Annex 7 — Poland country case study

BLOSSOM: Support to analysis for long-term governance and institutional arrangements

European Environment Agency

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

Acronyms

BLOSSOM	**B**ridging **LO**ng-term **S**cenarios and **S**trategic analysis — **O**rganisation and **M**ethods
CPM	Chancellery of the Prime Minister
EEA	European Environmental Agency
EU	European Union
MRD	Ministry of Regional Development
NDS	National Development Strategy
NFP	National Foresight Programme
SDS	Sustainable Development Strategy

1 Introduction

1.1 Introduction

This report sets out the current status of the main institutional and governance arrangements for futures thinking in Poland with respect to environmental — and environment-related — policymaking. It is an update of the case study report completed under the previous Blossom project in October 2009 and is based on a review of changes in documentation and other available resources, and a set of interviews with high-level officials and experts in relevant government departments, agencies and institutions. The aim has been to understand how futures thinking is undertaken in Poland, the relationships between different futures programmes, and how these relate to, and influence, environmental policymaking. The report particularly tries to identify the success factors in ensuring futures thinking is embedded in environmental policymaking; however, barriers to success are also identified. It does not seek to explore the whole range of futures work, only those aspects of most relevance to environmental policymaking, and is focused on the institutional and governance structures, not the details of the futures studies or the quality of those studies. Further detail can be found in the Appendices.

In 2009 the previous version of this report, along with similar reports for seven other EU Member States, formed the basis for further cross-country analysis to identify common themes and issues in institutional and governance arrangements, as well as distinctive aspects of different cultural and administrative traditions and approaches to futures thinking. This updated report has been used to present a revised cross-country analysis, which has also drawn upon new case studies in four additional countries: Germany, Hungary, Austria and Portugal.

An important caveat needs to be made: governmental futures thinking in its current format has only recently been established and is only starting to form within a clear and organised structure that lends itself to a targeted institutional evaluation perspective.

This study presents the results of a first attempt to synthesise and evaluate current practices within a context of limited time and resources: it is meant to shed light on important developments and to stimulate discussion, but it is not meant to be understood as a comprehensive and concluding assessment. The same is true for the analysis of the impacts of futures thinking on decision-making.

2 The landscape for long-term thinking and governance in Poland

Since the collapse of the communist system in 1989, Poland has moved from a centrally planned economy and highly centralised government to a parliamentary democracy with a market-oriented economy. From the start of Poland's political transition, strategic issues have been neglected or treated on a purely formal basis, while strategic studies and long-term planning has been marginalised. To a large extent, this was a result of the public and political animosity to the central planning approach that was followed until 1989. This situation is changing today.

Poland's government today is based on the separation of, and balance between, the legislative, executive and judicial powers. 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.

The Republic of Poland (Poland) is a unitary state, though the Polish Constitution of 2 April 1997 decentralises public power, transferring many political, fiscal and administrative tasks to sub-national levels of government. The territory of Poland is divided into 16 *voivodeships*, 315 provinces, 65 urban provinces (cities with province status) and 2 478 communes *(gmina)*. Their autonomy varies: the main executive power in each voivodeships is a representative of the Council of Ministers.

First attempts to address long-term issues were made in the 1990s. In 1994, the Council for Social and Economic Strategy was formed: this independent advisory and opinion-giving body at the Council of Ministries for economic policy had experts (scientists) in economics, sociology, management and law, including representatives of academic centres. It prepared about 50 reports related to main strategic problems of socio-economic development, its opinions, recommendations and papers were directed not only to government but also disseminated to the public. In 1996, the Government Centre for Strategic Studies ([1]), under the Council of Ministries and prime minister, was created for strategic programming, economic forecasting and land-use planning. Notably, it produced two long-term strategic documents: *Concept of National Spatial Development* and, in cooperation with the Ministry of Environment, *Poland 2025 — Long-term strategy for sustainable development*, both approved by the Council of Ministers. However, both of these institutions were dissolved in 2006, on the basis of a government-wide programme for the reorganisation of the public administration. The competences of the Centre were split between the Chancellery of the Prime Minister and the Minister for Regional Development Affairs. As a result, until 2009, there was practically no central institution to deal with the issues of the strategic development of the country.

Futures work has been carried out largely in the context of national medium and long-term policy programming. This programming work gathered pace in the mid 1990s, mainly in connection with Poland's path to EU accession and the country's adoption of EU legislation. These activities, in particular for development strategy, were often politicised and undertaken on ad hoc basis. They focused on meeting immediate needs rather than long-term goals. The government sought to address this problem with the adoption of the *Act on the principles for the pursuit of development policy* (2006), which stated that strategic programming is a basic instrument for development policy. Nevertheless, a government review of the system for managing

([1]) The Government Centre for Strategic Studies with analytic, monitoring, evaluation and research functions replaced the Central Planning Office (CPO). The CPO existed from 1945 to 1996 changing names and competences: in 1989, it lost its central planning function.

Poland's development demonstrated the lack of a consistent vision for such a system and the weakness and inefficiency of the country's strategic programming.

About 260 binding documents of a strategic nature (most often with short and medium time frames), along with the simultaneous lack of a clear long-term vision for the development of the country led to a dispersion of objectives, a duplication of efforts and even to support for contradictory solutions. These documents were characterised by an internal and external lack of coherence, including a lack of consistency in the terms they used. Sectoral thinking dominated, as a result of which there are few horizontal strategies. The political leadership was insufficiently involved in strategic programming work.

Poland's current government has proposed a new model for development management in *The Assumptions for the System for Managing Poland's Development* (Appendix 3), and expects that this new approach will eliminate the weaknesses of the system and enhance the effectiveness of strategic programming as well as the implementation of development policy, improving the performance of public institutions. In coming years, this new approach should provide the context for government work on futures.

Poland has undertaken a few major recent initiatives to better embed long-term futures thinking in government. One is directly related to the reform in development programming and management: a major initiative was launched by the Prime Minister's Office in 2008 to prepare a long-term strategy for national development to 2030.

Other recently completed work is the national technology foresight programme: follow-up work is now under way. Other bodies in the national government have undertaken recent studies to support medium-term planning efforts: for example, the Ministry of Economy commissioned the *Projection of the Demand for Fuels and Energy until 2030* to support the development of a national energy strategy with this time horizon.

New institutions such as the Committee for the Development Policy Coordination at the Chancellery of the Prime Minister (created in 2009) or the Board of Strategic Advisors to the Prime Minister (created in 2008) have been established to strengthen medium and long-term policy programming and strategic thinking.

2.1 Responsibilities

This section describes the most relevant government-led futures activities and the key actors that carry them out.

The framework of the long-term national development strategy deserves particular attention, along with two of bodies that are playing a key role in its preparation: the Board of Strategic Advisors and the Ministry of Regional Development. They are a part of Poland's new approach and new institutional set-up for long-term strategic programming. This new approach, described in Sections 2.1.1 to 2.1.3, should provide the main context for using futures-oriented studies and initiatives in government (Appendix 3 provides an overview of how the new approach should affect different parts of government).

Other recent futures-oriented work has been undertaken in the areas of technology foresight (Section 2.1.4) and energy policy (Section 2.1.5).

It should be noted from the start that current activities are geared towards creating broad strategic planning frameworks and processes. Environmental policy issues are not necessarily prominently featured within these frameworks. This observation will be picked up later in this case study.

2.1.1 Addressing problems in Poland's medium and long-term policy programming

While, in principle, strategic documents such as the National Development Strategy, the National Strategic Reference Framework and the National Development Plan should identify the most important policy problems and set out development directions and priorities for tackling them, in practice these documents have in recent years mainly focused on the absorption of EU financial resources (e.g. Structural and Cohesion Funds). Indeed, more than 400 strategic documents have been prepared in Poland in recent years. They are often inconsistent with each other, in part because they were prepared by successive governments. Moreover, they are, for the most part, unknown to the wider public and not respected by subsequent governments.

In April 2009, the Council of Ministers adopted *The Assumptions for the System for Managing Poland's Development* to address this and related problems, including:

- insufficient linkage between programming and operational levels;
- absence of a strong coordinating body for development policy;
- the lack of effective channels of cooperation among individual actors;
- insufficient involvement of the political leadership;
- separation between spatial planning and socio-economic planning;
- inadequately defined relationships between development policy and regional policy;
- lack of a transparent system of financing for development policy;
- poor preparation of regional and local administrations for strategic thinking;
- conflicts among interest groups;
- focus on current needs rather than future challenges.

These problems are the results of the weakness and inefficiency of the programming system and a lack of strategic thinking. The *Assumptions* present a new model for development planning, in which the Prime Minister's Office takes a central role.

In 2009, the Committee for the Development Policy Coordination (an advisory body to the prime minister) reviewed government policies and strategies. Its recommendations were presented in 'the plan to organise development strategies' ([2]), adopted by the government in November 2009. Based on this document, work was undertaken to reduce the number of strategic documents by harmonising similar strategies into nine integrated strategies. All nine strategies should be developed and adopted by the Council of Ministers in 2011.

2.1.2 'Poland 2030' and the long-term national development strategy

The 'Poland 2030' study and the forthcoming long-term national development strategy are both important elements of the new approach.

The aim of the report Poland 2030 — *Development challenges*, published by the Board of Strategic Advisors to the Prime Minister of Poland in May 2009, is to outline a perspective on potential routes for Poland's development in the next 20 years. The report reviews the now completed process of Poland's transformation from central planning and points out the potential for further development. It presents the dilemmas which must be solved in the near future, especially in the field of economic and social policies, infrastructure, energy safety and efficient management of the administration. The study cites quantitative forecasts as well as qualitative analysis for Poland's future in areas including demographic changes, transport and energy.

The Green Paper *Poland 2030* — Development challenges and forms the basis for work on the **Long-Term National Development Strategy** (LNDS). Completion of the LNDS is expected during autumn 2010, following which the document will be subjected to consultation and adopted by the Council of Ministers. The strategy will have a time frame of at least 15 years. Preparation of the LNDS has been entrusted to the Board of Strategic Advisors to the Prime Minister, which is an independent, consultative body. It was created following a proposal by Minister Michał Boni, who appointed the members and now heads the Board, and it has led the preparation of the study 'Poland 2030 — Development challenges'.

