

Ministry of Economy

Energy Policy of Poland until 2030

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TABLE OF CONTENTS

- 1. INTRODUCTION..... 4**
 - 1.1. DETERMINANTS 4
 - 1.2. PRIMARY DIRECTIONS OF ENERGY POLICY 4
 - 1.3. ENERGY POLICY TOOLS 5
 - 1.4. DOCUMENT STRUCTURE 6
- 2. IMPROVING ENERGY EFFICIENCY..... 6**
 - 2.1. OBJECTIVES IN RESPECT OF ENHANCING ENERGY EFFICIENCY 7
 - 2.2. MEASURES TO IMPROVE ENERGY EFFICIENCY 7
 - 2.3. EXPECTED EFFECTS OF MEASURES TO IMPROVE ENERGY EFFICIENCY 8
- 3. ENHANCED SECURITY OF FUELS AND ENERGY SUPPLIES..... 8**
 - 3.1. OBJECTIVES AND MEASURES TO ENHANCE SECURITY OF FUELS AND ENERGY SUPPLIES 9
 - 3.1.1. *Fuels – sources and transmission* 9
 - 3.1.1.1 Coal 9
 - 3.1.1.2 Gas..... 10
 - 3.1.1.3 Crude oil and liquid fuels 11
 - 3.1.2. *Generation and transmission of electricity and heat* 12
 - 3.2. ANTICIPATED EFFECTS OF MEASURES TO ENHANCE SECURITY OF FUELS AND ENERGY SUPPLIES 14
 - 3.2.1. *Fuels – sources and transmission* 14
 - 3.2.2. *Generation and transmission of electricity and heat* 14
- 4. DIVERSIFICATION OF THE ELECTRICITY GENERATION STRUCTURE BY INTRODUCING NUCLEAR ENERGY 15**
 - 4.1. OBJECTIVES IN RESPECT OF DIVERSIFICATION OF THE ELECTRICITY GENERATION STRUCTURE BY INTRODUCING NUCLEAR ENERGY 15
 - 4.2. MEASURES FOR DIVERSIFICATION OF THE ELECTRICITY GENERATION STRUCTURE BY INTRODUCING NUCLEAR ENERGY 16
 - 4.3. ANTICIPATED EFFECTS OF MEASURES FOR DIVERSIFICATION OF THE ELECTRICITY GENERATION STRUCTURE BY INTRODUCING NUCLEAR ENERGY 17
- 5. DEVELOPMENT OF THE USE OF RENEWABLE ENERGY SOURCES, INCLUDING BIOFUELS 17**
 - 5.1. DEVELOPMENT OBJECTIVES OF USING RENEWABLE ENERGY SOURCES..... 17
 - 5.2. MEASURES TO INCREASE THE USE OF RENEWABLE ENERGY SOURCES 18
 - 5.3. ANTICIPATED EFFECTS OF MEASURES TO INCREASE THE USE OF RENEWABLE ENERGY SOURCES 19
- 6. DEVELOPMENT OF COMPETITIVE FUEL AND ENERGY MARKETS 19**
 - 6.1. OBJECTIVES IN THE AREA OF DEVELOPING COMPETITIVE MARKETS 20
 - 6.2. MEASURES FOR DEVELOPMENT OF COMPETITIVE MARKETS 20
 - 6.3. ANTICIPATED EFFECTS OF MEASURES FOR DEVELOPMENT OF COMPETITIVE MARKETS 21

7.	MITIGATING THE ENVIRONMENTAL IMPACT OF THE POWER INDUSTRY	21
7.1.	OBJECTIVES AIMED AT MITIGATING THE ENVIRONMENTAL IMPACT OF POWER INDUSTRY 21	
7.2.	MEASURES AIMED AT MITIGATING THE ENVIRONMENTAL IMPACT OF POWER INDUSTRY 21	
7.3.	ANTICIPATED EFFECTS OF MEASURES AIMED AT MITIGATING THE ENVIRONMENTAL IMPACT OF POWER INDUSTRY	22
8.	SUPPORTING MEASURES	23
9.	ENERGY POLICY IMPLEMENTATION SYSTEM.....	25
10.	APPENDICES	27
	APPENDIX 1. ASSESSMENT OF IMPLEMENTATION OF ENERGY POLICY SINCE 2005 ONWARDS 27	
	APPENDIX 2. PROJECTION OF DEMAND FOR FUELS AND ENERGY UNTIL 2030.....	27
	APPENDIX 3. ACTION PLAN FOR THE YEARS 2009–2012.....	27
	APPENDIX 4. CONCLUSIONS FROM STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT OF ENERGY POLICY	27

1. Introduction

1.1. Determinants

Currently, the Polish energy sector is facing a number of serious challenges. High demand for energy, inadequate fuel and energy generation and transmission infrastructure, significant dependence on external supplies of natural gas and almost full dependence on external supplies of crude oil, as well as commitments in the field of environmental protection, including climate protection, compel us to take decisive actions preventing the deterioration of the situation of fuel and energy customers.¹

At the same time, the global economy witnessed a series of unfavourable events in recent years. Significant fluctuations in prices of energy-producing raw materials, the increasing demand of developing countries for energy, serious breakdowns of energy systems, and the increasing environmental pollution require a new approach to energy policy.

As part of its environmental protection commitments, the European Union set quantitative objectives for 2020, the so-called “3x20%,” i.e. reducing greenhouse gases emission by 20% of 1990 levels, reducing energy consumption by 20% of the projected 2020 levels and increasing the share of renewable sources of energy to 20% of total energy generation, including an increase in the use of renewables in transport to 10%. In December 2008, the EU adopted the climate and energy package which contains specific legal tools to attain the above objectives. By means of actions initiated at the national level, the energy policy contributes to the implementation of energy policy objectives specified at the Community level.

This document has been drafted in accordance with Articles 13–15 of the Energy Law and presents the strategy of the state which aims to address the most important challenges that the Polish power industry must face, both in the short and in the long run, until 2030.

1.2. Primary directions of energy policy

As a Member State of the European Union, Poland actively participates in devising the Community energy policy, it also implements its main objectives under the specific domestic conditions taking into account the protection of interests of customers, the energy resources and technological conditions of energy generation and transmission.

In line with the above, the primary directions of Polish energy policy are as follows:

- 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.

The adopted directions of energy policy are largely correlated. Improvement of energy efficiency reduces the increase in demand for fuels and energy, and thus it is conducive to

¹ These diagnosis of the problems was presented in Appendices 1, 2, and 4 to the present document.

enhancing energy security by reducing dependence on import; it also reduces the environmental impact of the power sector by reducing emissions. The development of renewable energy sources, including the use of biofuels and clean coal technologies, and introduction of nuclear energy bring about similar effects.

