POLAND

IN-DEPTH REVIEW of the Investment Climate and Market Structure in the Energy Sector

Energy Charter Secretariat
2011
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1. Introduction

Poland ratified the Energy Charter Treaty (ECT) and the Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA) on 24 November 2000. For Poland, the ECT entered into force on 23 July 2001. The ECT's trade provisions, which were initially based on the trading regime of the GATT, were modified by the adoption, in April 1998, of a trade amendment to the treaty. For Poland, the trade amendment entered into force on 21 January 2010.

In fulfilment of its commitments within the Energy Charter process and as a follow-up to the earlier reports made in the Charter process in previous years, Poland presents this follow-up in-depth report on Investment Climate and Market Structure (ICMS) for energy sector in Poland. The report mainly covers the period 2005-2011. The report is based on the latest publicly available data for the country.

Undertaken on a peer review basis, this report serves the purpose of information sharing and cooperation between member states. The report contains updated information on the development of the national economy, basic statistics on foreign direct investments (FDIs), an analysis of the legal framework and a review of the ICMS in the energy sector of Poland.

The report is prepared by the Polish authorities with the help of the Energy Charter Secretariat, and in this respect is the product of a fruitful and close cooperation.
2. **Policy Conclusions Adopted by the Energy Charter Conference**

The Energy Charter Investment Group reviewed country report of Poland at its meeting on 25 October 2011. It agreed upon a number of policy conclusions and recommendations with regard to the report that were subsequently adopted by the Charter Conference on 29 November 2011. These conclusions read as follows:\(^1\):

*The Charter Conference,*

*Having heard the report from the Investment Group with respect to the Report on Investment Climate and Market Structure from Poland*

**NOTED**

a) *That the review has shown that Poland honours its commitments under the ECT and has undertaken broad reforms and investment policy measures towards improving legal frameworks for investors;*

b) *That the review has helped to clarify the existence and content of nonconforming measures in accordance with Article 10 (5) of the Treaty, resulting in update of one non-conforming measures in the “Blue Book” of the Energy Charter:*

c) *In particular:*

- Took note with satisfaction that Poland has significantly improved the business climate over the last years with which resulted in significant inflow of FDI. The next challenge of improving investment climate is simplifying procedures on construction permits;
- Noted that Poland has made a considerable progress in development of its energy sector legislation and market reforms aimed at establishing an open and competitive energy market and creating a level playing field for local and foreign investors;
- Draw attention that diversification of supply sources, development of natural gas infrastructures, including the construction of LNG terminal, expansion of underground storage capacities and increase of domestic gas production are the key elements of Poland’s gas security policy;
- Underlined that extension of electricity and gas interconnections is key for increasing the security of energy supply in Poland and in the neighboring countries of the regional energy market;
- Noted that with its huge potential unconventional gas is expected to play a major role in Poland. If the shale gas resources are confirmed, their large scale exploitation will significantly change the energy landscape of Poland;
- Draw attention that power sector restructuring and privatisation of the four large power companies remain as key challenges. The sector will require substantial investments in the coming years where foreign investors could make important contributions;

\(^1\) Adopted at the 22<sup>nd</sup> Meeting of the Energy Charter Conference on 29 November 2011.
• Invited to strengthen market-oriented energy policies, implying liberalization and continued application of full cost recovery tariffs. Special consideration shall be given to application of market tariffs to the households while also ensuring that social protection mechanisms for vulnerable population is in place;

• Draw attention that the energy sector would strongly benefit from increased competition. Effective competition mechanisms would improve the efficiency of business performance to the benefit of consumers and ensure an adequate level of network infrastructure development towards security of supplies;

• Encouraged further improvements in the legislative framework with emphasis to be given to Law on public utility transmission corridors; new Green Law to stimulate development of renewable energy sources and legal framework for nuclear power;

• Emphasized need to continue strengthening capacity of the energy sector regulator to make it fully independent, empowered and equipped to monitor compliance;

• Draw attention that the electricity sector is heavily dependent on coal, it is advised to further promote development of renewable energy sources and facilitate implementation of energy efficiency programme.
3. Main Findings of the Secretariat

3.1. Investment climate and legislation

Polish economy continues to grow and remains an attractive destination for foreign and local investors. Over the last years Poland has undertaken a number of important reforms in many economy sectors such as financial markets, company and competition law, accounting, and intellectual property rights that have created a better environment for business. Foreign capital has played an important role in the transformation and development of the modern Polish market economy.

Poland has introduced reforms to improve its investment climate. The foreign exchange law was simplified, overall tax burden was reduced, and new legislation on public-private partnerships came into force. The government provides incentives for attracting foreign investors into the country. Promotion of foreign direct investments (FDI) is based on a sectoral framework. The young and well-educated labour presents an advantage for FDI attraction. Rule of law is well established in the country and provides adequate security for foreign investors. The judiciary and bureaucracy are not viewed by foreign investors as sources of barriers to business.

Poland generally does not impose performance requirements for establishing or maintaining an investment. Poland has a special law addressing financial support for investments. In line with this law a company investing in Poland, whether foreign or Polish, may receive assistance from the Polish government. In Poland large investments may qualify for the Multi-Annual Support Program. This program usually combines different types of aid, e.g. employment grants, exemptions from corporate income tax in special economic zones and the possibility of a preferential purchase price for land owned by the government.

Foreign companies generally enjoy unrestricted access to the Polish market. The review confirms that Poland maintains three exceptions to the principle of non-discriminatory treatment related to land, concessions in the energy sector and some reciprocity requirements.

First exception, citizens from countries other than the EU-27, Iceland, Liechtenstein and Norway are allowed to own an apartment, 0.4 hectares (4,000 square meters) of urban land, or up to one hectare of agricultural land without a permit. Agricultural land is not available for foreign ownership.

Second exception, investors must obtain governmental concessions, licenses or permits to engage in strategic sectors which include the energy sector. In accordance with the legislation a concession for conducting economic activity concerning production of fuels and energy, storage, transmission, distribution and trade in fuels and energy may be granted by the President of the Energy Regulatory Authority only if the applicant has its registered office or place of residence on the territory of a European Union Member State or a European Free Trade Association (EFTA) member country – party to The European Economic Area Agreement.

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2 These findings were submitted by the Energy Charter Secretariat to the regular session of the Investment Group on 25 October 2011.
Third exception, under the 2000 Commercial Companies Code companies can be established as joint-stock companies, limited liability companies, limited joint-stock partnerships, professional partnerships, registered partnerships, and limited partnerships. These corporate forms are available to a foreign investor, provided they come from a member state of the EU or the European Free Trade Area (EFTA), or have the right of permanent residence in Poland and are based in a country offering reciprocity for Polish enterprises.

It is important to note that the government adopted a strategic Energy Policy of Poland until 2030 which aims to address the most important challenges that the Polish power industry must face, both in the short and long run. As a Member State of the European Union, Poland actively participates in devising the Community energy policy. Within the framework of energy policy implementation, a profound reform of the energy law and regulations is being carried out.

The review shows that a comprehensive legislation and regulatory framework in the energy sector has been established but with certain exceptions. Some energy companies expressed concerns on uncertainty related to long pending new green law which should set targets for energy mix, reduction of greenhouse gas emissions and establishing investment targets within the energy sector. A pressing issue would be further eliminating legal barriers concerning implementation of power sector line investments. A very important law on public utility transmission corridors is pending since 2009, which was prepared to facilitate investments in gas and electricity transmission line. Adoption of this law is a pre-requisite for streamlining the process of investment task execution. The law will also apply to the corridors established on existing transmission facilities, in view of public utility purpose, as well as the new ones. Adoption of this law would significantly improve investment conditions in the energy sector.

Another important priority shall be the adoption of an investment law relating to the regasification terminal for liquefied natural gas in the town of Świnoujście. The law is under consideration which sets forth the rules for terminal investment preparation and funding, required due to important state security interests at stake and associated investments.

According to the World Bank assessment in its report Doing Business 2013, Poland is ranked 70 out of 183 economies in terms of the overall "Ease of Doing Business" evaluation. Notwithstanding significant progress, Poland shall continue reforms to further improve the investment climate towards making Polish economy more competitive and more attractive for local and foreign investors. For example, as regards issuing construction permits Poland is ranked 164, paying taxes is ranked 121 and finally starting business is ranked 113. It is reported that the average time needed to obtain a building permit in Poland is 311 days. Further streamlining of administrative procedures is required, where particular attention should be given to streamlining procedures on permits for construction.

3.2. Energy Market Structure

Being the largest hard coal producer in the EU, Poland’s energy import dependency is among the lowest in the EU. Hard coal plays a significant role in the Polish energy mix, with very large shares in electricity generation and also in primary energy supply, yet resulting in high emissions and CO2 intensity.
In line with the EU Directive 2003/55/EC on Gas Markets, Poland started the process of phased liberalisation of its domestic gas market. As part of the market reform, the gas transmission assets of the incumbent Polish Oil and Gas Company (PGNiG) were ownership-unbundled. An independent transmission system operator (TSO) fully owned by the State - OGP GAZ-SYSTEM - was established within PGNiG and transferred under the state control. In June 2007, six regional distribution companies were legally unbundled from PGNiG and granted the status of distribution system operators (DSOs) by the Energy Regulatory Office. The DSOs are wholly owned by the PGNiG Group.

Despite the market opening, competition grows slowly and the gas market is still largely monopolized. The gas sector is dominated by PGNiG. There is a heavy market concentration in the market (only 2% of gas sales by private companies), and heavy reliance on Russian gas imports. The review found that storage requirement for gas traders have a negative impact on liberalisation of the sector, and it is expected to be lifted as such (by accepting storage outside of Poland toward meeting this conditionality) in order to stimulate competition and allow for new entries by private sector in the wholesale market.

There is a draft legislative package for liberalisation of the market and is expected to be introduced in 2012. New law will also introduce greater regulatory independence in line with the EU’s 3rd Energy Package. The current strategy is to allow for competition in the gas sector via new entries, not by privatisation.

As regards gas transmission the TSO started introducing competition in transmission capacity allocations. This has yet remained at a very minor level and only for the additional new capacities, such as the capacity increase of 0.5 bcm with Germany (in operation by January 2012) for which the tender has seen 28 bids. The number of received bids for such small capacity is a good indication of prospective competitive developments in the future once the market is more liberalised. Increased interconnections with neighbouring Germany market and other countries would provide opportunity to increase security of supply and lower gas prices in Poland.

Towards further diversification of gas supplies, another interconnection with the Czech Republic has just been realised with a capacity of 0.5 bcm. Furthermore, the LNG terminal under construction will be critically important for the supply security, with an initial capacity of 5 bcm that can be increased by an additional 2.5 bcm if need be. It should be highlighted that the LNG terminal could also function as an export base if shale gas resources are developed in the coming years.

PGNiG S.A. is also carrying out a program for extension of working storage capacity of underground gas storage facilities, whose aim is to build new and extend existing underground storage facilities. The increase in existing working storage capacity will allow for fulfilling the legislative requirements on reserves. Gas storage is handled by a separate company which is owned by PGNiG. It is planned to start an open season procedure and all market players can now buy available storage capacity in accordance with the EU requirements.

The current structure of the Polish electricity sector is the consequence of the process of energy enterprises consolidation. There are four energy groups, which incorporate most of Polish electricity producers and DSOs. Both power generation and distribution markets are concentrated.
Having reversed unbundling through the consolidation of four major regional state-owned energy groups in 2006, the government began a privatisation process in 2008 and announced in August 2009 that two companies, ENEA and Energa, would be fully privatised, with ENEA in advanced negotiations with a number of strategic investors. The recent government decision to sell Energa to the largest state-owned group, PGE, has further consolidated state ownership in the energy sector. An initial public offering (IPO) of energy group PGE was successfully closed in November 2009, and a majority stake in Tauron was sold on the Warsaw Stock Exchange in June 2010.

Trade on wholesale electricity market was highly concentrated, especially within the vertically consolidated energy groups. As in previous years, bilateral contracts continued to dominate trade on the wholesale electricity market. In order to address this situation the Energy Regulatory Office (ERO) is working on ensuring greater transparency and liquidity of wholesale trade by, *inter alia*, introducing an obligation upon generators to sell electricity through the power exchange, and implementing a template of the so-called general distribution agreement that regulates the rules of cooperation between distribution system operators and suppliers who operate in their area.

Although the Polish electricity market is 100% open, household electricity prices are still regulated. Current tariff for the household sector is allegedly does not provide adequate rate of returns to operators. There is an ongoing legal dispute about the right of private distribution companies to establish tariffs for the end-users without approval by the ERO.

Collection rates, on the other hand, are at a very good level and do not pose a problem for distribution companies. Transmission tariffs, however, are reported to have been determined by the ERO at sufficient levels that could sustain the required investments. Capacity booking for transmission system is subject to –initially- high fees, and in case of no use of the capacity within the next two years they are cancelled.

Some energy companies noted that current market conditions fail to provide investors with the right signals. Energy companies have difficulties in making investment decisions because of uncertain future cost of CO2 and recent cancelation of long term contracts.

Polish Combined Heat and Power (CHP) Association has estimated that approximately up to 40% of Poland's electricity could be derived from CHP. With full access to the power markets possible for small, independent generators, new regulatory context appears favourable in this respect. Furthermore, the increasing availability of natural gas is expected to support the growth of CHP as well, notably through gas turbine systems. According to the legislation, electricity distribution companies are obliged to purchase electricity from cogeneration and renewable energy sources.

In Poland, electricity from renewable sources is promoted mainly through a quota system. Suppliers are obliged to acquire a certain number of so-called "green certificates", which are issued to the producers of electricity from renewable sources. Furthermore, electricity from renewable sources is supported through loans and tax relief. Grid operators are obliged to connect renewable energy systems to the grids without discrimination. Furthermore, grid operators must give electricity from renewable sources priority of access.
Wind power installed capacity is projected to reach 1,000 MW (onshore) by 2015 and 1,000 MW (offshore) by 2020. Renewable connections to the grid is reported to be not a major challenge, and capacity allocations are based on first come first serve basis, without any tender requirement. RES licenses are provided to those who have their projects already developed and apply for connection to the grid.

Investments are needed in electricity transmission lines, yet there are certain impediments especially as regards lengthy permit procedures and environmental objections. This is a major challenge because there will be new transmission lines required to bring the nuclear power produced in the north to the energy–hungry industrial south.

Meeting 94% of its electricity needs from coal-fired plants, coal-rich Poland currently has no nuclear power plants. A new field of activity is the introduction of nuclear power in the country. State-owned PGE has been tasked by the Polish government with building 6,000 MW of nuclear generation capacity, with the first 3,000 MW unit to be commissioned by 2020. In order to create conditions for the introduction of nuclear power, the government is working on measures aimed at creating a legal framework and institutional structure, as well as training human resources, including scientific research personnel. The legal framework for nuclear power is to be set up between 2011 through end of 2013.
4. General information

4.1. Information on the country

Poland is located to the north of the Central European area that lies on the Baltic Sea. Our country is one of the largest in Europe, in terms of its territory. Poland is in the Central European time zone (GMT+1). Poland is 312,679 square km in size, making it the eighth largest in Europe (disregarding the European territory of Russia).

Figure 1 Map of Poland


Poland’s western border is with Germany, the south-western border is with the Czech Republic and in the south it borders with Slovakia; to the north lies the Baltic Sea and the Russian border (the Kaliningrad enclave), to the north-east is the short Lithuanian border and in the east lie the borders of Belarus and Ukraine.

The total length of the country’s borders is 3,504 km. The Russian Kaliningrad enclave border is 210 km, the border with Belarus is 418 km and the Ukrainian border is 535 km, all of which form the European Union’s (EU’s) external border and jointly total 1,163 km. Poland’s border with Lithuania is 210 km, with Germany it is 467 km, with Slovakia it is 541 km and with the Czech Republic it is 790 km — all these form internal EU borders with a total of 1,902 km.

To the north Poland has a coastline of 520 km along the Baltic Sea; the southern border is formed by the Karpaty and Sudety mountains. The eastern border is formed by the river Bug and that of the west by the rivers Odra and Nysa Łużycka.
The distance between the northern and southern borders is 649 km and between the western and eastern borders it is 689 km. The country’s land surface area is 312,685 square km, whilst the territorial waters cover 8,700 square km and the area of the Szczeciń and Vistula estuaries cover 1,200 square km.

Table 1  Basic information about Poland

<table>
<thead>
<tr>
<th>Area</th>
<th>312,679 km²</th>
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<tbody>
<tr>
<td>Population</td>
<td>38.1 million</td>
</tr>
<tr>
<td>Capital</td>
<td>Warsaw agglomeration: population 2.5 million</td>
</tr>
<tr>
<td>Administrative divisions</td>
<td>16 Voivodships, 314 Poviats, 2479 Municipalities</td>
</tr>
<tr>
<td>Legislative Branch</td>
<td>Sejm (460 representatives), Senat (100 representatives)</td>
</tr>
<tr>
<td>Executive Branch</td>
<td>President (5 year term), Council of Ministers (4 year term)</td>
</tr>
<tr>
<td>Judicial Branch</td>
<td>Supreme Court, common courts, administrative courts, military courts</td>
</tr>
<tr>
<td>Time zone</td>
<td>GMT +1</td>
</tr>
<tr>
<td>Currency</td>
<td>1 Zloty (PLN) = 100 Groszy</td>
</tr>
<tr>
<td>Currency conversion</td>
<td>100 PLN = 24.1271 Euro (€) (as of 31 August 2011)</td>
</tr>
<tr>
<td>LIFE expectancy</td>
<td>Females 79.7%, males 71.0%</td>
</tr>
</tbody>
</table>

Source: Polish Information and Foreign Investment Agency

The Polish climate is a moderate continental one, with cold winters and very hot summers. The colliding air from the sea-polar and continental-polar weather fronts cause frequent climate changes and significant fluctuation during the seasons.

Poland’s most important natural resources are hard coal, lignite, copper, zinc and lead ores, silver, sulphur, salt, rock salt, building stone, natural gas and oil.

4.2. Political system

Poland is a democratic multi-party republic, reflecting a mixture of parliamentary and presidential models. The governmental system is based on the separation and balancing of legislative (the parliament or National Assembly), executive (the president and the Council of Ministers) and judicial powers (courts and tribunals). The supreme law of the Republic of Poland is the constitution, which was rewritten in 1997, passed on 2 April and submitted for ratification by national referendum. The constitution assures freedom of economic activity, any limitation of which should be based on the law.

The parliament is composed of two chambers: the lower house, including the Sejm, which comprises 460 deputies elected for four years through a proportional voting system via a general election. The upper house includes the senate, which comprises 100 senators, who are elected every four years through a majority voting system.
The senate has the right to initiate legislation and reviews, approve or reject Acts passed by the Sejm or propose amendments to these acts. However, any veto by the senate may be overruled by an absolute majority vote in the Sejm. It is the Sejm, ultimately, that decides on the final version of any legislative act. The legislative initiative is also granted to the president, the Council of Ministers and any group of at least 100,000 citizens coming up with a draft law. On the approval of the senate, the Sejm also appoints the commissioner for civil rights protection (the ombudsman or Rzecznik Praw Obywatelskich) for a five-year term. The ombudsman’s duty is to guard the civil rights and freedoms of Polish citizens and residents and to implement the law and the principles of community life and social justice. The ombudsman remains independent, and is responsible only to the Sejm.

The president is elected via a general election for a five-year term and can spend a maximum of two terms in office. The president is the head of state, the supreme representative of the country in foreign affairs and also the commander-in-chief of the armed forces. He appoints candidates for the post of prime minister and appoints the cabinet according to the prime minister’s proposals.

The president has also the right to dissolve the parliament if it is unable to form the government or approve the draft of the state budget. Apart from the legislative initiative, the president also has the right to veto Acts approved by the parliament (although this veto can itself be overruled by the Sejm with a 3/5 majority vote).

The government’s competences are defined in the Constitution of the Republic of Poland passed on 2 August 1997, and the Council of Ministers Act of 8 August 1996. Regulations regarding the government’s work methods are included in the Council of Ministers Regulations of 5 April 2002. The Council of Ministers in Poland, consisting of ministers managed by the prime minister, carries out the executive power duties. The government implements internal and external policies and bears responsibility for governmental administration. Politically, it reports to the Sejm (lower house of the Polish parliament).

Being the central public administrative body, the Council of Ministers wields executive power. The government makes decisions on all the matters that have not been reserved in the constitution and Acts for the Polish president and other public administrative organs. Tasks performed by the Council of Ministers are related to all the political, economic, social and cultural issues in Poland. Once the vote of confidence has been granted, the government is designated by the president. The Council of Ministers is politically responsible for its actions before the Sejm. The lower house of the Polish parliament is allowed to express its dissatisfaction through a vote of no confidence.  

### 4.3. Macro-economic developments

Poland has undergone a remarkable political, social and economic transformation. The achievements include uninterrupted economic growth averaging 4.6% per annum between 1996 and 2007 and accession to the EU in May 2004, and during the recent economic crisis Poland was the only EU country to maintain positive growth in 2009. It is worth noticing that the Polish economy has been developing sustainably, and has been able to avoid both overheating the economy and economic depressions. Furthermore, during the previous economic meltdown Poland fought against the crisis and was the only state in Europe to

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maintain gross domestic product (GDP) growth. In 1996-2009 the average GDP growth in Poland was 4.5%. The maximum value was 6.8% in 2007, and the minimum was 1.2% in 1997.

Figure 2 GDP growth from 2000-2010 (%)

According to an IMF statement,\(^5\) the economic growth of Poland is expected to remain solid and the current account deficit to widen further. Real GDP is projected to grow by 4.0% in 2011 and 3.8% in 2012, underpinned by the steady growth of private consumption, strong EU-funded public investment and an upturn in private fixed investment. Employment growth should remain solid, leading to a fall in the unemployment rate by 2012.