The Board of Strategic Advisors to the Prime Minister cooperates with the **Chancellery of the Prime Minister** (CPM) and the Ministry of Regional Development. Within the CPM, a key office is the **Department of Strategic Analyses**, which will carry out long-term analysis and policy preparation, including:

- horizontal and strategic analyses regarding national economic and social policy;
- the assessment of the factors and challenges for the national long-term development;
- the identification of the needs and the preparation of proposals for measures to implement national long-term development policies.

Thus, 'Poland 2030 — Development challenges' is an important step in the current government's initiative to create a new basis for long-term policy planning.

2.1.3 Medium term socio-economic and spatial planning

After accession to the European Union, a key role in strategic programming has been played by

([2]) The document is available (in Polish) on the website of the Ministry of Regional Development (http://www.mrr.gov.pl/rozwoj_regionalny/Polityka_rozwoju/System_zarzadzania_rozwojem/Porzadkowanie_dokumentow_strategicznych/Documents/Plan_uporzadkowania_strategii_rozwoju_reasumpcja_decyzji_RM_10032010.pdf).

the **Ministry of Regional Development** (MRD, established in 2005), as provided for by the Act on the principles of the pursuit of development policy. Among others, the MRD is responsible for developing the national development strategy and the coordination of the programming and use of Structural Funds and Cohesion Funds. As noted above, this ministry has commissioned a study of demographic futures in Poland and has also prepared a policy document on future transport and infrastructure.

The ministry has a **research and forecast centre** (part of the Department for Structural Policy Coordination), which coordinates the preparation of several policy documents such as Poland's medium-term national development strategy, the national regional development strategy, the national cohesion strategy. The centre should also review the strategies and programmes of other government bodies in terms of their conformity of with the medium-term national development strategy. It also can commission studies and forecasts on socio-economic and spatial development.

Under Poland's new approach for policy programming, the MRD will prepare national medium-term socio-economic and spatial planning programmes (i.e. with a time frame of 4–10 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.

At regional level, the self-government authorities will be responsible for the programming of the development of regional and local development.

Under the new model, the Ministry of Regional Development will be responsible for setting out methodological and substantive standards and the organisational procedures for the programming process and their enforcement to ensure that they are complied with by the entities involved in the process.

2.1.4 The national foresight programme 'Poland 2020'

The responsibilities of the Ministry of Science and Higher Education include the development of projects and strategies for the Polish research landscape and for the higher education system, together with the provision of grants and other financial resources in these fields.

Box 1 Ongoing technological foresight programmes in Poland

The national foresight programme 'Poland 2020' was the first national foresight project carried out in Poland. Following this programme, Poland has undertaken 10 technological foresight studies on the regional level and 13 on the sectoral level. These projects are co-financed by the European Regional Development Fund and state budget, through operational programmes on the improvement of the competitiveness of enterprises and on the innovative economy.

The idea behind the national foresight programme for Poland emerged in 2003 and was sponsored by the Minister of Science and Information Society Technologies at the time, Prof. Michał Kleiber. It was included as one of the measures to foster innovation in a document called 'Plan for promoting growth in the years 2003–2004', adopted by the Council of Ministers in July 2003.

National foresight programme started with a pilot project on foresight for health and life research (2003–2006). While the next step, a much broader foresight initiative, was planned from the start, due to changes in the government after the pilot project, this was not launched until 2006. The NFP 'Poland 2020' was launched in December 2006 and it covered three research areas: sustainable development of Poland, information and communication technologies, and safety. This programme has worked to identify priority paths for scientific research and development which should, in the long run, strengthen social and economic growth (Box 1).

More recently, a series of follow-up programmes have looked at technology foresight at the regional and sectoral level (Box 1).

The Ministry of Science and Higher Education plans to implement the results of the national foresight programme through a project starting in 2010, financed through an operational programme, 'Innovative Economy', supported by EU regional funds. The following actions are planned for the project, entitled 'National foresight programme — implementation of the results':

Box 2 Priorities of the Energy policy of Poland until 2030

- improving energy efficiency
- increasing security of supply
- developing competitive markets for fuels and energy
- introducing nuclear power
- increasing the use of renewable sources
- reducing the impact of energy on the environment.

- evaluation of foresight projects to be carried out in Poland;
- development of a common methodology for mapping of research and technology directions and technological trends identified in foresight projects;
- development of a national monitoring system for the implementation of foresight projects;
- analysis of the use and implementation of the national foresight programme results in shaping of science and technology policy.

The final product will be a nationwide implementation system of foresight projects.

The results of the individual foresight projects should provide indications for strategic programmes of research and development studies managed and implemented by the National Centre for Research and Development, a body set up in 2007. The foresight projects should thus affect the development of innovation and the transfer of research results to the economy.

A recent institutional change, however, is the liquidation of the Department of Foresight in the Ministry of Science and Higher Education, which oversaw the 'Poland 2020' programme. At present, there is no new institution to carry out the tasks of the programme, though coordination between institutions implementing foresight projects will be possible after the development of the national monitoring system for foresight.

2.1.5 Energy policy of Poland until 2030

In accordance with the Polish Energy Law, the Ministry of Economy is the leading body of government for energy policy. The ministry elaborates an energy policy every four years; this document should contain an energy forecast for at least the next 20 years.

The strategy addresses the main challenges facing the Polish energy sector in the short and long terms. Box 2 lists the main priorities of the most recent energy policy, proposed in 2008.

The Ministry of Economy commissioned two studies to support the preparation of Poland's energy policy to 2030: the *Projection of the demand for fuels and energy until 2030*; and a report on the environmental impact assessment of energy policy, in accordance with the legislative requirement to prepare an assessment of all strategic national documents ([3]). Both studies were prepared by outside contractors.

2.2 Resources, staffing involved

The extent of information on resources and staffing varies across the major futures-oriented studies described above.

The *Poland 2030 — Developmental challenges* report was created by the Board of Strategic Advisers to the Prime Minister of Poland. The Board is made up of 17 members (and, by law, can include up to 20 members), mostly young, high-profile researchers from a variety of academic backgrounds including fields such as economy, education, media and communication and regional development. Fourteen of them and two external experts are the main authors of study, who were supported by 34 permanent consultants (including three members of the Board) and some tens of experts giving information and consultative contribution.

The Board was created by a regulation of the prime minister in 2008, according to which its main tasks are to:

1. assess the socio-economic situation in the country;
2. participate in the development of strategic plans;
3. cooperate with government bodies in strategic planning and implementing programme objectives;
4. present proposals concerning the national economic and social development objectives in the form of long-term action plans of the government;

([3]) *Act on access to environmental information and its protection, public participation in environmental protection* and *environmental impact assessments*, 2008 (which reflects the requirements of the European EIA and SEA Directives).

5. identify risks for the implementation of the strategy for economic and social development and submit proposals for their elimination to the prime minister;
6. provide opinions on draft strategic legislation for the implementation of the objectives of the strategy.

Within the Ministry of Science and Higher Education, work on the **national foresight programme** was coordinated by the Foresight Unit of the Science Strategy and Development Department (the unit was created specifically for national foresight programme). The ministry commissioned a consortium of three organisations to undertake the main analytical work for the broader foresight programme to:

- the Institute of Fundamental Technological Research of the Polish Academy of Sciences, which was the project coordinator, responsible for project management and coordinating the work of the expert panels;
- the Institute of Economics of the Polish Academy of Sciences, responsible for foresight analyses and the analysis of statistical data;
- Pentor Research International, which led the Delphi analysis, organised and facilitated public debates and consultations and promoted the project.

The budget for the national foresight programme 'Poland 2020' was EUR 1 300 000 (PLN 4 500 000), in total. About 350 'internal' experts were involved in work of the different panels for the programme. Other staff were involved in the project's steering committee and in the consortium.

The work on the **energy policy** involved four departments of the Ministry of Economy: in addition, two private companies were commissioned to prepare reports related to the policy ([4]).

Table 1 provides an overview of the resources for these three studies.

2.3 Stakeholders and external relationships

The approaches used in the three key studies have been rather different, and thus are described separately. The national foresight programme 'Poland 2020' sought participation and input for the preparation of the study, though focusing on the scientific and engineering community. In contrast, both 'Poland 2030' and *the Energy policy to 2030* (together with its supporting documents) were developed by experts and then presented for public comment. In parallel with the preparation of the government's energy policy, an independent institute developed an alternative energy policy; this was prepared with extensive participation from NGOs and the public. Thus, the extent of participation and the relationships with stakeholders differed across these three studies,

Table 1 Resource allocation for institutions on foresight studies

Project/programme	Established	Resources
Poland 2030	Starting in 2008	Budget: n.a. Staff: 17 Board of Strategic Advisers to the Prime Minister members; 31 permanent consultants involved in work on the report *Poland 2030 — Development challenges*
National foresight programme 'Poland 2020'	2006–2008	Total budget: EUR 1.3 million About 350 experts in panels Plus programme and consortium staff
Projection of the demand for fuels and energy until 2030	September 2008–August 2008	Budget: n.a. Prepared by a consulting firm
Environmental impact assessment of energy policy	September 2008–June 2008	Budget: n.a. Prepared by a consulting firm

([4]) The Projection of the demand for fuels and energy until 2030 was prepared by Agencja Rynku Energii SA (ARE, Energy Market Agency, a private company). The Environmental impact assessment of energy policy was prepared by PROEKO CDM — consulting company in environmental protection.

Box 3 The expert panels for the national foresight programme 'Poland 2020'

The following expert panels led work for this study,

Main panel

Sustainable development of Poland
- Quality of life
- Sources and use of power resources
- Key ecological problems
- Environmental protection technologies
- Natural resources
- New materials and technologies
- Transport
- Integration of ecological policy with sectoral policies
- Product policy
- Sustainable development of regions and areas

Information and telecommunications technologies
- Access to information
- ICT and the society
- ICT and education
- e-Business
- New media

Security
- Economic security (external and internal)
- Intellectual security
- Social security
- Technical and technological security
- Development of civic society

though overall, government-led futures activities have followed rather traditional approaches to consultation and participation in content development.

2.3.1 The participation of the scientific community and the public in the national foresight programme

The work for the national foresight programme 'Poland 2020' incorporated both the participation of scientists, engineers and other experts in the main fields of study, as well as a broader consultation.

Following the pilot foresight project on health, difficulties in ensuring participation were identified and a strong approach was used for the wider programme. As a result, many experts worked on the panels set up for the study (Box 3); others were contacted through two rounds of a Delphi survey. Representatives from science, business, public administration, media, and non-governmental organisations were invited to participate in this Delphi survey.

