, which prepared 'Development scenarios for Slovenia

#### Development scenarios for Slovenia to 2035

This study reviewed climate change impacts projects for coming decades and then identified a series of actions for national climate change responses.

The study highlighted the importance of adaptation.

Slovenia's government has created an inter-ministerial group to address climate change impacts as well as an action plan for agriculture and forestry: it does not appear, however, that there is a direct link between the study and these actions.

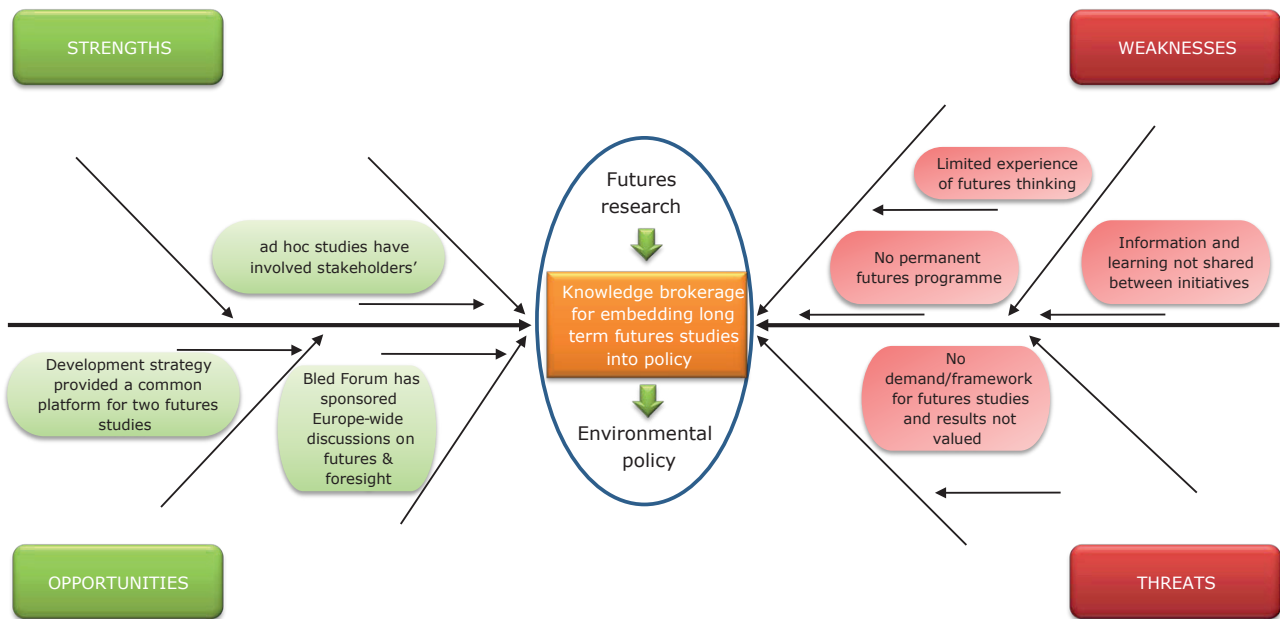
Further information can be found in the country report (Annex 9).

to 2013'. The Offices for European Affairs and Growth merged in 2008 into the Government Office for Development and European Affairs (GODEA), which has been involved in several recent futures-oriented initiatives. For example, GODEA is working closely with the Government Office on Climate Change. Thus, while a central office dedicated to futures does not exist in Slovenia, GODEA has taken a growing role in this type of analysis. Outside of government, the Bled Forum works on long-term thinking at both national and European levels.

- (b) *Institutional basis*: No legal or policy obligation exists for futures studies.
- (c) *Main mechanisms*: The futures work carried out thus far has been on an ad-hoc basis. Moreover, it appears that there has been little learning or exchange of information from one initiative to another.
- (d) *Nature of processes*: Several studies have engaged stakeholders, for example in the definition of scenarios. Work on technology foresight has used a Delphi approach for input from experts in business, academia and other sectors. Outside of government, the Bled Forum has organised Europe-wide discussions on the future.

2004	2004–2005	2008
Qualitative scenarios used to develop 'Vision Slovenia'	Technology foresight study commissioned by the Ministry of Education, Science and Sport and the Ministry of the Economy	Publication of 'Development scenarios for Slovenia to 2035: Trends and opportunities in times of climate change'

Slovenia SWOT-tail diagram



3. Summary assessment

Slovenia has carried out several future-oriented initiatives on an ad-hoc basis, and work is currently ongoing in the areas of a low-carbon economy and technology foresight. National science and technology policy was influenced by work on technology foresight, which helped to identify

national research priorities. While other initiatives have as yet had less influence on policymaking, the link that current and recent studies have had to national development strategies through GODEA provides the opportunity for a growing role of forward-looking analysis.

### 3.11 Spain

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination:* Spain is a parliamentary monarchy, with a king as head of state and a bicameral parliament — the Cortes Generales. The executive power is formed by a Council of Ministers headed by the president. The legislative power is based in the Cortes Generales and consists of a lower chamber — Congreso de los Diputados — and an upper chamber — the Senate.
- (b) *Formal vertical separation of powers:* Spain has a pseudo-federal system, with a large degree of devolution of competencies to its 17 autonomous communities. The degree of devolution depends on the 'statutes of autonomy' negotiated between each region and the central government. The regions with the highest degree of devolution are Catalonia and the Basque Country. Some autonomous communities are in the process of negotiating new statutes of autonomy, the tendency being to try to get larger degrees of devolution, albeit the negotiation processes are not short of controversy. Aspects such as environmental policy tend to correspond to the regions, although areas of national interest (e.g. nuclear power, national motorways, coasts) remain under the central government.
- (c) *Executive-legislative relations:* There is no formal mandate for the executive to engage in forward-looking activities. Parliament may scrutinise futures studies associated to national policy, as was going to be the case with the national energy prospective study. Other futures studies commissioned by government departments are not normally discussed at parliament level.
- (d) Two political parties dominate the electoral scene: the Socialist Party (*PSOE*) and the right-wing *Partido Popular (PP)*. Often no party holds absolute majority, and thus compromises have to be reached with other parties to secure approval of national policies and legislation. Interestingly these smaller parties tend to represent regional nationalist interests — mainly from Catalonia and the Basque Country. Political parties normally form parliamentary groups.

#### A prospective study of renewable energies (Observatory of Occupations, Public Service of State Employment, 2010)

Spain has placed emphasis on the development of renewable energies under its National Energy Plan, and is now a leading country in this sector. Growth in this area is expected, with opportunities for generation of (mainly skilled) employment. The study aimed at identifying the occupations that are emerging, the job descriptions and the new professional skills where training is required, as well as anticipating the growth in employment expected in the next few years.

The foresight study provided a mapping of employment in the sector, and identified strengths, weaknesses, opportunities and threats for the different renewable energies. It identified occupations where employment will be created and carried out a training needs assessment.

The study is expected to guide the government and private sector to make best use of the opportunities for employment foreseen in the sector, which will also help in securing a green and competitive economy in line with the Europe 2020 strategy.

Further information can be found in the country report (Annex 10).

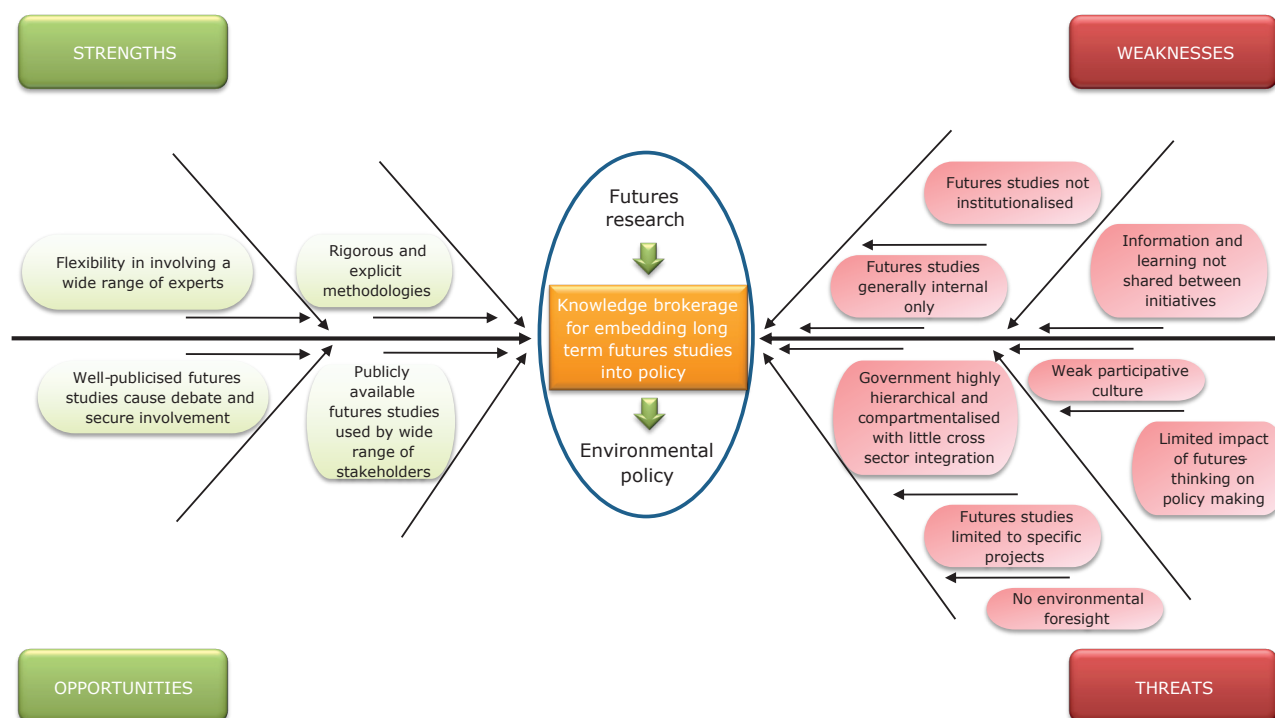
The report is available in Spanish and English at: <http://www.redtrabaja.es/es/redtrabaja/static/Redirect.do?page=af09>.

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors:* There is neither a central body for coordination, formal intra-governmental networks nor a specific parliamentary body dealing with foresight studies. Main actors are the Observatory for Technological Industrial Foresight (OPTI), the National Agency for Foresight and Evaluation (ANEP), the Unit of Analysis and Foresight of the Ministry of Environment (UAP), and the Observatory for Sustainability in Spain (OSE). OPTI is a foundation under the auspices of the Ministry of

1995	1997	2005	2006
National Agency for Evaluation and Foresight is established in 1987, but does not conduct foresight work until 1995	Ministry of Industry and Energy creates the Observatory for Technological Industrial Foresight	Observatory for Sustainability in Spain created by agreement between the then Ministry of Environment, the General Foundation of the University of Alcalá and the Biodiversity Foundation	Ministry of Agriculture, Fisheries and Food creates the Unit of Analysis and Foresight

## Spain SWOT-tail diagram



Industry, Tourism and Trade; its clients include government bodies. ANEP is based under the Secretary of State for Universities (Ministry of Science and Innovation); however, its work has centred on evaluation of project proposals, with little attention paid to foresight. UAP was created under the Ministry of Agriculture, Fisheries and Food, which later merged with the Ministry of Environment, but its work retains a focus on agriculture and rural development. It produces analysis reports and carries out other foresight analyses for internal consumption. OSE activities are not strictly foresight, based mainly on the monitoring of sustainable development indicators, but nevertheless trends are studied and recommendations for policymaking advanced. Other public bodies have sections that engage in foresight activities, such as the Observatory of Occupations from the Public Service for State Employment's. Other foresight studies are done outside formally established foresight bodies, by regional level or private bodies.