4.3.1. Foreign trade

In 2010, Polish exports amounted to €120.4 billion and imports amounted to €134.2 billion, so the trade balance was negative at -€13.8 billion, compared to -€9.3 billion the year before. In 2009, in comparison, exports grew by 22.6% and imports increased by 24.8%.

Poland recorded a negative balance of trade with developing countries (-€19.6 billion) and with Central and Eastern European Countries (-€6.2 billion). Trade surplus was observed in trade with developed countries (€12 billion), including EU countries (a surplus of €15.4 billion). The developed economies accounted for 84.9% of Polish exports (the EU’s share was 79.1%) and for 67.2% of Polish imports (the EU’s share was 59.5%).

\(^5\) Concluding Statement of the 2011 Article IV Mission, Warsaw, May 12, 2011
Figure 3  
Structure of Polish exports in 2010 by country

Figure 4  
Polish exports from 2000-2010 in € billion

Table 2  
Polish exports tendencies in 2009 and 2010

Source: Central Statistical Office of Poland

Source: Central Statistical Office of Poland

Source: Central Statistical Office of Poland
Similarly, as in the case of exports, Poland’s main import partner is Germany. Trade exchange with the country accounted for 26.1% of Polish exports and 21.9% of Polish imports in 2010.

Poland’s ten major trade partners accounted for 68.1% of exports and 64.5% of imports. In previous years they have been, respectively, 67.8% and 64.8%.

Figure 5   Structure of Polish imports in 2010 by country

Source: Central Statistical Office of Poland

Table 3  Polish import tendencies in 2009 and 2010

<table>
<thead>
<tr>
<th>Market</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>€ million</td>
<td>Share</td>
</tr>
<tr>
<td>Total</td>
<td>107,528.9</td>
<td>100.0%</td>
</tr>
<tr>
<td>Developed countries</td>
<td>74,317.3</td>
<td>69.1%</td>
</tr>
<tr>
<td>EU countries</td>
<td>66,531.3</td>
<td>61.9%</td>
</tr>
<tr>
<td>Developing countries</td>
<td>22,455.6</td>
<td>20.9%</td>
</tr>
<tr>
<td>CEE states</td>
<td>10,756.0</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

Source: Central Statistical Office of Poland

4.3.2. Inflation

The annual inflation in 2010 was 2.6%, a significantly lower result than the 3.5% of the year before. The key factors behind this rate were higher fuel, energy and food prices. The decrease in inflation resulted mainly from the fact the economic situation was stabilising.

Figure 6   Average annual inflation for 2000-2010 (%)
4.3.3. Unemployment

Over the last ten years, Poland’s rapid growth has resulted in reduced unemployment. Unfortunately, the global economic crisis brought a huge rise in the unemployment rate. In the worst month of 2010 it was 13.2%, the worst result since 2007. Recently, unemployment has slightly decreased but it is still considered to be high.

The situation with the Polish economy is favourable if it is compared to those of both the Euro zone and our region’s countries. The consequences of the crisis, which arrived in Poland with some delay in the initial phase, were not accompanied by any abrupt adjustment of market mechanisms in both companies and households.

In 2009, mainly as a result of the situation on the global financial market, a weakening of economic growth was observed. In the last quarter of 2009, a recovery in demand was recorded and in consecutive months the trend was continued.

According to Central Statistical Office (CSO) preliminary estimates in 2010, the GDP growth amounted to 3.8%, as a result of an increase in individual consumption by 3.2% and growth in
stocks. At the same time the gross fixed capital formation was 1.0% lower. The main factor in the growth was domestic demand.

Table 4  Main indicators

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP growth (%)</td>
<td>6.2</td>
<td>6.8</td>
<td>5.1</td>
<td>1.6</td>
<td>3.8</td>
<td>CSO</td>
</tr>
<tr>
<td>GDP per capita (€)</td>
<td>7,100</td>
<td>8,200</td>
<td>9,500</td>
<td>8,100</td>
<td>9,300</td>
<td>Eurostat</td>
</tr>
<tr>
<td>Inflation rate (CPI) (%)</td>
<td>1.0</td>
<td>2.5</td>
<td>4.2</td>
<td>3.5</td>
<td>2.6</td>
<td>GUS</td>
</tr>
<tr>
<td>Inflation rate (HICP) (%)</td>
<td>1.3</td>
<td>2.6</td>
<td>4.2</td>
<td>4.0</td>
<td>2.7</td>
<td>Eurostat</td>
</tr>
<tr>
<td>Total FDI (€ mln)</td>
<td>95,554.0</td>
<td>121,280.0</td>
<td>116,634.0</td>
<td>129,128.0</td>
<td>144,557.0</td>
<td>NBP</td>
</tr>
<tr>
<td>FDI inflows (% of GDP)</td>
<td>4.3</td>
<td>4.6</td>
<td>2.5</td>
<td>2.9</td>
<td>1.9</td>
<td>AFD MoE</td>
</tr>
<tr>
<td>Current account (€ mln)</td>
<td>-7,445.0</td>
<td>-14,696.0</td>
<td>-17,384.0</td>
<td>-6,749.0</td>
<td>-15,836.0</td>
<td>CSO</td>
</tr>
<tr>
<td>Trade balance (€ mln)</td>
<td>-12,858.2</td>
<td>-18,550.8</td>
<td>-26,204.1</td>
<td>-9,310.9</td>
<td>-13,815.3</td>
<td>CSO</td>
</tr>
<tr>
<td>Exports (€ mln)</td>
<td>87,925.9</td>
<td>101,838.7</td>
<td>116,243.8</td>
<td>98,218.0</td>
<td>120,373.1</td>
<td>CSO</td>
</tr>
<tr>
<td>Imports (€ mln)</td>
<td>100,784.1</td>
<td>120,389.5</td>
<td>142,447.9</td>
<td>107,528.9</td>
<td>134,188.4</td>
<td>CSO</td>
</tr>
<tr>
<td>Exchange rate $/PLN</td>
<td>3,102.5</td>
<td>2,766.7</td>
<td>2,409.2</td>
<td>3,116.0</td>
<td>3,016.0</td>
<td>CSO</td>
</tr>
<tr>
<td>Exchange rate €/PLN</td>
<td>3,895.1</td>
<td>3,782.9</td>
<td>3,516.6</td>
<td>4,327.0</td>
<td>3,995.0</td>
<td>CSO</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>14.8</td>
<td>11.2</td>
<td>9.5</td>
<td>12.1</td>
<td>12.3</td>
<td>CSO</td>
</tr>
<tr>
<td>Value Added structure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>24.7%</td>
<td>24.5%</td>
<td>24.3%</td>
<td>24.3%</td>
<td>24.6%</td>
<td>CSO</td>
</tr>
<tr>
<td>construction</td>
<td>6.4%</td>
<td>7.1%</td>
<td>7.3%</td>
<td>7.5%</td>
<td>7.1%</td>
<td>CSO</td>
</tr>
<tr>
<td>market services</td>
<td>50.0%</td>
<td>49.8%</td>
<td>50.2%</td>
<td>49.9%</td>
<td>50.1%</td>
<td>CSO</td>
</tr>
<tr>
<td>non-market services</td>
<td>14.6%</td>
<td>14.3%</td>
<td>14.5%</td>
<td>14.7%</td>
<td>14.7%</td>
<td>CSO</td>
</tr>
<tr>
<td>agricultural</td>
<td>4.3%</td>
<td>4.3%</td>
<td>3.7%</td>
<td>3.7%</td>
<td>3.5%</td>
<td>CSO</td>
</tr>
</tbody>
</table>

PRODUCTION OF MAIN INDUSTRIAL PRODUCTS

<table>
<thead>
<tr>
<th>PRODUCTS</th>
<th>Measurement unit</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard coal</td>
<td>10^6 t</td>
<td>95,220.8</td>
<td>88,312.9</td>
<td>84,345.1</td>
<td>78,064.5</td>
<td>76,153.8</td>
</tr>
<tr>
<td>Lignite</td>
<td>10^6 t</td>
<td>60,844.3</td>
<td>57,537.7</td>
<td>59,668.2</td>
<td>57,108.3</td>
<td>56,510.3</td>
</tr>
<tr>
<td>Oils from crude oil and oils from bituminous minerals</td>
<td>t</td>
<td>795,742</td>
<td>720,603</td>
<td>754,907</td>
<td>686,992</td>
<td>688,380</td>
</tr>
<tr>
<td>Natural gas in liquid or gas state</td>
<td>km^3</td>
<td>5,650.5</td>
<td>5,652.8</td>
<td>5,382.1</td>
<td>5,537.1</td>
<td>5,717.0</td>
</tr>
<tr>
<td>Coke</td>
<td>t</td>
<td>9,734,536</td>
<td>10,383,247</td>
<td>10,075,419</td>
<td>7,091,347</td>
<td>9,738,100</td>
</tr>
<tr>
<td>Motor gasoline including aviation fuel gasoline</td>
<td>t</td>
<td>4,263,345</td>
<td>4,035,497</td>
<td>4,128,248</td>
<td>4,282,660</td>
<td>4,221,594</td>
</tr>
<tr>
<td>Diesel oils</td>
<td>t</td>
<td>7,459,864</td>
<td>7,573,438</td>
<td>8,529,156</td>
<td>9,015,548</td>
<td>10,110,760</td>
</tr>
<tr>
<td>Fuel oils</td>
<td>t</td>
<td>5,360,761</td>
<td>4,857,715</td>
<td>5,395,846</td>
<td>4,966,999</td>
<td>3,505,320</td>
</tr>
<tr>
<td>Electricity</td>
<td>GWh</td>
<td>161,488.6</td>
<td>158,669.8</td>
<td>153,029.8</td>
<td>151,758.0</td>
<td>157,417.0</td>
</tr>
</tbody>
</table>

Source: Ministry of Economy
5. **FDIs**

5.1. **Investment related legislation**

There is no foreign investment law in Poland. The domestic legal framework that governs business activity in Poland also applies to foreign companies investing in Poland. The law that is directly relevant to foreign investments is the Economic Freedom Act of 2 July 2004, which regulates the undertaking, running and closing of businesses in the territory of Poland, as well as the public administration tasks in this regard. General business laws such as those dealing with tax, employment, real estate, anti-monopoly, fair competition and the environment also apply.

5.1.1. **Investment protection and promotion**

With regard to investment protection, the Polish Constitution contains core provisions providing for the protection of private property and a basic principle that property may only be expropriated for public purposes and for just compensation. These constitutional provisions are supplemented by international treaties and certain sector-specific treaties such as the ECT. The most important are the bilateral investment treaties (BITs). Poland has entered into more than 50 such treaties. They provide special protection for foreign investors and also general statements with regard to the promotion of investments.

Poland has also entered into treaties with many countries including all the EU member states, the USA, Canada and Japan, as well as many other industrialised and developing countries, to avoid double taxation. The key elements of such tax arrangements are those concerning dividends, interest and royalty payments and the rates applicable to such payments, which are usually lower than those that would be applicable if there were no such treaties.

5.1.2. **Foreigners wishing to buy land**

After Poland’s accession to the EU, in most cases, it is no longer necessary for companies or individuals from the EU or other countries of the European Economic Area (EEA) (Iceland, Lichtenstein and Norway) to obtain a permit to purchase real estate (or the right of perpetual usufruct) in Poland or to buy shares in Polish companies that own land. There are, however, exceptions with regard to acquiring forest land, agricultural land and land in border zones. The permit for acquiring agricultural and forest land will still be required up to 12 years from EU accession (that is, until 2 May 2016). In these cases, and where the purchaser is not from the EU or EEA, it will be necessary to obtain a permit from the Ministry of Internal Affairs and Administration. A transaction without a required permit is invalid.

5.1.3. **Foreigners wishing to conduct business activities**

The Polish law provides the following commercial forms of conducting economic activity:

1. **capital companies**
   a. limited liability company (sp. z o.o.),
   b. joint-stock company (spółka akcyjna – S.A.),

*Poland did have a foreign investment law for much of the 1990s, the Law on Companies with Foreign Participation of 14 June 1991. However, this was repealed on 1 April 2002*
2. **partnerships**
   a. registered partnership (spółka jawna – sp. j.),
   b. professional partnership (spółka partnerska – sp.p.),
   c. limited partnership (spółka komandytowa – sp.k.),
   d. limited joint-stock partnership (spółka komandytowo-akcyjna – S.K.A.),

3. **cooperative,**
4. **sole tradership (self-employment),**
5. **branch of a foreign entrepreneur,**
6. **representative office of a foreign entrepreneur.**

According to the Economic Freedom Act foreign persons from the EU and European Free Trade Agreement zones belonging to the EEA may undertake and run businesses on the basis of the same rules applicable to Polish entrepreneurs. The same rules also apply to foreigners living outside the EEA who:

- have received a permit to settle on Polish territory
- have received consent for a tolerated stay or the status of refugee has been granted in the Republic of Poland
- enjoy temporary protection within this territory.

Other foreign persons have the right, unless international agreements state otherwise, to undertake and carry out business activities only in the following forms:

- limited partnership
- limited joint-stock partnership
- limited liability company
- joint-stock company.

They have also the right to enter these kinds of partnerships or companies and purchase their shares. Furthermore, foreign entrepreneurs may carry out business activities in the form of **branch offices,** and also set up **representative offices** in the territory of Poland.

Within the meaning of the law, a foreign person is:

- a natural person residing abroad, without Polish citizenship
- a legal person with a seat (registered office) abroad or an organisational unit with a seat abroad, which is not a legal entity, but has a legal capacity.

A foreign entrepreneur is a foreign person carry out a business activity abroad.

5.1.4. **Investment incentives**

Poland offers a comprehensive system of incentives comprising tax exemptions and cash grants, for both domestic as well as foreign investors. Any investment incentives in Poland constitute state aid (mainly regional and horizontal) and may be granted with conformity to EU legislation in this regard.

Income tax exemption is available in one of 14 special economic zones (SEZs). An SEZ is a part of Polish territory that is administered separately and allocated for the running of businesses on preferential terms. If a company decides to invest in one of the SEZs, the income received from the business carried out on its terrain will be exempt from income tax
Real estate tax exemption is one of the basic investment incentives that are available for entrepreneurs locally. The value and period of real estate tax exemption usually depends on the number of new work places created and/or on the value of the investment.

Foreign investors carrying out new investments in Poland can count on receiving support from the Polish government as investment and job creation grants. Support can be applied for exclusively by entrepreneurs planning investments in the following priority sectors:

1. automotive sector;
2. electronic sector;
3. aviation sector;
4. modern services sector;
5. research and development sector;
6. bio-technology sector.

Apart from investment incentives provided through the government, SEZs and local authorities, investors may also receive assistance from the EU’s structural funds. Between 2007 and 2015 Poland will jointly receive over €67 billion from the EU’s budget. These funds are intended to raise the economic competitiveness of the Polish economy and develop an infrastructure (among other aims).

5.1.5. Investment support

The Polish Information and Foreign Investment Agency (PAIiIZ) has been serving investors for many years. Its mission is to increase FDI by encouraging international companies to invest in Poland. PAIiIZ guides investors through all the necessary administrative and legal procedures along the way to setting up their businesses.

PAIiIZ carries out the following functions:

- helps investors to enter the Polish market;
- provides quick access to the complex information relating to the economic and legal environment;
- helps in finding a convenient investment location and obtaining investment incentives;
- advises in each phase of the investment process;
- helps in finding appropriate partners and suppliers as the new locations;
- supports firms already active in Poland.

The agency’s mission is also to create a positive image of Poland across the world and to promote Polish goods and services abroad by organising conferences, seminars, exhibitions, workshops and study tours for foreign journalists.

In order to provide investors with the best possible service a network of regional investor service centres has been established across Poland. Their goal is to improve the quality of a region’s investor services as well as to provide access to the latest information — such as the investment offers and regional micro-economic data.
5.2. **FDIs**

Foreign capital coming into the Polish economy has fulfilled a very important role in the process of privatisation and restructuring. The majority of foreign investment in Poland has taken the most desirable form — FDI. Such investments have meant new companies starting from scratch or enterprises already existing in the Polish market being taken over. According to the data published by the National Bank of Poland (NBP), the value of FDI to Poland in 2009 was €9.863 billion. This consisted of the following:

- €4.099 billion – reinvested earnings (RE)
- €3.800 billion – investment in equity capital
- €1.964 billion – intercompany loans.

Poland has managed to attract significant FDI with peak investments of €17.2 billion in 2007. The figure below shows the dynamics of the FDI inflow over the last years.

**Figure 8** FDI inflow into Poland from 1994-2010 (€ million)

Foreign companies invested close to €5.3 billion (Table 8) in the Polish power, gas and water supply sectors from 1991-2007. This amount accounts for 4.1% (Table 5) of the accumulated value of FDI in Poland. The largest foreign investor in the Polish power engineering sector was (till the 3Q 2011) the Swedish company Vattenfall. The company invested both in the sub-sector of energy production (a 75% stake in Zespoł Elektrociepłowni Warszawskich) and in the sub-sector of energy distribution (a 75% stake in Górnośląskie Zakłady Elektroenergetyczne).

The second-largest foreign investor in the Polish power engineering sector is Electricite de France Internationale. It has a controlling stake in the following power plants and thermal electric power plants:

- Elektrownia Rybnik S.A., Elektrociepłownia
- Kraków S.A., Kogeneracja
- Wrocław S.A., and Zespół Elektrociepłowni
• Wybrzeże S.A. in Gdańsk.

It also has a minority stake in the thermal electric power plant Elektrociepłownia Toruń S.A. In the electricity distribution sector investments have been made by the German group RWE Plus AG, which is now the owner of STOEN S.A. in Warsaw.

In terms of FDI inflow structure, between 2006 and 2009 it was only in 2008 that the value of RE was negative. As with the decline of inflows, the main reason was the financial crisis. In 2009, the RE value recovered — their share in the inflow value reached 42% (29% in 2006 and 40% in 2007). The details are shown in the table below.

Table 5  FDI inflows into Poland by the type of capital from 2006-2009 (€ mln)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total capital flows</td>
<td>15,576</td>
<td>17,196</td>
<td>9,971.6</td>
<td>9,863.1</td>
</tr>
<tr>
<td>Equity capital</td>
<td>5,631.8</td>
<td>5,481.3</td>
<td>6,492.7</td>
<td>3,799.9</td>
</tr>
<tr>
<td>Reinvested earnings</td>
<td>4,510</td>
<td>6,762</td>
<td>-438.2</td>
<td>4,099.1</td>
</tr>
<tr>
<td>Other capital transactions</td>
<td>5,318</td>
<td>4,842</td>
<td>3,917.1</td>
<td>1,964.1</td>
</tr>
</tbody>
</table>

* Values in the year 2008 differ slightly from those mentioned in Figure 1 due to the fact that NBP only updated the amount of the total capital flow in that year (to €10,085 million) and did not update categories in capital type breakdown.


In terms of the sectoral structure, services dominated from 2006-2009 (circa 60% inflows each year on average). The most important economic activities in this class were business activities (for example, consulting) and financial intermediation.

Table 6  FDI inflows into Poland by economic activity from 2006-2009 (€ mln)

<table>
<thead>
<tr>
<th>Economic activity</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>15,575.9</td>
<td>17,196.0</td>
<td>10,084.5</td>
<td>9,863.1</td>
</tr>
<tr>
<td>Agriculture and fishing</td>
<td>45.0</td>
<td>91.6</td>
<td>90.5</td>
<td>25.5</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>12.4</td>
<td>50.8</td>
<td>17.3</td>
<td>-14.0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>3,738.7</td>
<td>4,996.8</td>
<td>1,570.0</td>
<td>3,359.5</td>
</tr>
<tr>
<td>Electricity, gas and water</td>
<td>77.6</td>
<td>453.2</td>
<td>1,038.6</td>
<td>856.4</td>
</tr>
<tr>
<td>Construction</td>
<td>415.6</td>
<td>423.7</td>
<td>278.1</td>
<td>416.1</td>
</tr>
<tr>
<td>Total services</td>
<td>10,377.4</td>
<td>10,272.1</td>
<td>6,620.6</td>
<td>4,724.5</td>
</tr>
<tr>
<td>• Trade and repairs</td>
<td>2,540.4</td>
<td>2,425.9</td>
<td>1,454.2</td>
<td>948.0</td>
</tr>
<tr>
<td>• Hotels and restaurants</td>
<td>36.8</td>
<td>109.8</td>
<td>-21.3</td>
<td>26.3</td>
</tr>
<tr>
<td>• Transports, communication</td>
<td>916.3</td>
<td>621.9</td>
<td>-508.8</td>
<td>157.6</td>
</tr>
<tr>
<td>• Financial intermediation</td>
<td>1,652.3</td>
<td>2,612.9</td>
<td>2,987.8</td>
<td>1,616.6</td>
</tr>
<tr>
<td>• Real estate &amp; business act.</td>
<td>5,157.4</td>
<td>4,363.7</td>
<td>2,665.5</td>
<td>2,047.6</td>
</tr>
<tr>
<td>• Other services</td>
<td>74.2</td>
<td>137.9</td>
<td>43.2</td>
<td>-71.6</td>
</tr>
<tr>
<td>Not allocated</td>
<td>-0.1</td>
<td>0.7</td>
<td>9.8</td>
<td>370.7</td>
</tr>
<tr>
<td>Priv. Purchases &amp; sales of real estate</td>
<td>909.3</td>
<td>907.1</td>
<td>459.6</td>
<td>124.4</td>
</tr>
</tbody>
</table>

* Values differ slightly from those mentioned earlier due to the fact that FDI inflows broken down by economic activity are published yearly in an NBP report and are, usually, later updated.

Source: NBP, 2009, 2010
The FDI stock value at the end of 2009 reached almost €130 billion. Since 2006, when it amounted to €95 billion, it has grown systematically. Figure 9 below shows the stock values from 2006-2009.