Implementing measures in accordance with the above directions, the energy policy will strive to enhance the country's energy security observing the principle of sustainable development

The Energy Policy constitutes a part of the priorities of the National Development Strategy 2007–2015 adopted by the Council of Ministers on 29 November 2006. In particular, the objectives and measures laid down in the document will contribute to the implementation of the priority concerning the improvement of the condition of technical infrastructure. The objectives of the Energy Policy are also convergent with the objectives of the renewed Lisbon Strategy and the renewed EU Sustainable Development Strategy. The energy policy will strive to meet the commitment contained in the two abovementioned EU strategies which assumes the transformation of Europe into a low-carbon economy with a reliable, sustainable, and competitive energy supply.

1.3. Energy policy tools

The main energy policy tools are as follows:

- Legal regulations setting forth the operating principles for the fuel and power sector, and defining technical standards;
- Effective use of owner's supervision by the State Treasury to implement the energy policy objectives within its competence;
- Ongoing regulatory activities of the President of the Energy Regulatory Office (Polish abbreviation: URE), consisting in verification and approval of tariffs, and application of benchmarking analysis to regulated energy markets;
- System mechanisms to support implementation of measures aimed at achieving the primary objectives of energy policy which are currently not commercially profitable (e.g. the certificate market, tax benefits and exemptions);
- Ongoing monitoring of the situation on fuel and energy markets by the President of the Office of Competition and Consumer Protection (Polish abbreviation: UOKiK) and the President of the Energy Regulatory Office and intervention measures within their competence;
- Activity within the structures of the European Union, particularly those leading to such EU energy policy and Community requirements in respect of environmental protection that would take into account the nature of the Polish power sector and result in Poland's enhanced energy security;
- Poland's active membership in international organisations, such as the International Energy Agency;
- Statutory activity of local government bodies taking account of the priorities of the Energy Policy of Poland, also through public-private partnerships (PPP);
- Hierarchic spatial planning ensuring the implementation of energy policy priorities, plans of electricity, heat, and gas fuels supply to communes and the development plans of power companies;

- Information activities conducted by government bodies and by co-operating research and development centres;
- Support of energy projects significant to Poland (e.g. investment projects, research and development) with public funds, including European funds.

Within the framework of energy policy implementation, a profound reform of the energy law will be carried out. It will result in drafting a set of new regulations. As a result, stable and transparent conditions for operation of entities in the area of fuel and energy market economy will be created.

Measures set forth in the energy policy will be largely implemented by commercial energy companies operating on competitive fuel and energy markets or on regulated markets. Therefore, state intervention in the operation of the sector must be limited and must have a clearly defined objective, namely to ensure energy security in Poland and to meet its international commitments, particularly in respect of environmental protection and nuclear safety. State intervention in the energy sector will be used exclusively to ensure security, and always in accordance with the EU legislation.

1.4. Document structure

The structure of this document mirrors the primary energy policy directions. For each of the directions, main objectives and, depending on the needs, also specific objectives are formulated, as well as measures for their implementation, and their anticipated effects. Chapter 8 presents measures supporting the implementation of the policy at the international level and at the local government level. Implementation of the majority of measures provided for in this paper will begin prior to 2012, but their effects will be long-term and will allow meeting the objectives set for 2030. Appendices present the projection of demand for fuels and energy, assessment of implementation of the energy policy since 2005 onwards, the action plan schedule for the years 2009–2012 and the conclusions from the strategic environmental impact assessment of the energy policy.

2. Improving energy efficiency

Improving energy efficiency is one of the priorities of the EU energy policy, whose goal is a 20% reduction in energy consumption by 2020 as compared to the “business as usual” scenario. Poland has made significant progress in this respect. Although GDP energy intensity declined by 30% within the last 10 years, efficiency of the Polish economy calculated as GDP (at euro exchange rate) per energy unit remains twice as low as the European average. Economic development, resulting from the use of new technologies, reveals a considerable increase in electricity consumption accompanied by a relative decrease in the use of other energy forms.

Energy efficiency is given priority in the energy policy; and progress in this respect will be of key importance to implementing all of its objectives. Therefore, all possible steps will be taken to enhance energy efficiency.

2.1. Objectives in respect of enhancing energy efficiency

The main energy policy objectives in the field are as follows:

- **To achieve zero-energy economic growth, i.e. economic growth with no extra demand for primary energy;**
- **Reducing the energy intensity of Polish economy to the EU-15 level.**

Specific objectives in the area are as follows:

- To enhance efficiency of power generation by building highly efficient generation units;
- To achieve a twofold increase (as compared to 2006) in power generation with the use of highly efficient cogeneration technology by 2020;
- To limit grid loss during transmission and distribution by i.a. modernising the existing and building new grid, replacing low efficiency transformers, and developing distributed generation;
- To increase efficiency of end-use of energy;
- To increase the ratio of annual demand for power to the maximum demand for power at peak usage hours, which allows to limit the total cost of meeting the demand for power.

2.2. Measures to improve energy efficiency

The measures include:

- Setting the national objective of enhancing energy efficiency;
- Introducing a systemic mechanism to support measures aimed at attaining the national objective of enhancing energy efficiency;
- Stimulating development of cogeneration through support mechanisms, taking into account cogeneration from sources up to 1 MW and appropriate commune policy;
- Using mandatory energy performance certificates for buildings and apartments upon their marketing or renting;
- Determining energy intensity of devices and power-consuming products, introducing minimum standards for power-consuming products;
- Committing the public sector to serve as a role model of economical energy usage;
- Supporting investments in energy saving through preferential loans and grants from domestic and European funds, also under the Act on supporting thermomodernisation and renovations, the Operational Programme Infrastructure and Environment, and the National Fund for Environmental Protection and Water Management;
- Supporting research and development on new solutions and technologies reducing energy consumption, in all kinds of its processing and use;
- Applying Demand Side Management techniques, stimulated by diversification of distribution prices during the day and of electricity prices on the basis of reference prices as a result of introduction of an intra-day market and sending price signals to customers with the use of remote bilateral communication via electronic meters;
- Informational and educational campaigns promoting efficient energy use.

In addition, the indicative target stemming from the Directive 2006/32/EC² will be implemented, which assumes energy savings of 9% of the annual average amount of end-use energy consumption from the period 2001–2005 by 2016 (i.e. by 53,452 GWh) laid down in the National Action Plan for Energy Efficiency, adopted by the European Committee of the Council of Ministers on 31 July 2007 and other measures stemming from the document, which are not listed herein.

2.3. Expected effects of measures to improve energy efficiency

As a result of implementing the proposed measures, the increasing consumption of energy by the Polish economy is expected to slow down, thus increasing energy security. Reducing energy consumption has also a measurable effect which consists in avoiding emission of pollutants by the energy sector. Finally, stimulating investments in modern energy-saving technologies and products will contribute to enhancing innovation in the Polish economy. Energy savings will significantly add to the improvement of economy efficiency and competitiveness.