- (b) *Institutional basis:* The institutional basis for futures work is informal (no legal requirement).
- (c) *Main mechanisms:* Although there are bodies whose mandate includes carrying out foresight studies, these are not a key component of their

activities, and there are no permanent futures programmes established. Foresight studies with larger implications for national policymaking, and touching on sensitive issues of electoral interest, are very limited and can become highly politicised, as shown by the relatively recent foresight study on energy policy, whose results were never disclosed. Most other foresight studies are 'consultancy' style and taken as independent recommendations for policymaking, even if commissioned by government bodies.

- (d) *Nature of processes:* The processes used in foresight studies are mainly expert-led, with participation mainly insofar as consultation of key stakeholders is concerned, as part of the methods employed (e.g. Delphi surveys). A mix of quantitative and qualitative methods is used.

### 3. Summary assessment

Futures studies have become more sophisticated in recent years, using more rigorous methods and a wide range of experts. The policy areas where foresight is applied has also expanded. Nevertheless there is no central futures programme and futures work is generally limited to ad-hoc commissioned studies. Furthermore some foresight studies by government bodies are produced only for internal consumption.

Technically there is currently no futures work related to environmental policymaking. However, some futures-type work around monitoring trends related to sustainable development does exist. The high level of regionalisation and compartmentalisation acts as a constraint to develop cross-sector working mechanisms; this may suppress the extent to which a futures approach to

environmental policymaking could be employed. Futures studies to date have been ad hoc, with little evidence of (formal) cooperation or communication between those involved in different studies. However, where futures studies have been publicly available they have been used by a wide range of stakeholders, indicating that there is a latent demand for such futures work.

### 3.12 Sweden

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination*: Sweden is a constitutional monarchy based on parliamentary democracy, with a monarch and chief of state, a prime minister and a cabinet government, appointed by the prime minister. The parliamentary system is unicameral. The government is assisted in its work by the government offices, comprising a number of ministries, and some 300 central government agencies and public administrations.
- (b) *Formal vertical separation of powers*: Sweden is divided into 21 counties. Political tasks at this level are undertaken, on the one hand, by the county councils, whose decision-makers are directly elected by the people of the county and, on the other, by the county administrative boards which are government bodies in the counties. Some public authorities also operate at regional and local levels, for example through county boards. Sweden has 290 municipalities. Each municipality has an elected assembly, the municipal council, which takes decisions on municipal matters.
- (c) *Executive-legislative relations*: Legislative powers are held by the Swedish parliament (the Riksdag). Proposals for new laws are presented by the government which also implements legislative decisions taken by the Riksdag. Sweden has an egalitarian and decentralised model of management and approach to governance. This can be seen in the structure of government. Swedish ministries are relatively small and focus on policymaking. They prepare policy decisions for agencies to carry out, but do not (and cannot) issue direct orders. Thus, government agencies act independently to carry out the policies of the Swedish government.
- (d) *The electoral system*: Election to the parliament (Riksdag) is by popular vote on a proportional representation basis (four-year terms).

#### Sweden in the year 2021 – Swedish Environmental Protection Agency (EPA)

On the initiative of the Swedish EPA the 'Sweden in the year 2021' programme was launched in January 1993 and finished five years later in 1998. The aim was to accomplish an intersectoral and interdisciplinary study for the purpose of identifying environmentally sustainable futures for Sweden.

The ensuring project was characterised by the fact that:

- a system analytical approach was used in a comprehensive research and investigative task within a public authority; this was an interdisciplinary project with a focus on natural- and social-scientific issues;
- a large number of actors — researchers, public servants and representatives of various sectors in society — were engaged in the project; all in all, some 300 people took part in the work.

Following its publication, the study was used to support the establishment of Sweden's Environmental Quality Objectives.

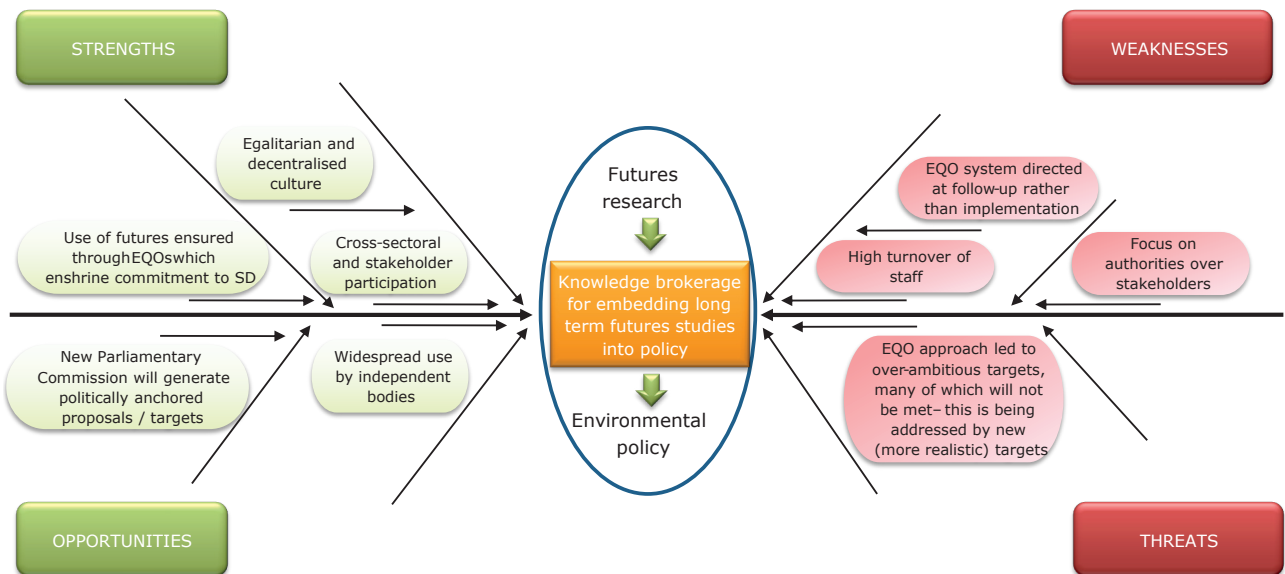
Further information is available in the country report (Annex 11).

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors*: Future-oriented studies are undertaken in many parts of Swedish government. In 1980 the government created the Secretariat for Future Studies, which became an independent body in 1987: the Institute for Future Studies. The institute is not, however, a central body for future-oriented studies. The forward-looking Environmental Quality Objectives (EQOs) provide a formal framework for environmental programmes and initiatives,

Early 1970s	1980	1987	1993	1996	1999	2002	2010
Government creates the Secretariat for Future Studies	Secretariat for Future Studies becomes a unit under the Research Council Committee	Research Council Committee becomes independent research foundation: Institute for Future Studies	Environmental Protection Agency initiates first futures study: 'What should Sweden's health be in the year 2020?'	'Sweden in the year 2021' completed — identifies environmental futures for Sweden	Government approves the Environmental Quality Objectives (EQOs)	Environmental Objectives Council established	Environmental Quality Objectives Council replaced by a parliamentary commission

Sweden SWOT-tail diagram



with timescales to 2010, 2020 and 2050. Work relating to the EQOs was coordinated by an Environmental Objectives Council. In June 2010, a government bill introduced a number of institutional changes to the system around the EQOs: the Environmental Objectives Council was replaced with a parliamentary commission and the work on the EQOs reorganised to focus more on implementation and impact analysis than on follow-up. The Swedish case study report indicates that in practice many agencies in Sweden have some form of foresight activity. In relation to the environment, the leading government body is the Ministry of the Environment. The Swedish Environmental Protection Agency (EPA) has also produced foresight studies. Other bodies involved in future-oriented work (in particular relating to the EQOs) include: the Swedish National Board for Health and Welfare; the National Heritage Board; the Energy Agency; the Forest Agency; the Board of Agriculture; and the National Board of Housing, Building and Planning.

- (b) *Institutional basis*: One of the key characteristics in Sweden is that future-oriented work is carried out independently by many different bodies in the public sector, as reflected under '(a) Main actors'.
- (c) *Main mechanisms*: Future-oriented studies play an important role in Sweden's environmental policy, and in particular for the country's Environmental Quality Objectives (EQOs). These objectives set targets across 16 environmental themes. The

Swedish government approved the targets in 1999 and they were endorsed by parliament the same year in a resolution: the EQOs thus have a formal status in terms of Swedish environmental policy, though they are not legally binding. The EQOs define the state of environment and provide a coherent framework for environmental programmes and initiatives at national, regional and local levels.

- (d) *Nature of processes*: Major futures studies related to the environment have involved a high level of participation, typically involving representatives from a broad range of national government bodies and from key stakeholder groups such as local government, industry, agriculture and environmental NGOs. For example, in the work to prepare the study on 'Sweden in the year 2021', representatives participated in 10 sectoral groups that played a key role in formulating future visions. A participative process is also embedded in the EQOs: here, the Environmental Objectives Council is made up of representatives from a broad array of stakeholders. In addition futures methods in Sweden typically combine quantitative and qualitative methods.

**3. Summary assessment**

Overall while there is no central body for foresight studies in Sweden there has been a considerable amount of futures work carried out and much of this has been in relation to environmental planning and policy. Many government bodies commission studies on an ad-hoc basis. As a result,



the relationship between different programmes and studies appears to be largely informal. However, the Swedish Environmental Quality Objectives have provided a formalised framework for environmental planning in Sweden and have led to considerable cross-agency and broader participative working through the large number of specific studies being commissioned. Particularly in relation to

the development and evaluation of the EQOs, future-oriented studies can be seen to have a strong influence on environmental policy in Sweden. A high level of government commitment to the environment and related future-oriented studies, a strong history of participation and engagement and good sectoral integration are seen as particular success factors.

### 3.13 United Kingdom

#### 1. Institutional characteristics

- (a) *Formal horizontal coordination:* The United Kingdom is a bicameral parliamentary democracy, with a monarch as head of state and a single executive with a prime minister and cabinet government, consisting of heads of government departments. The prime minister is supported through the strong coordinating role of the Prime Minister's Office/Cabinet Office.
- (b) *Formal vertical separation of powers:* The United Kingdom is highly centralised, though with devolved administrations in Scotland, Wales and Northern Ireland over a variety of functions. The recently elected (May 2010) coalition government is promoting a 'localism' agenda which may seek to devolve some responsibility to local authorities and is likely to lead to a wider variety of approaches to plan-making and decision-making, especially in relation to the environment and spatial planning.
- (c) *Executive-legislative relations:* Parliament has no formal mandate to engage actively in forward-looking activities, although parliamentary select committees scrutinise the activities of government departments where futures work is undertaken and may from time to time consider such activities. The Parliamentary Office of Science and Technology is only recently beginning to provide information in this area for parliamentarians.
- (d) *The electoral system* is currently first-past-the-post for general elections, although the coalition government has promised a referendum on an alternative vote (AV) form of proportional representation. The current coalition government consists of Conservative and Liberal Democrats, with Labour the main opposition party. The coalition government is the first time the Conservatives have been in power for 13 years; previously they were in power for 18 years. The United Kingdom has a tendency to swing from one political colour to another periodically, favoured by the first-past-the-post system.

#### 2. Institutional settings/actors/mechanisms

- (a) *Main actors:* The Foresight Programme and its Horizon Scanning Centre are part of the Government Office for Science contained within the Department for Business, Innovation and

#### Tackling obesity: 'Future choices' project (Foresight, 2007)

'To produce a long-term vision of how we can deliver a sustainable response to obesity in the United Kingdom over the next 40 years.'