Table 7  Sector share in FDI inflows into Poland from 2006-2009

<table>
<thead>
<tr>
<th>Total</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and fishing</td>
<td>0.29%</td>
<td>0.53%</td>
<td>0.90%</td>
<td>0.26%</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>0.08%</td>
<td>0.30%</td>
<td>0.17%</td>
<td>-</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>24.00%</td>
<td>29.06%</td>
<td>15.57%</td>
<td>34.06%</td>
</tr>
<tr>
<td>Electricity, gas and water</td>
<td>0.50%</td>
<td>2.64%</td>
<td>10.30%</td>
<td>8.68%</td>
</tr>
<tr>
<td>Construction</td>
<td>2.67%</td>
<td>2.46%</td>
<td>2.76%</td>
<td>4.22%</td>
</tr>
<tr>
<td>Total services</td>
<td>66.62%</td>
<td>59.74%</td>
<td>65.65%</td>
<td>47.90%</td>
</tr>
<tr>
<td>• Trade and repairs</td>
<td>16.31%</td>
<td>14.11%</td>
<td>14.42%</td>
<td>9.61%</td>
</tr>
<tr>
<td>• Hotels and restaurants</td>
<td>0.24%</td>
<td>0.64%</td>
<td>–</td>
<td>0.27%</td>
</tr>
<tr>
<td>• Transports, communication</td>
<td>5.88%</td>
<td>3.62%</td>
<td>–</td>
<td>1.60%</td>
</tr>
<tr>
<td>• Financial intermediation</td>
<td>10.61%</td>
<td>15.19%</td>
<td>29.63%</td>
<td>16.39%</td>
</tr>
<tr>
<td>• Real estate &amp; business act.</td>
<td>33.11%</td>
<td>25.38%</td>
<td>26.43%</td>
<td>20.76%</td>
</tr>
<tr>
<td>• Other services</td>
<td>0.48%</td>
<td>0.80%</td>
<td>0.43%</td>
<td>–</td>
</tr>
<tr>
<td>Not allocated</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.10%</td>
<td>3.76%</td>
</tr>
<tr>
<td>Priv. Purchases &amp; sales of real estate</td>
<td>5.84%</td>
<td>5.28%</td>
<td>4.56%</td>
<td>1.26%</td>
</tr>
</tbody>
</table>

Source: MoE calculation on the basis of data from NBP, 2009, 2010

An analysis of FDI stocks split into activities shows that the most investment projects, in terms of value, concerned the services sector. Its share amounted to circa 60% and remained stable from 2006-2009. The most important economic activities in this sector were financial intermediation (19% stock value), business activities (18%) and trade. The Polish FDI stock structure is comparable to the structures of other developed countries where services dominate, manufacturing comes second and agriculture and mining come third.

Figure 9  FDI stock value in Poland from 2000-2009

Source: NBP, 2009, 2010
Table 8  FDI stock in Poland broken down into economic activities from 2006-2009 (€ mln)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>95 411.8</td>
<td>121 112.2</td>
<td>116 382.2</td>
<td>128 834.3</td>
</tr>
<tr>
<td>Agriculture and fishing</td>
<td>406.8</td>
<td>515.0</td>
<td>549.0</td>
<td>587.1</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>127.5</td>
<td>214.5</td>
<td>212.0</td>
<td>208.3</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>32,475.8</td>
<td>40,467.4</td>
<td>36,016.0</td>
<td>40,905.8</td>
</tr>
<tr>
<td>Electricity, gas and water</td>
<td>2,722.9</td>
<td>3,559.9</td>
<td>4,136.6</td>
<td>5,255.3</td>
</tr>
<tr>
<td>Construction</td>
<td>1,856.2</td>
<td>2,513.4</td>
<td>2,552.3</td>
<td>3,218.5</td>
</tr>
<tr>
<td>Total services</td>
<td>56,380.0</td>
<td>71,340.0</td>
<td>70,368.0</td>
<td>75,549.4</td>
</tr>
<tr>
<td>• Trade and repairs</td>
<td>16,635.0</td>
<td>19,912.8</td>
<td>19,129.3</td>
<td>20,429.0</td>
</tr>
<tr>
<td>• Hotels and restaurants</td>
<td>512.2</td>
<td>654.7</td>
<td>538.2</td>
<td>573.6</td>
</tr>
<tr>
<td>• Transports, communication</td>
<td>7,639.3</td>
<td>8,733.8</td>
<td>7,069.7</td>
<td>7,399.4</td>
</tr>
<tr>
<td>• Financial intermediation</td>
<td>17,825.3</td>
<td>22,904.5</td>
<td>22,312.5</td>
<td>23,939.8</td>
</tr>
<tr>
<td>• Real estate &amp; business act.</td>
<td>13,361.5</td>
<td>18,513.6</td>
<td>20,618.6</td>
<td>22,567.2</td>
</tr>
<tr>
<td>• Other services</td>
<td>406.7</td>
<td>620.6</td>
<td>699.7</td>
<td>640.4</td>
</tr>
<tr>
<td>Not allocated</td>
<td>1.3</td>
<td>2.0</td>
<td>14.6</td>
<td>406.3</td>
</tr>
<tr>
<td>Priv. Purchases &amp; sales of real estate</td>
<td>1,441.3</td>
<td>2,500.0</td>
<td>2,533.7</td>
<td>2,703.6</td>
</tr>
</tbody>
</table>

Source: NBP, 2009, 2010

Table 9  Sectors share in FDI stock in Poland in 2006-2009

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Agriculture and fishing</td>
<td>0.43%</td>
<td>0.43%</td>
<td>0.47%</td>
<td>0.46%</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>0.13%</td>
<td>0.18%</td>
<td>0.18%</td>
<td>0.16%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>34.04%</td>
<td>33.41%</td>
<td>30.95%</td>
<td>31.75%</td>
</tr>
<tr>
<td>Electricity, gas and water</td>
<td>2.85%</td>
<td>2.94%</td>
<td>3.55%</td>
<td>4.08%</td>
</tr>
<tr>
<td>Construction</td>
<td>1.95%</td>
<td>2.08%</td>
<td>2.19%</td>
<td>2.50%</td>
</tr>
<tr>
<td>Total services</td>
<td>59.09%</td>
<td>58.90%</td>
<td>60.46%</td>
<td>58.64%</td>
</tr>
<tr>
<td>• Trade and repairs</td>
<td>17.43%</td>
<td>16.44%</td>
<td>16.44%</td>
<td>15.86%</td>
</tr>
<tr>
<td>• Hotels and restaurants</td>
<td>0.54%</td>
<td>0.54%</td>
<td>0.46%</td>
<td>0.45%</td>
</tr>
<tr>
<td>• Transports, communication</td>
<td>8.01%</td>
<td>7.21%</td>
<td>6.07%</td>
<td>5.74%</td>
</tr>
<tr>
<td>• Financial intermediation</td>
<td>18.68%</td>
<td>18.91%</td>
<td>19.17%</td>
<td>18.58%</td>
</tr>
<tr>
<td>• Real estate &amp; business act.</td>
<td>14.00%</td>
<td>15.29%</td>
<td>17.72%</td>
<td>17.52%</td>
</tr>
<tr>
<td>• Other services</td>
<td>0.43%</td>
<td>0.51%</td>
<td>0.60%</td>
<td>0.50%</td>
</tr>
<tr>
<td>Not allocated</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.01%</td>
<td>0.32%</td>
</tr>
<tr>
<td>Priv. Purchases &amp; sales of real estate</td>
<td>1.51%</td>
<td>2.06%</td>
<td>2.18%</td>
<td>2.10%</td>
</tr>
</tbody>
</table>

Source: Opracowanie własne na podstawie NBP, 2009, 2010

5.2.1. Entities with foreign capital in Poland

At the end of 2009 there were 22,176 entities with foreign capital in Poland. 63% of them employed less than ten people, 20% employed between 11 and 49 and 5% employed more than 250. All the entities employed circa 1.46 million people. The total share capital reached
almost 180 billion PLN (foreign capital – 87%). Figure 10 shows how the value of the share capital and the number of entities changed from 2006-2009.

Around 37% of all the entities with foreign capital were located in the Mazowieckie voivodeship. A relatively high percentage is located in Dolnośląskie (10.0%), Śląskie (9.0%) and Wielkopolskie (8.8%). Table 10 presents the summary of this data.

All the entities mainly operated in branches defined as the “trade and repair of motor vehicles” (28.0%), manufacturing (21.7%) and “real estate activities” (9.2%).

Figure 10  Value of foreign capital and number of entities with foreign capital (2006-2009)

Source: GUS, 2010

Table 10  Geographical distribution of entities with foreign capital at the end of 2009

<table>
<thead>
<tr>
<th>Region</th>
<th>No of entities</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>22,176</td>
<td>100.0%</td>
</tr>
<tr>
<td>dolnośląskie</td>
<td>2,210</td>
<td>10.0%</td>
</tr>
<tr>
<td>kujawsko-pomorskie</td>
<td>555</td>
<td>2.5%</td>
</tr>
<tr>
<td>lubelskie</td>
<td>318</td>
<td>1.4%</td>
</tr>
<tr>
<td>lubuskie</td>
<td>765</td>
<td>3.4%</td>
</tr>
<tr>
<td>łódzkie</td>
<td>915</td>
<td>4.1%</td>
</tr>
<tr>
<td>małopolskie</td>
<td>1,381</td>
<td>6.2%</td>
</tr>
<tr>
<td>mazowieckie</td>
<td>8,135</td>
<td>36.7%</td>
</tr>
<tr>
<td>opolskie</td>
<td>461</td>
<td>2.1%</td>
</tr>
<tr>
<td>podkarpackie</td>
<td>326</td>
<td>1.5%</td>
</tr>
<tr>
<td>podlaskie</td>
<td>126</td>
<td>0.6%</td>
</tr>
<tr>
<td>pomorskie</td>
<td>1,270</td>
<td>5.7%</td>
</tr>
<tr>
<td>śląskie</td>
<td>2,002</td>
<td>9.0%</td>
</tr>
<tr>
<td>świętokrzyskie</td>
<td>177</td>
<td>0.8%</td>
</tr>
</tbody>
</table>
5.3. **Tax regulations**

The Polish tax system is composed of 12 taxes, including nine direct taxes, that is, personal income tax, corporate income tax, inheritance and donation tax, tax on civil law actions, agricultural tax, forest tax, real estate tax, vehicle tax, tonnage tax and three indirect taxes, that is, goods and services tax, excise duty and gambling tax.

A general description of CIT, PIT, VAT, excise duty and real estate tax and further information concerning changes in tax regulations that were important from the standpoint of the investment process in Poland in the period 2006 to 2010 are as follows.

**CIT**

The regulations of corporate income tax law are covered in the Corporate Income Tax Act from 15 February 1992 (*Journal of Laws*, 2000, No. 54, item 654, with further amendments), and also in implementing legislation. The provisions of the above-mentioned Act are applicable to legal persons and companies under organisational structures, and organisational units without legal personalities. In addition, capital tax groups may be treated as single taxpayers, that is, groups of at least two commercial companies having legal personalities that remain in capital relationships.

The Corporate Income Tax Law provides tax exemptions for certain entities including the State Treasury, NBP, budgetary units, state earmarked funds, etc. A taxation year is the calendar year, unless taxpayers decide differently. Taxable income is subject to taxation, that is, the sum of the excess revenues over the costs of obtaining them reached in the taxable year. If the costs of the obtained revenue exceed the amount of revenue, the difference is a loss. A tax base is an income less certain deductions, including donations to charitable organisations and religious worship. A tax base may also be reduced by expenses incurred by the taxpayer for the acquisition of new technologies.

The standard corporate income tax rate is 19%. In the case of certain categories of income earned by non-residents the tax rate may be 10% or 20%. Corporate income tax regarding revenue (income) from dividends and other income from a share in the profits of legal persons who are established or having been administered in Polish territory is subject to 19% of the revenue gained.

**PIT**

The taxation of the income of individuals is governed by the Personal Income Tax Act dated 26 July 1991 (*Journal of Laws*, 2010, No. 51, item 307, with further amendments), and also by applying legislation to the PIT Act. This tax concerns all kinds of income with the exception of income enumerated in the PIT Act (Article 21 of the PIT Act) or the income on which it has been decided not to charge the tax (Article 2, paragraph 1 of the PIT Act). The taxation base is the income after making certain deductions, such as social security contributions, rehabilitation expenses, the expenditures incurred for the use of the Internet,

---

### Table: Regional Data

<table>
<thead>
<tr>
<th>Region</th>
<th>Value</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>warmińsko-mazurskie</td>
<td>309</td>
<td>1.4%</td>
</tr>
<tr>
<td>wielkopolskie</td>
<td>1,962</td>
<td>8.8%</td>
</tr>
<tr>
<td>zachodniopomorskie</td>
<td>1,264</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

*Source: GUS, 2010*
donations to charitable organisations and public worship organisations or expenses incurred for the acquisition of new technologies.

Tax should be paid according to the two-tier tax scale, in which for a particular range the tax rates are 18% and 32% respectively. The tax threshold is 85,528.00 PLN. While calculating the tax the tax-free amount is taken into account, which reduces the amount of the tax payable by 556.02 PLN. The total amount of the personal income tax is reduced inter alia by health insurance contributions and by so-called allowances for children. Taxpayers engaged in business activities, if they meet the criteria specified in the respective acts, can also choose a flat rate of 19% or one of the simplified forms of taxation (lump sum taxation on the recorded income or tax card).

Changes in tax regulations from the years 2006-2010, which were important from the standpoint of investment processes in CIT and PIT

The Act of 29 July 2005 on certain forms of supporting innovative activities (Journal of Laws, 2005, No. 179, item 1484) introduced from 1 January 2006 the ability to make deductions from revenues from economic activity (PIT) and the tax base (CIT) expenditures incurred by the taxpayer for the acquisition of new technologies (Article 26c of the Personal Income Tax Act and Article 18b of the Corporate Income Tax Act).

From 1 January 2007 in the Act of 16 November 2006 amending the Corporate Income Tax Act (Journal of Laws, 2006, No. 217, item 1589) and in the Act of 16 November 2006 amending the Personal Income Tax Act and certain other Acts (Journal of Laws, 2006, No. 217, item 1588) provisions, which allowed the inclusion into the tax deductible costs of a one-off depreciation on the initial value of the fixed assets of the group KŚT 3-8, with the exception of passenger cars, in the fiscal year in which they were placed on the register of fixed assets and intangibles, an amount not exceeding in the fiscal year the equivalent of €50,000 of the total value of the writes-off of depreciation, were introduced.

Small taxpayers (that is, taxpayers whose income from sales, including VAT, do not exceed, in the previous fiscal year, an amount equal to the equivalent of €1,200,000, and before 1 January 2009 the equivalent of €800,000), as well as taxpayers beginning operations in the year of its launch, could benefit from these rights

The Act of 5 March 2009 amending the Personal Income Tax Act and Corporate Income Tax Act (Journal of Laws, 2009, No. 69, item 587) introduced for the period 2009-2010 the higher limit of a one-off depreciation from €50,000 to €100,000.

The Act of 23 October 2009 amending the Personal Income Tax Act and Act of Lump-sum Personal Income Tax on certain income earned by natural persons (Journal of Laws, 2009, No. 201, item 1541) introduced from 1 January 2010 in the Personal Income Tax Act a regulation that clearly indicated that the income from the sale of certificates of origin for the energy received by energy enterprises engaged in the production of electricity from renewable energy sources (RES) is classified as being sourced from non-agricultural economic activities (Article 14, paragraph 2, point 14 of the PIT Act)

from the taking-up of shares in a company having legal personality in exchange for a contribution in kind in the form of know-how, according to the implementation of Action 3.1 Innovative Economy Operational Programme "Initiating innovative activities", in accordance with which the taxation of income from the taking-up of these shares is postponed for not more than five years (Article 24, paragraphs 17 and 18 of the PIT Act).

VAT

Tax on goods and services is regulated by the Act of 11 March 2004 on goods and services tax (Journal of Laws, No. 54, item 535, as amended) and by the issued implementing legislation. The following transactions are subject to tax on goods and services: the supply of goods and services for consideration within the territory of the country, exports of goods, imports of goods, intra-community acquisition of goods for consideration within the territory of the country and intra-Community supply of goods. The taxable amount is the turnover. The standard tax rate is 22% but, as a rule, from 1 January 2011 to 31 December 2013 it will be increased to 23% and the reduced tax rate will be increased from 7% to 8%. There is also a reduce tax rate of 5%, which applies to books and professional journals as well as certain food products. The 0% tax rate is, as a rule, applicable to the exports of goods and the intra-Community supply of goods. The VAT Act also provides exemption from tax for those taxable persons whose taxable turnover has not exceeded in the previous fiscal year the total amount of 150,000 PLN.


The above-mentioned legal Acts do not provide any specific rules regarding the taxation of activities related to investments, including investments in the energy sector. Moreover, these Acts do not provide for the possibility of applying specific preferences with regard to investments using different energy sources.

Taking into account the liberalisation of the gas and electricity sectors and in order to create a real internal market for gas and electricity, as a result of the implementation of Council Directive 2003/92/EC of 7 October 2003 amending Directive 77/388/EEC as regard the rules on the place of the supply of gas and electricity (OJL 260, 11 December 2003, p. 8-9), specific regulations regarding the place of supply of gas and electricity supplied through distribution networks as well as special rules on place of supply of services related to the supply of electricity and gas were introduced. With effect from 1 February 2005, the place of supply of gas through the gas distribution system or of electricity to a taxable dealer is always the place where the taxable dealer has established his business. However, the supply of gas and electricity in the final stage of consumption, that is, from traders and distributors to final consumers, is taxed at the place where the customer actually uses and consumes the goods (Article 22(1)(5) and (6) of the above-mentioned Act on goods and services tax). As a result of the implementation of Council Directive 2009/162/EU of 22 December 2009 amending various provisions of Council Directive 2006/112/EC on the common system of VAT (OJL 10, 15 January 2010, p. 14), the Act of 16 December 2010 amending the Act on goods and services tax and the Road Transport Act (Journal of Laws, No. 247, item 1652), with effect
from 1 January 2011, stipulates that the above special system is also applicable to the supply of heat or cooling energy through heating or cooling networks and the supply and import of natural gas transported by vessels, which, after re-gasification at the destination, is forwarded to any upstream pipeline network. Special arrangements apply to supplies of gas through a natural gas system situated within the territory of the Community or to any network connected to such a system. VAT exemption also includes imports of gas by vessels if the gas is to be introduced to the gas system.

**Excise duty**

The taxation of excise duty is regulated by the Act of 6 December 2008 on excise duty (*Journal of Laws*, 2011, No. 108, pos. 626), and issued implementing legislation. The Act defines inter alia taxation of excise goods (energy products and electricity, alcoholic beverages and tobacco) and taxation of passenger cars. The sample tax rates for energy products are as follows:

1. coal and coke used for heating purposes from code CN 2701, 2702 and 2704 00 – (1.28 PLN/1 GJ);
2. motor gasoline from code CN 2710 11 45 or 2710 11 49 – (1,565.00 PLN/1,000 litres);
3. aviation gasoline from code CN 2710 11 31, fuel gasoline such as jet fuel from code CN 2710 11 70 and the remaining oil from code CN 2710 19 25 – (1,822.00 PLN/1,000 litres);
4. gas oil from code CN 2710 19 41 – (1,048.00 PLN/1,000 litres);
5. gas oil used for heating purposes from code CN 2710 19 41 – 2710 19 49, coloured in red and marked with a flag in accordance with the specific provisions – (232.00 PLN/1,000 litres);
6. gas for internal combustion engines
   a) natural gas (wet) and other gaseous hydrocarbons from code CN 2711 and gaseous aliphatic hydrocarbons from code CN 2901
      – liquefied – (695.00 PLN/1,000 kilos)
      – gaseous – (11.04 PLN/1 GJ)
   b) produced in a tax warehouse, and meeting quality requirements specified in separate provisions
      – biogas, regardless of code CN – 00.00 PLN
      – hydrogen and biohydrogen of code CN 2804 10 00 – 00.00 PLN;
7. natural gas (wet) and other gaseous hydrocarbons from code CN 2711, used for heating purposes – (1.28 PLN/1 GJ).

Alcoholic beverages, within the meaning of the Act on excise duty, include ethyl alcohol, beer, wine, fermented drinks and intermediate products. The sample rates for these products are as follows:

1. ethyl alcohol – 4,960.00 PLN per 1 hectolitre of 100% vol. ethyl alcohol contained in the final product (Article 93 of the Act on excise duty);
2. beer – 7.79 PLN per 1 hectolitre, for every Plato degree of the final product;
3. wine – 158.00 PLN for 1 hectolitre of the final product.

Tobacco, within the meaning of the Act, includes cigarettes, smoking tobacco, cigars and cigarillos. The excise rates on tobacco products are as follows:
1. cigarettes, with certain reservation – 158.36 PLN per 1,000 items and 31.41% of the maximum retail selling price;
2. smoking tobacco, with certain reservation – 102.32 PLN per kilo and 31.41% of the maximum retail selling price;
3. cigars and cigarillos – 244.40 PLN per 1,000 items.

As a rule, the taxpayer should, without notice from the tax authorities:
1. submit to the head of the competent customs office tax returns in a predetermined pattern,
2. calculate and pay excise liabilities to the bank account of a competent customs chamber – for monthly periods, no later than on the twenty-fifth day of the month following the month in which the tax liability arises, unless special provisions provide otherwise.

Changes in tax regulations in the years 2006-2010, which were important from the standpoint of investment processes in excise duty

With regard excise duty, the Act of 23 January 2004 on excise duty (Journal of Laws, No. 29, item 257, with subsequent amendments) and all the regulations to this Act were in force from 1 May 2004 to 28 February 2009. Since 1 March 2009 the Act of 6 December 2009 on excise duty (Journal of Laws, 2009, No. 3, item 11, with subsequent amendments) and all the regulations to this Act have come into force.