The programme sought this wide participation in the field as its goals included developing a broad consensus of the main beneficiaries for its proposals for priority paths of scientific research and development. A broader public was then consulted towards the end of the process.

The main panel for the foresight programme was the most important substantive body of the project. Its main tasks included the:

- development of a preliminary version of the development vision of Poland to year 2020;
- oversight for the entire project;
- development of guidelines for the work of the research area panels.

The three research area panels focused on the programme's three broad areas of work: sustainable development of Poland, information and telecommunication technologies and security. The members of this panel were involved in analytical work and supporting the preparation of the scenarios to 2020.

The programme also had 20 topic panels, whose work included the assessment of current knowledge in the areas in question, analysis of major issues for each research area using selected foresight methods, and the formulation of Delphi statements.

In addition to the panel members, about 2 500 'external' experts participated in two rounds of a Delphi survey for the foresight programme.

The first Delphi survey asked for a review of the initial results of the work of expert panels, including initial ideas for scenarios. The Delphi surveys were closed expert consultation, reserved for persons having outstanding professional and academic background. The expert panels then used the consultation results to further develop their work, which was then reviewed in the second Delphi survey.

The panels incorporated the results of the second survey and prepared their work further, including the development scenarios. The draft final results were then the subject of an open public debate and were presented at a national conference, in both plenary sessions and in numerous discussion panels. In addition, broader consultation was sought via the website of the national foresight programme 'Poland 2020' (http://www.foresight.polska2020.pl).

All draft materials were posted for review and members of the public were able to express their opinions by filling out an anonymous survey and by participating in an online forum. Thus, this web portal served both for seeking comments as well as a tool for providing information on the programme.

2.3.2 Public debate on 'Poland 2030'

For 'Poland 2030', most of the work is carried out by the Board of Strategic Advisors. However, the programme has an important phase of public debate on its initial report: The main report, a Green Paper published in June 2009, is for discussion. With its publication, the Board opened a public debate on what Poland can and should be like in 2030.

From July to September 2009, the Board held meetings, workshops and consultations with stakeholders, focused on the challenges it identified for Poland's future (Box 4).

Following this dialogue, the Board's work has moved to the next phase, contributing to the preparation of the long-term strategy ([5]).

2.3.3 Public debate on energy policy until 2030

The government's proposed energy policy was opened for inter-ministerial and stakeholder consultations from April to June 2009. Both background studies — the *Projection of the Demand for Fuels and Energy until 2030* and the environmental impact assessment — were attached to the policy document and all were sent by mail to other ministries, departments and to main stakeholders and also were available on the website of Ministry of Economy for public consultation.

The Ministry of Economy received more than 1 100 comments on the full document. The energy policy and both studies were updated after this consultation, and the final version of the full document was delivered on 16 July 2009 to the government bodies that will coordinate its formal approval: the European Committee of the Council of Ministers, the Common Commission of Government and Territorial Self-government and the Committee for Development Policy Coordination. The document was adopted by the Council of Ministers on 10 November 2009.

Box 4 Challenges for Poland's development identified in 'Poland 2030'

The report *Poland 2030 — Developmental challenges* identifies 10 key challenges for the country in this time period:

1. growth and competitiveness
2. demographic condition
3. high professional activity and flexibility of labour resources
4. adequate infrastructural potential
5. energy and climate safety
6. economy based on development of knowledge and intellectual capital
7. solidarity and regional cohesion
8. improvement of social cohesion
9. performing state
10. Poland's social capital growth.

2.3.4 The proposal for an alternative approach to energy policy and stakeholder involvement

Independent experts as well as NGOs have argued that the primary focus of many government strategic policies is the satisfaction of demand — and that this can be seen in the *Energy policy of Poland until 2030. Poland's Alternative energy policy until 2030* (AEP), led by the Institute for Sustainability in Warsaw, sought a different approach (Box 5).

The AEP argues that the starting point for long-term solutions should be:

- the limits of resources which may be available to each sector, country or region;
- emissions limits corresponding to the capacity of the natural environment to absorb them.

In undertaking this initiative and presenting the AEP, its leaders and supporters emphasised that 'alternative' does not express a disapproval of the energy policy documents proposed by the authorities, nor does it claim that the development of this sector should only be based on alternative sources: rather, the AEP sets out the necessity of changing the paradigm of the approach to strategic documents.

([5]) http://www.zdp.kprm.gov.pl/indexen.php?id=283.

Box 5 Poland's Alternative energy policy until 2030

The strategic goal of the alternative energy policy, prepared by the Institute for Sustainable Development, is the creation of the conditions for the efficient satisfaction of energy needs within the limits of determined and available natural resources as well as the limits for the release of pollutants into the environment.

The greenhouse gas emission limits laid down by the government (a 40 % reduction in the period 1988–2020) and in the EU climate and energy package (a reduction of 20–30 % in the period 1990–2020) were adopted as the framework for determining the strategic goal.

In a series of workshops, stakeholder groups identified the basic problems and dilemmas which should be resolved in the AEP. The participants included non-governmental organisations, in particular those relating to the environmental: trade unions; entrepreneurs; representatives of the public administration; independent experts.

The study developed a series of quantitative scenarios for electricity generation, including a 'versatile' scenario; scenarios without nuclear energy, or lignite, or gas; scenarios with maximum levels of renewable energy and energy efficiency (due to resource constraints, this initiative only prepared forecasts for electricity). The scenarios were developed through public discussions that reviewed the results in light of four key criteria: energy security, competitiveness, sustainable development and the social dimension. A working draft of the AEP, following changes and additions in response to expert comments, was then opened for wide public consultations. On the basis of these discussions, a common approach was developed for the alternative policy.

The AEP's recommended scenario not only contributes to the greatest extent to ensuring safe and competitive energy supplies, it also reflects the conditions of sustainable development and takes into account the social objectives.

The work was presented in a report for decision-makers, a technical report and an information brochure for the public, as well as at a final conference.

Key elements of the alternative policy include:

- improving energy efficiency;
- promoting investment in renewable energy;
- reducing fuel consumption in the transport sector.

Another aspect, which to some extent represents an alternative approach to the creation of such documents, is the wide public participation in its preparation, rather than an approach that focuses only on consultation on a final draft. In total, about 550 persons were involved in the process.

2.4 Relative balance between quantitative and qualitative approaches

Futures-oriented studies in Poland have used both quantitative and qualitative methods. In the three government studies reviewed here, one or the other approach was used: in particular, none of the government studies sought to integrate quantitative and participatory methods.

The national foresight programme's results have been mainly qualitative. The work integrated several methods, including brainstorming, Delphi survey, SWOT, PEST, cross-impact analysis and scenario development.

The programme has resulted in the following outputs:

- five integrated development scenarios for Poland until 2020, including recommendations for science and innovation policies (Box 6);
- list of major subject areas (114) and research and development priorities (680);
- list of factors of key importance for Poland's future development;
- list of priority technologies for development.

The development scenarios are described in Box 6: both in its approach to stakeholder consultation and also in its use of narrative scenarios, the 'Poland 2020' study has been the most innovative major forward-looking study prepared for government. There may be many reasons for this, including the interest of the policymakers and officials working on the study.

One factor may be that technology foresight is an internationally known approach used to identify priorities for research and development. Moreover, international networks such as the European Foresight Monitoring Network help to exchange information on the approaches and methods used in technology foresight ([6]).

The report Poland 2030 — Developmental challenges makes reference to a series of quantitative and qualitative studies carried out both in Poland. It presents analyses and projections of the future from these studies in a series of areas, including

Box 6 The scenarios of the 'Poland 2020' study prepared under the national foresight programme

Five development scenarios are among the most important outputs of the 'Poland 2020' study. They are a result of analysis of possible development paths and of the interactions of four key uncertainty factors that will have a crucial impact on Poland's future. Table 2 lists the five scenarios in terms of these four key uncertainty factors.

Table 2 The scenarios developed for the 'Poland 2020' study

Scenario	International integration	Internal reforms	Knowledge-based economy	Public acceptance
Cool Polonia, or the *Civilisational Leap*	+	+	+	+
The European Dream, or *Demanding Adjustments*	+	+	+	–
The battle for Poland, or *Difficult Modernisation*	–	+	+	+
Lost illusions, or *Declining Growth*	+	+	–	–
Collapse	–	–	–	–

Source: *Poland 2020 — A look from the future (2009).*

Table 3 The scenarios developed by the Sustainable Development Research Panel for the 'Poland 2020' study

Scenario	Personnel and infrastructure potential	Balance of environmental benefits and costs
Leader	+	+
Integration	–	+
Stabilisation	+	–
Crisis	–	–

Source: Development scenarios for Poland to 2020 in the 'Sustainable Development of Poland' research area (2008) in the results of the national foresight programme, Part 3.

The Sustainable Development Research Panel prepared four separate development scenarios. These were selected through an analysis of two key factors for this area: personnel and infrastructure potential, including research infrastructure; and environmental benefits and costs. This matrix is shown in Table 3.

([6]) http://www.efmn.info.

population growth and the labour market ([7]), transport infrastructure ([8]), energy ([9]) and land-use planning ([10]).

The analysis in 'Poland 2030' includes the following elements:

- a diagnosis of key development achievements and the situation after two decades of transformation,
- an identification of the 10 key challenges that face Poland (Box 4),
- the formulation of main factors need for long-term development,
- a set of recommendations and priorities for the forthcoming two decades.

Other studies have used both qualitative and quantitative methods. Econometrics and other modelling techniques have been used for the projection of the demand for fuels and energy until 2030. The scenario analysis has been used in the environmental impact assessment of energy policy. Three scenarios of expected environmental impacts related to ways of implementation of objectives of energy policy: base, ecological and nuclear scenarios.

Quantitative modelling techniques were also used for two studies recently prepared for the Ministry of Regional Development, which is responsible for the National Spatial Development Concept 2008–2033 (the documents are under preparation and, at present, do not have the status of government documents, only expert studies): *Demographic balance in Poland 2033 Fihel, 2* and *Vision of transport structure and transport network development until 2033 (Bruniewicz, 2007). Both works were used in the report Poland 2030 — Developmental challenges.*

([7]) Examples in scope of population and labour market: Fihel, A., Okólski, M., 2007, *Bilans demograficzny Polski w roku 2033,* Warszawa *(Demographic Balance of Poland in 2033)*; Bijak, J., Kupiszewski, M., 2008, 'Population and labour force forecasts for selected European countries: Assumptions and results', Hönekopp, E., Matt ila, H. (eds), *Permanent or Circular Migration? Policy choices to address demographic decline and labour shortages in Europe*, IOM, Budapest; and forecasts of population growth, changes of its structure (by sex and by age) made by Polish Central Statistical Office and Eurostat.