The Foresight obesity project was noted as providing a clearer understanding of the complexity and scale of the obesity problem. The project shifted the focus from obesity, to promoting healthy weight, healthy lives and recognising that weight is a problem that affects both adults and children. The findings of the report demonstrated the need for a commitment to tackling obesity across government. It highlighted the breadth of the science underpinning weight issues and approaches to tackling them.

The study has been instrumental in shaping government policy and high-profile initiatives, e.g. the Obesity Strategy (2008), by the Department of Health following strong ministerial ownership of the study. Increasingly there is wider recognition of the need for joined-up thinking across government, in relation to health, exercise, open space, environment and transport, though delivering cross-departmental actions has been slower.

Further information is available in the country report (Annex 12).

Skills (BIS) and this acts as a central body for futures work and increasingly is seeking to provide a coordination role. It is headed by the government's Chief Scientific Advisor. Other key ministries and agencies undertaking environmental futures work are the Department of the Environment, Food and Rural Affairs (Defra), the Environment Agency of England and Wales, and Natural England. In Scotland, Scotland's Futures Forum (SFF) was established in 2006 by the Scottish parliament to promote 'aspirational futures', to challenge policy and to increase the ability of members of the Scottish parliament (MSPs) and the wider Scottish community to consider future challenges and opportunities.

1994	2002	2004	2005	2006
UK Foresight Programme established	Defra Horizon Scanning Unit established	Environment Agency Foresight Unit established	Foresight Horizon Scanning Centre established	Natural England Foresight Unit established

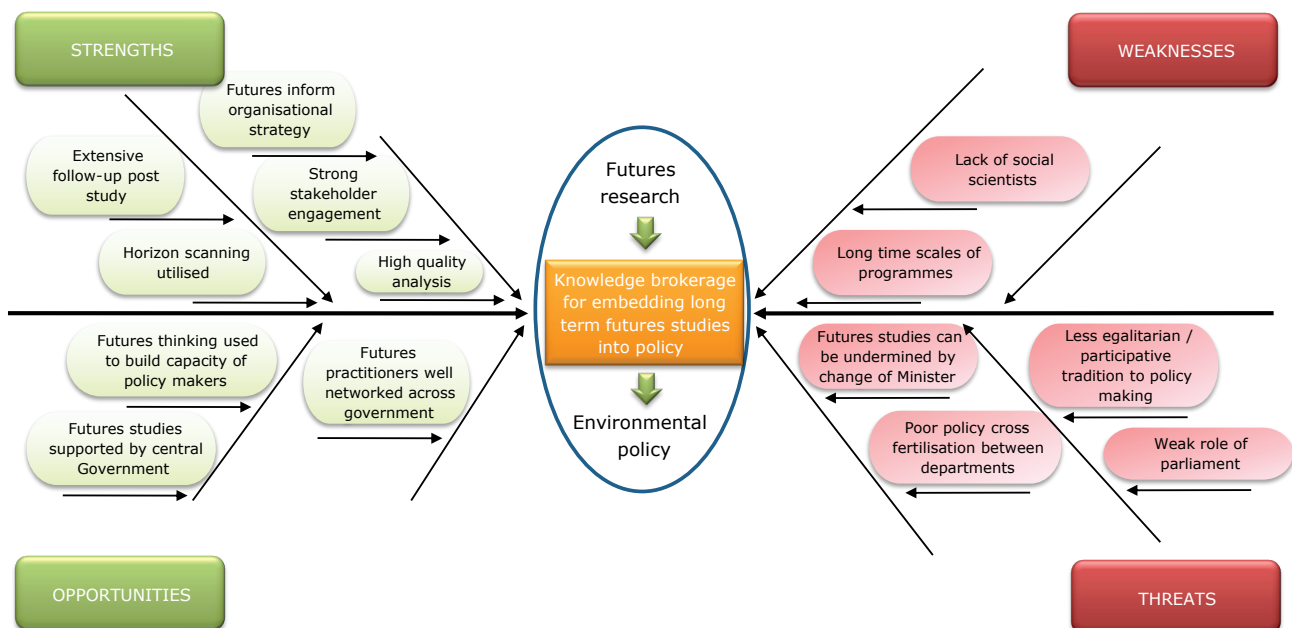
- (b) *Institutional basis*: The institutional basis for most futures work is generally rather informal by intra-governmental political agreement (no legal requirement).
- (c) *Main mechanisms*: The Foresight Programme is permanent and has existed since 1994. In other departments, environmental futures work may be overseen by a handful of staff or less, who in some cases provide 'consultancy' style advice to policymakers to help them integrate futures work into day-to-day policymaking. Generally, major futures work through Foresight is driven politically (though it includes external advisors) and this is seen as essential to its success in delivering benefits to policymaking.
- (d) *Nature of processes*: Major foresight studies are essentially expert-led, though with wider stakeholder participation. Consultation is extensive in most futures work with a permanent stakeholder panel to help the central foresight body identify emerging issues and decide on strategic priorities. Departmental/agency studies are used mainly for internal purposes, but may engage stakeholders as well. In the United Kingdom there appears to be a distinction between futures work being used as part of 'evidence' gathering (e.g. Foresight, Defra, Environment Agency) or as part of business planning/strategy (Natural England). Studies

use a mixture of quantitative and qualitative approaches, the largest studies using modelling, for example to underpin the science, while smaller studies undertaken within departments tend generally to be more qualitative, with a narrative used to explore possible futures.

### 3. Summary assessment

Overall, the relationship between different departmental futures programmes is patchy, strongest when departments are stakeholders in large foresight studies. There are, however, good networks of futures practitioners and policymakers, which have been established as part of departmental futures studies and through the HSC's networks. A few specific, major foresight studies have been influential in informing environmental policy (flooding) and health policy (obesity), particularly because they have had ministerial support, i.e. clear policy demand; but this also makes studies susceptible to changes in politics or individual ministers. Good collaboration and follow-up with other relevant departments facilitates effective uptake of findings by the relevant people. The embedded nature of futures work in some departments helps improve policymaking although there is a need for more social scientists in government departments to facilitate the implementation of policy changes.

### UK SWOT-tail diagram



## 4 Embedding futures thinking in policymaking

### 4.1 Introduction

From the individual country reports the cross-country analysis was undertaken to identify patterns, trends, commonalities and diversity among the approaches to futures thinking adopted in the selected Member States. Taking into account that the nature of this research has been at a high strategic level, the cross-country analysis sought to identify, first, the broad timelines for significant developments in the institutional and governance arrangements for futures thinking in Member States, and, second, to draw out the main commonalities and divergences in the practice of using futures thinking in environmental policymaking.

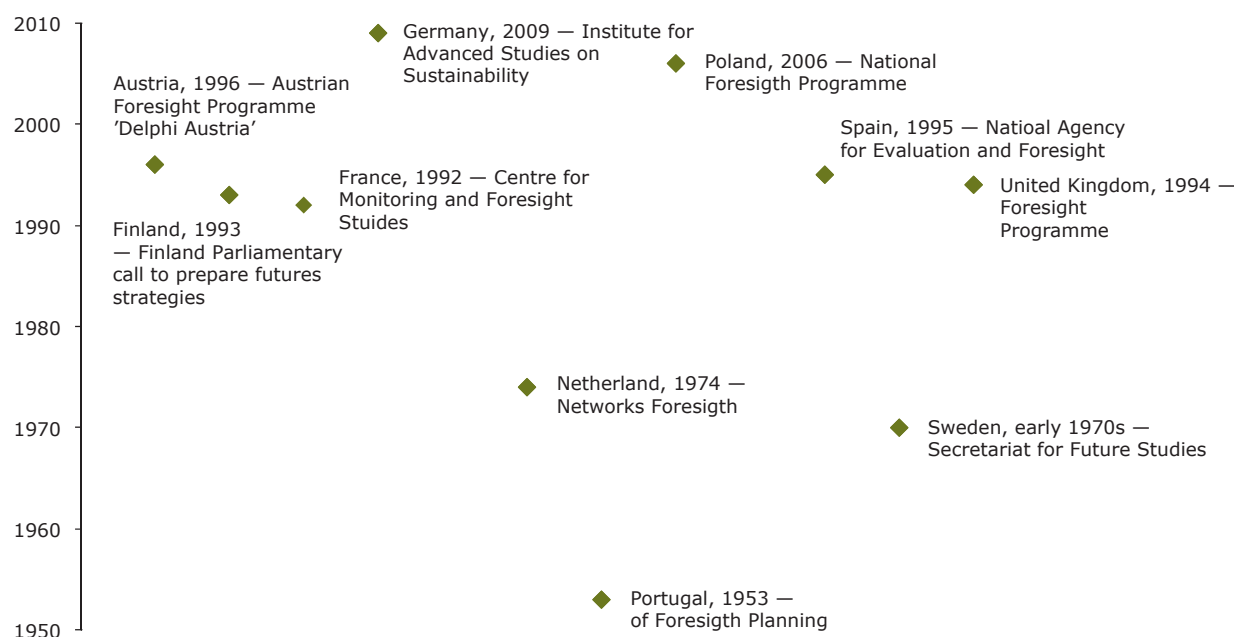
While every attempt has been made to ensure that this study has been as comprehensive as possible, it is also important to note that the research presented here represents an understanding of the approaches and institutional set-up of environmental futures

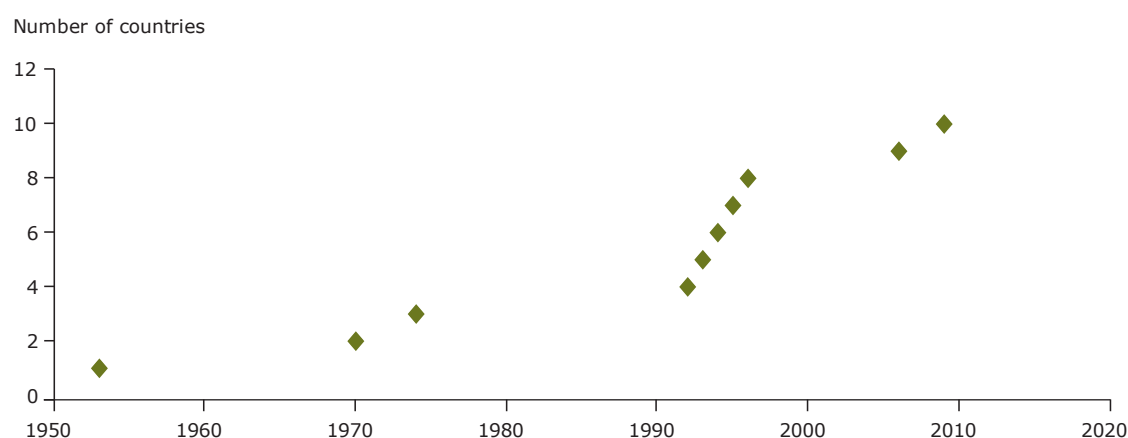
thinking in the Member States, based on analysis of the individual case study reports for each country. This research should not therefore be seen as exhaustive in nature and it is possible that certain specific elements have been inadvertently omitted from the analyses, for example important dates in the development of a futures approach or key studies. The case study reports also represent a snapshot in time and in a dynamic area like this institutional structures are often subject to constant change, as is revealed in a number of the case study countries.

### 4.2 Development of futures thinking over time

From the country summaries it can be seen that futures thinking has very different histories in the countries studied. Figure 4.1 illustrates the pattern of introduction across the case studies of

**Figure 4.1 Year of introduction of a central foresight/futures body/department**



**Figure 4.2 Cumulative diffusion of central futures bodies in 12 EU Member States**


central foresight bodies, while Figure 4.2 illustrates the cumulative diffusion of the introduction of these central foresight bodies over recent decades. Note that Hungary and Slovenia do not have a central foresight body and are thus not included in Figure 4.1.