The Act of 2004 on excise duty called into being guarantees for excise duty payment — the new legal institution stemming from EU law. Provisions of the Act stipulated two types of excise guarantees: a general guarantee and a lump sum guarantee. According to the regulations, a lump sum guarantee can only be applied to entities authorised to operate a tax warehouse and only for providing a guarantee of excise duty payments arising from producing excise goods in this tax warehouse.

The Act of 6 December 2008 on excise duty introduced a number of instruments facilitating the usage of excise guarantees. Two types of excise guarantees were kept in existence but the rules for determining the level of the lump sum guarantee were simplified (compared to what had been used before). It was then specified that the lump sum guarantee would account for 30% of the amount of the general guarantee.

On 10 July 2009 the Amendment of the Act on excise duty came into force. It introduced further simplifications to the excise guarantee system. As a result not only could tax warehouse keepers provide lump sum guarantees but also registered consignees and intermediate entities. What is more, newly introduced regulations enabled these operators to use lump sum guarantees in situations other than where excise goods were produced in tax warehouses, for example moving excise goods under duty suspension arrangements and delivering them to the entity that uses the goods.

Further amendments to the Act on Excise Duty, with effect from 1 September 2010, stipulate that the guarantee may be provided by the carrier or the forwarding agent to cover any tax liabilities that might arise when moving the excise goods. In the aforementioned situation the carrier or forwarding agent provides an excise guarantee on behalf of an economic operator, who is obliged to provide a guarantee of excise duty payment.
The ministry of finance, empowered by the Amended Excise Act of 2010, made further reductions in the level of excise guarantees. The provisions of the regulation reducing the level of lump sum guarantees for certain excise goods from 30% to 15% of the amount of general guarantees took effect from 1 January 2011.

A reduction in the level of the lump sum guarantee as well as other simplifications to the process of using excise guarantees have a positive effect on the financial condition of excise related-businesses.

Excise duty exemptions for bio-components, motor fuels and bio-fuels containing bio-components provided in regulations on excise duty are essential for making investments in the energy sector in Poland. The amount of excise duty exemption for adding bio-components in motor fuels that was in force from 1 May 2004 was reduced from 1 January 2007 under a Regulation of the Ministry of Finance. The change was caused by the European Commission's position, according to which the amount of exemptions specified in the Regulation of the Ministry of Finance in force until 31 December 2006 led to overcompensation.

Then, a change to the Act on excise duty dated 11 May 2007 introduced a mechanism of reduced excise rates in place of the mechanism of excise duty exemption for bio-fuels. Exemption from excise duty for bio-components added to motor fuels and bio-fuels were retained. On 24 July 2007 the Council of Ministers accepted a “Long-term program on promoting bio-fuels and other renewable fuels for the years 2008-2014” and the mechanism of reduced excise rates for bio-fuels became an important part of this programme.

The new Act of 6 December 2008 on excise duty maintained the system of reduced excise rates for motor fuels and bio-fuels containing bio-components on the same level as that provided in the aforementioned Act of 11 May 2007. The exemption for bio-components intended for use in fuels and bio-fuels were also retained.

Changes in incentives for bio-fuels were introduced by the Act of 26 November 2010 on amending certain Acts relating to the implementation of the Budget Act (Journal of Laws, No. 238, item 1578).

The regulation containing changes in excise duty reliefs for bio-fuels shall come into force from 1 May 2011 to 31 December 2011, but not earlier than from the date of publication of the European Commission’s decision on the compatibility of state aid provided in this regulation with the Common Market. Excise reliefs for petrol and diesel oil with bio-components provided in the Act of 26 November 2010 differ from current reliefs, taking into account the term when they were applied and more narrow criteria for the use of such reliefs (new excise reliefs will be used only for excise goods containing over 80% bio-components blended with petrol or diesel oil).

In the previous Act of 23 January 2004 on excise duty only the maximum rates of excise duty were specified and these rates were lowered by the ministry of finance in the regulation. Currently, all rates of excise duty are specified in the Act of 6 December 2008 on excise duty. This approach provides more legal certainty regarding the stability of the level of rates and, as a consequence, it is easier for entrepreneurs to make decisions to carry out any business in the field of excise duty. In addition, the provisions of mandatory exemptions from excise duty, which Poland was obliged to lay down to adapt its domestic regulations to the EU law in this regard, were set out in the Act of 6 December 2008 on excise duty. Furthermore, the
provisions concerning the uniform procedures for applying the exemptions, the scope of these exemptions and the basic conditions of applying the exemptions were set out in the above-mentioned Act. The Act of 6 December 2008 on excise duty does not regulate the taxation of non-harmonised excise goods (excluding motor cars, which are taxed), including cosmetic preparations.

The Act of 10 July 2008 amended the Act on excise tax and the Act on producing and dispensing wine products, the trade in these products and organising the wine market (Journal of Laws, No. 145, item 915). The amendment facilitated the start of the production of grape wines by entities who cultivate grapes, especially farmers and owners of agro-tourism farms. Moreover, small and middle wine producers who produce wine made from grapes with their own resources have become more competitive and are exempted from the obligation to receive the status of tax warehouse. This category of wine producers was exempted from the obligation to operate tax warehouses and produce wine made from grapes in these warehouses with the purpose of eliminating additional administrative barriers that make running businesses difficult and often even impossible. The abolition of the requirement to operate tax warehouses by small wine producers (who produce less than 1000 hl of wine per year) should increase the general wine production by new entities who start this kind of business, especially owners of farms of several hectares.

**Property (real estate) tax**

Property tax is governed by the Act of 12 January 1991 on local taxes and charges. Property tax is applicable to land, buildings or parts of buildings and structures or their parts involved in the running of businesses. The taxation base is as follows:

1. for the land – surface,
2. for buildings or their parts – usable area,
3. for structures (buildings) or their parts, relating to economic activity – as a rule, the value referred to the regulations of income taxes.

The municipal council determines the amount for the property tax rates by resolution, with the reservation that the above-mentioned rates should not exceed the following yearly:

1. for land-related economic activity, regardless of the classification of land and buildings – 0.80 PLN per 1 square m in 2011 (0.84 PLN in 2012);
2. for buildings or their parts with relation to economic activity, and residential buildings or their parts occupied for conducting business – 21.05 PLN per 1 square m in 2011 (21.94 PLN in 2012);
3. for buildings – 2% of their value.

The upper limits of the rates that are applicable to property tax are indexed annually in line with inflation. In relation to individuals property tax is decided on by the tax authority. Tax is then payable in instalments, in proportion to the duration of the tax liability. The dates of payment are 15 March, 15 May, 15 September and 15 November of the taxation year. Legal persons, entities and companies without legal personality and other organisational units are required to submit, by the deadline of 15 January, their tax returns for the purpose of the property tax for the tax year and pay — without being asked — this into the bank account of the competent municipality (in instalments proportionate to the duration of the tax liability, within the fifteenth of each month).
The Act on local taxes and charges also provides exemptions from property tax. For example, the following situations are exempt from property tax:

1. port infrastructure, buildings, structures, infrastructures providing access to ports and harbours and occupied land;
2. buildings, structures and land occupied by the area for public use in aviation airports.

**Changes in tax regulations in the years 2006-2010, which were important from the standpoint of investment processes in real estate tax**

There were no changes in the Act of 12 January 1991 on local taxes and charges, which were important from the investment process point of view, including investments in the energy sector, in the 2006-2010 period.

Since 2006, exemption from the real property tax for land lying under energetic lines administrated by the State Forest National Holding has not been applied. This exemption was applied from 2003-2005 under Article 10 of the Act of 30 October 2002, changing the Act on local taxes and charges.

On 27 August 2008, the Act of 5 August 2008 on the conditions for providing exemptions of real property tax and transport vehicle tax, constituting regional investment state aid, came into force. The above-mentioned Act is the national programme that sets out the main conditions of state aid granting, which is based on Commission Regulation (EC) No. 1628/2006 of 24 October 2006 on the application of articles 87 and 88 of the treaty to national regional investment aid. This kind of state aid refers to, among others things, fixed assets.

The change to the Act of 7 July 1994 — the Construction Law — has had an impact on the taxation of real property tax. The definition of construction was changed and it resulted in only part of a wind power station (not the whole construction) being subjected to taxation. As a consequence, entrepreneurs can pay less property tax. This law was introduced at the end of 2005 and had impact from the beginning of 2006.

**5.4. Privatisation**

**5.4.1. Legal framework for privatisation**

The procedure for disposing of shares belonging to the State Treasury is regulated by the provisions of the Act on Commercialisation and Privatisation (*Journal of Laws*, from 2002, No. 171, item 1397, as amended).

Detailed conditions for selling shares according to Article 33 of the Act on Commercialisation and Privatisation are specified in the Resolution of the Council of Ministers of 30 May 2011 on the detailed method of selling the shares of the State Treasury (*Journal of Laws*, No. 114, item 664).

It needs to be stressed that the ministry of the State Treasury pays a great deal of attention to the fact that the processes of privatisation operate in a transparent and open way. To ensure that this target is met the provisions of the Act on Commercialisation and Privatisation of 30 August 1996, among other things (*Journal of Laws*, from 2002, No. 171, item 1397), were changed as determined by the Ministry of the State Treasury.
**Privatisation**, according to the Act means the following:

1) having shares in the increased initial capital of one-person companies of the State Treasury, established as a result of commercialisation by entities other than the State Treasury or other than state legal persons according to the Act of 8 August 1996 on principles of executing the rights the State Treasury possesses (*Journal of Laws*, No. 106, item 493 and No. 156, item 775, from 1997, No. 106, item 673, No. 115, item 741 and No. 141, item 943, from 1998, No. 155, item 1014, from 2000, No. 48, item 550, from 2001, No. 4, item 26 and from 2002, No. 25, item 253 and No. 240, item 2055);
2) selling shares belonging to the State Treasury in companies;
3) disposing of all tangible and intangible elements of the property of a state company or a company established as a result of commercialisation according to the Act
   a) selling a company
   b) bringing business to the company
   c) putting the company to a paid use.

According to the Act of 30 August 1996 on Commercialisation and Privatisation (*Journal of Laws*, from 2002, No. 171, item 1397, as amended, later referred to as the Act), **privatisation can be either direct or indirect**.

**Indirect privatisation** is aimed at selling shares belonging to the State Treasury in one of the following ways:

1) publicly announced offer;
2) public tender;
3) negotiations on the basis of public invitation;
4) accepting an offer in response, announced on the basis of articles 72-74 or Article 91, paragraph 6 of the Act of 29 July 2005 on public offering and the conditions for introducing financial instruments to an organised trading system and on public companies (*Journal of Laws*, No. 184, item 1539);
5) selling shares in organised trade according to the Act of 29 July 2005 on trading in financial instruments (*Journal of Laws*, 2010, No. 211, item 1384);
6) selling on the basis of a public offering of shares covered by the prospectus or information memorandum within the meaning of the Act of 29 July 2005 on public offerings and conditions for introducing financial instruments to organised trading, and public companies, drawn up in connection with the offer or the admission of such shares to trading on a regulated market;
8) selling the shares outside the trading organised under the provisions of the Act of 29 July 2005 on trading in financial instruments, using a system combining buy and sell offers, organised and run by the company operating a regulated market.

It is permissible to dispose of shares other than through the above-mentioned ways (referred to in Article, paragraph 33. 1 of the Act), if the Council of Ministers gives their consent to a non-public mode of disposing of shares. Such consent is not necessary if the purchaser and
the price are indicated in the privatisation contract and the disposal relates to shares of companies in which the State Treasury holds less than 50% of the share capital or the disposal relates to shares of companies in which the State Treasury holds no more than 25% of the capital.

**Direct privatisation** consists of the disposal of all tangible and intangible assets of a state-owned enterprise by the following means:

1) selling a company
2) bringing business to a company
3) putting the company to a paid use.

State companies that meet all the following conditions may be subject to direct privatisation by putting the company to a paid use:

1) the sales value of the goods and services in the year preceding the year of the order of direct privatisation is not higher than the PLN equivalent of €6 million, calculated according to the buying rate announced by the Polish National Bank on 31 December the year preceding the year of the order of direct privatisation;
2) the sales value of the goods and services in the year preceding the year of the order of direct privatisation is not higher than the PLN equivalent of €2 million, calculated according to the buying rate announced by the Polish National Bank on this day.

The Council of Ministers, where appropriate, may agree to the direct privatisation of state enterprises through a free-of-charge use, which does not meet the conditions set out in paragraph 2.

The privatisation of enterprises of particular importance to the national economy requires the consent of the Council of Ministers, which is governed by the Ordinance of the Council of Ministers of 22 October 2010 on determining state-owned enterprises and sole shareholder companies wholly owned by the State Treasury of particular importance to the economy of the state. Currently, the list of such enterprises includes companies from the energy sector, namely Centralna Stacja Ratownictwa Górniczego in Bytom, Polskie Sieci Elektroenergetyczne Operator S.A. in Konstancin-Jeziorna, Centrum Badań i Dozoru Górnictwa Podziemnego Sp. z o.o. in Lędziny, Operator Gazociągów Przesyłowych GAZSYSTEM S.A. in Warsaw and Przedsiębiorstwo Ekośwajówek "Przyjaźń" S.A. in Plock.

The Act also lays down the planned amount and the revenue from privatisation. With the proceeds from the privatisation of state-owned enterprises the following special funds have been created:

1) 5% of the proceeds from the sale of shares – the Restitution Fund
2) 15% of the proceeds from the sale of shares – the Business Restructuring Fund
3) 2% of revenues from the sale of shares – the State Treasury Fund
4) 2% of revenues from the sale of shares – the Fund for Polish Science and Technology.

In accordance with the amendment to the Act on Commercialisation and Privatisation (Journal of Laws, from 2010, No. 108, item 685) till the end of the year 2011 the portfolio of shares for two public purposes changes as follows:
1. 1.5% of the proceeds from the sale of shares – the Restitution Fund,
2. 3% of the proceeds from the sale of shares – the Business Restructuring Fund.

In accordance with Article 55 of the Act on Commercialisation and Privatisation, at the request of the Council of Ministers, the Polish parliament can decide on the issue of privatisation bonds and the value of the bonds intended to pay for the acquisition of rights in the issue of shares in the privatisation of state enterprises, the acquisition of shares in financial institutions (joint investment companies) aimed at the disposing of shares issued as a result of the privatisation of state enterprises and the acquisition of companies. Privatisation bonds will be allocated free of charge in equal amounts to all citizens residing in the Republic of Poland.

Prepared by the Ministry of the State Treasury and approved by the Council of Ministers in April 2008 (revised 10 February 2009) the "Privatisation Plan for 2008-2011" envisages the privatisation of 802 companies.

The privatisation plan comprises companies from such important sectors as financial institutions, energy, chemistry and the petroleum industry — where privatisation will be launched or continued — as well as industry, such as machinery, metals, electronics, electricals, spirits, food, wood and paper, furniture, clothing and clothing materials, transport and shipping, trading companies and service units and minorities (minority interest).

Ownership transformations in the different sectors will be implemented in accordance with governmental programmes and sector strategies, both those existing and those being amended and adopted during the implementation of the programme. In the years 2008-2011, it is planned that the process of ownership transformation in most of the above industries and sectors will be completed.

5.4.2. Privatisation process

Since the beginning of the privatisation process, the period from 1 August 1990 to the end of December 2010, the number of state-owned enterprises under ownership transformation amounted to 5,975. As a result, at the end of December 2010 there were 121 state-owned enterprises.

The year 2010 was a historic year for the Polish privatisation. The biggest debut in the history of the Polish Stock Exchange had taken place and the stock market itself debuted on its floor. The amount of signed contracts was the highest recorded in history. This year has also developed the idea of an Ownership Society, and also made milestones in ensuring Poland’s energy security.

In 2010, the Ministry of the State Treasury opened 484 privatisation processes for 395 companies. 230 transactions were successful completed, 160 contracts were signed, 38 companies were privatised as municipal (transferred to territorial units) and 32 companies were filed to increase the capital of other companies with the Treasury.

Revenues from privatisation contracts, both concluded and initialled, amounted to 29,681 billion PLN, which represents 118.72% of the revenues planned for 2010, and this is the highest amount recorded in the history of privatisation. In this respect, the Ministry of the State Treasury physically received what amounted to 22,037 billion PLN (88.15% of the plan).
By the end of 2010, the ownership of 5,975 state-owned enterprises was transformed. Most of the undertaking included in the process of transition was in the initial period of transformation (1,258 firms from 1990-1991 and 1,402 in 1992). In subsequent years, their number decreased down to 32 in 2006 and, in 2010, the transformation process involved 15 companies.

Thanks to the activities of the Ministry of the State Treasury not only did the Stock Exchange become a public company, but also two other state-owned companies: Tauron — the second largest energy group in Poland — and PZU S.A. — the largest insurer in the region. The IPO was the second largest IPO in Europe in 2010. As a result of those transactions the State Treasury obtained yields amounting to 6.7 billion PLN. Throughout 2010, on the regulated market 27 companies sold shares, from the sale of 10% of shares in Polska Grupa Energetyczna (PGE) (with nearly 4 billion PLN) and 10% of shares in KGHM SA (for 2 billion PLN).

### Table 11  
State-owned enterprises under transition

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall</th>
<th>Commercialised*</th>
<th>Direct privatisation**</th>
<th>Liquidation according to art. 19 of State Enterprises Law***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>32</td>
<td>9</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>2007</td>
<td>62</td>
<td>38 (+ 6 research and development unit)</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>2008</td>
<td>100</td>
<td>88 (+10 research and development unit)</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>2009</td>
<td>51</td>
<td>37 (+1 research and development unit)</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>2010</td>
<td>15</td>
<td>12 (2 other institutions)</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

* including 117 companies wholly owned by the State Treasury, founded by other ministries and approved by the Ministry of State Treasury as a result of transition in public economic governance in 1997, and enterprises transformed due to Section III of the Commercialisation and Privatisation Law

** acceptance of the Ministry of Privatisation/Ministry of State Treasury

*** without objections from the Ministry of Privatisation/Ministry of State Treasury

6. Legislation relevant to investment in the energy sector in Poland

6.1. Current situation

The primary legislative regime governing energy regulation in Poland is contained in the Energy Law of 1997 (the Energy Law). The Energy Law marks a major milestone in the process of adapting energy economy to market principles. Its purpose is the regulation of the energy market and national energy policy. The Energy Law establishes the base for third-party access (TPA), independent power producers (IPPs), RES, least cost planning (LCP), integrated resource planning (IRP), the Energy Regulatory Authority (ERA), demand side management (DSM) and energy efficiency labels (EELs). One of the main targets stated in the Act is to achieve efficiency in the production, distribution and use of energy and fuels.

The Energy Law Act of 10 April 1997 defines the principles in the development of the state energy policy, the terms and conditions of the supply and the use of fuels and energy, including heat, and the operation of energy enterprises; it also determines which administration organs are in charge of fuel and energy economy. Furthermore, it regulates the
legal status, including the scope of obligations and rights, of three groups of entities: public administration bodies, energy companies (including the special category of energy operators) and gaseous fuel customers. Pursuant to the provisions of the Energy Law, the Ministry of Economy is the principal administrative body in charge of the energy policy. The tasks of the Ministry of Economy with respect to the energy policy shall include the following: preparing the proposal for the state energy policy and coordination of its implementation, specifying the detailed terms of the planning and operation of fuel and energy supply systems according to the procedure and within the scope specified in the act of law and supervising the security of gaseous fuels supply.

The tasks of the regulator of fuel and energy economy and the tasks relevant to the promotion of competition rest upon the chairman of the Energy Regulatory Office (ERO). Pursuant to the provisions of Article 23, paragraph 1, the chairman of ERO regulates the activity of energy enterprises on the basis of the act of law and the state energy policy, aiming at balancing the interests of energy enterprises and fuel and energy customers. The tasks of the chairman of ERO include the following: granting and revoking licences, approving and supervising the application of tariffs for gaseous fuels, electricity and heat, designating the system operators and approving the instructions for grid operation and use with respect to the aspects of system balancing and the management of system restrictions.

In Poland, a licence is required to carry out any business activity with the following scope:

1. generation of fuels or energy, except for the following
   a) generation of solid or gaseous fuels
   b) generation of electricity using electricity sources with a total capacity of no more than 50 MW other than RES or for cogenerated electricity, with the exception of generating electricity from agricultural biogas
   c) generation of heat using the sources with a total capacity of no more than 5 MW;
2. storage of gaseous fuels in storage installations, liquefication of natural gas and regasification of liquefied natural gas (LNG) in LNG installations, as well as the storage of liquid fuels, except for the local storage of liquid gas at installations with a capacity of less than 1 MJ/s and the storage of liquid fuels in retail trade;
3. transmission or distribution of fuels or energy, except for the distribution of gaseous fuels in grids of less than 1 MJ/s capacity and the transmission or distribution of heat if the total capacity ordered by customers does not exceed 5 MW;
4. trade in fuels or energy, except for the following
   a) trade in solid fuels, trade in electricity using installations of voltages lower than 1 kV owned by the customer, trade in gaseous fuels if the annual turnover value does not exceed the equivalent of €100,000 and trade in liquid gas provided that the annual turnover value does not exceed €10,000, as well as trade in heat given that the capacity ordered by the customers does not exceed 5 MW;
   b) trade in gaseous fuels and electricity performed on commodity exchanges.7

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7 As defined in the Act of 26 October 2000 on commodity exchanges or on a market organised by an operator of a regulated market in Poland, a regulated market as defined in the Act of 29 July 2005 on trading financial instruments by commodity brokerage houses or brokerage houses that carry out brokerage activities relating to trading commodities, and by a company running a commodity exchange market, a stock exchange clearing house or Krajowy Depozyt Papierów Wartościowych S.A., purchasing gaseous fuels or electricity as part of the obligations defined in the Act of 26 October 2000 on commodity exchanges
A concession for an activity within the scope of prospecting and exploring for natural gas and oil, as well of the exploitation of natural gas and oil — pursuant to the provisions of Article 16, paragraph 1, point 2 in relation to paragraph 3, point 1 of the Geological and Mining Law Act of 4 February 1994⁸ — shall require the consent of the minister responsible for the environment with the agreement of the minister responsible for the economy.