([8]) Ministry of Infrastructure, *Master Plan dla transportu kolejowego w Polsce do 2030 roku* (Master Plan for Railway Transport in Poland till 2030).

([9]) IEA, *World Energy Outlook 2008*; Directorate-General for Transport and Energy, *Trends until 2030*; ENERGSYS, 2008, *Raport 2030*. *Wpływ proponowanych regulacji unijnych w zakresie wprowadzenia europejskiej strategii rozwoju energetyki wolnej od emisji CO2 na bezpieczeństwo energetyczne Polski, a w szczególności możliwości odbudowy mocy wytwórczych wykorzystujących paliwa kopalne oraz poziom cen energii elektrycznej,* Warszawa. Ściążko, M. (ed.), 2007, Uwarunkowania wdrożenia zero-emisyjnych technologii węglowych w energetyce, IChPW, Zabrze. Żmijewski, K., 2008, *Alternatywne scenariusze polityki energetycznej Polski do 2030 r.*; Studies related to energy market, energy sector made by URE (Urząd Regulacji Energetyki) the Energy Regulatory Office — the state administration body for the realisation of tasks in the scope of fuel and energy management control as well as promotion of competition PGNiG (Polskie Górnictwo Naftowe i Gazownictwo) Polish Oil And Gas Mining — oil and gas exploration and production company PGE (Polska Grupa Energetyczna S.A.) — electricity company.

([10]) ESPON, 2007, *Territorial futures, Spatial scenarios for Europe*.

3 Analysis

Section 2 has shown that different approaches to futures analysis are used by government in Poland but long-term thinking (including strategic programming) is still not common practice. While this section reviews the work carried out so far, this review should be considered at best a preliminary analysis.

3.1 Relationships between futures initiatives

Little information was found concerning links between the two main initiatives discussed here, or with other futures or foresight work. As noted, the national foresight programme has led to follow-up work on foresight at a sectoral and regional level, though this has been within the same policy area.

It appears, however, that so far there have been few links and little learning between foresight and future programmes in different parts of government. For example, the work for 'Poland 2030' related to national development programming so far has not referred explicitly to the scenarios developed by 'Poland 2020' for technology foresight. It did, however, use forecasts prepared for other parts of government, for example on demography and transport.

It is nonetheless envisaged that in the autumn, the Board of the Strategic Advisors to the Prime Minister (the authors of *Poland 2030 — Developmental challenges*) will meet with the experts implementing the NFP 'Poland 2020', in order to exchange experiences and to possibly incorporate their conclusions into the executive packages for 'Poland 2030'.

Here, it can be noted that these two studies — as well as the separate work on energy — present three quite different approaches to future thinking and creation of strategic documents.

- The NFP 'Poland 2020' used the participation of scientists and wider society in a debate about the future of Poland and it used scenarios to illustrate possible alternative directions — but the authors found it difficult to raise interest about the work in government,
- The study 'Poland 2030' was prepared by a small group of experts inside the government, using an analysis of past and current situation to assess future issues and give recommendations and background analysis for the government's long-term development strategy
- The new energy policy is a sectoral strategy developed by Ministry of Economy using external studies of the future energy situation.

The two studies follow rather different approaches; however, 'Poland 2030' focuses more on an analysis of the current situation, identifying key policy tasks and the foresight programme is more clearly focused on future issues.

Moreover, these links may become stronger and more institutionalised in the future, as the government's new approach for national development programming is intended to provide a common framework for long-term policy. The new institutional structures and links set up may increase learning and review of futures-oriented studies prepared by different government bodies.

3.2 Impact on policymaking

All of the futures-oriented initiatives reviewed here have been closely linked to policymaking. In this sense, recent futures-oriented work in Poland has been very practical. These initiatives are recent, so it is still early to identify their impact on policy decisions.

As an initial analysis, the quantitative approach used in the background studies for the energy policy appears to have had a close impact. Similarly, the 'Poland 2030' study used quantitative forecasts, for example for demography and transport futures. In contrast, the broad-based scenarios approach used in the national foresight programme may have had less impact.

3.2.1 National foresight programme

The national foresight programme sought to identify priority paths of scientific research and development. Its results should influence the review of Poland's strategy for the development of science in Poland to 2015. This policy document was drawn up in 2007 and, at the time of writing, it is still at the stage of inter-ministerial negotiations.

The results of the foresight programme are also expected to influence other policy initiatives. Notably, the conclusions and development scenarios from in the national foresight programme 'Poland 2020' will be used in the update of Poland's medium-term national development strategy 2007–2015; the update will extend its time frame to 2020.

The results of the national foresight programme 'Poland 2020' are presented in a recent policy document, 'The strategy of innovation and economic efficiency', one of nine strategies under development.

The Strategy Department of the Ministry of Science and Higher Education has also proposed to use the results of foresight projects like the NFP and a sectoral programme implemented in the Silesia region in the field of energy, in particular for the strategy 'Energy security and environment'.

The continuation of the national foresight programme is expected. It could be realised as part of the systemic project of the Ministry of Science and Higher Education, 'The support for the system of research and results management', which will be implemented from 2010.

3.2.2 'Poland 2030' and the long-term national development strategy

The 'Poland 2030' study is part of an ambitious initiative to prepare a coherent strategic policy framework for the medium and long term. This seeks to address the problems identified in Section 2.1: namely, that Poland has had numerous, often conflicting policy strategies. As previously mentioned, the process of integration of existing strategies and policies of a similar nature into nine strategies is expected to be completed and adopted by the Council of Ministers in 2011.

As noted, the work of the Board of Strategic Advisors on 'Poland 2030' is intended to provide the basis for the development of a long-term national development strategy. This document should have a time frame of at least 15 years. The nine new strategies will also be based on the diagnosis and recommendations arising from the report *Poland 2030 — Development challenges*. They will be consistent with long-term and medium-term national development strategies.

3.2.3 Energy policy

A study forecasting energy supply and demand was commissioned as part of the development the *Energy policy of Poland until 2030*, and this was closely linked with the final policy.

An alternative approach to strategy creation was presented by NGOs: notably, this alternative policy used futures-oriented methods. This document sought to influence government policy — and more generally, to provide government officials and stakeholders with a different paradigm for long-term thinking and for policy formulation. Information is not available on its influence, in part because the alternative policy was presented only recently.

3.2.4 Poland's environmental policy

In contrast, Poland's environmental policy does not appear to have sought or developed long-term thinking.

In May 2009, Poland's parliament, the Sejm, approved the *Environmental policy for 2009–2012 with perspective to 2016*, prepared by the Ministry of Environment. This policy does not have any explicit links with other government policies, strategies or programmes. The implementation of environmental requirements — including EC environmental policies and legislation — play an important role in its provisions. Key European requirements include the assessment of environmental impacts for both projects (environmental impact assessment) and of policies and strategies (strategic environmental assessment). The current government has placed renewed emphasis on these requirements: in 2008, the Commission for Environmental Impact Assessment within the Ministry of Environment was reactivated for this purpose. This implies that new government strategies — including the long-term development strategy under development — should undergo strategic environmental assessment.

Poland does not have a strategy linking economic, social and environmental aspects of development. Indeed, the sustainable development strategy for Poland to 2025 was repealed in October 2007: the originally strategy was prepared in 2000 and was

judged to be out of date in the light of Poland's accession to the EU and in the light of the EU's renewed sustainable development strategy of 2006 ([11]). No initiatives have been undertaken for a new strategy.

The environment and sustainable development did play an important role in the national foresight programme. Its role appears less strong in other futures-oriented initiatives, such as 'Poland 2030', though the authors of this report do include environment as a growth factor for the country's socio-economic development (not a barrier, as has sometimes been seen).

While all strategies should in principle be consistent with the environmental strategy, it should be noted that the 'Poland 2030' study does not refer to this strategy, though it does refer to others such as the 2006 National development strategy and the upcoming 2010 National spatial development plan.

With the approval of the new government document, 'The plan to organise development strategies' ([12]) on the reduction the number of strategic documents, the environmental strategy will be incorporated into an energy security and environment strategy, one of the new nine strategies. This new document will integrate five policies and four strategies.

The policies to be integrated into the single document are:

- energy
- oil industry
- natural gas industry
- climate and the national strategy to reduce greenhouse gas emissions and
- environment.

The four strategies to be integrated are:

- renewable energy development
- coal mining
- conservation and sustainable use of biodiversity and
- water management.

The preparation of this new strategy is being coordinated by the Ministry of Economy in cooperation with the Ministry of Environment.

([11]) Resolution of Council of Ministries, 10 October 2007 by the Minister of Regional Development.
([12]) This document was prepared by the Committee for the development policy coordination and adopted by the government in November 2009.

4 Conclusions

Despite 20 years of transition, broad-based futures analysis and strategic thinking are still weak in policymaking in Poland. This is in part a result of the 'silo mentality' of governance (i.e. compartmentalisation and a difficulty in communication and cooperation among ministries). Another major issue is the short-term focus of much policymaking.

This situation may be changing and it is expected that current reforms will make the management of long-term policy programming and implementation more effective and more generally improve the quality of the functioning of public institutions.

4.1 Success factors

Poland's government has established two large and high-profile future and foresight studies in recent years; however, it is still too early to make a clear evaluation of their success in terms of shaping long-term policies.

One important factor behind the conception and development of both the national foresight programme and 'Poland 2030' has been high-level political support — in particular, strong support at ministerial level (and, for 'Poland 2030', from the Prime Minister's Office). Another factor that should lead to success is the close link made from the start of these initiatives and the formulation of policy strategies (science and long-term development).

The preparation of the 'Poland 2030' study was a success. This study was launched to define the 10 most important challenges which Poland will face in the next two decades, and it may become a long-term strategic document rather than an ad hoc work.

More generally, the start of the process of reforming the national development programming is also an important step forward. Moreover, Poland has set up new institutions in government for long-term thinking, including the Board of Strategic Advisors to the Prime Minister as well as the Research and forecast centre in the Ministry of Regional Development. The 'Poland 2030' study is, in fact, part of a broader reform of the system for managing and planning national development strategies. A review of government strategies and an assessment of their conformity with the strategic goals of the 'Poland 2030' study have also started.