The figures above illustrate only the introduction of central futures bodies. An important caveat here is that the existence of a central futures body does not mean that other futures work is not going on, nor does the existence of a body imply that that body is actually undertaking a significant amount of futures work. The figures above also do not necessarily ascribe any virtue to the early introduction of a central body, thus it is not a priori considered 'better' to have developed a central body at any particular time. A central body/organisation can take many forms — it may be part of central government or it may be an external body, such as an academic institute. Portugal, for example, has had a central foresight planning department of government since 1953, while the United Kingdom (considered to have quite extensive experience of foresight and futures work) has only had a central government body since 1994. Although there is no central government futures body in Germany, futures work is widely diffused in government, and in 2009 the Institute on Advanced Studies in Sustainability was established where futures work is undertaken.

Figure 4.2 shows a peak in the number of countries introducing central government bodies in the early and mid-1990s. From an environmental point of view this might be seen as particularly relevant in the wake of the Rio Earth Summit in 1992 and the need to advance plans and strategies for sustainable development. In the case of Austria, the case study

indicates that the increasing visibility of quite specific environmental issues, such as the effects on forests of acid rain, in the 1970s and 1980s led to the environment rising up the political agenda, and thus influenced the introduction of structured long-term thinking in relation to the environment. However, in most cases government foresight has tended to begin with a focus on technology foresight and links to business. Areas such as energy and transport may provide the link into further exploration of natural resource and environmental issues.

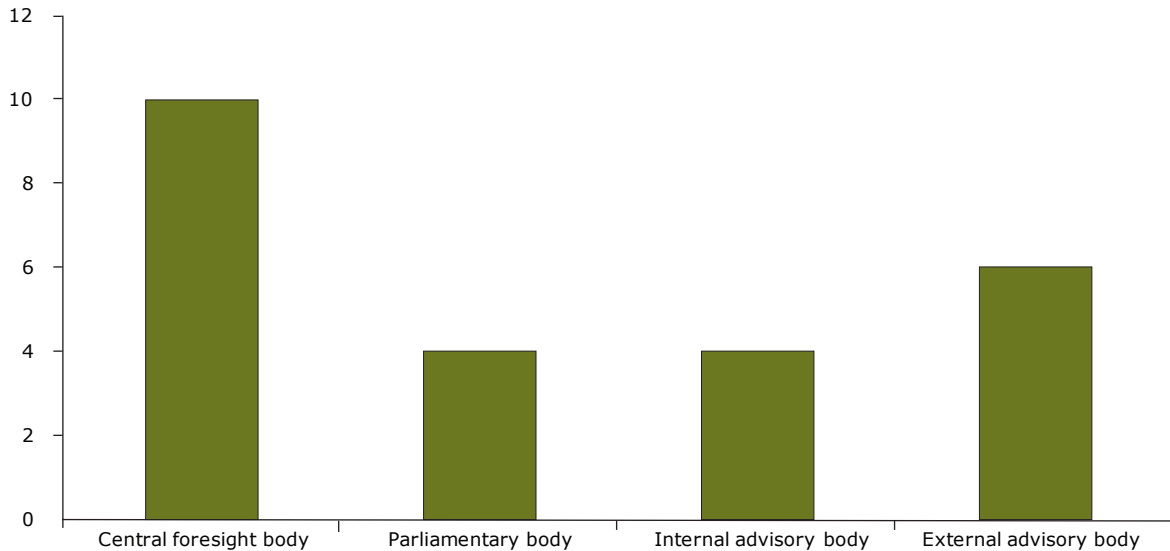
A common pattern observed across those countries with relatively mature futures programmes (e.g. the United Kingdom, Netherlands, Sweden) was the evolution from initial early futures studies to the building of a network of expertise across government and externally, to developing incrementally the capacity within government departments to undertake their own futures work as part of the normal policymaking process, for example through capacity building and training. One might expect that futures work develops incrementally in this way, but in some countries futures work has had mixed fortunes and developed more haphazardly (e.g. in France). Reorganisation of government departments can disrupt foresight programmes and lose skills and capacity, and political interest will vary according to other priorities and individuals.

### 4.3 Commonalities and diversity among Member State approaches

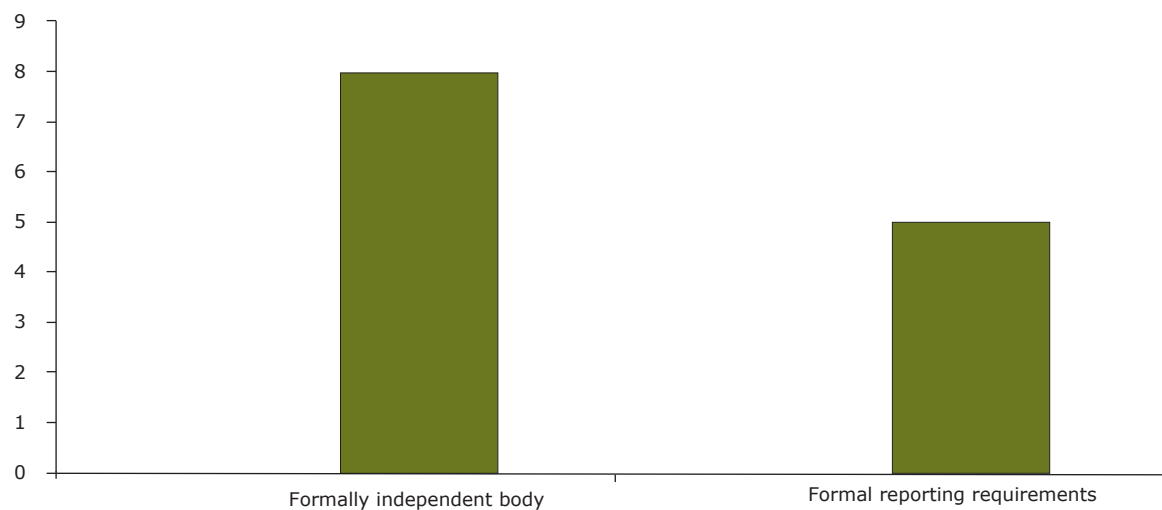
Figure 4.3 illustrates the numbers of countries in which specific formal provisions for futures thinking have been made in relation to institutional

**Figure 4.3 Number of countries with specific provisions – (a) institutions, (b) process and (c) mechanisms**

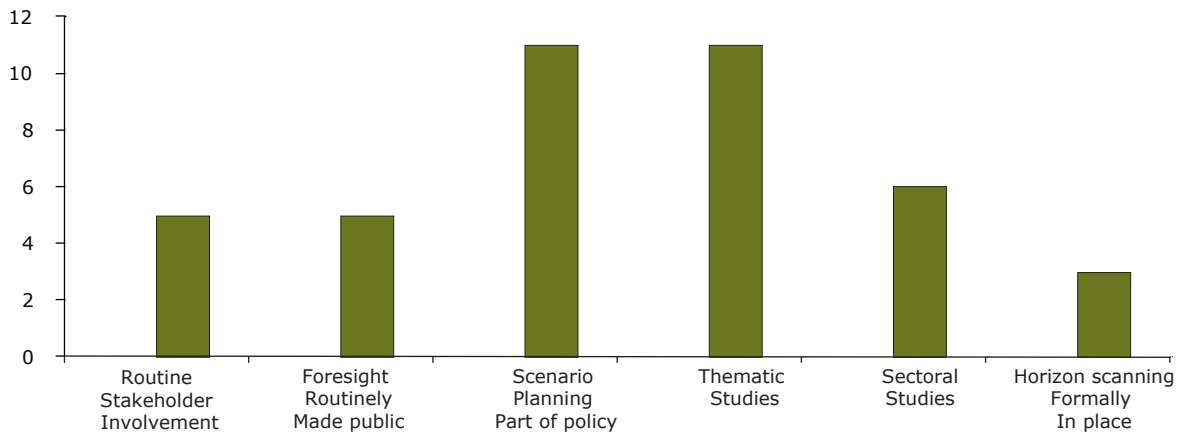
(a) Numbers of countries with specific provisions — Institutions



(b) Number of countries with specific provisions — Mechanisms



(c) Number of countries with specific provision — Process



arrangements, processes and mechanisms respectively, out of the sample of 12 EU Member States. Each of these provisions for futures thinking is discussed in Section 2.1.

On the basis of the overview analysis above, and the case study reports, a simple typology of the relative 'maturity' of futures work in relation to environmental policy can be developed into which the countries studied can be categorised (see Figure 4.4), based on:

- most mature:
  - most permanent and formalised systems, diverse networks across government, and experience of futures studies having clear influence on policy;
- those where futures arrangements are in the process of **developing**:
  - some features have been introduced and show evidence of lasting structures and influence; and
- those that are least mature and in their infancy — **nascent**:
  - mainly ad-hoc or fragmented arrangements, or very recent introduction of institutional structures or governance arrangements to facilitate futures thinking into policy at national government level.

From this clustering there is a clear northern European dimension to the most mature systems.

**Figure 4.4 Relative maturity of futures arrangements in 12 EU Member States**



For Finland, Sweden and the Netherlands this might also reflect the more participatory prevailing governance culture in those countries whereas the United Kingdom, while it is less participatory culturally, does have a strong environmental movement and external advocacy tradition, as well as strong centralised government and policymaking.

The countries with developing futures arrangements reflect more a northern/central European focus with the exception of Portugal, although here the common thread may be the more academic tradition of La Prospective shared with France. Germany is also a highly federal state and therefore experience is likely to be more fragmented.

The countries with nascent futures arrangements are dominated by central and eastern European countries (where there may remain a distrust of long-term planning processes in the post-Soviet era), with the exception of Spain, which is particular in that it is highly federal in its approach and where foresight has been strongest in the technology field.

#### 4.3.1 Institutions

##### Central foresight body

A centralised body appears from the case studies to be an important factor in terms of bringing futures thinking into policymaking, and most countries have adopted some sort of central government body. The Netherlands and Sweden are exceptions to this rule, with diffuse structures and networks, but a strong role for futures studies; this appears to be due to their governance culture and the resulting more diffuse government structures. In between these approaches, Germany, for example, tends to rely on futures studies prepared by independent organisations (though generally commissioned by the government). Although there is active foresight/futures work in the French administration, and a long-standing tradition in France of La Prospective, the findings of the work do not seem to have been widely diffused in government.

Some major policy issues will always need strong cross-government/central impetus to provide the necessary kick-start to policy change and/or to generate the evidence to support and underpin policy. The example in the United Kingdom of the Foresight obesity report<sup>(13)</sup> appears to be a case

<sup>(13)</sup> *Tackling obesity: Future choices* (2007) (<http://www.bis.gov.uk/foresight/our-work/projects/current-projects/tackling-obesities>).

where a foresight study has highlighted a current policy issue. The implications for government departments from health to transport, environment, and not least the Treasury (in terms of costs of ill-health) of the increasing trend to obesity among citizens is a policy issue that had been recognised for two decades, but which had failed to gain ground in government until the obesity study. It was both the process and the outcome — along with the convergence of a number of other factors — that provided such overwhelming evidence that government action became unavoidable. It has since underpinned major health and open space initiatives across government, including cooperation between the Department of Health and Natural England (the government agency in charge of biodiversity conservation and countryside access).

Strong central bodies can be found in the United Kingdom, Finland, and France, but reflect different approaches. In Finland, for example the Government Foresight Network is coordinated by the Prime Minister's Office (PMO) and is therefore at the heart of government. In the United Kingdom, while a strong central body exists in UK Foresight, this is (currently) located in the Business, Innovation and Skills Department, but its location has been somewhat peripatetic over the years, depending upon where the responsibility for 'science' has rested. While a key strength of the futures work done by UK Foresight is the buy-in by government departments and ministers, it is not, for example, located in the Cabinet Office — the equivalent of the PMO in Finland — at the heart of government (although the Cabinet Office does carry out its own futures work). In France the futures studies departments are close to central government and, particularly since recent reorganisation, are within a powerful Super-Ministry and affiliated to the Prime Minister's Office.