Pursuant to Article 16, paragraph 1, point 3 of the above-mentioned act, economic activity consisting of the non-reservoir storage of substances and disposal of waste in the sub-surface, including underground mining excavations (sub-surface stocks of natural gas, oil and liquid fuels), requires a concession granted by the ministry of the environment. Concessions are granted pursuant to an agreement expressed by the relevant bodies of local government (commune head, town or city mayor).

The Energy Act defines the procedure for designating the transmission system operators (TSOs) and distribution system operators (DSOs) for electricity and natural gas, as well as the storage system operators (SSOs) for natural gas and operators whose activities consist of the liquefaction of natural gas. Operators are designated upon their own motions or by the chairman of ERO (Article 9h). Pursuant to the provisions of Article 9c of the Energy Law, depending on the scope of their activities, TSOs, DSOs and gaseous fuel storage system or LNG system operators, as well as interconnected gas system operators, use objective and transparent rules that ensure equal treatment of system users and meet environment protection requirements; they are responsible for, among other things, a coordinated and effective grid operation, with the required reliability in terms of the supply of gaseous fuels and their quality, the use, maintenance and repairs of the grid, installations and equipment, including grid connections with other gas systems, in a way that guarantees the reliability of the operation of the gas system, balances the system and manages the restrictions within the gas system, as well as conducting settlements with the system users that result from unbalanced gaseous fuels delivered to and collected from the system. The article imposes similar obligations on electricity TSOs or operators of a connected electricity system and DSOs.

The Act on the preparation and implementation of investments in the field of nuclear energy generation and the accompanying investments is — alongside the amended Nuclear Law — a legal Act regulating issues related to the functioning of nuclear energy facilities in Poland. The legislator places a particular emphasis on regulating the investment process related to nuclear energy facilities and the accompanying infrastructure. The primary objective of the Act is to create a transparent and stable legal framework covering the whole investment process. Regulating the investment process in a separate legal Act facilitates the reduction of significant investment risks, making it possible to prepare and implement such investments in the most efficient manner.

The legislator defines the obligatory decisions necessary for locating and building a nuclear energy facility, such as the decision that defines the location of an investment, the basic decision, the construction permit for a nuclear energy facility and the procedure for its acquisition. The basic decision, granted to an investor following a decision on the location of an investment and before a permit to build a nuclear energy facility is applied for, will be an expression of the state’s approval for the construction of a nuclear energy facility in a specific location, by a specific investor, with the use of a specific technology.

⁸ Journal of Laws, 2005, No. 228, item 1947
Alongside obligatory decisions before the start of construction, the draft Act provides for the possibility of an investor filing applications for other decisions of an optional nature. This Act, often called the Investment Act, also contains provisions pertaining to investments accompanying the construction of nuclear energy facilities, such as projects implemented by the operator of a transfer system to release and distribute power from a nuclear power plant and other undertakings necessary to prepare, build and operate nuclear energy facilities. It is worth noting that the catalogue of accompanying investments is not of a closed nature.

Over the past several years, numerous organisational changes have taken place with respect to the structure of the Polish natural gas and electricity market, which is a direct consequence of the implementation of the provisions of EU law. In this respect, the most important legal Acts are 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 and Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, and it was also necessary to reorganise the natural gas market and electricity market, in particular to separate transmission and distribution activities from trading activities.


Furthermore, an important legal Act from the point of view of a company involved in the energy market in Poland is the Act of 16 February 2007 on stocks of crude oil, petroleum products and natural gas, the principles of proceeding in circumstances of a threat to the fuel security of the State and disruption on the petroleum market (Journal of Laws, 2007, No. 52, item 343, with subsequent amendments) — hereinafter referred to as the “Act on Stocks”. The Act regulates the procedures to be observed by state bodies and energy companies should disturbances occur on the energy market and imposes the obligation of maintaining mandatory stocks by the following:

- companies whose scope of activities includes the production and trading of oil products, amounting to the 76-day average daily amount of crude oil or fuels brought in or the amount of fuel production and the 30-day average daily amount of liquefied petroleum gas (LPG) brought in or produced;
- energy companies importing natural gas and being involved in natural gas foreign trading, amounting to the 20-day average daily amount of natural gas brought into the national territory (pursuant to legal provisions, this amount shall be increased to 30 days as of 1 January 2012).

Other legal Acts important for the energy sector are the following:

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9 See Official Journal of the European Union L.09.211.94
10 See Official Journal of the European Union L.09.211.55
− Building Law Act of 7 July 1994 (*Journal of Laws*, 2010 r., No 243, item 1623). The Building Law regulates the activities relating to the design, construction, maintenance and demolition of buildings and defines the rules of operation of public administration in these domains. The Building Law’s secondary legislation considered to be significant for an investor includes the Ordinance of the Ministry of Economy of 30 July 2001 on technical conditions to be met by gas networks and the Ordinance of the Ministry of Economy of 1 November 2005 on the technical requirements for liquid fuel bases and stations, long-distance oil and oil products and transmission pipelines and their locations;

− Environmental Protection Law Act of 27 April 2001 (*Journal of Laws*, 2008, No. 25, item 150). The Act establishes the rules of environmental protection and the conditions for using natural resources, considering the requirements of sustainable development and, in particular, the rules for establishing the conditions necessary for natural resources protection, conditions necessary for introducing substances or energy into the environment and the costs of using the environment, as well as the obligations of state administration bodies;

− Act of 25 August 2006 on bio-components and liquid bio-fuels (*Journal of Laws*, No. 169, item 1199). The Act establishes the rules for conducting economic activity, whose scope includes the production of bio-components and liquid bio-fuels for own use and the economic activities that consist of the marketing of bio-components and liquid bio-fuels, as well as the establishment and pursuit of the National Index Target (the Act introduces, among other things, the obligation of fulfilling the National Index Target with respect to the share of bio-fuels in the market of liquid fuels by enterprises that produce and import liquid fuels);

− Act of 25 August 2006 on the fuel quality monitoring and scrutinising system, which establishes the rules for the organisation and operation of the fuel quality monitoring and scrutinising system with respect to fuels used in vehicles, tractors, non-road mobiles, power-generating combustion installations and inland vessels, by any of the fleets selected by farmers for their own use, as well as quality requirements for these fuels (detailed norms are defined in relevant secondary legislation acts);

− Act of 15 April 2011 on energy efficiency (*Journal of Laws*, No. 94, item 551). The Act establishes the national target with respect to efficient energy administration, the tasks of public sector units in relation to efficient energy administration, the conditions for obtaining and remitting energy efficiency certificates, the principles governing the drawing up of energy efficiency audits and the procedure for granting the qualifications of an energy efficiency auditor;

− Law on Measures Act of 11 May 2001 (*Journal of Laws*, 2004 No. 243, item 2441, with subsequent amendments). The Act regulates the issues pertaining to the legal units of measures and national measure standards, the legal metrological control of measurement devices and the competences and tasks of government administration bodies competent in relation to measures;

− Act of 21 December 2000 on technical inspection (*Journal of Laws*, No. 122, item 1321). The Act defines the principles, scope and forms of carrying out technical supervision with respect to oil and gas infrastructure facilities, and indicates the units competent in this domain.

The following directly applicable Acts of EU law are important for the energy sector:


6.2. Planned changes

The Ministry of Economy in charge of regulations in the energy sector has adopted a decision concerning the reorganisation of legal provisions in the gas and electricity sectors. Suggested modifications include the deletion of provisions pertaining to the natural gas sector from the Energy Law and the adoption of a new act — the Gas Law. The adoption of this solution is to simplify the provisions that regulate the natural gas sector. Today, following numerous amendments, the relevant legal provisions are unclear and complicated; moreover, solutions adopted in the electricity sector do not conform to the reality of the natural gas sector.


Following the implementation of the provisions of Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide, which is part of the climate and energy package adopted by Poland in 2008, the Energy Law is to be amended and regulations will be introduced with respect to carbon dioxide transportation networks for the European CCS Demonstration Projects.

Furthermore, the Ministry of Economy has submitted a draft of the amended Act on stocks. Pursuant to the amended provisions, the current system of mandatory stocks of natural gas will be modified in order to facilitate the process of entering into the Polish market of new entities wishing to undertake activities with respect to foreign trading in natural gas and imports of natural gas (for instance, through the introduction of the possibility of maintaining mandatory stocks of natural gas in facilities and installations located abroad, on the territory of a member state of the EU).

At the same time, the development of a new ordinance of the Ministry of Economy on detailed rules of structuring and calculating of tariffs and settlements in trade with fuel gas is in process. The new ordinance will include solutions outlined in the third energy package including, in particular, the
definition of entry-exit transfer rates.

Apart from the Gas Law, which encompasses the provisions concerning the natural gas sector that have been deleted from the Energy Law, the reconstructed system regulating the operation of the Polish energy market will include a new Energy Law Act outlining regulations that pertain to the power and heat sector, as well as common provisions for all sectors, including the gas sector, that is, among other things, regulations concerning the establishment of the chairman of ERO and defining the procedure for conducting proceedings before the chairman of ERO.

The Ministry of Economy is also preparing a prospective Act that will change the system of mandatory oil stocks.

The key assumptions of the new Act are as follows.

- Financial obligation: “stocks fee” — costs of stock storage will be part of the “stocks fee” paid by entrepreneurs (producers and importers of petroleum products);
- System to be transformed gradually. The proposed transitional period is ten years;
- Within the transitional period two parallel systems of stockholding — current and new — will function;
- New system of stockholding — in ten years’ time the state will own all the stocks. The oil sector will only cover costs; the administrative burden connected with the physical maintenance of stocks by oil companies will be transferred to the public agency.

7. Energy market in Poland

7.1. Energy policy

The key directions of Poland’s energy policy (PEP) laid out in the Energy Policy of Poland Until 2030 are largely correlated to each other and include areas such as energy efficiency, enhancing the security of fuel and energy supplies, diversifying the electricity generation structure by introducing nuclear energy, developing the use of RES (including bio-fuels), developing competitive fuel and energy markets and reducing the environmental impact of the power industry. The document specifies the objectives to be attained for each of the areas. Poland has large deposits of coal, which, considering the dependency of our country on imports of gas (in almost 70%) and of crude oil (in over 95%), will be a major factor in stabilising Poland’s energy security. As Poland depends on Russia supplying 97% of its oil and 68% of its gas, the emphasis of the country’s policy is also the security and diversification of the energy supply as well as the preservation of its transit role as a transit state for Russian oil and gas.

The energy policy of Poland is largely determined by the requirements of the EU. There are two areas where EU directives and regulations are particularly significant — the liberalisation of the energy market (implementation of the EU’s third climate-energy package) and the EU’s “20-20-20” objectives, which include, in particular, the following:

- limiting greenhouse gas emissions in the sectors not covered by the EU Emissions Trading Scheme (EU-ETS) to 14% above the 2005 level (binding);
- reducing energy consumption by 20% of the projected 2020 levels (non-binding); and
- increasing the share of renewable energy to 15% of the gross final energy consumption, including an increase in the use of renewables in transport to 10% (binding).

To support the realisation of the *Energy Policy*, the Polish government adopted a number of additional documents specifying measures necessary for meeting the policy goals and evaluating the progress so far, including the *Action Plan for the years 2009-2012*, *Evaluation of the implementation of energy policy since 2005*, *Forecast of the demand for fuel and energy until 2030* and *Proposals from the Strategic Environmental Assessment of energy policy on the environment*.

### 7.1.1. Institutional structure

Below are the main administrative bodies that are responsible for the energy policy in Poland.

The Ministry of Economy implements and supervises PEP and it consists of several departments, which include the Department of Energy (dealing with electricity, combined heat and power, renewable energy and energy efficiency), the Department of Oil and Gas, the Department of Mining (dealing with coal) and the Department of Economic Development (dealing inter alia with CO2 emissions). Since 12 May 2009, the government’s commissioner for nuclear power has operated alongside the Department for Nuclear Energy.

The Ministry of the State Treasury is involved in the restructuring of (public) energy companies. It is also in charge of fulfilling supervisory functions over state-owned companies.

The Polish Energy Regulator — ERO (URE) — is an independent body, although its president is appointed by the prime minister and reports to the Ministry of Economy. ERO’s competences include the following:

- granting licences for electricity and heat generation, electricity and gas transmission and distribution, gas storage, liquefaction and re-gasification and fuel and electricity trade;
- appointing transmission and DSOs and approving their investment plans and grid codes;
- approving transmission and distribution tariffs and approving final electricity tariffs for residential customers and gas tariffs for all customers;
- issuing certificates of origin for electricity generated from RES and cogeneration;
- monitoring energy and fuels markets and promoting competition.

The Ministry of the Environment is responsible for the environmental aspects of the energy sector, including CO2 and other greenhouse gas emissions, and environmental fees. It also grants licences for the exploration for and extraction of raw materials.

The Energy Market Agency is a joint stock company that provides energy and environment-related statistical information to the government, international organisations including the International Energy Agency (IEA), scientific institutions, universities and companies under an agreement with the Ministry of Economy, which is in charge of the energy data in Poland.

The National Energy Conservation Agency (NAPE) was set up in 1994 as an initiative of the Energy Conservation Foundation (FPE). The agency was created with the aim of popularising
efficient and rational energy usage, above all in the building sector, and to spread the principles of sustainable development.

### 7.1.2. Primary energy production

Poland’s primary energy production began to slowly decrease in the years 2003-2006 and fell sharply in the years 2007-2009. In 2009, the leading energy product was hard coal with a 68% share, followed by lignite with 18%, natural gas with 5%, crude oil with 1% and other, mostly renewable, sources with 10%.

**Figure 11** Primary energy production

![Primary energy production chart](image)

*Source: Central Statistical Office*

### 7.1.3. Primary energy consumption

Primary energy consumption is higher than production by 30%. Hard coal is still a predominant energy source at 46% in 2009, followed by crude oil at 21%, natural gas at 14%, lignite at 13% and all the others at 6%. The trends show a slight decrease in the consumption of hard coal and an increase in the consumption of crude oil.
In 2010, primary energy consumption increased by 4.9% from the previous year, from 91.3 million tons of oil equivalent (Mtoe) to 95.8 Mtoe. The breakdown of particular energy sources includes oil at 26.3%, natural gas at 12.9%, coal at 54%, renewable electricity at 1.9% and hydroelectricity at 0.8%.\(^{11}\)

### 7.1.4. Supply and demand

As a result of structural changes in the economy in the 1990s as well as reduced economic activity in the first decade and significant improvements in energy efficiency, Poland’s energy supply was gradually reduced from its peak of 133 Mtoe in 1987 to 95 Mtoe in 2009. On average, demand was falling by 1.2% per annum (pa) between the years 1990 and 2002. Since 2002, primary energy demand began to rise again at the average annual rate of 2.4% as the economy began to grow and fewer opportunities presented themselves for efficiency modernisation. By 2006 demand had increased by 9 Mtoe. In 2009 supply dropped by 3% compared to the 2006-2008 levels.

The use of coal in the years 2006-2020 is predicted to decrease by 16%, whereas the consumption of all other energy carriers will increase, that is, by 11% for oil products, 11% for natural gas, 40.5% for renewable energy, 17.9% for electricity, 30% for district heat and 33% for other fuels.\(^{12}\)

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\(^{11}\) Energy Statistics 2008, 2009; Central Statistical Office

\(^{12}\) Energy Statistics 2008, 2009; Central Statistical Office
Figure 13   Demand for primary energy by carriers in 2009

Source: Ministry of Economy

Figure 14   Demand for primary energy by carriers in 2030

Source: Ministry of Economy
The final energy use in several sectors of the economy during the period 2006 -2020 is projected to increase by 11% on average, 31.7% for transport, 31.3% for services, 13.6% for agriculture and 0.5% for households.

Table 13 Demand for final energy use by sectors of the economy [Mtoe]

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>20.9</td>
<td>18.2</td>
<td>19.0</td>
<td>20.9</td>
<td>23.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Transport</td>
<td>14.2</td>
<td>15.5</td>
<td>16.5</td>
<td>18.7</td>
<td>21.2</td>
<td>23.3</td>
</tr>
<tr>
<td>Agriculture</td>
<td>4.4</td>
<td>5.1</td>
<td>4.9</td>
<td>5.0</td>
<td>4.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Services</td>
<td>6.7</td>
<td>6.6</td>
<td>7.7</td>
<td>8.8</td>
<td>10.7</td>
<td>12.8</td>
</tr>
<tr>
<td>Households</td>
<td>19.3</td>
<td>19.0</td>
<td>19.1</td>
<td>19.4</td>
<td>19.9</td>
<td>20.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>65.5</td>
<td>64.4</td>
<td>67.3</td>
<td>72.7</td>
<td>79.3</td>
<td>84.4</td>
</tr>
</tbody>
</table>

Source: Energy Policy of Poland until 2030

The two most significant developments than can be observed are the growth of the industry share and the growth of the transport share. Poland’s total energy consumption after the fall of 5.3 Mtoe between 1990 and 2002 rose by 8.3 Mtoe to reach a level of 65 Mtoe in 2009, primarily owing to a surge in the transport sector.13

Figure 15 Total final consumption by sector, 1973 to 2030

Source: IEA 2011 Review – Poland

13 National Renewable Action Plan2010, Ministry of Economy
7.2. **Electricity**

The main tasks pertaining to the improvement of energy supply security in Poland are as follows:

- maintaining the use of coal as the main fuel in the generation of power;
- creation of new generation powers (including nuclear power plants and new highly efficient cogeneration power plants);
- development and modernisation of the national transmission system;
- development of transnational connections in order to attain the goal of exchanging the equivalent of 25% of power used in Poland by 2030;
- modernisation and expansion of the distribution network.

The development of RES and increasing energy efficiency will also contribute significantly to improving the security of energy supply. At present, the infrastructure of the Polish energy sector is obsolete. Almost half of power-generating facilities are over 30 years old; in order to meet power and heat demand, significant short- and medium-term investments are necessary. Power grids also necessitate important investment outputs; almost 80% of 400 kV lines and 99% of 220 kV lines are over 20 years old.

Since substantial market reforms in 1990, the demand for electricity has been growing systematically. The average growth between 2000 and 2009 for all sectors was 1.5% per annum; the services sector grew the most rapidly (3.1% per annum), household electricity grew by 3.0% per annum and industrial electricity. Between the years 2007 and 2025 the demand for electricity is expected to grow by over 26% and reach 195 TWh by 2025.

The Polish power generation system is the largest in Central and Eastern Europe. In 2009, Poland produced 150.1 TWh of electricity and consumed 148.7 TWh. Nearly 50% of the electricity was consumed by industry, 19% by residential households and 27% by other consumers. From 2011 to 2015, consumption is expected to grow at an average of 1.62% per annum and from 2016 to 2017 by 2.7% per annum. Poland is both an electricity transporter and importer. Due to economic development in 2010, both production and consumption increased, to from the previous year, by 4% (to 157,414 GWh) and 5% (156,060 GWh) respectively.

Between the years 2001-2007, electricity consumption grew by 12%. There are three groups of voivoidships with varying levels of consumption of electricity: the first group of two voivoidships produce over 20 TWh per annum (the voivoidships Śląskie and Mazowieckie), four voivoidships produce over 10 TWh per annum and eight voivoidships produce below 10 TWh per annum.

Electricity generation in Poland is strongly based on coal. In 2009, as much as 90% of electricity came from hard coal and lignite and the remaining 10% from other resources. At the end of 2009, 35.6 GW of a capacity that consisted of 31.6 GW of coal-fired installations was installed in addition to 2.3 GW of hydropower, 0.9 GW of natural gas, 0.6 GW of biomass, 0.5 GW of oil and 0.4 GW of wind power. The generational landscape is expected to change in the years to come. The government is planning to reduce its heavy reliance on coal in electricity production and to increase the share of nuclear power and renewable energy. Progress has been made in recent years in terms of reducing the dependence on coal, reflecting efforts to comply with the EU-ETS and the EU-wide renewable energy target. By
In 2009, peak demand in the winter time was 24.5 GW whereas the lowest demand was noticed in the summer time and amounted to 9.5 GW. The average demand per capita in 2008 was 3,773 kWh, significantly lower than the average of 6,287 kWh for the European countries in the Organisation for Economic Cooperation and Development (OECD).

Figure 16 Electricity generation by source, 1973 to 2030

Table 14 Power generation per source in 2008 as compared to in 2010

<table>
<thead>
<tr>
<th>Type of energy</th>
<th>Share in 2008</th>
<th>Share in 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green energy – generated on the basis of renewable energy sources (hydro, biogas, biomass)</td>
<td>4.6 %</td>
<td>7.1 %</td>
</tr>
<tr>
<td>Red energy – energy co-generated with heat energy in heat power plants and industrial power plants</td>
<td>16.6%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Black energy – remaining energy, which is not generated on the basis of renewable energy sources or co-generated with heat energy</td>
<td>78.8%</td>
<td>77.0%</td>
</tr>
</tbody>
</table>

Source: URE on the basis of data from ARE S.A.

7.2.1. Transmission and distribution

The electricity transmission system in Poland consists of 239 lines of a total length of 13,294 km. This includes one line of 114 km with 750 kV, 71 lines of 5,261 km with 400 kV and 167 lines of 7,919 km with 220 kV. There are also 106 extra-high-voltage (EVH) sub-stations and
high-voltage (HV) sub-stations and 174 with a cumulative power of 38.5 GVA. The electricity distribution network has a total length of 760,000 km and consists of 110-kV, 20-kV, and 15-kV lines.