3. Enhanced security of fuels and energy supplies

Security of fuels and energy supplies is understood as ensuring stable fuels and energy supplies at a level that guarantees meeting domestic needs at prices acceptable for the economy and the society, assuming the optimal use of domestic deposits of energy resources, and through diversification of sources and directions of supply of crude oil, as well as liquid and gas fuels.

Poland has large deposits of coal which, considering the dependency of our country on the import of gas (in almost 70%) and of crude oil (in over 95%), will play the role of a major factor stabilising Poland's energy security. The energy policy will be targeted at diversifying supplies of raw materials and fuels understood also as diversification of technologies, not as it had been understood until recently – as mere diversification of supply directions. Development of technologies, which make it possible to obtain liquid and gas fuels from domestic resources, will be supported.

Due to the gradual exhaustion of hard coal and lignite in the currently used deposits, the plans are in place to prepare and launch the use of new deposits by 2030. Therefore, it is necessary to ensure access to strategic coal resources by means of, *inter alia*, protection of their location from further infrastructural development unrelated to the energy sector and their inclusion in the spatial development concept of the country, local spatial development plans and long-term development strategy. It is also necessary to correlate the plans of deposits exploitation with the investment plans in other sectors, e.g. in relation to road infrastructure, in those documents. It concerns in particular the hard coal deposits of “Bzie-Dębina,” “Śmiłowice,” “Brzezinka” and lignite deposits of “Legnica” and “Gubin,” as well as satellite deposits of operating mines.

² Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC (OJ L 114, 27.4.2006, p. 64–85).

In the sectors of natural gas and crude oil, it is also essential to increase transmission capacity of gas transport and storage systems and of oil and fuel pipelines, as well as their transshipment and storage infrastructure, including cavities in salt structures. The growth of natural gas extraction capacity should be used not only to satisfy the current needs but also to serve as a security in the case of exceptionally unfavourable weather conditions or external disturbances.

The current projections, concerning the possibility to meet future demand for electricity in Poland, point to the need to extend the existing generation capacity. The commitments to reduce greenhouse gas emission force Poland to seek low-emission solutions for electricity generation. All available technologies of coal-based energy generation will be applied on the assumption that they would lead to reducing air pollution.

Electricity is produced in the domestic system with reduced possibilities of international exchange – currently less than 10%. Thus, apart from the development of electricity generation capacity, power grid transmission and distribution capacity, the main directions of energy policy include also increasing the possibilities to exchange electricity with neighbouring countries. To that end, relevant statutory regulations will be introduced lifting the existing barriers.

Creating conditions for strengthening the competitive position of Polish energy sector entities so that they may compete in European energy markets is also an important element of energy policy in the area.

3.1. Objectives and measures to enhance security of fuels and energy supplies

3.1.1. Fuels – sources and transmission

3.1.1.1 Coal

The main objective of energy policy in this field is efficient and effective management of coal deposits located within the territory of the Republic of Poland.

State energy policy assumes using coal as the main fuel for the power industry in order to ensure an adequate level of energy security of the country.

Specific objectives in the field are as follows:

- Ensuring energy security of the country by meeting domestic demand for coal, ensuring stable supplies to customers and the required qualitative parameters;
- Use of coal in the energy industry by application of efficient and low-emission technologies, including coal gasification and processing it into liquid or gas fuels;
- Using modern technologies in the coal mining sector to enhance competitiveness, work safety, environmental protection, and to establish the basis for technological and scientific development;
- Maximum use of methane released when extracting coal in mines.

To accomplish the above objectives, the following measures will be taken:

- Introducing regulations which take into account the objectives proposed under the energy policy, particularly instruments motivating to carry out preparatory work and to retain appropriate level of mining capacity;
- Developing modernised pre-treatment technologies for coal to be used for energy production;
- Abolishing legal barriers to making new deposits of hard coal and lignite available;
- Identifying strategic national resources of hard coal and lignite and protecting them through inclusion in spatial development plans;
- Securing access to coal resources via undertakings making available new, documented, strategic deposits and their industrial use – through public purpose investments of supra-local significance;
- Intensifying geological research to extend the coal resource base, making use of state of the art prospecting and surveying techniques;
- Completing organisational and structural changes. In economically justified cases, allowing the possibility to establish capital groups on the basis of coal and energy companies, observing the principles of social dialogue;
- Supporting the industrial use of methane released when extracting hard coal in mines;
- Introducing technology solutions which allow recovery of methane from ventilation air pumped out of hard coal mines;
- Obtaining funds for development of the mining industry through privatisation, after consultations with social partners. Legitimacy of privatisation, the volume of shares, and the IPO date will be analysed in terms of energy policy objectives;
- Supporting research and development of technologies permitting to use coal for liquid and gas fuels production, mitigating the negative environmental impact of processes of obtaining energy from coal as well as coal fuel cells technologies;
- Retaining the competence of the minister in charge of the Treasury in respect of mining companies by the Minister of Economy.

3.1.1.2 Gas

The main objective of energy policy in the field is ensuring Poland's energy security through diversification of sources and directions of natural gas supplies.

Specific objectives in the field are as follows:

- Extending natural gas resources at the disposal of Polish companies;
- Extending natural gas extraction capacity in the territory of Poland;
- Ensuring alternative sources and directions of gas supplies to Poland;
- Extending the natural gas transmission and distribution system;
- Extending natural gas storage capacities;
- Polish companies winning access to natural gas deposits located outside Poland;
- Producing gas with the use of coal gasification technologies;
- Industrial use of methane by extraction through surface boreholes.

Measures aimed to diversify supplies will always be preceded by an economic analysis of alternative possibilities to produce gas from domestic resources, including the use of new technologies.

Measures in the field are as follows:

- Appropriate tariff policy encouraging investment in pipeline infrastructure (gas transmission and distribution);
- Building a terminal for receiving liquefied gas (LNG);
- Concluding arm's length contracts for diversified natural gas supplies to the liquefied gas reception terminal and from the north;
- Establishing sustainable management policy for domestic gas resources to allow extension of natural gas reserve base in the territory of Poland;
- Investments which allow extending natural gas extraction in the territory of Poland;
- Diversification of supplies by building a transmission system for natural gas supplies from the north, west, and south, as well as building connections to primarily meet the requirement of supply sources diversification;
- Polish companies winning access to natural gas deposits located outside Poland;
- Supporting investments in infrastructure with the use of European funds;
- Streamlining the crisis response mechanism;
- Securing state interests in strategic companies of the gas sector;
- Investment incentives for building storage space (by appropriate tariff structure and ensuring return on invested capital);
- Legislative measures aimed at lifting barriers to investments, particularly in respect of large investment projects in infrastructure (warehouses, LNG infrastructure, gas compressor stations, etc.) and linear investments;
- Further pilot work on making methane from hard coal deposits available.

3.1.1.3 Crude oil and liquid fuels

The global market of crude oil and liquid fuels is competitive, yet in the case of Poland there is a threat to security of crude oil supplies as well as a threat of monopolistic price fixing. This is a result of the market being dominated by supplies from one direction only. In order to avoid such a situation, the level of supply diversification needs to be enhanced (it is essential not only to increase the number of suppliers, but also to eliminate a situation where oil comes from a single area, and its transmission is controlled by a single entity).