The Netherlands shows an alternative approach: it has several strong agencies that carry out futures work. These include publicly funded independent research organisations and agencies, operating at arm's length from central government or fully independently (e.g. the Netherlands Bureau for Economic Policy Analysis and the Scientific Council for Government Policy). While located under ministries, these agencies have a strong degree of independence.

The question of a central body is linked also to the issue of internal or external expertise. In nearly all the case studies, internal government offices played a key role in developing forward-looking initiatives. In many cases, government offices have coordinated

external expertise, for example from universities and consultancies. This appears necessary in order for a study to have impact within government: for example, external expertise played a strong role in two of the futures studies reviewed in Slovenia; while both represented new initiatives for the country, they had a relatively small influence on policy.

An interesting question arises as to whether different traditions in the way in which the science-policy debate is played out in a particular country, for example whether a strong quantitative tradition in natural sciences predominates or a more qualitative, participative tradition exists, make a difference as to where a central body is located and the nature of that central body. In the United Kingdom, it has already been noted that UK Foresight is located within the government Office for Science in the Department for Business, Innovation and Skills. It is headed by the Government's Chief Scientific Advisor and reflects a strong sense of the use of rigorous science to inform policy, particularly in the context of environmental and natural science issues. This might be contrasted with the central bodies located in or close to a prime minister's office (as in Finland and France), with less focus on science per se and more on the use of futures for informing policy and long-term government strategy. This may also be reflected in the way in which futures issues are addressed in other departments and agencies (see below).

### *Parliamentary body/role of parliament*

Some of the case studies, notably Finland, have shown that parliament can play an important role in supporting futures thinking. Futures work might be able to influence political discussions without a formal parliamentary function — this appears to have been the case in Slovenia, for example. Overall, however, the case studies do not provide enough material for clear lessons here, not least because in some countries parliamentary advice and support, as in France through the Delegation on Future Perspectives, is a very recent initiative. However, Austria and Germany also have parliamentary bodies with some level of responsibility for futures, although not formal committees. This may reflect the scrutiny role for parliaments in holding government departments and ministries to account. Since futures work is a relatively recent innovation among government departments and the executive, it should perhaps not be surprising that parliaments have not yet, in the main, mirrored these developments. Parliamentary committees may well address futures issues as part of their



day-to-day scrutiny of government, but where foresight and futures thinking has traditionally been viewed as part of natural science traditions and operational departments (e.g. in terms of quantitative forecasting and modelling), it may have been seen as 'expert' science and therefore the responsibility of the executive and bureaucratic departments, rather than parliamentarians. In the United Kingdom, the All Party Parliamentary Groups — which aim to engender progressive and informed debate on specific issues by bridging the gap between policymakers and practitioners in a particular field — offer the opportunity to consider futures issues.

Information provision to members of parliament on scientific and technological issues is often through parliamentary technology assessment offices<sup>(14)</sup> and futures issues will often feature as part of the projects they undertake to inform members of parliament. However, these have not necessarily been staffed by experts in long-term futures. In Scotland (distinctively from the rest of the United Kingdom), the Scottish Futures Forum provides a network for information exchange and advice to members of the Scottish parliament, though it is not a formal parliamentary body.

### *Internal body*

Most countries have some form of futures work being undertaken within government departments (whether a regular or ad-hoc occurrence), although not all have a central body that coordinates or advises across government. The Finnish Environment Institute (SYKE) provides strategic guidance to government ministries (decentralised). In France, the FSM provides foresight related to sustainable development. In the United Kingdom, the UK Foresight Programme and its Horizon Scanning Centre provide support and advice to other government departments, although some departments also have their own foresight capacity. Hungary has recently established its own Technology Foresight Programme. In Sweden and the Netherlands there is no one body providing foresight in government.

In the United Kingdom, independent scientific advisory committees help government departments in the collection of scientific information and also in making judgments on the information (performing effectively an 'honest broker' role). By its very nature

### **Examples of parliamentary bodies/roles and relationships with central government**

Finland: Government Foresight Network/Prime Minister's Office; Parliamentary Committee for the Future.

France: Foresight Studies Mission (FSM) in the Environment Super-Ministry and Centre of Strategic Analysis (CSA) affiliated to the Prime Minister's Office; Delegation on Future Perspectives in the Senate.

their activities can involve both informal and formal horizon-scanning activities.

### *External body*

In the Netherlands, where no single centralised body deals with foresight, there are a number of external bodies/agencies that engage in undertaking and commissioning futures work, such as the Environmental Assessment Agency (PBL) and the National Institute for Public Health and Environment (RIVM). Other ad-hoc bodies exist, such as the Delta Committee.

In the United Kingdom, the Environment Agency and Natural England are external bodies (they are formally non-departmental public bodies, though funded by government) with their own foresight and horizon-scanning capacities, which feed into the sponsoring department (Defra), but have a degree of independence in their operational use of futures.

In Slovenia, the Bled Strategic Forum, which works on long-term thinking at national and European levels, has sponsored debates about long-term futures held in Bled, Slovenia, drawing thinkers from politics, industry and academia from all over Europe. The most recent was held in August 2010 to discuss some major challenges under the title 'The global outlook for the next decade'. Such external activities can help provide the impetus for developing further national capacity and studies where it is not already in existence.

External bodies with futures responsibilities appear to flourish where there are also internal bodies within government and as a substitute where futures thinking is still in its infancy within government.

<sup>(14)</sup> See, for example, the European Parliamentary Technology Assessment Network (<http://www.eptanetwork.org/>).

### 4.3.2 Process

#### *Routine stakeholder involvement*

The degree of consultation varies between countries, with Finland and Austria at one end of the scale with a high degree of participation and France on the other with comparatively little. Generally the foresight topics are determined through consultation with expert stakeholders. Germany does not generally have much stakeholder engagement in futures, but its Sustainable Development Strategy, which is the high-level strategy with a futures perspective, has extensive stakeholder consultation.

Stakeholder participation is widespread among most futures programmes across the Member States studied. This reflects good practice and in fact is being driven by policy needs, which reflects good policymaking practice anyway, reinforced by requirement of the UNECE Aarhus Convention, and the EU public participation Directive 2003/35/EC, for early and effective participation in environmental decision-making.

There appears still to be a strong emphasis on expert-driven futures processes even while at the same time making provision for considerable levels of stakeholder and (less commonly) public engagement. For example, studies in Finland, the Netherlands, Portugal, Sweden and the United Kingdom have combined expert analysis, including quantitative modelling, with stakeholder processes in developing scenarios (see box above)

However, in most cases the choice and number of stakeholders has been limited. This would seem to reflect the continuation of the traditional science-policy approach of communicating the results of analysis, rather than engaging the widest range of stakeholders — and their different types of knowledge — more effectively in the prioritisation of issues and analysis itself. Stakeholders are certainly involved in many futures studies, but they are often expert stakeholders rather than lay stakeholders with lay knowledge.

#### *Routine publication to the public*

A few initiatives have sought to gain wider input: for example, in both Poland (for energy policy to 2030) and Slovenia (for 'Vision Slovenia'), websites were used to solicit comments and inputs from the general public. The United Kingdom has effective dissemination and communication of foresight study findings to both stakeholders and the public, which has led to effective uptake into some policymaking

#### **Examples of country studies combining quantitative and qualitative long-term futures analysis**

- Towards a low-carbon Finland 2050 (Finland Foresight Report 2009).
- Tackling obesity: Future choices (UK Foresight, 2007).
- *Eururalis — the future of Europe's rural areas* (commissioned by the Netherlands Ministry of Agriculture, Nature and Food Quality, 2003 and ongoing).
- POLIS programme on urban environmental rehabilitation (Portugal, 2000).

(flooding and obesity studies). Finland, through its Committee for the Future, actively consults/ disseminates to regional and public stakeholders during the formulation of the government foresight study.

#### *Scenario-planning as part of policymaking*

A diversity of techniques was observed across the countries, including various forms and uses of scenarios. Examples of such scenario-planning include:

- the Austrian National Environment Plan (1994), which introduced the use of scenarios, forecasts and projections systematically in environmental policymaking in Austria;
- the UK *Future flooding* (2004) report;
- *Eururalis* in the Netherlands and across Europe (since 2003);
- development scenarios for Slovenia to 2035;
- France 2025 (future development scenarios).

#### *Thematic or sectoral*

Cross-sectoral studies appear to be more common in the environmental sphere, even in countries which undertake both types. This is hardly surprising given the multifaceted nature of environmental problems which demand an interdisciplinary perspective in looking at long-term futures issues. Even those studies that may appear to have a more

sectoral basis, such as water, rural environment, development or health, are in reality thematic. France 2025, for example — a strategic assessment of possible future development scenarios for the country — addressed issues as diverse as energy and climate change, mineral production, agriculture and biodiversity.

### *Horizon-scanning system in place*

Only a few countries have formally established horizon-scanning systems either centrally or within, for example, environmental agencies, e.g. the United Kingdom, Netherlands and Portugal. The UK's Foresight Horizon Scanning Centre was created in 2005 in response to an external review of government foresight activities, which recommended the establishment of horizon-scanning capacity. The centre had a rather unclear relationship to the main Foresight Programme until 2009 when it became more clearly identified as an integral part the Foresight Programme. Horizon scanning, since it relies on non-traditional sources of information, such as the Internet, blogs, newspapers, etc., may be regarded with some suspicion by policymakers and scientists more familiar with the use of peer-reviewed publications as the quality assurance mechanism for research findings. Horizon scanning can, however, provide the necessary capacity to identify early-warning signals and possible surprises, as well as operationally to help identify new technologies coming on to the market which may be beneficial for addressing environmental problems.

#### **4.3.3 Mechanisms**

##### *Formally independent body/degree of independence*

The independence of bodies carrying out futures work is also an important consideration. Here, there can be a trade-off between access and independence: for example, some countries, such as France, have set up futures bodies at high levels of government; this may limit their independence and their ability to propose innovative ideas and uncomfortable changes. In Sweden, although the institution responsible has extensive experience with environmental foresight/futures, its agenda is defined by the Environmental Quality Objectives. The areas it can focus on are therefore relatively constrained. In Finland the situation could be said to be similar, with the government deciding on the agenda for foresight over the term of government. However, the agenda changes following each government term; departments set their own foresight agenda over the four-year period.

In Austria foresight work is carried out within government departments, but also in the Environment Agency Austria, and with a strong history of participation by other organisations/stakeholders. Similarly in the United Kingdom, while central government undertakes major set-piece foresight studies, and supports smaller studies in government departments, environmental agencies such as the Environment Agency and Natural England do have a degree of independence at arm's length from government and have developed their own expertise and perspectives.

In Poland and Slovenia foresight is uncommon, and so the institutional capacity is underdeveloped, meaning that where studies do occur they usually involve organisations external to government, such as universities which may have a high degree of independence.

##### *Permanent or ad-hoc arrangements*

In general, the most effective bodies for futures studies have had a permanent role and structure within government. Some countries have created ad-hoc groups for specific studies: this is the case for the Delta Committee in the Netherlands; also existing agencies have worked together in different, ad-hoc combinations for individual studies. An ad-hoc arrangement can be a useful approach for a large, set-piece study; however, if futures work is not strongly embedded, the use of temporary mechanisms can weaken the follow-up to study results.

The case studies do not identify a clear advantage for informal versus formal networks of futures analysts within (and beyond) governments. Rather, what appears to be valuable is a network of working contacts across different government sectors. This can help to break down a 'compartmental' approach and also develop more innovative, interdisciplinary initiatives.