The electricity transmission systems cover the whole territory of Poland. The greatest transmission density can be observed in the southern part of the country, and the smallest in the northern part of the country. The total length of the electricity HV lines is 45,700 km of HV lines, 300,500 km of medium-voltage lines and 423,900 km of low-voltage lines.

As the transmission and distribution networks are becoming outdated, there is a strong need for investment. A significant share of the country’s lines is as old as 30 and 40 years. The major obstacles for the development of the new infrastructure include the country’s economic difficulties, lack of appropriate regulatory framework (including the transmission assets management model), environmental protection issues and lack of social acceptance for this type of project. It is also difficult to modernise some lines as it would deprive some regions of electricity.

The insufficient transmission and distribution capacity has a negative impact on the development of new electricity sources, particularly wind energy. There is pressure on the TSOs and DSOs to develop more grid interconnections. By June 2011, only 1.5 GW of the wind-produced electricity has been connected to the grid. 15 GW of wind projects have been granted a grid connection, but only a half of this capacity could be connected without further network reinforcements. In addition, a number of grid-connection applications for the total of 70 GW are pending approval.

The maintenance and development of the transmission infrastructure and cross-border interconnections of Poland lies within the competence of the TSO Polskie Sieci Energetyczne (PSE), whereas the responsibility for the maintenance and development of the distribution grids lies with the DSOs. DSOs and TSOs are obliged to prepare development plans for three and 15 years ahead respectively. DSOs and TSOs have to cooperate in their plans and specify the preferred locations and costs of the connection. PSE is planning to replace a number of 220-kV systems with 400-kV systems and to gradually replace existing transformers with new generation transformers.

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14 Electricity sector, Energy Regulatory Authority
7.2.2. Interconnection, import/export

Poland has a number of interconnections with its neighbours. The active ones include connections with Sweden, Germany, Czech Republic and Slovak Republic and the non-active include Ukraine and Belarus.
The PSE Development Plan for years 2010-2025 has laid out a number of anticipated interconnection developments for the years to come. The planned 400-kV line to Lithuania will not only expand the exchange of capacity by 1000 MW but will also be an important element of the Baltic Ring, comprising electricity systems of the surrounding Baltic countries, which aims to improve energy security in the whole region. The interconnection with Germany will be reinforced and an additional 400-kV line will be constructed. Similarly, the interconnection with the Slovak Republic will be upgraded by another 400-kV line. There are no development plans for an interconnection with Sweden (the existing cable allows the transfer of 500 MW both ways) and the Czech Republic (two double-track lines of 400 kV and 220 kV). The potential activation of the interconnections with Belarus and Ukraine require investments in upgrades, which can be carried out after consultation with the domestic electricity operators in both countries.\textsuperscript{15}

\subsection*{7.2.3. Market reforms and privatisation}

Poland has made progress towards a liberalised electricity market in recent years. The Polish electricity market was fully opened to retail competition on 1 July 2007 in accordance with EU directives. With greater market flexibility, there is a steadily growing trend towards consumers switching suppliers. Retail competition is hindered by many factors, including the lack of a truly competitive wholesale market. The wholesale market is dominated by bilateral contracts signed by companies often belonging to the same vertically integrated capital

\textsuperscript{15} National Renewable Action Plan, Ministry of Economy
groups. The new regulation requiring generators to offer 15% of their electricity on the Power Exchange is expected to enhance wholesale competition.

Poland has implemented ownership unbundling of the electricity TSO. However, DSOs, although legally separate, are part of vertically integrated groups that have both generation and supply activities. These groups operate in distinct geographical segments of the country and there is little competition between them, particularly in the residential market.

The introduction of the Energy Law in 1997 provided for access to the state-owned power grid and introduced an auction system for electricity supply contracts (for the 15 largest companies). In 1999, the Power Exchange was set up together with the balancing market. The amendments to the Energy Law in 2009 expanded the group of entities that should participate in the Power Exchange Towarowa Giełda Energii S.A. (TGE SA) to include producers that are covered by the public aid compensation programme for eliminating long-term contracts. Although only a small fraction of electricity is still being traded on the Power Exchange, the new regulation requires all generators to offer either 15% or 100% (the generators under the compensation programme) of the electricity on the TGE SA or on another regulated market.

The total volume of the electricity traded in 2010 was 81.7 TWh (half of the total electricity consumption in 2010) as compared with 3.07 TWh; however, most of it was related to contracts for 2011. TGE SA significantly contributes to the improvement of the liquidity on the Polish market.

All three markets of the TGE SA have shown dynamic growth in 2010. The highest growth was recorded by the Rynek Terminowy Towarowy for trade in future supplies. The total volume traded in 2010 was 64.7 TWh, which is a 97.23% growth from 2009. The average monthly volume was 5.4 TWh. Altogether, 14,321 contracts have been concluded, of which 96% have a scheduled delivery for 2011. Rynek Dnia Następnego (the Next Day Market) traded 7.6 TWh of electricity, which is a 147% increase from 2009. The average monthly volume was 631.5 GWh. Rynek Dnia Bieżącego (the Current Day Market) did not record such an intensive growth and traded merely 80 MWh.

The liberalisation in the electricity sector is advanced. Up until 2007, electricity generation was carried out by the PSE S.A, which bought the electricity from independent producers under long-term contracts. In 2007, in accordance with the government’s “Programme for the Power Sector”, the energy market was restructured. The PSE was unbundled and the long-term contracts were abandoned. Unbundling of the DSOs and TSOs has also been implemented. The TSOs have undergone successful ownership unbundling whereas the DSOs have merely undergone legal and formal unbundling and have remained part of vertically integrated groups performing both generation and supply activities.

As a consequence, four major Polish vertically integrated companies (VICs) — PGE, Tauron Polska Energia, Energa and Enea — emerged with their generation, distribution and supply divisions. These companies, together with two foreign entrants — Vattenfall and RWE — have effectively divided the Polish distribution system into six distinct geographical regions. Thus the DSOs have not yet achieved full independence. The competition between DSOs is further diminished by the fact that they operate in different parts of the country. One of the reasons for allowing these four companies to vertically integrate was to provide a form of compensation for eliminating the long-term contracts. On a positive note, since 2009, equal
treatment has been administered to all users of the systems together with the non-discriminatory TPA to their distribution networks.

The electricity generation and the wholesale electricity sectors remain highly concentrated in the hands of the top three vertically integrated capital groups — PGE, Tauron and Enea — which accounted for over 50% of the installed capacity and for over 55% of power generation in 2009. In 2010, the total turnover of 12 leading capital groups was 63.4%. The sales of energy outside of these capital groups amounted to 31.5% of the total turnover. Entities that are not part of the capital groups generated a total wholesale turnover of 5.1%. In 2010, one major trend was observed: both electricity producing and trading companies had increased their activities on the Power Exchange (although for the producers it might have been as a result of the obligation to sell 15% or 100% of the electricity on the Power Exchange). Around 90% of the electricity is still sold via bilateral contracts (58% of the trade within VICs) and a share of the electricity sold on the spot market is very low. There are 22 DSOs operating in Poland — six of which were not subject to unbundling as “local distribution operators” — and over 100 companies with licences to generate electricity.

The Polish retail electricity market was fully opened to all non-residential customers in 2004 and in 2007 to all customers. Nevertheless, the number of customers switching suppliers has been growing slowly, mainly due to an insufficient number of competitive offers. It is due to the fact that, in the retail sector, tariffs for households are still regulated and set at a similar level for different suppliers. However, it should be noted that the number of consumers who switched suppliers in 2010 was 3.5 times bigger than that in the previous year. Other barriers hindering competition include unfair modifications in the terms of service once the supplier has been switched, the time consuming process of signing distribution agreements and the general lack of knowledge about switching opportunities and the procedures involved.

The retail market participants include end users (households and companies), companies managing distribution networks and electricity trading companies. The biggest share of the retail electricity market belongs to seven incumbent suppliers that have remained after the DSOs were distinguished. These suppliers operate on the basis of joint purchase-sale and distribution agreements with end-users. They also function as automatically nominated electricity providers for households that have not decided to switch their suppliers. There are also around 20 other suppliers that are not a part of the former structures of distribution companies. The total number of companies with a concession for trade in electricity is approximately 300. On the other hand, there are 16.5 million electricity consumers, of which 82% are households. Households purchase slightly over 25% of the total volume of the electricity sold.16

In 2009, the first stage in the privatisation of PGE SA was completed by the issuance of new shares and listing all shares of this company for public trading on the Warsaw Stock Exchange. With regard to the remaining companies from the power sector, in 2009 and during three months of 2010 the Ministry of the State Treasury put into operation privatisation processes pertaining to the following entities from the sector.

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16 Electricity Sector, Energy Regulatory Authority
### Table 15 Privatisation in the energy sector

<table>
<thead>
<tr>
<th>Company name</th>
<th>Domicile</th>
<th>Size of sold holdings[%]</th>
<th>Privatisation completion</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGE Elektrociepłownia Opole S.A.</td>
<td>Opole</td>
<td>16.00</td>
<td>2008</td>
<td>On 18.12.2008 an agreement was signed on the sale of State Treasury Shares on 17.11.2009 ownership right to the shares was transferred</td>
</tr>
<tr>
<td>PGE KWB Turów S.A.</td>
<td>Turów</td>
<td>16.00</td>
<td>2008</td>
<td>On 18.12.2008 an agreement was signed on the sale of State Treasury Shares on 17.11.2009 ownership right to the shares was transferred</td>
</tr>
<tr>
<td>Elektrociepłownia Kraków S.A.</td>
<td>Kraków</td>
<td>28.05</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Vattenfall Heat Poland Warszawa</td>
<td>Warszawa</td>
<td>25.19</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Górnoshląski Zakład Elektroenergetyczny S.A.</td>
<td>Gliwice</td>
<td>25.07</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Zakład Produkcyjno-Remontowy Energetyki JEDLICZE Sp. z o.o.</td>
<td>Jedlicze</td>
<td>85.00</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Wojewódzkie Przedsiębiorstwo Energetyki Cieplnej w Legnicy S.A.</td>
<td>Legnica</td>
<td>85.00</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Agencja Poszanowania Energii i Usług Energetyczno-Górniczych „ENMAG-EG” Sp. z o.o.</td>
<td>Piekary Śląskie</td>
<td>17.23</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>Agencja Poszanowania Energii S.A. w Warszawie</td>
<td>Warszawa</td>
<td>51.61</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>ENEA S.A.</td>
<td>Poznań</td>
<td>16.05</td>
<td>2010</td>
<td>60.43% was left after the sale</td>
</tr>
</tbody>
</table>

Source: ERO, National Report, 2010

### 7.2.4. Renewable energy

The country’s policy for the use of RES in electricity production has been laid down in the Energy Policy of Poland until 2030 and the associated documents. The key regulation includes the Act of 10 April 1997 — the Energy Law — and the European Parliament and the

To meet its renewable policy targets, which require Poland to use at least 15% of RES in the total gross final energy consumption by 2020 and 20% by 2030, it is essential to increase the percentage of RES in electricity production. In order to meet the EU requirements, the total gross electricity production from RES will need to reach the level of 18.4% (31 TWh) by 2020 and 18.2% (39.5 TWh) by 2030. The RES share in electricity production was approximately 8% by the end of 2010. 17

The support for RES in Poland is based on the Quota Obligation System and “Green Certificates”. The legislation in Poland obliges electricity producers to purchase the minimum required amount of electricity produced from RES. The IEA data shows that energy companies are required to purchase a minimum of 10.4% between 2010 and 2012, which will increase further by 0.5% each year to reach 12.9% in 2017. Electricity companies must submit the required number of green certificates issued as proof of the generation of electricity from RES. The certificates are issued by ERO, which every year determines their price within the boundaries (cap and floor) specified by Polish legislation. Currently (2011), the price of the certificate is approximately €74 MWh. There are different types of certificates (including green, yellow, red, violet and brown) and they can be freely traded on the Polish Power Exchange.

Figure 19 Electricity generation from renewable resources

Grid operators in Poland are required to ensure that priority is given to all entities in the provision of services involving the transmission and distribution of electricity produced from

17 Energy Policy of Poland until 2030
RES. RES energy producers with total installed power not exceeding 5 MW and cogeneration units not exceeding 1 MW are entitled to a 50% fee reduction for connecting to the grid. If the renewable capacity does not exceed 5 MW, the producer is exempted from stamp duty for issuing certificates and from stamp duty for issuing the licence for RES. In addition, renewable energy producers are entitled to obtain “certificates of origin from cogeneration”, which also have a commercial value.  

Special provisions apply to biogas and wind energy producers. Installations generating electricity from agricultural biogas not exceeding 50 MW are exempted from obligation to obtain licences. Wind power installations, on the other hand, unlike any other installations can report their energy production programmes to the system operator one hour before production starts (for other producers the obligation is to report two hours in advance). All other regulatory and fiscal measures relevant to specific types of renewable resources are listed in the National Renewable Energy Action Plan 2010 by the Ministry of Economy.

The current support framework for RES favours the development of three types of technology: wind energy, biomass and biogas. It is estimated that wind energy will have the biggest share out of renewable technologies. By 2030, wind energy will produce around 18 TWh of electricity, which will account for 8.2% of the total electricity production.

Figure 20 Electric power installed capacity according to NREAP, until 2020

The main support tool for the use of RES in the energy sector is a system of compulsory quotas with transferable certificates of origin, the so-called “green certificates”, which were introduced in October 2005. All energy suppliers must ensure that part of the energy sold to final users is generated on the basis of RES. In order to meet this requirement, companies will

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18 National Renewable Action Plan, Ministry of Economy; Renewable Energy in Poland 2011 Report, Gramwzielone.pl
19 Energy Policy of Poland until 2030
purchase certificates of origin (green certificates) at the Commodity Energy Stock Exchange or pay a “compensation fee”. In this system, energy producers that generate power from renewable sources have two sources of income: the sale of energy at guaranteed prices, which are equal to the average market prices in the previous year, and the sale of green certificates. The price of a green certificate in 2009 was 250 PLN per MWh (approximately €58).

The amount of the substitution fee is established once a year by the energy market regulator. The amount is usually equal to the maximum value of a green certificate established for a given year. In 2009, it was 258.89 PLN per MWh (approximately €60), whereas the guaranteed price amounted to 155.44 PLN (approximately €36) per MWh. Energy companies that fail to conform to the requirement of purchasing green certificates or paying substitution fees are punished with fines. Financial means generated by the fees and fines are transferred to the National Fund for Environmental Protection and Water Management. Until the end of 2009, these financial means could only be used for supporting investment in RES; however, since 2010, they can be assigned to other purposes.

As outlined in the Programme of Executive Measures of PEP 2030, the Ministry of Economy is obliged to monitor the effectiveness of the green certificate system, in order to ensure that Poland can meet its renewable energy objectives. The Ministry of Economy is charged with conducting an analysis of the cost effectiveness of the support mechanism, with particular attention being paid to the substitution fee, while ensuring the overall stability of the mechanism. The introduction of any system modifications is planned for 2012.

Other support mechanisms include the following.

– The obligation to purchase all energy generated from renewable sources connected to the grid for the guaranteed price, which is equal to the average market price in the previous year;
– 50% of costs relating to the connection of RES to the grid are subsidised;
– Licences for connecting renewable energy source installations of up to 5 MW to the grid are granted free of charge;
– Compensation rules that apply to wind power plants are different to those applied to other types of power plants;
– Loans and grants for investment into renewable energy projects and originating from different funds (for more information on this subject, see the part concerning the financing and development of projects).

The Programme of Executory Measures of PEP 2030 encompasses a list of measures that facilitate investment decisions with respect to the construction of off-shore wind farms. Moreover, it outlines tasks for several ministries relating to the possibility of using the existing hydro dams for the construction of hydropower plants.

7.3. **Gas sector**

Natural gas is the third major energy carrier (after hard coal and oil), representing around 13% of the total energy supply. The demand grew from 13.3 billion cubic meter (bcm) in 2000 to 16.4 bcm\(^{20}\) in 2009 and is expected to grow by 28% in 2020 and 52% in 2030, compared to its level in 2009.

\(^{20}\) According to IEA methodology (standard conditions: 15 degrees Celsius and 760 mm Hg)
The total consumption in 2010 was 14,416.8 mcm.

In 2010, extraction in Poland reached the level of 4,310.1 million m3 (as per methane-rich natural gas), which constitutes about 30% of the total internal demand for natural gas. The total import of natural gas in 2010 amounted to 10,325 mcm, including the following:

- imports of natural gas from the Russian Federation (including through the Yamal-Europe natural gas pipeline) – 9,244.81 mcm
- imports of natural gas from Ukraine – 5.86 mcm
- imports of natural gas from Germany – 1,074.06 million m3
- imports of natural gas from the Czech Republic – 0.27 mcm
- exports of natural gas from Poland totalled 43.93 mcm (Germany) in 2010.

The structure of the natural gas supply in 2009 and 2010 is outlined in the table below.

Table 16  Natural gas supply structure in 2009 and 2010 in Poland

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>Share</td>
<td>Share</td>
</tr>
<tr>
<td></td>
<td>[ million m3]</td>
<td>[%]</td>
<td>[%]</td>
</tr>
<tr>
<td>1.</td>
<td>Domestic extraction*</td>
<td>4 270,29</td>
<td>32,06</td>
</tr>
<tr>
<td>2.</td>
<td>Total imports (2.1+2.2)**</td>
<td>9 435,49</td>
<td>70,83</td>
</tr>
<tr>
<td>2.1</td>
<td>Import from the East (2.1.1+2.1.2+2.1.3)</td>
<td>8 407,42</td>
<td>63,12</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Import from the Russian Federation</td>
<td>7 739,92</td>
<td>58,11</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Import from Ukraine</td>
<td>4,8</td>
<td>0,04</td>
</tr>
<tr>
<td>2.1.3</td>
<td>Import from the Middle East</td>
<td>662,7</td>
<td>4,98</td>
</tr>
<tr>
<td>2.2</td>
<td>Import from different regions (2.2.1 + 2.2.2)</td>
<td>1 028,07</td>
<td>4,66</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Import from Germany</td>
<td>1 027,81</td>
<td>7,72</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Import from the Czech Republic</td>
<td>0,26</td>
<td>0,00</td>
</tr>
<tr>
<td>A</td>
<td>Supply balance for the territory of the Republic of Poland (1+2)</td>
<td>13 705,78</td>
<td>100,00</td>
</tr>
<tr>
<td>3.</td>
<td>Export***</td>
<td>-38,93</td>
<td>0,29</td>
</tr>
<tr>
<td>B</td>
<td>Natural gas supply balance for domestic needs (A-3)</td>
<td>13 666,85</td>
<td>99,72</td>
</tr>
<tr>
<td>4.</td>
<td>Change of stock (balance)</td>
<td>-557,7</td>
<td>-</td>
</tr>
</tbody>
</table>
7.3.1. Gas security policy

The key elements of Poland's gas security policy are outlined below:
– diversification of sources and delivery routes
– development of a natural gas infrastructure in a manner reflecting this diversification
– increasing underground storage capacities
– developing the transmission and distribution system
– increasing the amount of gas extracted internally
– facilitating access to foreign gas sources.

PEP 2030 and the Programme of Executive Measures outline the following actions aimed at increasing gas security.

– Suitable tariff policies attracting investment into the natural gas pipeline infrastructure;
– Construction of a LNG terminal for LNG and the conclusion of agreements for deliveries of LNG;
– Establishing a sustainable policy of domestic gas supply management, allowing for the expansion of natural gas reserves in the territory of Poland;
– Investment aimed at increasing the extraction of natural gas in Poland;
– Diversification of supply through the construction of natural gas transmission systems from the north, the west and the south, as well as the construction of the necessary connections;
– Encouraging Polish companies to access natural gas sources abroad;
– Supporting infrastructure investment with the use of European funds;
– Streamlining reaction mechanisms in response to energy crises;
– Securing the interests of the state in companies of strategic importance for the gas sector;
– Creating investment incentives that lead to increasing storage capacities (through an appropriate tariff structure and by ensuring the return on invested capital);
– Legislation actions with the view of eliminating investment barriers, in particular in relation to large infrastructure investment projects (storage, LNG infrastructure, gas compression stations, etc.) and line investment;
– Further pilot programmes relating to the use of methane from hard coal deposits.

7.3.2. Import contracts

In 2010 the main importer of gas to Poland was the Polish Oil and Gas Company (hereinafter referred to as PGNiG S.A.). The company imported natural gas under the following agreements and contracts.

Federation on the construction of system gas mains for the transit of Russian gas through
Polish territory and supplies of Russian gas to the Republic of Poland dated 25 August 1993
(with further annexes, the last annex being signed on 29 October 2010 as a result of passing
amendments to an intergovernmental agreement). The contract will be valid until 31
December 2022. It was agreed that gas supplies from the Russian Federation to Poland would
increase and attain the following volumes (according to Polish Standards):

– in 2010 – 9.03 bcm
– in 2011 – 9.78 bcm
– in the years 2012-2022 – 10.25 bcm annually;

2. A long-term agreement over gas supplies at the Lasów delivery point concluded with
VNG-Verbundnetz Gas A.G., dated 17 September 2006 and valid until 1 October 2016;
3. An agreement over gas supplies at the Lasów delivery point, dated 29 September 2008
and concluded with VNG-Verbundnetz GAS AG and valid until 1 October 2011;
4. A framework agreement dated 30 September 2009 and concluded with Vitol S.A.
Within this agreement an individual contract was concluded for the purchase of natural gas at
the Lasów delivery point from 1 October 2009 to 1 October 2011.

Natural gas is delivered for local border needs under the following agreements and contracts
concluded by PGNiG S.A. with the following:

– NAK “Naftogaz of Ukraine” (gas supplies to the Hrubieszów region);
– Severomoravská plynárenská, a.s. (gas supplies to Branice);
– VNG – Verbundnetz Gas Aktiengesellschaft (two individual contracts: for the purchase of
natural gas at the Gubin delivery point and for the supply of natural gas at the Kamminke
delivery point).