The national foresight programme is the first such project carried out in Poland building a vision of national development to the year 2020 and involving both experts and wider society in the debate on the future of Poland. While it has ended, it has spawned technology foresight work at regional and sectoral level.

It is also important that government cooperates with scientists and other experts, and as a result strategic documents use experience, knowledge and studies of experts.

4.2 Barriers to success

One weakness is that two initiatives described here are both closely tied to individuals: both the national foresight programme and the 'Poland 2030' study were promoted and led by individual ministers.

Nonetheless, the importance of single 'sponsors' suggests that the results of these initiatives could easily be lost if there is a change of government (indeed, a change in ministers could also halt the current initiatives) ([13]).

The 'Poland 2030' study is part of a larger government effort to reform development programming, and this has involved the creation of new institutions. Here, a further concern is that the

([13]) Due to changes in the political administration, the pilot programme of NFP was stopped in 2004 and it was not restarted until 2006.

work for the 'Poland 2030' study and the long-term strategy, while clearly driven by policy needs, do not allow for a strong consideration of uncertainties and alternative scenarios.

A further concern is, as noted, that the government can be quite compartmentalised and, as a result, there has been little participation in, or learning from, one futures initiative to another. Here, too, the reform of development programming may overcome these barriers. It appears, however, that this is occurring only through when imposed by a higher level (i.e. the Prime Minister's Office) rather than through direct cooperation at the ministerial level.

More generally, the analysis prepared by experts, including futures-oriented analysis, has not been strongly used in developing government policies. This problem was seen in the centres set up in the 1990s and then closed in the reorganisation that moved their functions moved to other parts of government. It has also been the case also for some of the studies reviewed here, including the national foresight programme: its impact on policymaking is still uncertain. More specifically, the open thinking and broad-based approach of the foresight programme has had less impact that 'traditional' methods of futures analysis based on quantitative forecasts.

In part, these problems are related to the fact that, as noted, policymaking in Poland has until recently been focused on the short term, typically the time period of election cycles. This limits the policy demand for long-term futures analysis.

Moreover, when programmes and policies are made, there has been a further difficulty in terms of implementing them and turning them into actions and investments.

The reform of national development programming is seen as an important initiative to overcome these problems, and in particular the short-term focus, by providing a policy framework that lasts beyond a single election cycle.

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Appendix 1
Approaches to futures studies

Country: Poland		
Title of futures programme(s):		Poland 2020
1. Overall governance culture of country	***Description***	Following the breakdown of the communist system, since mid 1989 Poland has been in a transition period from a centrally planned economy and highly centralised government to a market-oriented and democratic system. Poland is a multiparty parliamentary democracy now. The Republic of Poland *(Poland) is a unitary state*. The system of government is based on the separation of and balance between the legislative, executive and judicial powers. Legislative power is vested in the Sejm and the Senate *(bicameral parliament)*, executive power — in the president as head of Poland and the Council of Ministers, and the judicial power — in courts and tribunals. The Polish Constitution of 2 April 1997 allows for decentralisation of public power, i.e. the transfer of political, fiscal and administrative powers to sub-national levels of government (local government). The territory of Poland is divided into 16 voivodeships, 315 provinces, 65 urban provinces *(cities with province status)* and 2 478 communes *(gmina)*. The voivod is the representative of the Council of Ministers in a voivodeship. Cooperation between agencies is limited — silo mentality.
	Nature of futures organisation(s)	The Ministry of Science and Higher Education provides the organisational support for the activities being in the scope of responsibility of the minister, which includes all matters concerning science and higher education. The most significant tasks entrusted to the organisational units of the ministry include: • managing budgetary resources assigned for subsidies, grants, scholarships, prizes, etc., in the field of science and higher education, • coordinating relevant projects co-financed by the European structural funds, • promoting Polish science and higher education abroad and at the domestic level, • drawing up projects and strategies concerning the development of Polish research landscape and higher education system, • supervising the existing structures and institutions in view of the ongoing reforms and modernisation, • cooperation with foreign institutions and participation in international programs and events concerning the matters of science, research and higher education, • dealing with all matters concerning Polish and foreign students, lecturers and researchers working at Polish scientific facilities and higher education institutions.
	Date programme(s) introduced	NFP 'Poland 2020' was introduced in December 2006. Durat

Country: Poland		
	Responsibility	The programme was put in place by the Ministry of Science and Higher Education. A consortium was responsible for organising and managing the project: members of the consortium were: • the Institute of Fundamental Technological Research of the Polish Academy of Sciences (IPPT PAN) — project coordinator, responsible for project management and coordinating the work of the expert panels, • the Institute of Economics of the Polish Academy of Sciences (INE PAN) — responsible for analysis of statistical data and performance of analyses associated with the foresight procedure, • Pentor Research International — responsible for Delphi analysis, running of public debates and consultations and promotion of the NFP 'Poland 2020'.
	Resources	Budget: EUR 1 300 000 (PLN 4 500 000), public budget — section science Sponsor: Ministry of Science and Higher Education, Poland Experts in social and economic areas, science and representatives of industry, administration, politics and media worked on the project. About 335 'internal' experts were involved in work of three research panels and 20 thematic panels, 14 in the work of the main panel and more than 2 500 'external' experts were involved in the two rounds of the Delphi survey. Ten persons made up the steering committee with four from the consortium.
	Tradition	The national foresight programme 'Poland 2020' is the first national foresight exercise carried out in Poland. The realisation of the programme has been preceded by a pilot foresight project in the area of health and life research (duration 2003–2006). Apart from the national foresight programme, Poland is implementing 10 foresight at regional level and 13 at sectoral level.
	Parliament	The consultation functions and supervision to ensure the proper realisation of the programme were exercised by the steering committee, acting under the Ministry of Science and Higher Education. The Steering Committee was responsible for: • supervision to ensure the proper execution of the national foresight programme, • selection of experts to be involved in the programme; • choice of methods used in executing the programme; • determining the scope of each research area; • approving the programme's financial plans; • approving the reports at each stage of the programme.
	Advisory councils	The steering committee cooperated with the Foresight Unit of the Science Strategy and Development Department of the Ministry of Science and Higher Education and the support group comprised of young scientists from Polish universities and research centres. The expert panels (a main panel, three research area panels, and 20 topic panels) were involved in conceptual work, as the basis for further analyses by the coordination consortium. The main panel was the most important body of the project. Its decisions were of strategic importance to the performance of the entire project. The primary tasks of the main panel included: • development of a preliminary version of the development vision of Poland to year 2020, with a particular focus on the development of the scientific and research sector and its ties to the economy, • substantive supervision over the entire project, • laying down of substantive guidelines for the work of the research area panels.

Country: Poland		

		The research area panels were involved in analytical work as well as synthetic work associated with formulating of scenarios of development of research in Poland up to the year 2020 and were composed of key experts, who manage and coordinate the work of the topic panels.
		
		The main tasks of the topic panels included: assessment of current knowledge in the areas in question, analysis of major issues and macro topics of each research area using selected foresight methods, and the formulation of Delphi statements.
		
		The work of the research area and topic panels was supported by experts from partner institutions:
		
		• Warsaw School of Economics;
		• Warsaw University of Technology;
		• Białystok Technical University;
		• Interdisciplinary Centre for Mathematical and Computational Modelling, Warsaw University;
		• Centre for Advanced Technologies — A. Mickiewicz University in Poznań;
		• Wrocław University of Technology — Wrocław Centre for Technology Transfer;
		• Polish Agency for Enterprise Development;
		• Polish Federation of Engineering Associations;
		• the Gdańsk Institute for Market Economics;
		• Polish Technological Platforms:
		
		  • Polish Technological Platform for Production Processes,
		  • Polish Technological Platform for Textile Industry,
		  • Polish Technological Platform for Mobile Technologies and Wireless Communications,
		  • Polish Technological Platform for Advanced Materials,
		  • Polish Technological Platform for Internal Security,
		  • Polish Technological Platform for Aviation,
		  • Polish Technological Platform for Opto and Nanoelectronics,
		  • Polish Technological Platform for Balanced Chemistry,
		  • Polish Technological Platform for the Forest and Wood Industry,
		  • Polish Technological Platform for the Environment.
		
		• Research and Development Centre KGHM Miedź Sp. z o.o.;
		• Central Mining Institute;
		• Polish Chamber of Chemical Industry;
		• Polish Confederation of Private Employers Lewiatan;
		• Institute of Ferrous Metallurgy;
		• Industrial Chemistry Research Institute.

	Legal framework	The dislike of long-term thinking, the need for rational forecasting of possible development patterns — of paths of scientific research and development capable of accelerating long-term social and economic growth, of public debate on visions of Poland's future were the reasons for the implementation of national foresight programme. The national foresight programme 'Poland 2020' has been implemented as a ministerial project. The idea for the national foresight programme for Poland emerged in 2003 and is associated with the Minister of Science and Information Society Technologies at that time, Professor Michał Kleiber. It was included as one of the measures to foster innovativeness in a document *Plan for promoting growth in the years 2003–2004*, adopted by the Council of Ministers on 1 July 2003 and launched in the fourth quarter of 2003. The pilot project in the health and life research area was the first step in the realisation of the national foresight programme. The overall programme was initially supposed to cover the following research areas: sustainable development of Poland; information and telecommunication technologies; security. Due to changes in the political administration, the programme was not continued until 2006.