The main objective of energy policy in the field is to ensure energy security by:

- **Enhancing the diversification level of crude oil and liquid fuels supply sources, understood as obtaining crude oil from various regions of the world, from different suppliers, using alternative transport routes;**
- **Building crude oil and liquid fuels storage facilities of capacity which ensures continuity of supplies, particularly in crisis.**

Specific objectives in the field are as follows:

- Diversification of crude oil supplies to Poland, inter alia by building infrastructure permitting to transport crude oil from the Caspian Sea region;
- Extension of transport and transshipment infrastructure for crude oil and oil products;
- Building and expanding crude oil and liquid fuel storehouses (cavern storage facilities, transshipment and storage bases);
- Polish enterprises winning access to crude oil deposits located outside the Republic of Poland;
- Increasing the amount of crude oil transited through the territory of the Republic of Poland;
- Enhancing competitiveness in the sector in order to minimise the negative effects for the economy which result from significant changes in prices of raw materials on global markets;
- Retaining state ownership in key companies of the sector, as well as in infrastructure companies;
- Mitigating the risk of hostile takeover of entities dealing in crude oil processing which render services in the area of transmission and storage of crude oil and oil products;
- Enhancing the security of fuel transport by sea.

Measures aimed to diversify crude oil supplies will always be preceded by an economic analysis of alternative possibilities to obtain liquid fuels from domestic resources, including the use of new technologies.

Measures in the field are as follows:

- Building infrastructure to allow transport of crude oil from other regions of the world, inter alia from the Caspian Sea region within the Euro-Asian Oil Transportation Corridor project;
- Supporting actions of Polish companies aimed at intensification of prospecting and enhancing national exploitation on land, in the Baltic Sea shelf and outside Poland;
- Extending transmission, transshipment, and storage infrastructure (including caverns) for crude oil and liquid fuels;
- Application of owner's supervision tools of the State Treasury to stimulate and monitor execution of projects in respect of security of crude oil and liquid fuel supplies;
- Legislative changes concerning liquid fuel reserves, particularly lifting the obligation of physical maintenance of reserves by enterprises in exchange for a special purpose fee intended for maintenance of reserves by a public law entity;
- Lifting barriers to development of fuel infrastructure and supporting investment projects in infrastructure with the use of European funds;
- Ensuring fuel transport by sea.

3.1.2. *Generation and transmission of electricity and heat*

The main objective of energy policy in the field is to ensure ongoing meeting of demand for energy, taking into account the maximum possible use of domestic resources and environmentally friendly technologies.

Specific objectives in the field are as follows:

- Building new generation capacity to balance domestic demand for electricity and maintain the operationally available power surplus during the peak generation capacity of domestic conventional and nuclear generation sources at the minimal level of 15% of the maximum domestic demand for electricity;
- Building intervention sources of electricity generation essential to security of the power system operation;
- Developing the national transmission system enabling sustainable economic development of Poland, its individual regions and ensuring reliable electricity supplies to agglomerations (particularly closing the 400 kV loop and loops circling Poland's largest cities), as well as receipt of electricity from the areas with a large number of planned and newly built generation facilities, including in particular the wind farms.
- Developing cross-border connections coordinated with extending the domestic transmission system as well as the systems in neighbouring countries, which will allow to exchange at least 15% of electricity used in Poland by 2015, 20% by 2020, and 25% by 2030;
- Modernisation and extension of the distribution grid which allows to improve the reliability of power supply and to develop distributed power generation using local sources of energy;
- Modernisation of transmission and distribution grids to reduce failure frequency by 50% by 2030 as compared to 2005;
- Aiming at replacing the heat and power plants supplying the centralised heat distribution systems of Polish cities with cogeneration sources by 2030.

To accomplish the above objectives, the following measures will be taken:

- Imposing an obligation to prepare development plans of the transmission and distribution grid on grid operators, with particular indication of preferred locations of new generation capacity and the costs of their connection. The plans will be developed and published every three years;
- Legislative measures aimed at lifting barriers to investments, particularly linear investments;
- Introducing long term contracts for system regulatory services covering intervention reserves and rebuilding supply to the national power system by the transmission system operator;
- The transmission system operator announcing tenders for intervention capacities essential to ensuring safety of the power system operation;
- Reconstruction and reinforcement of the existing power lines and building new ones, particularly those enabling cross-border electricity exchange with neighbouring countries;
- Establishing methodology for calculating return on invested capital as an element of cost justified in transmission and distribution tariffs for investments in grid infrastructure;

- Introducing amendments into the Energy Law consisting in defining the responsibility of local government bodies for drafting local supply assumptions for plans and plans for heat, electricity, and gas fuel supply;
- Transferring owner's supervision over the operator of electricity transmission system (PSE Operator S.A.) into the competence of the Minister of Economy;
- Retaining a majority stake in PGE Polska Grupa Energetyczna S.A. and a controlling stake in Tauron Polska Energia S.A. at the level which ensures retaining owner's supervision by the State Treasury;
- Introducing a qualitative element into transmission and distribution tariffs to which transmission and distribution system operators would be entitled if they reduced failure frequency rates and maintained them at levels specified by the President of the Energy Regulatory Office for a given grid type;
- Changing regulation mechanisms by introducing methods of heat price-fixing with the use of reference prices and incentives to optimise the heat supply cost;
- Preferential treatment of combined generation as the technology recommended for building new generation capacity.

3.2. Anticipated effects of measures to enhance security of fuels and energy supplies

3.2.1. Fuels – sources and transmission

Accomplishment of energy policy objectives will allow to reduce Poland's dependency on import of natural gas, crude oil, and liquid fuels from a single direction. Increasing the share of gas extracted in Poland, or manufactured on the basis of Polish raw materials, is a plausible objective. The capacity to store crude oil, liquid fuels, and natural gas allowing to supply the country with the necessary fuels in emergency situations will improve significantly.

Relying on domestic coal resources as the main fuel of the system power industry would bring about practically total independence of electricity generation and considerable independence of heat generation from external supply sources, particularly in large city systems, ensuring energy security with regard to electricity generation and supplies.

3.2.2. Generation and transmission of electricity and heat

Implementation of energy policy in the area of electricity generation will allow to balance the electricity demand, which increases quickly due to Poland's economic development. The regulatory power necessary to adjust electricity generation to the changing daily demand will be ensured.

Development of transmission and distribution grids would improve their reliability, while information on potential locations of generation capacity will facilitate making investment decisions. Granting connection conditions for a specific period, along with the necessity to pay a deposit, will eliminate a common phenomenon of blocking the investments by failing to use the connection conditions.

Introducing precise methodology of calculating the rate of return on capital invested in infrastructure will allow to attract commercial investors. Introducing a qualitative element into transmission tariffs will constitute an incentive for transmission and distribution system operators to enhance the reliability of grid operation.