On 29 June 2009, PGNiG S.A. concluded an agreement with Qatargas Operating Company
Ltd. on the LNG supply from Qatar to Poland. Under the agreement 1 million tons of LNG
per year (approximately 1.4 bcm) will be supplied for a period of 20 years, starting from
2014.

7.3.3. Structure of the natural gas market

7.3.3.1. Valid licences

The person responsible for granting a licence to run a business in the natural gas sector that is
within the scope of gas fuel transmission and distribution, liquefaction of natural gas and re-
gassing of the LNG, as well as of gas fuel sales, is the president of ERO. In 2010, the
president of ERO granted three concessions and four promises of concession. In total, at the
end of 2010, 91 entrepreneurs who run businesses connected with fuel transmission and
distribution, the liquefaction of natural gas and re-gassing of the LNG, the storage of gas fuel
and gas fuel sales owned 164 licences.

Licences for natural gas exploration and extracting and for the non-tank storage of substances
in rock mass, including underground mining excavations (underground storage reservoirs of
natural gas, oil and liquid fuel) are granted by the Ministry of the Environment. The table
below presents the number of licences granted by the Ministry of the Environment by the end
of July 2011.
### Table 17 Number of licences granted by the Ministry of the Environment and valid as of 31 July 2011

<table>
<thead>
<tr>
<th>Scope of licence</th>
<th>Valid licences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration of natural gas and oil including;</td>
<td>240</td>
</tr>
<tr>
<td>- exploration of unconventional natural gas deposits, like <strong>shale gas</strong> (including two licences concerning <strong>tight gas</strong>)</td>
<td>99</td>
</tr>
<tr>
<td>Oil and natural gas exploration</td>
<td>233</td>
</tr>
<tr>
<td>Storage of natural gas underground</td>
<td>10</td>
</tr>
<tr>
<td>Storage of oil and liquid fuel</td>
<td>1</td>
</tr>
</tbody>
</table>

*Source: Study of the Ministry of Economy on the basis of data coming from the Ministry of the Environment*

#### 7.3.3.2. TSO

In Poland transmission is realised by the Gas Transmission Operator Gas-System S.A. (hereinafter referred to as GAZ-SYSTEM S.A.), which is a wholly-owned State Treasury Company and has been put on the list of companies with significant importance for the national economy and public safety.\(^{21}\) Since 1 July 2005, GAZ-SYSTEM S.A. has been managing the transmission system and has been responsible for safety in natural gas transmission and developing a gas transmission pipeline system. The company owns 100% of shares in Polskie LNG Company, which is responsible for constructing the NG terminal in Świnoujście.

Moreover, on 25 October 2010 GAZ-SYSTEM S.A., realising the resolutions of an intergovernmental agreement, concluded a contract of entrustment with the Transit Gas Pipeline System EuRoPol Gaz S.A. (hereinafter referred to as EuRoPol Gaz S.A.) and appointed GAZ-SYSTEM S.A. as the operator of the Polish section of the Jamal pipeline. On 17 November, 2010 the president of ERO made the decision to designate GAZ-SYSTEM S.A. as the independent operator of the Polish section of the Jamal pipeline for the term up to 31 December 2025.

EuRoPol Gaz S.A. is the owner of the Polish section of the Jamal pipeline running from Russia, through Belarus and Poland to Western Europe. The shareholders of EuRoPol GAZ S.A. are OOO “Gazprom Export” (48%), PGNiG S.A. (48%) and Gas-Trading S.A. (4%).\(^{22}\)

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\(^{21}\) A government order dated 18 January 2005 on defining state companies and wholly-owned State Treasury companies with significant importance for the national economy (*Journal of Law*, 2005, No. 15, item 123 and 2007, No. 212, item 1558)

\(^{22}\) A government order dated 30 September 2008 on the list of companies with significant importance for public order or public safety (*Journal of Law*, No. 192, item 1184)

\(^{22}\) Under Article 2 a) of a protocol concerning the amendments to the Agreement between the Government of the Republic of Poland and the Government of the Russian Federation on the construction of system gas mains for the transit of Russian gas through Polish territory and supplies of Russian gas to the Republic of Poland, dated 25 August 1993, signed on 29 October 2010 — the structure of shareholding in EuRoPol Gaz S.A.
The Polish section of the pipeline is 683.9 km and it runs through Poland from the border with Belarus near Kondratki to the border with Germany near Górzyca.

In 2009, the Polish section of the Jamal pipeline transmitted approximately 27.15 bcm of natural gas for OOO “Gazprom Export” and approximately 2.84 bcm for PGNiG S.A. In 2010, in turn, approximately 24.80 bcm of natural gas were transmitted for OOO “Gazprom Export” and approximately 2.86 bcm of gas were transmitted for PGNiG S.A.

On 17 October 2010, the president of ERO approved a high-methane natural gas transmission tariff proposed by EuRoPol Gaz S.A. It is planned that the transmission network code (TNC) will be approved in the second quarter of the year 2011. After the TNC is approved, the operator will start to grant access to free transmission capacities, in accordance with EU law.

7.3.3.3. Pipelines/transportation and transit

The main entry points are located in Lasów (Germany), Drozdowicze (Ukraine), Wysokoje (Belarus) and Kondratki (Belarus).

Figure 21 Gas transmission coverage

Note: Oddział = Branch
Source: GAZ-SYSTEM S.A.

will change — and PGNiG S.A. and OOO “Gasprom Export” will each own their 50% of shares
Table 18  Polish gas transmission system in numbers

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length of transmission grid</td>
<td>9 768 km</td>
</tr>
<tr>
<td>Number of entry points</td>
<td>58</td>
</tr>
<tr>
<td>Number of exit points</td>
<td>973</td>
</tr>
<tr>
<td>Number of gas stations</td>
<td>851</td>
</tr>
<tr>
<td>Number of compressor stations</td>
<td>14</td>
</tr>
<tr>
<td>Number of transmission system nodes</td>
<td>57</td>
</tr>
<tr>
<td>Volume of transmitted gas fuel*</td>
<td>15.1 bcm</td>
</tr>
<tr>
<td>Underground gas storage capacity (UGS)**</td>
<td>1.6 bcm</td>
</tr>
</tbody>
</table>

* the provided amount of gas transmitted also includes transmission to underground gas storage and transmission of low-methane natural gas (L) converted into high-methane natural gas (E)
** including capacity reserved for GAZ-SYSTEM S.A.

Source: GAZ-SYSTEM S.A.

7.3.3.4. SSO

On 1 January 2009, the president of ERO made the decision to designate PGNiG S.A. as the gas SSO division. The SSO is responsible for operating storage installations, realising agreements with clients and maintaining storage installations and devices. In accordance with the Storage Service Rules in 2010 the SSO offered 635 bcm (635 bundled units) of its working volume for high-methane natural gas under the TPA, of which:

- 627 bcm of working volume (627 bundled units) were for long-term service
- 8 bcm of working volume (eight bundled units) in CUGS Mogilno were for short-term firm service.

In underground gas storage (UGS) facilities in Mogilno, Wierzchowice and Husów the required reserves of natural gas are maintained in accordance with the Reserves Act (Article 74, paragraphs 1 and 2). All companies importing gas to Poland or selling gas are obliged to maintain the required reserves of gas in the territory of Poland in installations connected to a gas system. These required reserves have to be gradually increased up to a 30-day average daily volume until 1 October 2012.

On 31 May 2011, the total available working volume of underground high-methane gas storage facilities was 1,607.89 million m³ and a volume of 230 million m³ for nitrogen-rich gas storage facilities (UGS Daszewo and UGS Bonikowo), which makes approximately 12% of the yearly natural gas consumption in Poland.

In UGS facilities both required and commercial reserves are maintained and these are used when there is a huge amount of short-term irregular natural gas consumption; they also help to maintain gas supplies in the case of failure and a short-term gas cut (CUGS Mogilno) and they are especially useful in autumn and winter, when the demand for gas increases (UGS Wierzchowice and UGS Husów).
7.3.3.5. DSOs

Within the PGNiG Capital Group there are six regional gas companies that ensure the distribution of gas fuel to households, industrial customers and wholesalers. They are also responsible for maintaining, repairing and constructing gas pipelines. In 2010, the length of gas distribution pipelines was 116,325 km in total, and natural gas was supplied to approximately 5.6 million consumers.

PGNiG Capital Group

The PGNiG Capital Group is a dominating subject in the natural gas market in Poland. Its main member is PGNiG S.A. The shareholders of PGNiG S.A. are the State Treasury, which has 72.48% of the share capital, and other shareholders, which have 27.52% of the share capital, as of 1 October 2010.

PGNiG S.A. is the largest Polish company in the sector of natural gas exploration and exploitation. The company has licences for the storage of gas fuel and it owns all underground gas fuel storage facilities in Poland. PGNiG S.A. is also a gas fuel SSO (PGNiG SSO) designated by the president of ERO for the period from 1 January 2009 to 31 December 2025.

PGNiG S.A. is a leader in the market as far as selling natural gas is concerned and it is the main gas importer to Poland. The table below presents the natural gas sales structure of PGNiG S.A. (in terms of high-methane natural gas) in 2010.

Table 19 High-methane natural gas sales structure of PGNiG S.A. as of 31 December 2010

<table>
<thead>
<tr>
<th>No.</th>
<th>Volume [mcm]</th>
<th>Share of sales [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales in total</td>
<td>14,416.8</td>
<td>100</td>
</tr>
<tr>
<td>1. Power stations and heat and power stations</td>
<td>1,040.0</td>
<td>7.21</td>
</tr>
<tr>
<td>2. Thermal power stations</td>
<td>309.8</td>
<td>2.15</td>
</tr>
<tr>
<td>3. Industrial customers</td>
<td>6,809.7</td>
<td>47.23</td>
</tr>
<tr>
<td>4. Trade, services (without CNG)</td>
<td>1,484.4</td>
<td>10.31</td>
</tr>
<tr>
<td>5. CNG (transport)</td>
<td>109</td>
<td>0.08</td>
</tr>
<tr>
<td>6. Households</td>
<td>4,095.8</td>
<td>28.41</td>
</tr>
<tr>
<td>7. Wholesalers</td>
<td>312.1</td>
<td>2.16</td>
</tr>
<tr>
<td>8. Other customers</td>
<td>310.1</td>
<td>2.15</td>
</tr>
<tr>
<td>9. Export</td>
<td>43.9</td>
<td>0.30</td>
</tr>
</tbody>
</table>

*Source: Data from PGNiG S.A., in a letter of 14 February 2011*

Moreover, other companies also distribute natural gas. They are successively developing and are trying to increase their market share. The biggest companies (as far as the sales volume is concerned) are EWE Energia Sp. z o.o., G.EN.GAZ ENERGIA S.A., KRI S.A. and CP Energia S.A. These companies mainly re-sell natural gas bought from PGNiG S.A. to ultimate consumers through their own local distribution networks, joining distribution and selling.
7.3.4. Natural gas exploitation and the level of recoverable resources

In 2010, in Poland 4,310.1 mcm of natural gas was extracted, including 1,609.94 mcm of high-methane gas, 2,513.72 mcm of nitrogen-rich gas (in terms of high-methane natural gas) and 186.44 mcm extracted as a result of methane recovery from coal mines.

Recoverable natural gas resources in Poland, as of 31 December 2010, in terms of high-methane natural gas, came to approximately 95,100 mcm.

PGNiG exploits natural gas and oil deposits in its two divisions (in Sanok and Zielona Goła).

Table 20

<table>
<thead>
<tr>
<th>Company</th>
<th>Number of licences</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGNiG</td>
<td>15</td>
</tr>
<tr>
<td>Marathon Oil</td>
<td>11</td>
</tr>
<tr>
<td>3 Legs Resources</td>
<td>9</td>
</tr>
<tr>
<td>San Leon Energy</td>
<td>6</td>
</tr>
<tr>
<td>Lotos</td>
<td>7</td>
</tr>
<tr>
<td>Exxon Mobil</td>
<td>6</td>
</tr>
<tr>
<td>BNK Petroleum</td>
<td>6</td>
</tr>
<tr>
<td>Orlen Upstream</td>
<td>7+1*</td>
</tr>
<tr>
<td>DPV Services</td>
<td>5</td>
</tr>
<tr>
<td>Chevron</td>
<td>4</td>
</tr>
<tr>
<td>Realm Energy International</td>
<td>3</td>
</tr>
<tr>
<td>Caudrilla</td>
<td>2</td>
</tr>
<tr>
<td>Dart Energy</td>
<td>1</td>
</tr>
<tr>
<td>Aurelian</td>
<td>1*</td>
</tr>
<tr>
<td>Strzelecki Energia</td>
<td>2</td>
</tr>
<tr>
<td>PETROLINVEST</td>
<td>7</td>
</tr>
<tr>
<td>TALISMAN</td>
<td>3</td>
</tr>
<tr>
<td>Eni SpA</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99</strong></td>
</tr>
</tbody>
</table>

* concerns unconventional deposits of a “tight gas” type

Source: Study of the Ministry of Economy on the basis of the data coming from the Ministry of the Environment

Poland’s shale basin extends from the coast, in the area between Słupsk and Gdańsk, towards Warsaw, and further to Lublin and Zamość. According to forecasts, potential shale gas reserves are present at the depth of 1,200-2,500 meters (m) in the northern part of the basin and 2,500-4,500 m in the southern part.
The first drilling in Poland began in June 2010 near Łebień in Pomerania Province. As of 31 July 2011, 25% of Polish territory was drilled for shale gas. At the moment the geological structure of our country is being explored. The first drilling in Poland for shale gas has already been performed. Samples of rocks have been taken (drill cores) to determine the gas content and mineral content of rocks. This means it will be possible to plan how to carry out the hydraulic fracturing, which will take place as soon as the drilling has finished. What is more, seismic works are constantly being conducted in the most prospective regions of Poland. Nothing can be said for certain at the current stage of prospecting for gas deposits.

Using gas from unconventional gas deposits will be very important for the future shape of the energy market in the context of the expected increase in the use of natural gas in the electric power sector and Poland’s energy security. What is most important in terms of profitability in gas production from shale will be, among other things, advanced technique and technology, geological factors and the amount of capital investment in prospecting and exploring for gas deposits, as well as building the necessary transmission infrastructure.
We may expect to get reliable information on the real resource base of unconventional natural gas deposits within the next four to five years. When the results and economically justified analyses of the cost-effectiveness of exploiting shale gas are confirmed, large-scale exploitation will be possible in approximately six to ten years.

Governmental administration actively supports and participates in the implementation of the shale gas development project in Poland through the following:

- platform cooperation concern for the exploration, prospecting and future exploitation of unconventional gas resources in Poland – Ministry of Economy
- intergovernmental cooperation concern for shale gas development – Ministry of the Environment

7.3.5. Prospects for and exploiting unconventional natural gas deposits outside Poland

PGNiG S.A. began its work on the Norwegian Continental Shelf in 2006. In 2007, PGNiG S.A. established PGNiG Norway A.S. to carry out projects connected with Skarv, Snadd and Idun deposits, for which PGNiG Norway A.S. acquired licences. In 2007, PGNiG S.A. prospected for and carried out drilling for natural gas in Egypt, Denmark and Pakistan.

7.3.6. Natural gas supply diversification

Ensuring an appropriate diversification infrastructure will enable Poland to be supplied with gas from different directions and from different suppliers.

This involves the following tasks:

- building a terminal for the take-off of LNG on the Polish coast;
- connecting the Polish transmission system to transmission systems of neighbouring countries, that is:
  - a direct connection through a gas pipeline with Scandinavian gas deposits
  - expansion of a connection with Germany near Lasów
  - building an intersystem connection with Czech Republic near Cieszyn
  - a Poland-Lithuania intersystem connection (at the stage of analysis)
  - a Poland-Slovakia intersystem connection (at the stage of analysis).

7.3.6.1. Project for building the LNG terminal in Świnoujście

The construction of the LNG terminal in Świnoujście will allow Poland to be supplied with gas, omitting traditional gas transmission lines, but connecting to them will limit the choice of fuel suppliers. Building the LNG terminal on the Polish coast will mean an improvement in the country’s energy security. The next stages of this diversification project include buying liquefied natural gas and organising its sea transport to the Polish coast.

According to the accepted schedule of works, building the LNG terminal began in the second half of 2010. The completion of the works and the beginning of the use of the terminal are expected for the second half of 2014. At the beginning the LNG terminal will enable the re-
gasification of 5 bcm of natural gas annually. It will be possible to increase the dispatch capacity up to 7.5 bcm.

7.3.6.2. Carrying out projects for intersystem connections

With the OGP GAZ-SYSTEM S.A. carrying out projects for building an intersystem, the connections (interconnectors) will enable the flow of gas in two directions, which in turn will enable Poland to trade with neighbouring markets and to participate in Europe’s markets (access to the “hub”), as well as increasing the energy security of the country. The first connections are being created in westward (Germany) and southward (Czech Republic) directions. There are plans to create Poland-Lithuania and Poland-Slovakia connections. Detailed information on the stage of advancement of the work on the projects mentioned above is available on the website of the Ministry of Economy (www.mg.gov.pl).

7.3.6.3. Gas connection with Scandinavian gas deposits

The project for building the Baltic Pipe gas pipeline is an element of a broader concept of gas imports from Scandinavian deposits on the North Sea, using a new corridor through Denmark and the Baltic Sea, where the intention is to build an additional pipeline, Skanled, connecting Norwegian deposits with Denmark, as well as the modernisation of the Dutch transmission system. In 2009, Skanled consortium suspended the building of Skanled pipeline with the possibility of its resuming by the end of the year 2011.

OGP GAZ-SYSTEM S.A. is carrying out tasks at the pre-investment stage. An important issue from a strategic point of view is to obtain approval for the localisation of the pipeline route on the bottom of the Baltic Sea.

7.3.6.4. Expansion of a transmission system

The key element for the country’s natural gas market is the industrial infrastructure. The expansion of the transmission system is being carried out by OGP GAZ-SYSTEM S.A. pursuant to regulations in the Act dated 24 April 2009 on Investments Relating to the Liquefied Gas Regasification Terminal in Świnoujście and set by the president of ERO’s plans for development.

The strategic investments realised by OGP GAZ-SYSTEM S.A. include the following:

- allowing the importing and distribution of natural gas from new gas sources in the northwest of Poland;
- allowing cooperation between the transmission system and storage facilities in Poland;
- enhancing the reliability of transmission through the main import point.

7.3.6.5. Investments in underground natural gas storage facilities

PGNiG S.A. is carrying out a program for extension of working storage capacity of underground gas storage facilities, whose aim is to build new and extend existing underground storage facilities. The increase in the existing working storage capacity will allow the requirements included in Acts on reserves to be fulfilled. The realisation by 2015 of planned investments, whose aim is to increase working storage capacity, shall enable a 70-day demand for gas fuel to be covered.
The total working storage capacity of high-methane natural gas in Poland in 2010 was 1,449 million m³. According to the plans of PGNiG S.A. by the year 2015 the working storage capacity, as far as high-methane gas is concerned, will increase to approximately 3 bcm.

The expected increase in gas consumption in the next few years means it will be necessary to further extend the working capacity of the storage facilities. One condition for the continuation of works connected with increasing storage facilities will be extending the transmission network, which will enable more gas to be sent.

### 7.3.7. Expected demand for natural gas

The forecast for the demand in natural gas (presented in a document *The Polish Energy Policy until 2030*, dated 10 November 2009) assumes an increase in the demand for natural gas up to 20.2 bcm in 2030.

Table 21 Forecast demand for natural gas in Poland up to 2030

<table>
<thead>
<tr>
<th>Year</th>
<th>Forecast demand [bcm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>14.1</td>
</tr>
<tr>
<td>2015</td>
<td>15.4</td>
</tr>
<tr>
<td>2020</td>
<td>17.1</td>
</tr>
<tr>
<td>2025</td>
<td>19.0</td>
</tr>
<tr>
<td>2030</td>
<td>20.2</td>
</tr>
</tbody>
</table>

*Source: Polish Energy Policy until 2030 dated 10 November 2009. Attachment No. 2 Fuel and Energy Demand Forecast until 2030*

Recently, in the EU one has been able to observe a dynamic increase in the capacity of power plants and heat and power plants producing heat and electrical energy from natural gas. In 2010, gas units producing electrical energy made up only 24% of a total installed capacity in the EU — there were more coal units (26%). In Poland in the structure of the installed capacity it is coal-fired power units that dominate. The total capacity of natural gas power units is 934 MW, which makes up 2.6% of the total installed capacity. In 2010, 5 TWh was produced from natural gas, which makes up 3.2% of the total production of electric energy, and the demand for gas was 1,039 bcm. It is expected that to achieve the priority aims of the UE energy policy, that is, reducing the emission of CO2 and increasing the role of RES, it will be necessary to increase the use of natural gas in the electric energy sector. At the moment, in Poland many electric energy companies are planning to invest in combined cycle gas and steam units. The most advanced project is the joint investment of PGNiG S.A. and Tauron Polska Energia S.A., whose aim is to build a gas and steam unit in Stalowa Wola with a capacity of 400 MW.

### 7.4. Oil sector

#### 7.4.1. Supply

Oil remains the second-largest energy source in Poland, and its share in the country’s TPES steadily increased from 12% in 1988 to 25% in 2010, while there was a gradual decrease in the coal share in TPES from 79% in 1988 to 55% in 2010.
In 2010, Poland produced about 0.688 million tons of oil, which covered some 3% of the country’s total oil demand. Poland has oil fields in the Polish lowland (76.4 % of the national resources), in the Baltic Sea (18.6 %), the Carpathian foredeep (1.6%) and on the Carpathians (1.5%). At the end of 2009, the documented reserves of crude oil were estimated to be 25.9 million tons (Mt). The possibility of an increase in oil reserves in Poland is limited. Such an increase is mainly possible in the Polish lowland, in the Baltic Sea and in the Carpathians, where exploration is actually under way.