##### *Formal reporting requirements*

Those countries with a formalised obligation related to foresight studies are those which have incorporated the foresight process into policymaking to such an extent that the input is a prerequisite for policy/action. For example, in Finland a foresight study is used to set strategic government direction for the term of government. In Sweden, futures studies have been used to set the long-term targets for the country, and these targets have to be updated. In the Netherlands the requirement for futures outlook is provided

for in environmental law. In Finland, foresight is a cross-thematic requirement, but in Sweden and the Netherlands it is an environmental obligation.

### 4.4 Governance culture and political support

#### 4.4.1 *Governance culture and tradition of futures thinking*

From the analysis above on maturity of futures arrangements in the countries studied, those with the most mature systems tended to have either a strong participatory, consensus-building governance culture (Finland, Sweden, the Netherlands) or a strong external advocacy tradition, as well as strong centralised government and policymaking (the United Kingdom). A strong tradition of academic foresight is shared between France and Portugal, but a relatively low level — at least until most recently — of embedding this thinking in policymaking. Both countries also share a strongly centralised governance culture. Countries such as Hungary, Poland and Slovenia were considered to have nascent futures arrangements and all share a post-Soviet history and strong scientific traditions, and where a distrust of long-term planning processes still exists.

A long-standing tradition of futures thinking does not in itself facilitate the embedding of futures thinking in policymaking. The nature of that tradition makes a real difference as to whether it is relevant and tailored to policymaking. While France, for example, has probably the longest tradition of futures thinking through *La Prospective* — this has been largely academically focused and therefore not very easily utilised in policymaking. Until very recently, futures work in the French government looked more at identifying agenda issues rather than influencing policy. While agenda setting is a key aspect of policymaking, particularly where new policy is needed, it does not necessarily support the ongoing appraisal of policy options, and especially if it is not taking place within or at the demand of government itself.

In the United Kingdom the large futures studies are very much geared to policy relevance, the prioritisation process and resource allocation of major foresight studies dependent upon ministerial and departmental sponsorship. That does not mean that all the major foresight studies in the United Kingdom have had a strong degree of influence on policymaking. Events can change, as can ministers and officials, and the long time scale of up to two

years for a major study can make it sensitive to changing priorities.

Not surprisingly, therefore, for futures thinking to be embedded in policymaking the futures thinking itself needs to be responsive to policymakers' needs — to be 'policy-led' futures thinking if it is to support concrete policy formulation. There is, however, a real risk in this approach, in that the only significant futures work that gets undertaken is where there is political will to see it happen. A further risk is that futures work will be less innovative. These risks may mean that some very necessary, but politically uncomfortable, futures work might never see the light of day, or be obfuscated and potential surprises overlooked. However, if the objective is issue raising then futures work can come uninvited from outside government and potentially could have a significant impact if it is picked up by government, for example because it chimes with other political priorities.

#### 4.4.2 *Interdisciplinarity and interdisciplinary approaches*

The increasing importance of interdisciplinarity and interdisciplinary approaches can be observed among the many environment-related futures studies considered. There is a strong necessity for such approaches, and therefore a certain inevitability that these will increase in their application to futures studies. However, this can be hampered by a lack of capacity and expertise, for example the relatively low number of social scientists (or those with a strong interdisciplinary background) in many government departments associated with the environment, to provide the necessary social perspectives on environmental problems alongside the natural scientists and economists that are likely to be already well integrated into policymaking processes.

#### 4.4.3 *Evidence versus strategy*

Within broad governance culture within a country there may also be different cultural perspectives in different ministries or agencies to futures work, i.e. the way in which futures work is seen as informing their own objectives internally. This may reflect also different disciplinary or interdisciplinary perspectives of the organisations concerned. This issue has already been identified in relation to where central government bodies are located (and their character) and the extent to which parliaments have addressed futures issues through formal arrangements.

It is apparent that in a few countries at least futures are used to develop or contribute to the evidence base upon which policies are built (and often strongly associated therefore with 'science' and scientific ministries), but they are also used to identify potential strategic priorities and ensure that strategies developed have a view to the long term. The distinction between evidence and strategy is not absolute but, based on the individual country reports, it does appear that futures work is generally used for two sometimes distinct purposes, and that the requirements of each purpose may dictate (to a certain extent) the futures methodologies employed. In the United Kingdom, for example, Natural England uses futures to inform the strategic priorities for the organisation, using qualitative scenarios developed via an iterative process. In contrast, futures work is located in the evidence section of Defra (similarly in the Environment Agency), and Defra (in its currently ongoing national ecosystem assessment) has started to move away from the use of qualitative scenarios and begun to employ a more quantitative morphological approach — extrapolating from existing data to create quantitative scenarios of possible futures. A similar distinction can be seen in Portugal, and such a distinction might be considered to exist where futures are located in or close to prime ministers' offices, such as in Finland and France where futures work is seen as having a role in supporting long-term strategy.

Generally it would seem that those countries with extensive experience of using futures apply it to both evidence and strategy making, and countries with less experience usually limit it to one or the other application. However, this may reflect wider cultural perspectives on the role of science in policymaking, for example, or the need for quantification for economic valuation (for example of ecosystem services). As discussed in Chapter 1, futures work can sit uncomfortably in 'evidence' as part of evidence-based policymaking. The recent UK experience of the move towards a more quantitative scenario modelling approach in some quarters perhaps reflects a desire for more robust 'evidence' from futures work. This raises some potential risks, however, such as believing that quantitative scenario modelling work is actually more robust than it can be (given underlying assumptions), or that a continued desire for ever-better evidence is likely to militate against policy action. However, a strong use of futures thinking would likely employ a range of approaches — qualitative, quantitative, combined and other. This area would be particularly useful to explore further through in-depth research.

#### 4.4.4 *Political support and policy needs*

A further and possibly more significant element that can shape the approach to futures thinking is the specific need in the policy sector. This is seen most strongly in the Netherlands, where climate change and sea-level rise pose strong risks for the country. In Poland, ministers perceived the need to develop a more coherent long-term policy, and they have reformed government bodies to provide this, overcoming the rejection of futures work that came as a reaction to central planning. In Slovenia, another former socialist economy, this long-term policy need does not appear to have been seen as strongly. Every country is facing strong risks in terms of environmental futures, although the degree of risk varies (the Netherlands, for example, is simply very low lying and at high risk from sea-level rise). However, there is also a difference between the Netherlands and, for example, Germany in their approaches to addressing such future risks. The risks that the United Kingdom is facing are not so different from those of Germany — but the United Kingdom has a strongly developed foresight system in place, compared with Germany. These differences probably have much more to do with administrative culture and their related approaches towards risk perception and governance.

Governments can also be influenced by work in other countries. In general, the case studies show a growth in futures analysis across the countries studied. This is probably due to a growing need to address long-term policy issues, and possibly also to a cross-country diffusion of the idea of government futures analysis and of the techniques for this. The French parliament, for example, looked at the Finnish example when it set up its futures arrangements and Hungary looked at the UK Foresight Programme in setting up its own Technology Foresight Programme. In all four countries with nascent futures systems — Hungary, Poland, Slovenia, Spain — technology foresight work has been prominent. This area of futures thinking is advanced in many countries and is also strongly supported in the EU through the exchange of information and techniques, for example via the European Foresight Monitoring Network (EFMN). In almost all, the research community has strong international links, and these have probably speeded the diffusion of technology foresight approaches.

One important criterion for embedding futures work in policymaking is a government policy calling for the use of futures studies. This has been an important catalyst in Austria (specifically for

the environment) and in France and the United Kingdom (across policy areas). Germany and Sweden, on the other hand, have a different type of policy document encouraging futures work: a long-term environmental or sustainability policy with quantitative targets. Nonetheless, in Sweden, the growth of futures thinking across government has also appeared to be the result of an 'organic' process. This has also been the case in the Netherlands. In both countries, the policy need has been strong; both also have a low 'power distance' — i.e. a recognition of relatively equal distribution of power between the weak and strong members of society, a factor that could encourage exchange and learning across government bodies.

Finally, bodies working on forward-looking studies can seek to communicate the value of their work and to raise awareness, inside and outside government, of the need for a futures perspective.

#### *4.4.5 Follow-up*

The use of follow-up and feedback to futures studies seems to support the successful implementation of futures thinking in policymaking. Examples of follow-up can be seen in Finland, which includes reporting to regional government and citizens;

in the United Kingdom where follow-up of foresight reports is integrated with the sponsoring department and a follow-up report after one year, often with the relevant staff seconded or employed from the futures study to the relevant department; and in Sweden where the Environmental Quality Objectives that are embedded in all government departments require monitoring and reporting on progress. At the Department for Environment, Food and Rural Affairs (Defra) in the United Kingdom, for example, follow-up is part of the normal policy cycle into which futures thinking has now been integrated, and in the Netherlands, the Environmental Balances and Outlooks provide input for the National Environmental Plan.

In Slovenia and Poland, it is notable that the case studies highlighted a reluctance to develop futures thinking as a result of the legacy of central planning. In Slovenia, consultants from other countries have brought in scenario expertise and, while the results are positive for individual studies, overall futures work has not had a strong follow-up in terms of policy in the particular case examined ('Development scenarios for Slovenia to 2035') (although it should be noted that this is only one case study, and it is therefore not possible to use it to draw clear conclusions more generally).

## 5 Conclusions

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### 5.1 Success factors

What emerge as key success factors in embedding futures thinking in government environmental policymaking? And what might be the reasons for success (or not) in particular circumstances? Success in the context of this research has been defined by the participants in the high-level interviews undertaken in the countries analysed, and by the SWOT analyses, rather than by a set of measurable criteria (which would have been outside the scope of the research). As such, therefore, the success factors identified are those that emerge commonly or consistently or across more than one country (a success factor may come from only one country if it is observed consistently across a number of examples or projects).

**Policy demand and political support** would appear to be overwhelmingly the most significant factors that ensure futures thinking becomes properly embedded in environmental policymaking. This may be linked to the setting of obligations to undertake such futures work, for example in legislation or administrative provisions, or through the creation of in-house demand and capacity to address perceived need, for example in the Netherlands where climate change could have a major impact on a low-lying country.

The two functions of futures analysis — long-term thinking/issue raising, and incorporating long-term analysis into policy appraisal — present a challenge to governments as to how to make effective provision for both, and whether this can be done effectively under one roof, such as a central body, or whether it needs to be more diffuse. There would appear to be a multitude of combinations that can be successful, from the case studies examined. However, there would also appear to be an important role for a central body of some sort to create the impetus and drive, and wider awareness, for particular policy change through championing futures/foresight activity, but which also has the power to create buy-in by government and ministers. This may particularly facilitate the issue-raising function of futures work, for example

through the big set-piece futures studies, which identify the need to underpin major policy change (these appear to be important throughout the case study countries, including, for example, Foresight reports in the United Kingdom and the Delta Committee's work in the Netherlands). On the other hand, these types of activities risk retaining capacity within an expert, specialist function of government unless similar capacity also exists within government departments and other agencies to undertake futures work as part of day-to-day policymaking and implementation.