An important step on the way to enhance energy security is the development of distributed power generation using local energy sources, such as methane or renewable energy sources. The development of this type of energy generation also allows to reduce grid investment, especially investment in the transmission system. The system of incentives for distributed energy generation, in the form of support systems for renewable energy sources and cogeneration, will result in considerable investment in distributed energy generation.

4. Diversification of the electricity generation structure by introducing nuclear energy

Poland's energy security requires ensuring supplies of an appropriate amount of electricity at reasonable prices, simultaneously observing the environmental protection requirements. Climate protection and the climate and energy package adopted by the EU result in the need of switching generation to low CO₂ emission technologies. In the current situation, particular significance is attached to using all available technologies simultaneously enhancing energy security and lowering emission of pollutants, retaining economic efficiency.

With the current trends in European energy policy, nuclear energy has become one of the most desired energy sources. Apart from the lack of CO₂ emission, it also ensures independence of typical directions from which energy resources are obtained. The Resolution of the Council of Ministers of 13 January 2009 imposed an obligation on all process participants to take intensive actions aimed at setting the stage for implementing the nuclear energy production programme in Poland in line with the requirements and recommendations specified in documents drafted by the International Atomic Energy Agency. Observing the scheduled date of launching first nuclear power plant by 2020 requires a considerable contribution of state bodies and budget funds, qualified personnel, and efficient institutions both at the preparatory stage prior to making the final decision on starting the nuclear energy production programme and at the stage of preparations for the tender procedure.

Preparatory works related to the introduction of nuclear energy generation in Poland will include in particular broad social consultation, as well as identification and minimisation of potential threats.

It is also necessary to ensure long-term access to all elements of the fuel cycle. Uranium may be obtained from politically stable regions and strong competition among uranium producers prevents them from dictating extreme prices. The issues of fuel purchase by EU Member States are coordinated by the Euratom Supply Agency which has been established by Euratom for that specific purpose.

4.1. Objectives in respect of diversification of the electricity generation structure by introducing nuclear energy

The primary objective of energy policy in the field is preparing infrastructure for nuclear energy generation and ensuring appropriate conditions for investors interested in building and launching nuclear power plants based on safe technologies, with public support and a high degree of nuclear safety at all stages of the process: location, designing, construction, launching, exploitation, and liquidation of nuclear power plants.

Specific objectives in the field are as follows:

- Adapting the Polish legal system so that the process of developing nuclear energy sector in Poland is efficient;
- Training personnel for the nuclear energy sector;
- Informing and educating the society on nuclear energy;
- Selecting locations for first nuclear power plants;
- Selecting a location and building a cemetery for low- and medium-radioactivity waste;
- Adding to the personnel of the nuclear energy sector and radiation safety;
- Establishing a research base for the nuclear energy production programme on the basis of existing research institutes;
- Preparing fuel cycle solutions ensuring Poland's permanent and safe access to nuclear fuel, recycling of spent fuel, and storage of high-radioactivity waste.

4.2. Measures for diversification of the electricity generation structure by introducing nuclear energy

Measures in the field are as follows:

- Establishing an institutional basis for preparing and implementing the Polish nuclear power programme;
- Defining essential amendments to the legal framework for implementing the Polish nuclear power programme, preparing and coordinating implementation of the amendments;
- Preparing a draft of the Polish nuclear power programme to constitute the basis for public consultations; holding the consultations and submitting the Polish nuclear power programme for approval by the Council of Ministers;
- Preparing the National Atomic Energy Agency to execute nuclear and radiological supervision of the nuclear power sector;
- Implementing the personnel training programme for institutions dealing with nuclear power;
- Preparing and holding an informational and educational campaign on the Polish Nuclear Power Programme;
- Location analyses for nuclear energy plants;
- Location analyses for the radioactive cemetery, its design and construction preparations;
- Building research and development capacity and supporting work on new reactor technologies and nuclear-coal synergy. Preparing the programme of Poland's participation in all phases of the fuel cycle;
- Preparing Polish industry's participation in the nuclear energy production programme;
- Preparing plans of adapting the transmission grid to nuclear power plants;
- Prospecting uranium deposits in the territory of Poland.

4.3. Anticipated effects of measures for diversification of the electricity generation structure by introducing nuclear energy

As an effect of the planned measures concerning nuclear energy, the programme of introducing nuclear energy generation in Poland will be presented to the Council of Ministers for approval. Also at this stage, the organisational and legal infrastructure for the implementation of the programme of introducing nuclear power generation in Poland will be prepared. In particular, the following processes will take place: acceleration of the training of personnel and development of training and research base for the nuclear power sector, raising the society's awareness of nuclear power generation, development of the basis related to the disposal of radioactive waste and increase in the number of domestic enterprises ready to carry out the orders of the quality required by the nuclear power sector.

5. Development of the use of renewable energy sources, including biofuels

Development of renewable energy production is of considerable importance for meeting the primary objectives of energy policy. Increasing the use of renewable energy sources translates into a higher degree of independence from imported energy supplies. The promotion of the use of renewable energy sources allows to increase diversification of the sources of supply and to create conditions for the development of distributed power generation based on locally available raw materials. Renewable energy production usually takes place in small power generation units, located close to the customer, which enhances local energy security and reduces transmission losses. Generation of power from renewable sources is characterised by little or no emission of pollutants, thus having positive ecological effects. Developing renewable energy production is also conducive to the growth of underdeveloped regions, rich in renewable energy sources.

Sustainable use of individual types of energy from renewable sources will be supported. As regards the use of biomass, special preference will be given to the most energy efficient solutions, *inter alia*, using various techniques of biomass gasification and conversion into liquid fuels, in particular the second generation biofuels. The use of biogas from landfills, wastewater treatment plants and other waste will be of great importance. The target is to use biomass by means of distributed generation. The development of wind power, both on land and at sea, is predicted. The increased use of water power will also be important, both the small-scale and larger water power facilities, with no significant environmental impact. The use of geothermal energy is to increase thanks to the use of heat pumps and direct use of geothermal water. Solar energy is to be used to a much greater extent than before, by means of solar collectors and innovative photovoltaic technologies.

In view of the expected dynamic development of renewable energy sources, the solutions which will ensure the stability of the power system operation, in particular using innovative technologies, become increasingly important.