Country: Poland		
	Political framework	The results of the national foresight programme should be used to verify the paths of science and technology development and for related polices. The 'Innovative economy' operational programme 2007–2013 (OP IE), which is one of the instruments for the implementation of the national strategic reference framework for the years 2007–2013 (NSRF), indicates *that the priorities pointed out in the 'Science Development Strategy in Poland till 2015' will be verified and completed on the basis of results of implemented national foresight programme 'Poland 202*'. The results of the national foresight programme were used to formulate the research areas of the national programme of scientific research and development works (30 October 2008). The document is still undergoing interdepartmental (inter-ministerial) consultations.
	Role of environmental research/ foresight programmes in providing futures thinking	Environment/environment protection was one of the several research topics of the national foresight programme 'Poland 2020'. One of the three research areas — **sustainable development of Poland** covered environmental issues: key ecological problems, environmental protection technologies and integration of ecological policy with sectoral policies.
	Actors	The Polish Academy of Sciences is a state scientific institution founded in 1952. The institute of Fundamental Technological Research is one of the biggest scientific establishments within the Polish Academy of Sciences — it boasts 162 highly qualified scientists. The Institute was established in 1953. The institute is focused on basic theoretical and experimental research in the area of technology. The principal areas of scientific research conducted by the Institute include theoretical and experimental mechanics of materials; constructions and fluids; computational methods in mechanics; acoustoelectronics and the application of ultrasound in medicine; continuum physics; polymer physics; electromagnetic effects; applied information science; mechatronics and robotics; engineering and energy-saving pro-ecology-oriented building. The Institute of Economic Sciences of the Polish Academy of Sciences was founded in 1980. The institute employs 40 scientific researchers. The institute conducts research in the fields of economic theory; economic policy; analysis; forecasts and strategic studies concerning the Polish economy; analysis of the world economy and European integration regarding their influence on the development of the Polish economy. Pentor Research International is a research agency specialising in ad hoc research studies. It is a part of Research International and was established in 1991.
	Perceived institutional need	For the foresight programme, the Foresight Unit in the Department of Science Strategy and Development of the Ministry of Science and Higher Education was developed and was responsible for coordination of project and cooperation between main actors
2. Institutional structure for environmental policymaking	***Relevant government departments, ministers, agencies, etc.***	Environmental policy is formulated by the Ministry of Environment, the main government body responsible for environmental management: its responsibilities cover environmental protection and pollution control; nature conservation; water management and flood protection; protection and management of forests; management of mineral resources including exploration and granting of mining concessions. The ministry's responsibilities include the development and implementation of national environmental policy, implementation of EU legislation, the formulation of regulations for environmental protection, and the supervision of subordinate environmental agencies.

Country: Poland		
		On the list of experts for the NFP 'Poland 2020' in the sustainable development of Poland research area, there were only a few representatives of environmental institutions (ministerial/governmental institutes, supervised by the Ministry of the Environment): • The Institute of Environmental Protection • The Institute for Ecology of Industrial Areas • The Polish Geological Institute. The use of results of the NFP 'Poland 2020' for environment policy is unknown.
3. Foresight/ scenario culture traditions	***Approach to futures thinking***	Poland was, from World War II up until 1989, a centrally planned economy. Despite 20 years of transition, strategic thinking is still weak in policymaking. Most futures studies remain in the sphere of research. The NFP 'Poland 2020' was the first national foresight project in Poland. Next, regional and sectoral foresights were undertaken because there was a possibility of co-financing for such projects by European Regional Development Fund and state budget (as for regional foresight within the sector operational programme 'Improvement of the competitiveness of enterprises' or for the technological foresight within the operational programme, 'Innovative economy').
	Thematic or issue	**Regional foresight in Poland:** Projects co-financed by the European Regional Development Fund: • Technology foresight for sustainable development of Malopolska, • Innovative macro-region, technology foresight for Lower Silesia Region by the year 2020, • Monitoring and forecasting (Foresight) the priority, innovative technologies for sustainable development of the Mazovia region, • The LORIS WIZJA regional technological foresight (for Lodz region), • Priority technologies for sustainable development of the podkarpackie (Subcarpathian) region, • Priority technologies for sustainable development of the Silesia region, • Priority technologies for sustainable development of the swietokrzyski region, • Opole voivodeship as region of sustainable development — Regional Foresight to 2020. And a project within the sixth framework programme for research and technological development: • REFORM — Regional Economic RTD Policy through Foresight & Mentoring. **Branch/ sectoral foresight:** • Technological foresight for automatics, robotics and measure technique, • Technological foresight of polymeric materials, • Technological foresight of the Polish foundry, • Development paths of material technologies for an aerospace cluster — Aviation Valley, • Perspective and advantage assessment of satellite techniques using and space technologies development in Poland, • Modern technology development scenarios of metallic, ceramic and composite materials, • Development scenarios of technological fuel — energy complex for energy security of Poland, • Technological development scenarios of extraction and utilisation brown coal, • Scenarios of technology development of copper and accompanying minerals mining industry in Poland, • Technological development scenarios of hard coal mining industry, • Monitoring system and scenarios of medical technology development in Poland, • Technological foresight for utilisation of hard coal mining waste, • Foresight for thermonuclear energy sector.

Country: Poland	
4. Summary of programme(s) as a whole, including within agencies	The NFP 'Poland 2020' is the first national foresight exercise being carried out in Poland. About 3 000 experts worked on the NFP — representatives of science, business, media, non-governmental organisations, administration, politics. The participation of wider society in a debate about the future of Poland was a big success; mainly because of the experience with the pilot project (foresight in the area of health and life) saw the difficulties in involving people in the project. Five visions (scenarios) of Poland's development to 2020 and recommendations are the most important results of the NFP. Even though environment environment protection was one of the several research topics of the NFP, the science research and technologies recommended as crucial for the Polish economy were related to the environment — energy and raw materials effectiveness, renewable and alternative energy, environmentally safe/friendly construction materials, transport modes, etc.

Title of futures programme(s):		Poland 2030 — Development challenges
1. Overall governance culture of country	***Nature of futures organisation(s)***	The **Board of Strategic Advisors to the Prime Minister** is an independent, consultative body created on 6 March 2008 by an ordinance of the prime minister. The head of the team is Michał Boni PhD, Minister and Member of the Council of Ministers. The Board analyses and evaluates the socio-economic situation and condition of the country. On the basis of these strategic analyses, the Board prepares independent proposals for Poland's economic and social development.
	Date programme(s) introduced	Duration: February 2008–Spring 2010 The report *Poland 2030 — Development challenges*, June 2009
	Responsibility	The idea of the Board of Strategic Advisers to the Prime Minister of Poland creation and of report *Poland 2030 — Development challenges* was initiated by Minister Michał Boni. The report was prepared by the Board of Strategic Advisers to the Prime Minister of Poland edited by Minister Michał Boni. The Board headed by Minister Michał Boni is responsible for, and manages all the work related to, the report (creation and implementation).
	Resources	There are 17 members of the Board — a group of young people headed by Michał Boni, Minister and Member of the Council of Ministers — and they come from different academic and research backgrounds — from such fields as economy, education, media and communication and regional development. Apart from specialising in these varying fields, Board members are high-profile specialists with regard to the strategic development of the country. Staff related to the report: author group — 16 persons (two outside the Board); cooperation — three persons from the Board; consultants (permanent cooperated) — 31 persons; and some tens of experts (information and consultation imparting).
	Tradition	
	Parliament	The Board of Strategic Advisors to the Prime Minister is an independent body under the leadership of Minister Michał Boni.
	Advisory councils	There are no special Advisory Councils. There was group of experts consulted for the report during the preparation time.
	Legal framework	Regulation No 25 of the Prime Minister of 6 March 2008 establishing the Board of Strategic Advisors to the Prime Minister, the tasks of the Team are to:

Title of futures programme(s):		Poland 2030 — Development challenges
	Political framework	The report *Poland 2030 — Development challenges* is not legally required as a strategic government document and there has been no obligation to prepare this document. The Green Paper *Poland 2030 — Development challenges* provides the basis for the *Long-term National Development Strategy* — a strategic government document. The report *Poland 2030 — Development challenges* is consistent with: • the National Development Strategy (2006), • the Strategic Governance Plan (2008), • a new version of the national reform programme (2009). The report *Poland 2030 — Development challenges* will be consistent with: • the National Spatial Development Plan (2010), • the National Regional Development Strategy (2009/2010).
	Role of environmental research/ foresight programmes in providing futures thinking	The environmental problems are very important for development but they are one of several issues. They are taken into consideration mainly in Challenge 5, Energy and climate safety.
	Actors	The Board of Strategic Advisors to the Prime Minister is an independent body; internal to public sector. The government administration authorities and their subordinate units provide the team with comprehensive assistance in the discharge of its tasks, in particular, by presenting necessary information and documents.
	Perceived institutional need	It was Michał Boni, Minister and Member of the Council of Minister's initiative to create the Board of Strategic Advisors.
2. Institutional structure for environmental policymaking	***Relevant government departments, ministers, agencies, etc.***	
3. Foresight/ scenario culture traditions	***Approach to futures thinking***	Since the beginning of the political transition, strategic issues have been neglected or treated on a purely formal basis, while strategic/long-term planning has been marginalised. To a large extent, this was a result of the animosity to the central command planning embedded in the public consciousness. Attempts to change this situation have been taken: in 1994, the Council for the Social and Economic Strategy was established with the Council of Ministers and, in 1996, the Government Centre for Strategic Studies; however, both of these institutions were dissolved in 2006. Up until 2009, there was practically no central institution to deal with the issues of the strategic development of the country.
	Thematic or issue	
4. Summary of programme(s) as a whole, including within agencies		

Title of futures programme(s):		Energy Policy of Poland until 2030
1. Overall governance culture of country	***Description***	Following the breakdown of the communist system, since mid-1989 Poland has been in a transition period from a centrally planned economy and highly centralised government to a market-oriented and democratic system. Poland is a multiparty parliamentary democracy now. The Republic of Poland (Poland) is a unitary state. The system of government is based on the separation of, and balance between, the legislative, executive and judicial powers. Legislative power is vested in the Sejm and the Senate (bicameral parliament), executive power — in the president as a head of Poland and the Council of Ministers, and the judicial power — in courts and tribunals. The Polish Constitution of 2 April 1997 allows for decentralisation of public power, i.e. the transfer of political, fiscal and administrative powers to sub-national levels of government (local government). The territory of Poland is divided into 16 voivodeships, 315 provinces, 65 urban provinces (cities with province status) and 2 478 communes *(gmina)*. The voivod is the representative of the Council of Ministers in a voivodeship.
	Nature of futures organisation(s)	Ministry of Economy *(ME)* The ME is responsible for the economy of Poland (among other things the energy sector, certification, industry ownership, economic activity, economic cooperation with abroad, cooperation with organisations of economic self-government).
	Date programme(s) introduced	In the second half of 2008
	Responsibility	The Minister and Ministry of Economy
	Resources	The departments of the Ministry of Economy are engaged in work on energy policy: energy, oil and gas, mining, analyses and forecasting (macroeconomic assumption to projection of demand for fuels and energy until 2030). The departments are organisational units which implement the material tasks of the ministry. They are divided into divisions (head and at least four employees), teams and one and multi-person job positions.
	Tradition	The Ministry of Economy was created in 1997 from reforms and mergers of other ministries. It has gone through several name changes: Ministry of Economy 1997–2003; Ministry of Economy, Labour and Social Policy 2003–2004; Ministry of Economy and Labour 2004–2005; and Ministry of Economy 2005–present. The ministry has recently been downsized, with issues related to work covered by the Ministry of Labour and Social Policy: regional issues were transferred to the Ministry of Regional Development in 2005. In 2007, the bureau of tourism was moved to the Ministry of Sport.
	Parliament	In accordance with Article 12 of the Energy Law, the Minister of Economy is leading an organ of government administration dedicated to energy policy affairs.
	Advisory councils	There are no special advisory councils. The document was sent for inter-ministerial (central authorities, ministries and governmental institutions) and social consultation (chambers of commerce, environmental/ecological associations, trade unions, employers' organisations, representatives of territorial self-government, experts and scientists in energy area). The social consultation was open; information about the consultation was published in newspapers and on the website of the ME. An invitation to comment on the document was sent to energy companies, trade unions, ecological organisations, voivodes and marshals. The draft version of the energy policy was also sent to the International Energy Agency (to give an opinion).
	Legal framework	In accordance with Article 15 of the Energy Law, the energy policy is elaborated every four years with at least 20 years forecast perspective.