**Parliament** is clearly able to have a role to play in long-term futures analysis, although the parliamentary cycle can be a hindrance to long-term thinking. The lack of parliamentary involvement is not necessarily a barrier to embedding futures thinking in policymaking, or conversely necessary as a success factor. However, parliamentary involvement may be important for facilitating democratic engagement in long-term environmental policymaking and facilitate a shift of futures work beyond a largely expert — and expert stakeholder — driven process. Even where extensive stakeholder engagement occurs, the tendency is for this to be with special interest stakeholder groups and within these groups' 'experts' in the field. A formal role for parliament in debating long-term issues, such as the Committee for the Future in Finland, or the delegation in the French Senate, opens the process up to democratically elected representatives, and in the case of Finland the committee has an important role in communicating the government's foresight report to the regions, through regional events. In Finland this can work effectively because it has a small population and is a highly participative society. It will be interesting to see how the newly established parliamentary role on futures for the French Senate works in practice in a much larger country with a much more centralised governance culture. A formal role for parliament in long-term futures challenges directly the traditional scientific/technocratic approach to policymaking, and indeed 'evidence-based' policymaking, and requires an openness to new forms of 'evidence' about the future.

Policymaking can successfully embed futures thinking without parliamentary involvement, for example as a requirement within policymaking to consider the long term and so create demand for futures thinking. But in such circumstances it may remain 'in house' unless there is also a requirement for extensive participation with external stakeholders and the public. Where parliament does not have a formal role it may still be able to engage in futures issues through its own scrutiny function of holding government departments/ministries to account for their policy actions. This is likely to necessitate some capacity building among parliamentarians around the importance and usefulness of futures thinking, which certainly appears to be delivered through a formal role for parliament, where members become engaged in the process and build capacity in futures thinking (as in Finland), but could also be facilitated in the absence of such a formal role by an increasing role for parliamentary technology assessment offices in providing briefing material on major futures issues to parliamentarians.

**Institutionally**, from the countries studied there do not appear to be any examples where an external body has had a stronger influence on policy, compared with internal bodies. Rather, the choice seems to be between a body or bodies embedded centrally (e.g. France, Poland, the United Kingdom) or the diffuse approach of the Netherlands. And this appears to be more a question of administrative culture, for example paternalistic or participative culture; the degree to which 'expert' institutions outside government might be more or less respected and have influence than government departments or agencies; the role of parliamentary oversight, if any; and the nature of the issues under consideration.

Broad **participation** is an important factor for the success of studies, even those whose work is analytical and expert-focused, because this increases the opportunity for such studies to be held to account and to provide a degree of legitimacy where extensive and effective participation occurs. This includes ensuring the participation of a broad range of government offices. Stakeholder engagement is also crucial to establishing familiarity and understanding of futures work and building networks and capacity. On many environmental issues, especially as they often raise issues of contention, it is likely to be necessary to engage more widely with the public as well as with stakeholders, to increase the accountability of the process by providing better opportunities for the public to participate early and effectively in

major policy decisions (in line with the Aarhus Convention). This becomes particularly important in the absence of any formal role for parliament, where some democratic accountability can be exercised. In addition, good **communication** (within government and externally) of **high-quality** studies are both seen as important factors in providing credibility to long-term studies and therefore influence in policymaking. The **timeliness** and **relevance** of a study will also determine whether it is taken up by policymakers or effectively ignored.

The success of any forward-looking programme is likely to be highly dependent on the appropriate **skills and capacity** of staff to deliver it, and particularly the existence of 'champions' (or 'ambassadors') who are senior enough in government to promote and influence the inclusion of futures studies in policymaking. These may be champions in individual departments or centrally, but they will need to be supported by administrative/institutional/governance structures to enable and facilitate the influence of futures thinking on policymaking. This may be by creating the requirement for policy to take a long-term view, which in turn can create the demand for futures thinking. Structures and measures to enable cross-departmental exchange of experience and skills are needed, for example through networks or a central body to encourage collaborative working among agencies/departments; this might include agreeing specific memoranda of understanding.

## 5.2 Barriers to success

A major barrier, alluded to above, is the fundamental challenge for futures thinking within the science-policy debate and the dominant focus of government administration on **electoral, legislative and budgetary cycles**, which emphasises short-termism over long-term thinking. Policymaking and policy management is dominated by the focus on the legislative cycle, and the policy cycle traditionally provides a clearer mandate to analyse and review past and current developments around a policy, rather than to think extensively about long-term futures issues. Futures thinking is more about a process of looking for signs of change and responding by adjusting policies and management models, rather than following a more traditional linear model of receiving evidence and acting on it. There is, therefore, a need for significant behaviour change by politicians and scientists, and particularly a need for capacity building among politicians in order to be sufficiently well versed in futures thinking to be able to handle the



outcomes from such exercises. One of the important consequences of the Parliamentary Committee for the Future in Finland, for example, would appear to be the fact that senior politicians, including the former Prime Minister, have become well versed in futures thinking through membership of that committee.

Other barriers may be the converse of the success factors identified above: the **lack of political support or policy demand** in particular, or poor stakeholder engagement and communication, for example. However, the lack of parliamentary involvement, as has been noted, is not a barrier in itself to successful embedding of futures thinking in policymaking. The presence of a formal role for parliament in futures thinking is unusual among the countries studied, but there is extensive evidence of futures work being used in policymaking.

Some barriers to futures thinking may reflect common problems inherent to **public sector management**. Some civil service cultures face a lack of continuity of staff ('institutional memory'), as staff are rotated rapidly among departments as part of the normal career promotion pathway. One consequence of this is that just as someone acquires a particular level of expertise they are moved to a new position and that expertise effectively is lost from that programme. On the other hand, this may bring varied perspectives and institutional links to other units working on forward-looking analysis. Moreover, where civil service cultures lack rotation, ministries and offices can develop entrenched agendas: forward-looking analysis and innovative thinking could threaten such agendas.

**Departmental upheaval** through changes in responsibility and restructuring presents a common problem for futures thinking in many Member States. Changes in departmental responsibility or location of a central futures body can fragment futures work or disrupt continuity, which can in turn be exacerbated by a high turnover of staff (often engendered by constant reorganisation). This is far from unique to futures thinking, but where futures expertise resides — as it often does in less mature systems — in only a few individuals, this can create real problems of delivery in terms of influencing policymaking. This emphasises why capacity building and knowledge brokerage of futures thinking and skills across policymakers is so important to minimise the reliance on a few individuals.

For futures thinking to succeed in influencing policy there is a need for policymaking to have sufficient

**responsiveness** to issues and events. A highly centralised approach involving large studies over a long period of time may be unwieldy and make it difficult to respond quickly to changing priorities. A two-year timescale for a study, for example, may mean in practice only a small window of opportunity between electoral cycles for large studies to be prioritised and delivered. This might suggest the need to embed futures thinking more effectively at the technical level and then to work on the communication of futures thinking to the political and public level. On the other hand, the Finnish example places the emphasis at the other end, on the benefits of building capacity among politicians for understanding futures thinking while not yet having fully embedded such thinking in regular policymaking.

Whereas broad participation on the part of government offices and stakeholders is seen as one of the keys to success, the case studies underline the need to strengthen inter-departmental initiatives in government and break down '**compartmentalised**' cultures. Further steps in this direction are seen as necessary even in countries such as the Netherlands, which has gone further than others in bringing together ministries and agencies to work on joint futures initiatives. There is a case for engaging policymakers and specialists together in initiatives such as guidance, events, policy master classes and training programmes. This would encourage better policymaking by developing a shared understanding of the issues and the role of horizon scanning and futures techniques.

Government institutional issues tend to dominate the common opportunities and threats identified across the countries to effective futures thinking. Positive opportunities for futures thinking can be seen in the development of strong networks of futures thinking across government, counteracting the common threat of departmental rivalries. But departmental rivalries and poor communication across departments of government cannot be underestimated as posing particular threats to effective embedding of futures thinking in policymaking, and these can in turn lead to poor levels of political support at the centre of government. Frequent reorganisation and restructuring of departmental bodies responsible for futures thinking can be highly disruptive and erode institutional memory and capacity to use futures thinking in policymaking.

On the other hand, placing the responsibility for futures thinking firmly at the heart of government, for example in the prime minister's office or in a

large (and politically strong) department, can create a significant difference to the opportunities for embedding such approaches in future policymaking.

### 5.3 Final reflections

From the experience observed among the Member States studied it would appear that quite different cultural approaches can still deliver successful futures thinking that influences policymaking. These different cultural patterns appear, however, to have influenced the evolution of futures work in different countries.

In Sweden, for example, futures work is decentralised among the many government agencies — though participative approaches ensure good communication among different government bodies. This appears closely consistent with that country's non-hierarchical and participative governance culture. In France, a more centralised governance culture has tended towards a more top-down, expert-led approach to futures work. The French case in particular suggests that a central body — and, more generally, a central call for futures analysis — is particularly important in countries with a high 'power distance'.

In practice, however, many countries operate a combination of approaches. Moreover, governance approaches can change. France has recently put a much greater emphasis on environment, sustainable development and participation (though this change was decided at the top).

The frameworks for governance culture highlighted several factors mentioned here. The case studies bring to light one other possible factor: the preference for theoretical versus pragmatic approaches in academic and government thinking. This might be seen in the comparison between the futures tradition in the United Kingdom and in France. In the latter, until recently futures studies focused on a more academic and theoretical, exploratory approach rather than a close link with policy.

Overall, both the top-down and the bottom-up approaches can deliver futures thinking into policymaking. The big set-piece policy change will often require big set-piece futures/foresight work to underpin it, by providing evidence that makes change unavoidable in light of what might happen in the future. Even these large set-piece studies still need a convergence of other factors to be successful in influencing policy; the successful examples have

succeeded not so much because of the new *evidence* they provided, but the way in which the processes brought together and galvanised knowledge on the subject, took it into the heart of government and made it relevant. Governments with an administrative culture of futures thinking may be more receptive without the set-piece process. They may, for example, be more familiar with the use of scenarios as techniques that can bring together different types of knowledge and act as platforms for knowledge brokerage. Others, however, may need overwhelming convergence of evidence, politics and economic costs before action becomes the only option. This may be an unduly pessimistic or 'catastrophic' view of policymaking. It appears, however, in relation to futures thinking and environmental policy, to be rather common in practice.

However, not all policy can be made through high-profile action, and on a day-to-day basis there is still a need to build futures thinking into policymaking — especially environmental policymaking — if such policy is to be properly responsive and indeed proactive with respect to external driving forces and trends.

Futures thinking, then, may have more or less influence depending on how it is used in government, for example as 'evidence' or in support of 'strategy', which in turn may dictate the methodological approaches adopted. Both how it is used and the methodology adopted may reflect wider cultural attitudes to policymaking and may also be influenced by the preferences or prejudices of key officials or ministers, for example for or against a scientific quantitative approach or a participatory qualitative approach. Futures thinking can, of course, be used equally for evidence building or for strategy development, but the policy responses may differ. Futures use in strategy development may offer a wider range of plausible future options to choose from, whereas a more quantitative approach in evidence building may be constrained by what can be modelled, rather than by the imagination.

This study has made a first effort at taking forward the need for empirical studies into the evidence for effective embedding of futures thinking in policymaking. It has succeeded in identifying a range of institutional and governance arrangements for achieving influence on policymaking for futures thinking. While expanding on the analysis included in the BLOSSOM 2.0 project, it remains, however, a snapshot sample of 12 Member States — and the studies examined — and it is therefore difficult to draw lessons that would be widely applicable

across all Member States. The reality is that different countries have different administrative cultures that can help promote or obstruct effective futures thinking in environmental policymaking. Two drivers for change, however, may gradually erode these differences.

- The first is greater EU integration and the greater exchange of knowledge and approaches to policymaking across the Member States.
- The second is more a set of environmental change drivers — climate change obviously being to the fore, but other drivers such as biodiversity loss, waste and pollution, consumption, etc.