5.1. Development objectives of using renewable energy sources

The main energy policy objectives in the field are as follows:

- **Increasing the use of renewable energy sources in the final energy use to at least 15% in 2020 and further increase in the following years;**
- **Increasing the share of biofuels in the market of transport fuels to 10% by 2020, and increasing the use of second generation biofuels;**
- **Protecting forests against overexploitation in order to obtain biomass, and balanced use of agricultural areas for production of renewable energy sources, including biofuels, so as not to allow competition between renewable energy production and agriculture and to preserve biodiversity;**
- **Using the existing weirs owned by the State Treasury for power generation;**
- **Increasing the diversification of supply sources and the creation of optimal conditions for distributed power generation based on locally available resources.**

5.2. Measures to increase the use of renewable energy sources

Measures in the field are as follows:

- Devising a path to reach a 15% share of renewable energy sources in the sustainable use of final energy, broken down into individual energy types, namely: electricity, heat, cold and renewable energy in transport;
- Retaining support mechanisms for producers of electricity from renewable sources, e.g. by means of a system of certificates of origin;
- Retaining the obligation to gradually increase the share of bio-components in transport fuels so as to meet the planned objectives;
- Introducing additional support instruments encouraging more extensive production of heat and cold from renewable energy sources;
- Implementing the directions of building agricultural biogas plants, on the assumption that at least one biogas plant is set up in each commune by 2020;
- Creating conditions to facilitate making investment decisions on building off-shore wind farms;
- Retaining the principle of exempting energy from renewable sources from excise tax;
- Direct support to building new renewable energy generation units and power grids that could be connected with the use of European funds and environmental protection funds, including funds gathered in the form of the substitute fee and fines;
- Stimulating the development of the Polish industry's which manufactures machinery for the renewable energy sector, also with the use of European funds;
- Supporting the development of technologies and building installations to obtain renewable energy from waste comprised of biodegradable materials (e.g. municipal waste with biodegradable fractions);
- Evaluation of plausibility of using the existing damming structures owned by the State Treasury to generate power by way of taking their inventory, establishing their framework environmental impact, and devising the rules of making them available.

Apart from the above measures, the implementation of the *Long-term Programme for Promotion of Biofuels or Other Renewable Fuels in Transport for the years 2008–2014*, adopted by the Council of Ministers on 24 July 2007, will be continued.

5.3. Anticipated effects of measures to increase the use of renewable energy sources

The planned measures will allow to meet the objectives set for the share of renewable energy sources, including biofuels. They will result in sustainable development of renewable energy sources, including biofuels, without negative impacts on agriculture, forest management, food sector and biodiversity. Positive effects of developing renewable energy sources will include the reduced CO₂ emission and increased Poland's energy security, through, inter alia, enhancing energy mix diversification.

6. Development of competitive fuel and energy markets

Competitive fuel and energy markets are conducive to lowering production costs and thus reduce the increase of fuels and energy prices.

The retail market for liquid fuels may be regarded as quite competitive, despite the fact that supplies of crude oil to the wholesale market come mainly from a single direction, as a considerable discharge capacity of the Gdansk port and the transmission capacity between the port and the main Plock-based refinery ensure a certain degree of independence from the 'Druzhba' pipeline. The two main companies operating on the fuel market fix their prices depending on purchase costs.

Despite the consolidation of coal mines, the coal market is also considerable. The possibility to import coal by sea and by land is conducive to market-based price-fixing. Some hard coal and lignite mines operate in capital groups including power plants. However, in practice the market-based fixing of the price of this fuel is distorted by costs of transport from abroad and within the country.

Despite introducing the structures stipulated by the Directive 2003/55/EC³, i.e. the sectioning off and designating of the transmission network operator and gas distribution system operators, as well as the gas fuel storage system operator by the President of the Energy Regulatory Office, the gas market is still largely monopolised. The access of new entities to the market is difficult. Moreover, almost 70% of the domestic demand for natural gas is covered from a single supply direction, which influences both the lack of supply diversification and the possibility of price competition between gas suppliers.

Market principles have been implemented to a greater extent in the electricity generation sector. According to the Directive 2003/54/EC⁴, system operators, i.e. the transmission network and the distribution network operators, were isolated. Long-term contracts, limiting the scope of the market, were liquidated and the obligation of submitting electricity tariffs for customers other than households or agricultural holdings for approval of the President of the Energy Regulatory Office was lifted. However, despite the numerous changes introduced, the market does not operate fully properly. The existing platforms, i.e. the power exchange and internet-based platforms, have very little turnover. Due to existing barriers, mainly economic, technical, and organisational ones, not many customers have decided to change their electricity supplier.

³ Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC (OJ L 176, 15.7.2003, p. 57–78).

⁴ Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC (OJ L 176, 15.7.2003, p. 37–56).

6.1. Objectives in the area of developing competitive markets

The main objective of energy policy in the area is to ensure undisturbed operation of the fuel and energy markets, thus counteracting excessive price increase.

Specific objectives in the field are as follows:

- Enhancing diversification of sources and directions of supplies of natural gas, crude oil, and liquid fuels, along with diversification of suppliers, transmission routes, and transport methods, including also by using renewable energy sources;
- Removing the barriers in switching between electricity and gas suppliers;
- Developing competition mechanisms as the primary means to rationalise energy prices;
- Regulating the fuel and energy market in the areas characterised by natural monopoly in a way which ensures balancing of interests of all market participants;
- Reducing regulations where competitive market functions and develops on its own;
- Participating in building the regional electricity market, in particular enabling the international exchange;
- Implementing an efficient electricity balancing mechanism to support security of energy supplies, trade in futures and intraday markets, identification and allocation of individual costs of energy supply;
- Establishing a liquid spot market and an electricity futures market;
- Introducing market-based methods of heat price fixing.

6.2. Measures for development of competitive markets

The key measures under the energy policy concerning the introduction of competitive mechanisms and extension of their scope on markets of liquid fuels, natural gas, and coal are identical to measures aimed at improving energy security. Therefore, only the additional measures concerning the electricity and natural gas market are presented below, including in particular:

- Implementing a new model of the electricity market which consists, inter alia, in introducing the intra-day market, the power reserve market, transmission rights market, and generation capacity market, as well as introducing a mechanism to manage system services and system constrained generation;
- Facilitating switching between power sellers, inter alia through introducing national standards for technical features of electronic electricity meters, as well as their installation and reading;
- Creating conditions allowing to fix electricity reference prices on the market;
- Optimising the conditions of pursuing a business in Poland by energy-intensive customers in order to prevent their products sold in international markets from losing competitive appeal;
- Protecting the poorest electricity customers from the effects of electricity price increase;

- Changing competition-supporting regulation mechanisms of the gas market and introducing arm's length methods of gas price-fixing.

Apart from above measures, the position of the President of the Energy Regulatory Office is to be strengthened in relation to the necessity to implement the guidelines from new market directives and to make adjustments to the consolidated energy sector structure, in particular by means of creating possibilities to shape the desired market structure and infrastructure.

6.3. Anticipated effects of measures for development of competitive markets

Accomplishment of the above objectives will allow to extend the scope of competitive markets in fuels, electricity, and heat, thus leading to enhanced competition between fuel and energy suppliers. This will result in reducing the increase in prices of fuels and energy, including the increase triggered by external factors, such as increasing crude oil or gas prices, or policy measures taken by other states to reduce fuel supplies.