Title of futures programme(s):		Energy Policy of Poland until 2030
	Political framework	The strategy responds to the crucial challenges facing the Polish energy sector in the short and long terms. The priorities of Poland's energy policy until 2030 developed by the Ministry of Economy are: • improving energy efficiency, • increasing security of supply, • developing competitive markets for fuels and energy, • introducing nuclear power, • increasing the use of renewable sources, • reducing the impact of energy on the environment.
	Role of environmental research/ foresight programmes in providing futures thinking	Environmental research is an important part of the document (energy policy) — as is research on carbon-capture and storage, renewable energy technologies, nuclear power.
	Actors	The following departments of the Ministry of Economy are engaged in work on the energy policy: **Energy Department** The Energy Department is responsible for the implementation of tasks related to shaping the energy policy and regulatory environment within the scope of the power and heat engineering sectors, coordination of shaping the energy policy and the safe functioning of national power and heat engineering systems. **Oil and Gas Department** The Oil and Gas Department is responsible for the implementation of tasks related to shaping the energy policy and regulatory environment within the scope of the natural gas sector and oil and fuels sector; the development and assurance of the safe functioning of gas infrastructure and oil and fuels infrastructure; the establishment, organisation and management of the oil, fuels and natural gas intervention stocks system; the planning and coordinating actions of the minister in a situation of risk to fuel safety of Poland; as well as tasks related to the preparation of analyses and evaluations of the sectors' functioning. The department is responsible for the coordination of issues in the area of Poland's cooperation with the International Energy Agency and coordination of implementation of the provisions of the Energy Community Treaty and Energy Charter Treaty. **Mining Department** The Mining Department is responsible for the implementation of tasks related to functioning of hard-coal mining and non-energy raw materials industry and cooperates in the area of shaping the energy policy in the scope of hard-coal mining sector. **Analyses and Forecasting Department** The Analyses and Forecasting Department is responsible for the collection and aggregation of knowledge in the fields within the competences of the minister for the purposes of evaluation of interrelations between these fields as well as preparation of analyses, assessments, evaluations, forecasts and information (inter alia, analyses and studies of the Polish economic situation in the scope of macroeconomic tendencies, foreign trade, structural reforms, selected problems and monitoring of economic processes).

Title of futures programme(s):		Energy Policy of Poland until 2030
		The report *Projection of demand for fuels and energy until 2030* was prepared by an external agent to the public sector, **Agencja Rynku Energii SA** — ARE SA (The Energy Market Agency). The governmental document *Energy Policy Guidelines for Poland until 2010*, accepted by the Council of Ministers on 17 October 1995 included a proposal to form the Energy Market Agency to conduct research and assemble vital information for the energy sector. ARE was established as a joint stock company in April 1997. The company currently employs 61 people: over 70 % with university degrees as power engineers, statisticians, economists and computer scientists (http://www.are.waw.pl). This report on the environmental impact assessment of energy policy was prepared by an external agent to the public sector, **PROEKO CDM** — a consulting company in environmental protection. The company was established in 1992 and employs 35 full-time staff and collaborates more with than 100 Polish and foreign experts from leading research, design, and consulting centres (http://www.proeko.pl).
A	***Perceived institutional need***	
2. Institutional structure for environmental policymaking	***Relevant government departments, ministers, agencies, etc.***	
3. Foresight/ scenario culture traditions	***Approach to futures thinking***	
	Thematic or issue	
4. Summary of programme(s) as a whole, including within agencies		

Appendix 2
Examples of futures studies

Country: Poland		
Futures programme(s): Poland 2020		
1. Description/ characteristics of future study	***Examples of specific studies***	Integrated scenarios of development for Poland to 2020 Development scenarios for Poland to 2020 in the **sustainable development of Poland** research area Development scenarios for Poland to 2020 in the **security** research area Development scenarios for Poland to 2020 in the **information and telecommunications technologies** research area
	Exploratory/ normative?	Exploratory: five future scenarios were presented
	Qualitative/ quantitative?	Qualitative (narrative)
	Thematic focus?	The NFP 'Poland 2020' covers three research areas and 20 special topics making up each area: *Sustainable development of Poland* • Quality of life • Sources and use of power resources • Key ecological problems • Environmental protection technologies • Natural resources • New materials and technologies • Transport • Integration of ecological policy with sectoral policies • Product policy • Sustainable development of regions and areas **Information and telecommunications technologies** • Access to information • ICT and the society • ICT and education • e-Business • New media **Security** • Economic security (external and internal) • Intellectual security • Social security • Technical and technological security • Development of civil society
	Specific issue focus?	The results of study made by the 'Sustainable development of Poland' research area panel were strategic paths of scientific research which will have an impact/will guarantee the sustainable development of Poland in socio-organisational and advanced technologies fields.
	Spatial/ temporal scale	Poland (national scale), duration 2006–2008, scenarios for 2008–2020
	Ad hoc/ongoing established futures process?	The research area panels were established only for this programme (2006–2008) and were involved in analytical and synthetic work associated with formulating of scenarios of development of research in Poland up to the year 2020.
	Sector/cross-sector-based?	Cross-sector

Country: Poland		
	Science-based/ multiple stakeholders?	Multiple stakeholders; multiple 'internal' experts were involved in the work of the main panel, research panels and thematic panels and 'external' experts were involved in the two rounds of the Delphi survey.
2. Original purpose and application	***For what purpose?*** The main aim of the NFP 'Poland 2020' was to set out the paths of scientific research and development which will, in the long run, have an impact on the acceleration of the social and economic growth. The objectives of the NFP 'Poland 2020' were to: • lay out the development vision of Poland to year 2020; • set out — through a consensus with the main beneficiaries — the priority paths of scientific research and development which will, in the long run, have an impact on the acceleration of the social and economic growth; • put the research results into practice and create preferences for them when it comes to allocating funds from the budget; • present the significance of scientific research to economic growth and how it can be absorbed by the economy; • adjust the Polish scientific policy to the requirements of the European Union; • shape the scientific and innovative policy towards Knowledge- Based Economy.	
	Requested by a specific entity? The foresight project was put in place activated by the Ministry of Science and Higher Education, in December 2006.	
	How used? Implementation of the national foresight programme in Poland should bring about: • focus on the development of research and technologies on fields guaranteeing fast economic growth in the medium and long run; • rationalisation of expenditures from publicly available funds; • creation of a public debate language and culture of thinking about the future, leading to coordination of joint efforts towards economic growth and improvement of the quality of life in Poland.	
	By whom? The results of foresight programme were addressed mainly for policymaking, science and business (industry).	
3. Outcomes (immediate and long term)	***Where and how used in policy (if at all)***	Not yet: it is too early
4. Evaluation	***Any formal evaluation of effectiveness or updates***	Not yet: it is too early
	Success factors/drivers	• Participation of wide society in debate about future of Poland • Building of vision of country development up to the year 2020 • Building of network of people interested and related with foresight topic.
	Barriers to success	• Too low a participation of representatives of business, administration and media relatively to representatives of sciences in debate on future of Poland • Too small an interest from decision-makers about the realisation and results of the NFP • Undecided problem of the implementation manner of the NFP results.
5. References	http://www.foresight.polska2020.pl http://www.nauka.gov.pl	

Country: Poland		
Futures programme(s): Poland 2030 — Development challenges		
1. Description/ characteristics of future study	***Examples of specific studies***	Poland 2030 — Development challenges
	Exploratory/ normative?	Exploratory: the aim of the report is to outline a perspective of potential routes for Poland's development in the next 20 years. Referencing back to the completed process of Poland's transformation and pointing out the potential for further development, this study presents the dilemmas which must be solved in the near future, especially in the field of economic and social policies, infrastructure, energy safety and efficient management of the administration.
	Qualitative/ quantitative?	The document is qualitative and quantitative and includes: • diagnosis of achievements/ state of Poland after two decades of transformation; • 10 key challenges face Poland; • formulating of the main factors essential for the long-term development of Poland; • a set of coherent recommendations and top priorities for the forthcoming two decades.
	Thematic focus? ***Specific issue focus?***	In the report, the 10 key challenges for Poland have been defined: 1. growth and competitiveness 2. demographic condition 3. high professional activity and flexibility of labour resources 4. adequate infrastructural potential 5. energy and climate safety 6. economy based on development of knowledge and intellectual capital 7. solidarity and regional cohesion 8. improvement of social cohesion 9. performing state 10. Poland's social capital growth.
		One of the challenges, No 5, energy and climate safety is closely related to the environment. Issues: energy resources, effectiveness of energy sector, climate changes, emissions, energy safety of Poland, environment protection
	Spatial/ temporal scale	Poland, development to 2030
	Ad hoc/ongoing established futures process?	The Board of Strategic Advisors to the Prime Minister was created in 2008 by an ordinance of the Prime Minister Donald Tusk) and can only be dissolved by another ordinance of the prime minister (current or next).
	Sector/cross-sector-based?	Approach is complex, across a number of areas
	Science-based/ multiple stakeholders?	Science-based: the report Poland 2030 — Development challenges, being a strategic tool, combines a multifaceted, scientific analysis of the present condition and the diagnosis of future challenges by indicating a proper, adequate state development model, and laying out such activity directions that would facilitate the implementation thereof.