The first driver of integration is likely to create a greater exchange of knowledge and understanding of futures techniques, alongside the development of skills and capacities among the Member States. The second driver (or set of drivers) creates the policy demand recognised in this study as being so essential for futures thinking to have real effect in influencing policy. Given the current elevated status of climate change on the international agenda this, in turn, could generate the political support needed for futures thinking to become more effectively embedded in policymaking. The hope must be, if it can happen with climate change, that capacity and awareness can eventually filter out into other areas of environmental policy. Evidence from some studies (e.g. Austria), however, indicates that the current economic climate in Europe may be pushing some environmental issues, and thus environmental policy, down the political (and public) agenda.

On the other hand, long-term EU policy goals that recently have been set in areas such as climate change and biodiversity protection provide the opportunity for a strong role for forward-looking analysis. In Germany and Slovenia, for example, climate change has been a key area for this type of analysis. Thus, the two drivers set out above may in coming years become a strong, single driver.

### 5.3.1 Recommendations for action

However, rather than rely on a trickle-down effect, there are active efforts governments can make to improve the integration of futures thinking into policymaking. These actions should include:

- capacity building — developing and building the necessary skills for futures thinking among:
  - policymakers; and
  - politicians;
- knowledge brokerage through networks;

- futures 'champions' within government departments;
- formal networks across government departments; and
- informal networks across and beyond government (e.g. EU networks and sharing of information on forward-looking studies);
- coordination of futures work through networks across government:
  - to avoid duplication, but without impinging on departmental territory;
  - to facilitate cross-sectoral (thematic) studies where these are needed;
- institutional arrangements that create policy demand:
  - formalised requirements for futures thinking in policymaking;
  - building futures thinking into long-term strategy development of organisations/agencies and government departments;
  - formalised reporting requirements on government;
  - parliamentary role for futures thinking, to help build political capacity and accountability;
- techniques for prioritising futures studies:
  - systematic horizon scanning top-down and bottom-up to inform and create awareness and shared through networks (not just responsive to requests);
  - stakeholder, public and parliamentary engagement in the prioritisation process for major studies to create awareness and understanding as well as direct input;
- clarity on the distinction between policy-relevant futures work and more blue-skies academic futures work:
  - the former responding to policy demand;
  - the latter pushing the boundaries and development of tools, techniques and approaches;
- the need for sufficient resources to build capacity, networks and institutional arrangements;
- increasing participation, including the broad public: new technologies and innovative methods could be used to bring in a wider and more diverse range of opinions and ideas, as well as to disseminate study results and their implications.

A further recommendation is that governments in Europe and beyond should go further in exchanging information on their approaches for using futures thinking in policymaking. Some networks already exist, for example the European Foresight Monitoring Network (EFMN), which focuses especially on technology foresight. A network on futures thinking in environmental

policy could help national governments strengthen their work. Such a network could also look at the lessons of international initiatives, such as studies carried out by the EEA, the European Commission, the Organisation for Economic Cooperation and Development (OECD) and the United Nations Environment Programme (UNEP) and at ways of linking national and international efforts.

One final message arising from the research is that the social, cultural and political history and make-up of a Member State may have influence on the type and role of futures thinking in decision-making and policy development and that this in turn may have an impact on the type and focus of actions required to increase the uptake and use of futures thinking in environmental policy development. Understanding political and cultural history and developing systems and structures accordingly may increase the likelihood of successfully encouraging the uptake and further use of futures thinking in a particular Member State.

### 5.3.2 Recommendations for further research

There are a number of areas where further research would be beneficial.

- Further research in relation to other Member States: There have been inevitable limitations of this project focusing on 12 countries and a wider range of countries would allow a better understanding of the degrees of commonality and difference among the EU Member States.
  - This study provides a template for other Member States to undertake their own similar study of institutional and governance arrangements for embedding futures analysis in environmental policymaking. The templates used for information gathering in the country reports (included as appendices to those reports) and the case study interview protocol attached as Appendix 1 to this report provide the basis for undertaking such a study. These could then be used to supplement the studies from this report, once uploaded to the online Knowledge Base for Forward Looking Information and Assessment (FLIS) being developed by the EEA.
- Alongside the wider range of countries, there is also a need for more in-depth research on the institutional and governance arrangements in particular Member States and/or taking a particular model and exploring it in much more depth, at a level of detail that was not possible with only a few interviewees per country.
  - This, for example, might include following through specific studies or processes — for example centralised large set-piece studies and specific policy processes where futures have been embedded within a particular government department/agency.
- It would also be useful to look at the next step in the chain: while this study has focused on institutional and other mechanisms that help to embed futures thinking in policymaking, it would be useful to look next at the policies that have been developed using inputs from futures analysis. In what ways, for example, have these been different? What barriers remain in terms of addressing long-term risks and uncertainties in policymaking?
  - One problem seen in both the Netherlands and Sweden is that national governments have set ambitious, long-term environmental targets, based in part on futures analysis — and both countries have recently acknowledged that the targets will not be met. Falling short of objectives is a potential problem across all policy areas. However, it would be useful to understand the problems that arise in the area of environment, especially as the national governments, the EU and potentially countries around the world are now identifying and setting difficult, long-term targets for climate change.
- A further area has emerged from this project as a potential area for further research and that is the distinction between the use of futures work as 'evidence' or for 'strategy'. These may be somewhat artificially constructed distinctions (reflecting the cultural, political or administrative perspectives), but it offers an interesting area for more in-depth research into the relative effectiveness of futures work when used explicitly for one or the other purpose, i.e. as 'evidence' in policymaking or for testing the resilience of organisational strategy in the future.

Finally, as this study takes place within the broader policy framework of promoting and using futures thinking in particular to strengthen environmental analysis and environmental protection, future research would be most effective if it is carried out as part of an informal mechanism for the exchange of information among EEA countries and possibly also with EU institutions and international organisations. Such a mechanism or forum could help link research to the analytical needs of officials commissioning futures studies, carrying them out or using them in policy discussions.

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# Appendix 1

## — Case study country interview protocol

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Key questions/topics to be explored with case study interviewees include:

Broad themes to send to interviewees in advance:

1. Your involvement in futures thinking, nature and scope of the programme
2. Resources, staffing involved
3. Relationship of futures programme with other such programmes
4. Nature of engagement with stakeholders
5. Relationship of programme with policymaking
6. Relative balance between quantitative versus qualitative approaches
7. Success factors and barriers to success of futures thinking in influencing policymaking

List of questions [not sent in advance]

### Introduction/warm-up

- 1(a) Introduction to BLOSSOM and purpose of the interview
- 1(b) Interviewee's involvement in or relationship to the programme and responsibilities

### Main part of interview

- 2(a). Resources for the programme/specific study and key dates (including reorganisations)
- 2(b). Who requests/commissions this work with the organisation?
- 2(c). Any legal duty to undertake such futures work?
- 3(a). Scope of the programme/study, both geographical and temporal
- 3(b). Is the programme/study used to provide a strategic basis or to inform specific issues?
4. Relationship between this programme (where relevant to interviewee) and other programmes (e.g. between department/ministry and central or other agencies)?

- 5(a). Nature and extent of engagement with stakeholders
- 5(b). Internal/external members for example on working groups?
- 5(c). Consultation mechanisms internally/externally?
- 5(d). Communication mechanisms internally/externally?
6. What is the relationship between foresight institutional/organisational structures and the policymaking institutional/organisational structures (within an agency if appropriate, and outside, e.g. with government, or across government departments)?
- 7(a). What is the relative balance in the programme between qualitative versus quantitative approaches/studies — extent to which this affects the influence on policy?
- 7(b) Is futures thinking used as a technical tool ('technocratic') and more internally, or more as a participative tool and perhaps external facing?
8. What is the nature of the sectoral/policy community concerned (i.e. are there sector-specific characteristics that lend themselves to futures thinking or effective use of such approaches)?

### Conclusion/reflection

9. Reflecting on futures thinking in [Member State] generally and the programme/organisation specifically, please give your assessment of how the arrangements work: what works, what doesn't work, etc. What were any success factors you can identify (and measures of success; how to know if it is successful?) and/or any barriers to success in your experience?

# Appendix 2 — BLOSSOM poster presented at IAIA'10 in Geneva, Switzerland, April 2010

## Embedding futures thinking in environmental policy making

Bridging Long-term Scenario and Strategy analysis - Organisation and Methods (BLOSSOM)  
Preliminary results from an ongoing research project of the European Environment Agency (2009-2010)\*

EEA Project Manager: Axel Volkeny  
Investigators: William Smeate, Eoghan Daly (Collingwood Environmental Planning, UK), Tony Zamparutti (Milieu Ltd, Belgium)

**1** **Aim**  
To understand how futures thinking is embedded into environmental policy-making and how it can be further improved

- > What institutional and governance arrangements, and
- > What organisations and structures exist, and how effective are they?

**2** **Why is this important?**  
Long-term analysis has long informed policies, but this research focuses on new structures that break with single forecast models, which miss the complexity and uncertainty in future developments.

- > New approaches are needed to explore alternative futures along with different institutional arrangements to complement them.

**3** **Science-Policy challenges for futures studies**

**The nature of the issues**

- > uncertainty and complexity

**The nature of the policy processes**

- > Evidence-based policy making – are futures studies evidence?
- > Futures studies and policy making timescales differ;
- > Political (policy) process is messy.

**4** **Analysis**  
Detailed case studies were compiled and informed by interviews with senior officials in Member States. SWOT-tailored diagrams combine fishbone (Ishikawa) diagrams with SWOT analysis to provide a visual and concise summary analysis for each country (see left). Clearly there is no 'one-size-fits-all' solution; context and path-dependency matters.

**5** **Approaches for embedding futures thinking**

**Institutions**

- > Central body for futures thinking or diffuse across departments
- > Internal or external advisory bodies
- > Formal or informal networks
- > Role of parliament/influential bodies
- > Main body of formal futures work

**Processes**

- > Provision of ad hoc arrangements
- > Degree of independence of futures/high bodies
- > Formal or informal reporting

**Practices**

- > Stakeholder request facilitates work
- > Use of specific futures techniques, e.g. scenarios, horizon-scanning
- > Use of specific futures techniques, e.g. scenarios, horizon-scanning

In addition, at least two external factors are crucial for embedding futures thinking:

- > Level of political support
- > National administrative culture

**6** **Success factors**

**Need for policy-led futures thinking**

- > Policy demand
- > Political champions
- > Risk to innovation, surprises
- > High quality of studies – buy-in
- > Timeliness

**Follow-up critical**

- > Stateholder engagement
- > Stateholder skills and awareness
- > Various reasons, but often restricted for
- > Potential role for Parliament

Only Finland really provides this so far

**6** **Barriers**

- > Long-standing tradition does not in itself facilitate the embedding of futures thinking into policy making
- > Departmental upheaval and reorganisation
- > Departmental silo mentality
- > Lack of futures skills and awareness amongst officials and politicians
- > Limited time and resources, and miss their window of opportunity
- > If not policy driven then unlikely to influence policy
- > Cultural barriers (administrative traditions)

**7** **Next Steps**

BLOSSOM 3.0 (now underway during 2010) involves a further four country case studies in addition to the original eight Member States: Austria, Germany, Hungary and Portugal. The original case studies are being updated and a revised final report will follow a workshop in the autumn of 2010.

**blossom**

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**Contact:** Axel Volkeny, EEA, Unit: Scenario and Strategy Analysis, P.O. Box 12, DK-1201 Copenhagen K, Denmark  
Tel: +45 33 36 70 00 Fax: +45 33 36 70 01  
E-mail: [axel.volkeny@eea.europa.eu](mailto:axel.volkeny@eea.europa.eu)

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European Environment Agency  
Kongens Nytorv 6  
1050 Copenhagen K  
Denmark

Tel.: +45 33 36 71 00  
Fax: +45 33 36 71 99

Web: [eea.europa.eu](http://eea.europa.eu)  
Enquiries: [eea.europa.eu/enquiries](http://eea.europa.eu/enquiries)