7. Mitigating the environmental impact of the power industry

7.1. Objectives aimed at mitigating the environmental impact of power industry

The main energy policy objectives in the area are as follows:

- Reducing CO₂ emission by 2020, while maintaining a high level of energy security;
- Reducing emission of SO₂, NO, and dust (including PM10 and PM2.5) to the level set forth in the current and drafted EU regulations;
- Reducing the negative impact of the power sector on the condition of surface water and groundwater;
- Minimising waste dumping by using them in the economy to the greatest possible extent;
- Changing the structure of energy generation towards low-emission technologies.

7.2. Measures aimed at mitigating the environmental impact of power industry

Measures in the field are as follows:

- Establishing a system to manage national emission caps of greenhouse gases and other substances;
- Introduction of acceptable product emission rates for electricity and heat generation as a tool which allows reducing SO₂ and NO_x emission levels and reaching the emissions cap set forth for Poland in the Accession Treaty ;

- Meeting the commitments for the power and heat sectors stemming from the new ETS Directive⁵ ;
- Using the income from auctions of CO₂ emission allowances to support measures aimed at reducing greenhouse gas emission volumes;
- Introducing standards for building new power plants under the system of preparation for carbon capture and setting national capacity for geological CO₂ storage, including in empty crude oil and natural gas deposits at the bottom of the Baltic Sea;
- Active participation in implementing the initiative of the European Commission to build large-scale demonstration facilities for carbon capture and storage (CCS) technologies ;
- Applying CCS technologies to support crude oil and natural gas extraction;
- Intensifying research and development on the CCS technology and on new technologies which allow using captured CO₂ as a raw material by other industry branches;
- Industrial use of waste coal;
- Increasing the use of incineration by-products;
- Using high-efficiency closed cooling cycles in power plants and in heat and power stations;
- Diagnosing the possibility of unintended production of persistent organic pollutants (dioxins and furans) by the power sector;
- Supporting measures in respect of environmental protection with the use of, inter alia, European funds.

Apart from the above measures, the implementation of the *State ecological policy in the years 2009–2012, with the prospect to 2016*, will be essential for accomplishing the energy policy objectives, in particular with regard to reducing dust emission, using waste and protecting surface water and groundwater.

7.3. Anticipated effects of measures aimed at mitigating the environmental impact of power industry

The anticipated measures will allow reducing SO₂, NO_x, and dust emission in line with the commitments assumed by Poland. Measures aimed at reducing CO₂ emission should result in a considerable reduction in emission volume per unit of energy generated.

The said document takes into account the measures allowing Poland to meet the obligations stemming from the regulations of the European Union currently in force. Measures aimed at implementing the draft legal acts comprising the energy and climate package adopted by the European Parliament in December 2008 were particularly taken into account.

As a result of negotiations on the assumptions of the draft Directive on the system of trade in emissions, Poland was granted the possibility of applying a transition period with regard to the obligation of purchasing all greenhouse gas emission allowances by the power systems from 2013. The systems operating in Poland as at 31 December 2008 will purchase only some

⁵ Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community (OJ L 140, 5.6.2009, p. 63–87).

of the allowances they need at auctions – 30% in 2013 (as compared to average reference emission in the years 2005-2007 or based on fuel-weighted emission indicators). The number of free allowances will be gradually reduced in the years 2014-2019 to reach the full auction system in 2020. Additionally, the possibility of winning free allowances will be granted to systems in respect of which the investment process began physically prior to 31 December 2008. The said transition period will prevent eliminating coal from the portfolio of primary fuels, which would result in weakening of Poland's energy security. It will allow to verify the possibility of wide scale use of commercial CCS technologies or will provide a basis for using the revision clause with regard to the assumptions of the climate and energy package. Derogations for the electricity sector from 100% purchase of CO₂ emission allowances by auction may be prolonged for the period beyond 2020.

Introducing standards for building coal-fired power plants within the system of preparation for CO₂ capture resulting from the new EU regulations will allow to quickly introduce those technologies when they are ready for commercial use.

It is anticipated that at least two CCS demonstration facilities will be located in Poland.

8. Supporting measures

The implementation of energy policy will be supported by actions taken by Poland within the international community, in particular on the European Union forum, aimed at shaping the global and the European energy policy taking into account the specific characteristics of Poland, its deposits of energy resources, and actual possibilities of changing energy generation technologies.

In order to ensure that strategic directions of energy policy of Poland are followed, it is necessary to actively apply the available instruments of both Community policy and foreign policy.

The Minister of Economy will monitor on an ongoing basis the actions taken by Poland on the EU forum and relating to energy policy. His representatives will actively participate in the work of working groups, committees, and commissions dealing with energy security, electricity, natural gas and crude oil. At the same time, the Minister of Economy will on a current basis analyse the developments in the international environment of Poland in terms of possible threat for the energy security of Poland.

The Members of the Council of Ministers and other representatives of the Government of the Republic of Poland will initiate the actions at the EU level or support the activities of the European Union bodies aimed at:

- Building international infrastructure for transmission of crude oil to the EU Member States, in particular extending the Odessa-Brody pipeline to Plock, as an element of the Eurasian Oil Transportation Corridor;
- Introducing the rules of using the transmission infrastructure by crude oil and natural gas producing countries which will ensure energy interests of the consumers of those resources and transit countries. This objective may be achieved by the ratification of the Energy Charter Treaty by the Russian Federation and signing of the Transit Protocol of the Energy Charter Treaty, as well as the extension of the group of states bound by the Energy Charter Treaty;
- Rational and justified expansion of power networks, including cross-border connections of the Polish system and the systems of neighbouring countries;

- Establishing a special EU financial mechanism to support the building of necessary connections within the EU and with the EU eastern neighbours;
- Maintaining the existing and establishing new Community financial instruments allowing to implement the objectives of the energy and climate package, in particular those relating to the development of clean carbon technologies, increasing the effectiveness of energy use and development of renewable energy sources;
- Shaping future objectives and instruments of the Community environment and climate policy which will take into account the maintenance of the high level of energy security and competitiveness of the economy in the Member States where coal dominates the energy generation structure;
- Building infrastructure allowing to diversify natural gas supplies to Poland (LNG terminal on the Polish coast, a pipeline connection with the Norwegian Continental Shelf);
- Establishing rules of conducting multilateral EU policy and building internal systems of European Union's energy security, in particular the mechanism of response to crisis situations.

Within the framework of international co-operation and on the European Union forum, Poland will strive for halting infrastructural projects whose implementation could negatively impact energy security of Poland and at the same time will strive for implementing projects which may strengthened this security.

International arrangements will be made and other actions taken to establish operators, in line with the EU law, on all cross-border power lines and gas pipelines on the territory of Poland and to enhance their integration with the Polish and the European systems.

Poland will aim at playing the key role in the integration of the regional electricity market and will assume the role of an emissary of practical implementation of the European standards into the functioning of the markets. It will also strive for implementing the standards of power systems' cooperation with third countries (i.a. by building connections and developing trade in electricity with Lithuania, Ukraine and Belarus). Poland will also aim at extending the Energy Community by Ukraine and will support Ukraine in negotiations on accession to the Energy Community.