Country: Poland		
2. Original purpose and application	***For what purpose?*** Agenda 2030: • the Green Paper Poland 2030 — Development challenges provides the basis for the *Long-term National Development Strategy* — a strategic government document; • the establishment of the working group on *Poland 2030 — Development challenges* within the Committee for the Development Policy Coordination (ministries, experts): June 2009; • a review of government strategies to determine whether they are consistent with the strategic objectives of *Poland 2030 — Development challenges*: June–September 2009; • a public debate on the report (meetings, workshops and consultations) with all the shareholders: July–September 2009; • a public presentation of the debate outcomes: October 2009; • the preparation of executive packages for Poland 2030 — *Development challenges* to make up the implementation plan for the long-term national development strategy: June 2009–spring 2010; • executive packages, e.g. the Energy Plan for Poland, the National Spatial Development Strategy, the National Regional Development Strategy, the Infrastructure Development Plan 2030; • the adoption of the packages — in the course of 2010;	
	Requested by a specific entity? No, document has been written by the Board of Strategic Advisors within their duties.	
	How used? The document Poland 2030 — *Development challenges* establishes a framework for the long-term strategy for state development — a strategic governmental document which, in line with the provisions set forth in the Council of Ministers' action plan.	
	By whom? It is expected that results will be used by government.	
3. Outcomes (immediate and long term)	***Where and how used in policy (if at all)***	Not yet: it is too early
4. Evaluation	***Any formal evaluation of effectiveness or updates***	Not yet
	Success factors/drivers	Not yet
	Barriers to success	Not yet
5. References	http://www.polska2030.pl/	

Country: Poland			
Futures programme(s): Energy Policy of Poland until 2030			
1. Description/ characteristics of future study	***Examples of specific studies***	Projection of demand for fuels and energy until 2030	Environmental impact assessment of energy policy
	Exploratory/ normative?	Normative	Exploratory
	Qualitative/ quantitative?	Quantitative To prepare the projection of the demand for useful energy, the end-use model called MAED has been applied. In this model, projections of the demand for useful energy are created for each use of energy within each economic sector. The projection of the structure of electricity sources with the lowest discounted generation costs has been determined using the WASP IV model. The adopted projection of the economic growth until 2030 was prepared in 2007 by the Gdańsk Institute for Market Economics.	Narrative Three scenarios of environmental impact depending on alternative paths of implementation of the energy policy's objectives and depending on energy demand and supply were analysed (based on strategic documents and some publications, e.g. the last 2030 Report of the Polish Committee for Electricity).
	Thematic focus?	Energy (demand for fuels and energy)	Environment (potential environmental impact of the energy policy implementation)
	Specific issue focus?	Demand for final energy, primary energy, electricity, projection of prices of electricity and district heat, economy's energy intensity, emissions of SO2, NOx, dusts and CO2 from fuel combustion	Impact on the species and habitats protected in Natura 2000 areas, on climate, fauna and flora, landscape and cultural heritage, air quality (SO_2, NO_x and dust emission), acoustic climate, the main underground water reservoirs and underground waters, groundwaters
	Spatial/ temporal scale	Poland, in perspective 2006–2030	Poland, until 2030
	Ad hoc/ongoing established futures process?	The study was prepared by Agencja Rynku Energii SA (The Energy Market Agency). ARE prepares research and forecasting studies; conducts analyses for relevant governmental institutions (particularly the Ministry of Economy) to update and formulate energy policies (the most important activity of ARE is research input to energy policy in Poland); conducts permanent monitoring of the energy market development; maintains a data bank of the energy economy.	According to the legislation (the Act on access to environmental information and its protection, public participation in environmental protection and environmental impact, assessments of 3 October 2008 (Official Journal of Laws Dz. U. No 199, item1227)), each strategic national document has to have EIA. This EIA was prepared by PROEKO CDM — a consulting company in environmental protection.
	Sector/cross-sector-based?	Sector	Cross-sector
	Science-based/ multiple stakeholders	Agencja Rynku Energii SA (The Energy Market Agency)	PROEKO CDM — a consulting company in environmental protection
2. Original purpose and application	***For what purpose?*** The preparation of the energy projection.		Improvement in energy policy in order to minimise its environmental impact (consequences of implementation)
	Requested by a specific entity? The Ministry of Economy		

Country: Poland		
	How used? For preparation of the energy policy of Poland up to the year 2030	
	By whom? Ministry of Economy/government	
3. Outcomes (immediate and long term)	***Where and how used in policy (if at all)?***	Energy policy of Poland until 2030
4. Evaluation	***Any formal evaluation of effectiveness or updates***	Both studies as part of the governmental draft strategic document (policy) were under social consultation (from 10 April to 3 June 2009). The Ministry of Economy received more than 1 100 comments during the inter-ministerial and social consultation. The document was updated after the consultation. The adopted projection of the economic growth until 2030, prepared in 2007 by the Gdańsk Institute for Market Economics, has been adjusted due to the current financial crisis and the predicted economic slowdown in the nearest years. The final version of document was delivered on 16 July 2009 to governmental bodies: European Committee of the Council of Ministers, Common Commission of Government and Territorial Self-government and Committee for the Development Policy Coordination. The acceptance of document is expected in September 2009. Implementation of the action plan for the years 2009–2012, which constitutes an integral part of Poland's energy policy until 2030, will be monitored on an ongoing basis by the minister in charge of the economy.
	Success factors/drivers	Expected results of the Polish energy policy are: • to improve energy efficiency; • to enhance security of fuel and energy supplies; • to diversify the electricity generation structure by introducing nuclear energy; • to develop the use of renewable energy sources, including biofuels; • to develop competitive fuel and energy markets; • to reduce the environmental impact of the power industry.
	Barriers to success	Probable barriers to success related to energy policy: • lack assets for implementation, • implementation delays, • essential changes of economic conditions.
5. References	http://www.mg.gov.pl/Gospodarka/Energetyka/Polityka+energetyczna/ http://www.mg.gov.pl/English/Programmes/Polands+Energy+Policy+until+2030.htm	

Appendix 3
Model for managing Poland's development

On 27 April 2009, the Council of Ministers adopted *The Assumptions for the System for Managing Poland's Development.* The document was developed by the Ministry of Regional Development in cooperation with the Chancellery of the Prime Minister and the Board of Strategic Advisors to the Prime Minister. It presented a proposal for a model for development management, intended to enhance the efficiency of development policy programming and implementation and to improve the quality of the functioning of public institutions. The process to implement this model has begun; it is assumed that the model will become operational in 2010.

Both in the present and future models for managing Poland's development, the **Council of Ministers** will be competent to take the most important decisions and to approve the strategic goals of the State. In accordance with the proposed model, the **prime minister** exercises direct supervision over strategic management. The main strategic document will be the **long-term national development strategy** with a time frame of at least 15 years; it will play a superior role with respect to all the sectoral, field-specific and regional policies. The preparation and negotiation process will be coordinated by the prime minister or a representative designated by the prime minister. The draft long-term national development strategy will be drawn up by the Board of Strategic Advisors to the Prime Minister and the Chancellery of the Prime Minister (CPM) in cooperation with the MRD.

The minister competent in the matters of regional development will be responsible for the major tasks in the scope of the national **medium-term** socio-economic and spatial planning. The medium-term horizontal documents (with a time frame of 4–10 years) at national level will be drawn up at the MRD, in cooperation with the CPM, the Board of Strategic Advisors to the Prime Minister and other ministries.

The individual ministers will responsible for the preparation of lower-rank documents, such as **sectoral** strategies and development programmes.

At regional level, the self-government authorities will be responsible for the programming of the development of a **region** or the programming of **local** development.

In accordance with the proposed model, the Ministry of Regional Development will be responsible for setting out methodological and substantive standards and the organisational procedures for the programming process and their enforcement to ensure that they are complied with by the entities involved in the process.

The following institutional support structures play an important role in the process of strategic management.

- **Board of Strategic Advisors to the Prime Minister** (can include up to 20 members) is an independent, consultative body created on 6 March 2008 by an ordinance of the prime minister. The head of the team is Mr Michał Boni, Minister and Member of the Council of Ministers. The Board analyses and evaluates the socio-economic situation and condition of the country. On the basis of these strategic analyses, the Board prepares independent proposals for Poland's economic and social development.

- **The Department of Strategic Analyses** (established in October 2008) at the Chancellery of the Prime Minister, carries out tasks in the scope of:

    1. the preparation and acquisition of horizontal and strategic analyses with a view to giving direction to the national economic and social policy;
    2. the creation and operation of analytical tools enabling the assessment of selected socio-economic processes;
    3. the assessment of the factors and internal and external challenges of importance for the national long-term development;

4. the identification of the needs and the preparation of proposals for measures to implement policies of importance for the national long-term development.

- Given the fact that there was no central body in place which would be responsible for the comprehensive development management, in March 2009, the Committee for the Development Policy Coordination was established at the Chancellery of the Prime Minister (as the so-called Auxiliary Body). The Committee is a body mandated to provide opinions and advice, which sets out the directions of development policies, considers and gives opinions on programming and strategic documents in the scope of development policy (in particular the long-term national development strategy, the medium-term national development strategy and the national spatial development plan). The members of the Committee include, for example e.g. the prime minister, the ministers competent in the matters of public finance, economy, science, regional development, rural development, the environment, transport and internal affairs; Mr Michał Boni, Minister and Member of the Council of Ministers; the Secretary of the Committee for European Integration; and the Secretary of the Committee is a representative of the Department of Strategic Analyses at Chancellery of the Prime Minister.

- **The research and forecast centre (the Department for Structural Policy Coordination), which operates within the MRD**, is responsible for:

  1. the coordination of national development policy in the scope laid down by statute and the preparation of the draft medium-term national development strategy, the national regional development strategy, the national cohesion strategy and other strategies and programmes — in accordance with the competence of the MRD and the decisions of the Council of Ministers;
  2. the provision of opinions concerning the conformity of strategies and programmes with the medium-term national development strategy;
  3. the commissioning and/or implementation of studies and the performance of forecasts on socio-economic and spatial development;
  4. the evaluation of the national development policy and the coordination of evaluations carried out by other public administration units;
  5. the continuous evaluation of activities carried out by the individual sectors of the economy as well as the broadly conceived public policies.

- Moreover, **units responsible for strategic programming** should be identified and strengthened in terms of their functional capacity at each ministry and each marshal's office. Experts with experience in analytical and programming work and experts from individual fields of socio-economic life should work at these units.

- A strategic programming **database**, containing documents, conformity assessments, implementation reports and indicators, will also be an important instrument for coordinating development activities.

European Environment Agency

Annex 7 – Poland country case study
BLOSSOM: Support to analysis for long-term governance and institutional arrangements

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