Along with Germany, Poland was the initiator of the establishment of the Central Eastern European Forum for Electricity Market Integration which will launch works aimed at creating a single regional electricity market, accelerating the construction of infrastructure connections and harmonisation of law on electricity in the region.

Intensive cooperation will continue with the Vysehrad Group countries and the Baltic states within the framework of the EU and with the beneficiary countries of the Eastern Partnership Programme.

The government will fully support the efforts of power and gas transmission system operators and the regulator to achieve a significant position of Polish entities within structures responsible for unifying management standards of the European power grid (electricity and gas) and in institutions responsible for market supervision in public interest. Through active participation of relevant authorities and enterprises in the ACER, ENTSO-E and ENTSO-G, Poland will aim at shaping the solutions in market regulation and operators' co-operation in line with the Polish energy policy, including the national investments in the European infrastructure development plans and taking into account specific conditions of Poland while formulating the European network codes.

The foreign energy policy will create a favourable climate for investments of Polish fuel and energy enterprises in other countries. Poland will also ensure support to those enterprises with regard to joint projects with foreign entities.

Another important element supporting the implementation of energy policy is active participation of local authorities in the process of achieving its objectives, including the development of the energy sector development strategy at the province, district or commune level. It is of utmost importance for local governments not to overlook the energy generation sector when setting investment priorities. Moreover, investment plans of communes and of energy companies must be correlated. The need for planning in terms of energy is now of key importance because the subsequent years will bring major challenges to Polish communes, inter alia in meeting environmental requirements or using the European funds for regional development, which entails the need to improve the condition of power infrastructure in order to ensure high quality services for local communities, to attract investors, and to enhance competitiveness and attractiveness of the region. Good planning in terms of energy constitutes one of the basic factors conditioning success of implementation of Poland's energy policy.

The most important elements of energy policy at the regional and local level should include:

- Aiming at fuel and energy savings in the public sector by implementing measures laid down in the *National Action Plan for energy efficiency*;
- Maximising the use of the local renewable energy potential, both for the generation of electricity, heat, cold, cogeneration, as well as for generating liquid biofuels and biogas;
- Increasing the use of technologies of high-efficiency cogeneration of heat and electricity, as a favourable alternative for supplying energy to heat systems and large facilities;
- Developing the locally centralised heating systems which allows to improve efficiency and environmental parameters of the heat supply process and to increase the local level of energy security;
- Modernisation and adjustment of the electricity distribution network to the current needs of the customers, in particular the modernisation of networks in rural areas and the networks supplying the areas characterised by low energy consumption;
- Expanding the natural gas distribution network in areas with poorly developed gas network, in particular in northern and eastern Poland;
- Supporting the infrastructural investments of strategic importance for energy security and development of the country in the communes, in particular the construction of transmission networks (for power, gas, crude oil and liquid fuels), storage infrastructure, energy resources mines and large system power plants.

9. Energy policy implementation system

Pursuant to Article 12(2)(1) of the *Energy Law*, the Minister of Economy is responsible for coordinating the implementation of energy policy, but the accomplishment of the energy policy objectives will require actions of numerous central and local government administration bodies, as well as the companies operating in the fuel and energy sector. In order to improve co-operation between those entities, an interministerial team will be established to prepare legal and organisational solutions for implementing the energy policy.

Specific tasks presented in this document whose implementation will start within four years have been defined in Appendix 3 entitled *Action Plan for the years 2009–2012*. The plan describes the method of implementation of each measure of the energy policy. Each measure contains specific tasks with the deadlines and institutions responsible for their implementation. The implementation of *Action Plan for the years 2009–2012* will be monitored on a current basis by the Minister responsible for the economy. The Minister of Economy, in cooperation with competent ministers, will submit information about the energy policy implementation for the previous year to the Council of Minister by 31 March of each year, along with the proposed modifications of the measure implementation methods and adjustments to the current situation.

The measures laid down in this document are to be continued beyond 2012 in order to efficiently implement the energy policy objectives for 2020 and 2030. However, another action plan for the years 2013–2016, taking into account new conditions and forecasts, will be determined in 2012.

The progress in the energy policy implementation will be monitored in particular on the basis of indicators presented in the table below and in Appendix 4.

Table 1. Basic indicators of energy policy implementation monitoring

Item number	Name of indicator	Baseline value 2007	Expected value by 2030	Data source
1.	Annual average change in primary energy consumption in the country since 2005 (%)	2,7	Below 1	Central Statistical Office
2.	Hard coal and lignite extraction to domestic consumption (in tons) ratio (%)	105	Over 100	Central Statistical Office
3.	Maximum share of total natural gas and crude oil imports (in tons) from a single direction in the domestic consumption of both those resources (%)	85	Below 73	Ministry of Economy
4.	Generation capacity of domestic generation sources (conventional and nuclear) to maximum demand for electricity ratio (%)	130	Over 115	Ministry of Economy
5.	Share of nuclear power in the electricity production (%)	0	Over 10	Ministry of Economy
6.	Share of energy from renewable sources in the final consumption of energy (%)	7.7	Over 15	Ministry of Economy
7.	Annual emission of CO ₂ in utility power generation as compared to the national electricity generation (tons/MWh)	0.95	Below 0.70	Ministry of Economy

Within the meaning of the Act of 6 December 2006 on the rules governing the development policy, *Energy Policy of Poland until 2030* is considered to be a sectoral strategy. Apart from the measures directly laid down in the documents, the objectives of the Policy will also be implemented through other sectoral development programmes and operational programmes, such as *Operational Programme Infrastructure and Environment*. The support from the European funds for investments, actions for education, research and development, envisaged in the national and regional operational programmes for the years 2007–2013, is an extremely important element of the energy policy implementation.

The implementation of the energy policy will also be supported by periodical analytical and forecasting works aimed at determining the impact of developments in legal and economic environment on possible results of planned measures. The results of those works will be taken into account while selecting optimal sets of tools to achieve the assumed policy objectives.

The government sectoral programmes for hard coal, gas, oil and electricity sector which were in force before the adoption of the Energy Policy of Poland until 2030 will be analysed in terms of their compliance with this document and will either be adjusted to it or will become ineffective.

The *Energy Policy of Poland until 2025*, adopted by the Council of Ministers on 4 January 2005, and the *Timetable for the implementation of executive tasks until 2008 specified in the Energy Policy of Poland until 2025*, adopted by the Council of Ministers on 12 July 2005, become ineffective upon the adoption of this document.

10. Appendices

Appendix 1. Assessment of implementation of energy policy since 2005 onwards

Appendix 2. Projection of demand for fuels and energy until 2030

Appendix 3. Action Plan for the years 2009–2012

Appendix 4. Conclusions from strategic Environmental Impact Assessment of Energy Policy