Poland’s oil imports in 2010 were 22.7 Mt. Russia is the single largest source of crude oil imports and provided about 90% of the total in 2010. Crude oil imports from Russia are via the Druzhba pipeline. In 2010, the remaining portions of crude oil were mainly imported from Norway (some 5% of the total), the United Kingdom and Colombia (some 0.4% of the total).

Crude oil is mainly imported by refiners under commercial long-term contracts. In 2010, PKN Orlen, the biggest refiner in Poland, secured 85% of crude oil through long-term contracts while the remaining 15% of crude oil was delivered through spot markets. In the same period, 96% of crude oil that the company imported was via the Druzhba pipeline. The second-biggest refiner, LOTOS Group, imports roughly 70% of crude oil on the basis of long-term contracts.

The consumption of diesel oil is covered by domestic production at the level of about 83.7%. In 2010, Poland imported 2.05 Mt of diesel oil, mainly from Germany (0.89 Mt), Lithuania (0.68 Mt) and Slovakia (0.25 Mt). In 2010, Poland also imported almost 0.42 Mt of gasoline, mainly from Germany (0.20 Mt) and Slovakia (0.19 Mt). The share of diesel oil in overall fuel imports to Poland in 2010 was 44.6%, whereas gasoline had a 9.04% share and LPG 44.2% (shares of light fuel oil and heavy fuel oil in overall fuel imports to Poland in 2010 were very small, respectively 0.3% and 1.81%). In 2010 imports covered 9.94% of gasoline consumption, 17.66% of diesel oil consumption, 87.8% of LPG consumption, 1.04% of light fuel oil consumption and 15.3% of heavy fuel oil consumption (no imports of Jet-A).

The levels of taxation that member states shall apply to the fuels may not be less than the minimum levels of taxation prescribed by Council Directive 2003/96/EC of 27 October 2003, which restructured the Community framework for the taxation of energy products and electricity.

As from 1 January 2011, the minimum levels of taxation applicable to fuels are shown in the following table.

<table>
<thead>
<tr>
<th>Produkt</th>
<th>Excise tax (PLN)</th>
<th>Excise tax* (€)</th>
<th>Fuel surcharge (PLN)</th>
<th>Fuel surcharge* (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor gasoline</td>
<td>1,565/ 1,000 L</td>
<td>393/ 1,000 L</td>
<td>95.19/ 1,000 L</td>
<td>24/ 1,000 L</td>
</tr>
<tr>
<td>Automotive diesel oil</td>
<td>1,048/ 1,000 L</td>
<td>266/ 1,000 L</td>
<td>239.84/ 1,000 L</td>
<td>60/ 1,000 L</td>
</tr>
<tr>
<td>Automotive LPG</td>
<td>695/ 1,000 kg</td>
<td>175/ 1,000 kg</td>
<td>122.82/ 1,000 kg</td>
<td>31/ 1,000 L</td>
</tr>
<tr>
<td>Ligot fuel oil</td>
<td>232/ 1,000 L</td>
<td>58/ 1,000 L</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Heavy fuel oil</td>
<td>64/ 1,000 L</td>
<td>16/ 1,000 L</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

*1 January: €1 = PLN 3.98
Source: Ministry of Economy
7.4.2. Demand

Poland’s oil demand increased from 19.1 Mt in 2000 to 22.8 Mt in 2010, with an annual average growth rate of 2.9%. Oil demand is dominated by middle distillates (gas/diesel oil), which accounts for roughly 50% of the total. In the period between 2000 and 2010, demand for transport diesel increased by 110% (from 5.1 Mt in 2000 to 11.6 Mt in 2010). In the same period, consumption of gasoline decreased by some 14% (from 5.0 Mt in 2000 to 4.2 Mt in 2010). During the last decade, the consumption of LPG in the transport sector increased as this fuel became more competitive relative to gasoline. LPG demand, however, reached a peak in 2008 as its price advantage eroded and as the conversion of gasoline engines into LPG-fuelled ones became more expensive. Gasoline demand followed an inverse trend, gradually decreasing during most of the 2000s from its late 1990’s peak in favour of LPG, but picking up again after 2008 as price differentials began to penalise the latter fuel. Over the past few years, heating oil demand has declined, displaced by alternative energy sources such as natural gas, thus resulting in falling imports. Meanwhile, residual fuel oil demand, mostly used for power generation, has also fallen owing to inter-fuel substitution, although part of its recent decline was also related to lower electricity use as a result of the recession.

Oil demand growth in the medium term is expected to be driven by diesel demand, on the back of the ongoing “dieselisation” of the vehicle fleet. Nonetheless, diesel demand growth is likely to be less buoyant relative to recent years, partly because of the global economic recession, efficiency gains and the gradual levelling-off of new vehicle sales as the country catches up with other European countries. The transport sector accounted for around 60% of the total oil consumption in Poland in 2010. Its share in total oil consumption rose by some 10% in the last decade, while the shares of industry and the commercial/agriculture sector dropped by around 5%.

7.4.3. Prices and taxes

End-use prices of oil products contain the following components:
- wholesale price
- excise tax
- fuel surcharge
- distribution margin
- VAT.

Wholesale prices, set by refiners and importers, are not regulated by the government or the energy regulator. They reflect the refiners’ and importers’ costs and profits, and they depend on the world prices of crude oil and oil products. The distribution margins are not regulated either.

The values of the excise tax and fuel surcharge are set by the parliament and/or the government. Excise tax is imposed on many oil products, primarily motor fuels and heating oil. Fuel surcharge only applies to motor fuels (gasoline, automotive diesel and LPG). The proceeds of the fuel surcharge are used for the construction of highways (80%), through the so-called National Road Fund and railways (20%).

The tax rate for LPG was roughly one-third of that of gasoline in the period from 2005 to 2010. Because of the difference between the two oil products, the price of LPG has been about 45% to 50% lower than that of gasoline, which contributed to the increase in LPG
consumption in the transport sector. During the same period, the tax rate for diesel ranged from around 75% to 90% of that of gasoline, resulting in the price of diesel remaining at 2% to 12% lower than that of the gasoline price.

### 7.4.4. Infrastructure

There are six refineries in Poland, with a total primary distillation capacity of around 580 kb/d (28 Mt per year). Two capital groups, PKN Orlen and the LOTOS Group, represent the entire Polish refining industry. Plock refinery, which is owned by PKN Orlen and located in the central region of the country, has a total crude distillation capacity of 355 kb/d. The LOTOS Group possesses the Gdansk refinery, the second-largest refinery in Poland. These two major refineries account for over 98% of the country’s total refining capacity. Both the Plock and Gdansk refineries mainly process REBCO (a Russian export blend of crude oil). Thanks to “Program 10+” the Gdansk refinery increased its domestic production from a level of 6 million tons to 10.5 million tons per year. In late 2010, PKN Orlen launched a new unit (VII diesel oil hydro-refining unit – HON VII), which will add approximately 1 million tons to the annual diesel oil production capacity of the main plant in Plock.

The remaining four refineries are located in the southern part of Poland and have very small processing capacities. Two of them (in Jaslo and Czechowice) are processing refined petroleum proheavy heating oil and focus on the storage and distribution of fuels. In 2010, the four operating refineries (in Plock, Gdansk, Jedlicze and Trzebinia) processed around 467 kb/d of crude oil. In the same year, the composition of production from these refineries was motor gasoline (22%), gas/diesel oil (30%), residual fuel oil (24%) and LPG (5%). Poland had a diesel and LPG deficit. Some 20% of the total diesel consumption was met by imports in 2010. However, ongoing capacity expansion projects at refineries are expected to contribute to a reduction in the current diesel and LPG deficits. Nevertheless, the country is expected to remain a net diesel importer in the long-term perspective.

Poland, as a member of the IEA, is obliged to hold oil stocks equivalent to at least 90 days of net imports of the previous year. Poland held some 7.746 Mt of oil stocks at the end of 2010, equating to 119 days of the 2009 net imports. Poland possesses a total storage capacity of 72.7 million barrels (11.6 million cubic meter (mcm)). Roughly 60% of the total storage capacity is used for crude oil. This capacity is owned and operated by PKN Orlen, the LOTOS Group and the PERN Group. The PERN Group is a strategic enterprise owned entirely by the Polish State Treasury, and operates in the market for crude oil and oil product logistics. The PERN Group includes OLPP — the largest provider of storage services for oil products in Poland. The companies merged in 2009.

PKN Orlen, through its subsidiary IKS Solino, owns and operates the largest underground storage facility (salt caverns) in the country, with a total storage capacity for crude oil and oil products of 5.1 mcm (32.1 million barrels). It is directly connected to the Druzhba pipeline with a drawdown rate of 107 kb/d, as well as being connected to the Plock refinery through the product pipeline.

PERN plans to expand its total storage capacity to some 3.8 million barrels by 2013, through constructing additional crude storage depots in Plock, Gdansk and Adamowo. OLPP has 22 oil product storage facilities, which are spread over the country. The five key oil product storage facilities are located in Koluszki, Nowa Wies Wielka, Boronow, Rejowiec Poznanski...
and Emilianow, which are connected to the Plock refinery via pipelines. In response to the expected increase in the demand for storage capacities, PERN and the LOTOS Group are considering building underground salt caverns for crude oil and fuel storage in the Pomorski region near Gdansk. The caverns are projected to have a total capacity of 6 mcm (some 38 million barrels).

Poland has a dense network of fuel stations owned by the Polish companies PKN Orlen and the LOTOS Group, as well as stations belonging to foreign companies such as BP, Shell, Statoil and Lukoil. The total number of fuel stations amounted to about 6,800 in 2010, out of which some 3,220 were owned by independent operators. At the end of 2010, the share of PKN Orlen in the total number of fuel stations was 25%, while the share of LOTOS Group was 5%.

The Druzhba and the Pomeranian are the main pipelines for transporting crude oil in Poland. These two pipelines supply Russian crude directly to the refineries at Plock and Gdansk, and transit volumes to the German refineries at Schwedt and Spergau. The Polish branch of the Druzhba pipeline is composed of two main sections of pipeline. The eastern section spans from the Belarus border in Adamowo to Plock, which has a nominal capacity of some 870 kb/d (43 Mt/yr). The PERN Group is currently using a substance for reducing hydraulic drag, which helps to pump more oil than was specified in the technical design of the pipeline. A third line is under construction on this eastern section to increase the section’s nominal transportation capacity to over 1 million barrels/d (50 Mt/year) by the end of 2012. The PERN Group is considering the possibility of changing the first line of the eastern section of the Druzhba pipeline into a product pipeline. However, no final decisions have been made as of the end of August 2011. The western section of the Druzhba pipeline links Plock to the German border in Schwedt, which has a capacity of some 545 kb/d (27 Mt/year).

The Pomeranian pipeline can transport crude oil in two directions between Gdansk and Plock. From Gdansk to Plock, the line has a capacity of 0.6 mb/d (30 Mt/year), while the capacity is 0.45 mb/d (22 Mt/year) in the opposite direction. This is the route for Russian oil destined for the refinery in Gdansk and also for exporting through Naftoport. The Polish government is concerned with Russia’s decision to build the Baltic Pipeline System-2. This project would allow Russia to deliver oil to its Baltic ports, bypassing a number of transit countries. As a result, the volumes of oil transported through the Druzhba pipelines may decline. Therefore, the Polish government believes it is essential to increase the capacity of the Pomeranian pipeline, for example by constructing a second line. This would allow increasing the transportation of oil from the Gdansk terminal to the Plock refinery and German refineries located on the Druzhba pipeline.
There is a plan to extend the Ukrainian Odessa-Brody pipeline to Plock or Adamowo (the decision about the connection point has so far not been made), and further to Gdansk in Poland, with the aim of diversifying oil import sources and routes. The Odessa-Brody pipeline was originally built to carry Caspian oil westwards, but in 2004 the Ukrainian Cabinet made the decision to reverse the pipeline flow, thus making it transfer Russian crude southwards to the Black Sea and from there to other destinations. The extension and re-reversal of the pipeline would provide a non-Russian route for the transportation of Caspian oil supplies to Europe. The Odessa-Brody-Plock/Adamowo-Gdansk pipeline, which would be a part of the Euro-Asian oil transport corridor (EAOTC), would thus reopen the oil route from the Azerbaijani port of Baku to the Black Sea port of Supsa in Georgia and then to Ukraine’s port Odessa by tanker. From Odessa, it would be piped to Brody in Ukraine and further to Poland. The project for the construction of the Polish section of the Brody-Plock oil pipeline is listed as a priority under an operational programme of the EU, "Infrastructure and Environment". Roughly 495 million PLN (about €114 million) is allocated to this project. MPR Sarmatia is responsible for the project. The feasibility study of the project is ready. Currently, the company is working on establishing the finally route of the pipeline. The Polish government as well as other committed countries is strongly supporting the project.

There are three oil port terminals in Poland. The main one in Gdansk has a capacity of about 700 kb/d (34 Mt/year). Naftoport owns and operates four jetties in the Port of Gdansk. Some 67% of Naftoport’s shares are held by the PERN Group. The remaining portions are held by PKN Orlen (some 18%), LOTOS Group (some 9%) and others. In 2010, over 14.1 Mt of
crude oil and fuels was loaded and discharged at Naftoport’s jetties in the Port of Gdansk, of which 6.1 Mt was crude oil. The Port of Gdansk is used primarily for Russian crude oil exports. There are two small oil terminals for imports of oil products; the Port of Gdynia (with a capacity of 3.5 Mt/year or 70 kb/d) and Szczecin (1.5 Mt/year or 30 kb/d).

7.5. Coal sector

7.5.1. Resources and energy balance of Poland

Poland has at its disposal meaningful resources of coal, assuring the energy security of the country. Thanks to this source, the energy security index, understood to be the ratio of energy production from the country’s resources to energy production from imported fuel, is quite a bit higher in Poland when compared with those of other countries, and currently constitutes approximately 80%.

As of the end of 2010, the proved coal reserves in Poland amounted to 44.3 billion tons. The steam coal constitutes almost three-quarters of coal reserves and the remaining part is coking coal. Developed reserves constituted 39% of all the reserves and amounted to almost 17 billion tons.

The state’s energy policy assumes the utilisation of coal as a major fuel used for power and electricity generation, aiming to guarantee an adequate degree of energy security for the state, especially when taking into account the fact that Poland’s economy depends greatly on fuel imports such as gas (over 70%) and oil (over 90%).

In the structure of primary energy consumption the share of hard and brown coal has been reduced in recent years, while the share of other sources of energy has increased, especially oil.

The dominant position of hard coal, manifested by the share of this fuel in electric energy generation in Poland in 2010, is expressed by the amount of electricity being generated in power plants according to the type of fuel (as presented below).

Professional power – heating generators, in which:

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>coal fired plants</td>
<td>57.06%</td>
</tr>
<tr>
<td>brown fired plants</td>
<td>31.64%</td>
</tr>
<tr>
<td>natural gas fired plants</td>
<td>2.09%</td>
</tr>
<tr>
<td>professional hydropower plants</td>
<td>2.67%</td>
</tr>
<tr>
<td>industrial power plants</td>
<td>5.70%</td>
</tr>
<tr>
<td>wind power plants and other ones based on renewable resources</td>
<td>0.84%</td>
</tr>
</tbody>
</table>

The meaningful share of solid fuels being produced in Poland provides a high and stable level of energy security, considering the consumption structure of primary energy and electric energy generation.

The RES (the utilisation of biomass, hydro energy, wind and solar and geothermal energy) are of less importance for energy generation in Poland. However, they contribute to energy security on a local scale, especially in areas with a poorly developed energy structure.
The increase in the demand for primary energy up until 2030, forecasted in PEP 2030, amounts to approximately 21%; however, this increase will take place mainly after 2020, because of the start-up of nuclear energy power plants and the accompanying lower efficiency in power generation as against coal sources.

The country’s reserves of hard and brown coal will guarantee the energy security of the country. However, taking into account the trends up to date, the role of hard and brown coal in meeting the energy needs of Poland will progressively decrease, in contrast to that of natural gas and renewable energy. The development of nuclear energy is also predicted to bring about its appearance in the primary energy balance at the end of the forecasted period.

7.5.2. Structure of the hard coal sector in Poland from 2006-2010

As of the end of 2006, the hard coal sector consisted of 33 hard coal mines grouped within the following mining enterprises.

Production entities:

- Kompania Węglowa S.A. (17 mines);
- Katowicki Holding Węglowy S.A. (seven mines, of which one is a limited liability company (“Kazimierz- Juliusz” sp. z o.o.);
- Jastrzębska Spółka Węglowa S.A. (five mines);
- Południowy Koncern Węglowy S.A. (one coal mine with two mining areas);

In addition, there were two restructuring coal companies within the hard coal sector in Poland (Spółka Restrukturyzacji Kopalń and Bytomska Spółka Restrukturyzacji Kopalń Sp. z o.o) with the scope of activity consisting, among other things, of conducting physical coal mine liquidation, after the termination of the mining operation and management of assets of the liquidated mines. There is also one trade company (Węglokoks S.A.).

As a result of the continuation of the restructuring processes in the following years, aiming at, among other things, conducting organisation changes — as of 31 December 2010 — the following mining entities were functioning within the sector:

- three coal companies, which have the status of joint stock companies owned by the State Treasury (Kompania Węglowa S.A., Katowicki Holding Węglowy S.A. Jastrzębska Spółka Węglowa S.A.);
- one individual coal mine (Kazimierz- Juliusz Sp z o.o. is a limited liability company with a 100% stake held by KHW S.A.);
- one coal company (Południowy Koncern Węglowy S.A.) owned by a joint stock company with the major block of a privatised company (Tauron Polska Energia S.A.);
- one coal stock company (Lubelski Węgiel Bogdanka S.A.) with a diversified block of shares;
- one individual coal mine (100% private ownership);
- one trade company “Węglokos” S.A.

In addition, Jastrzębska Spółka Węglowa S.A. was privatised on 7 July 2011.
As of the end 2010, 29 coal mines in total were operating within the hard coal sector. In addition, the two producers of hard coal, the “Silesia” mining company (owned by the Czech investor Energy and Industry Holding Company and a coal mine team) and “Eko-Plus” (a limited liability company) were granted a concession for coal production.

Coal production is being carried out by Kompania Weglowa S.A., Katowicki Holding Węglowy S.A., Jastrzębska Spółka Węglowa and LW “Bogdanka” S.A. and constitutes almost 100% of Poland’s hard coal production.

Among Poland’s coal producers, Kompania Weglowa S.A. is the largest one, and it produces both steam and coking coal. Jastrzębska Spółka Węglowa S.A. is the biggest entity in Poland producing coal for coking purposes. The other producers extract steam coal exclusively.

7.5.3. Reform of the hard coal industry in Poland – current stage and effects

The process of restructuring the hard coal industry using special restructuring tools included in the legislation was completed in 2006. On 31 July 2007, the “Strategy of hard coal mining in Poland in 2007-2015” was adopted by the Council of Ministers. The document determines the desirable directions, from Poland’s point of view, for sector functioning, here the hard coal industry, within a given period and provides the basis for Polish coal producers to create their own strategies. However, the details about how to go about the restructuring have not been indicated in the document.

In addition, the aim of the state’s policy on the hard coal sector is said to be the rational and effective management of hard coal reserves located in the territory of the Republic of Poland so that they could serve the future generation of Polish people.

It has been accepted that the aim will be implemented through the following operational objectives:

– state’s assurance of energy security through meeting the domestic demand for hard coal and considering the utilisation of coal for liquid and gas fuel production;
– competitiveness of Polish hard coal;
– assurance of a stable supply of high quality hard coal for local and foreign customers;
– modern technology utilisation in the hard coal sector with a view to increasing competitiveness over price, work safety and environmental protection and to creating a background for technological and scientific development with special consideration for the Silesia and Malopolska regions.

The process of restructuring the hard coal industry has been being carried out for almost two decades following the government’s restructuring programme, but it has not yet been completely finished. However, the main objectives have been achieved. In the main, they are concerned with limiting excessive production by the mines, reducing employment and increasing productivity and economic efficiency, as well as the issue about the high level of liabilities accumulated by coal companies over many years. The realisation of the given objectives was mainly accomplished as a result of engaging in meaningful budgetary practices and gaining social acceptance for substantial changes as well as the activities of the coal entities themselves.
In should be noted that the realisation of these tasks between 2006 and 2010, as in previous years, was achieved with the meaningful support of the state budget. From 2006-2010, state aid earmarked for the hard coal sector amounted to 2.64 billion PLN, cumulatively.

The restructuring process in the Polish hard coal mining industry has been monitored. The monitoring system provides information to the Ministry of Economy on the course of the restructuring of the mining industry. The Katowice Branch of Agencja Rozwoju Przemysłu S.A. (ARP S.A.) is the organisation that monitors the restructuring of the mining industry. Pursuant to the existing law, ARP S.A. carries out monitoring and, on the request of the minister responsible for the economy, undertakes the following actions related to the restructuring of the hard coal mining sector:

1. use of the budget resources and public support provided;
2. process of coal mine liquidation, post-closure activities, tasks related to mining damage removal and protecting neighbouring mines against water, gas and fire hazards;
3. changes in employment in the hard coal mining industry;
4. monitoring of coal sales by producers, marking out quantitative and qualitative parameters for coal prices and financial and economic results;
5. analysing the coal prices of domestic producers and prices of imported coal;
6. preparing documents for notification by the European Commission for state aid for the coal sector;
7. archival and personal document storage of mining enterprises and enterprises for mining works that have been placed in a state of liquidation or bankruptcy;
8. setting up a data base for the service enterprises performing underground work in coal mine.

The basic indexes characterising the restructuring of the hard coal mining from 2006-2010 are presented in the table below.

Table 23  Basic economic, technical and financial indexes for hard coal

<table>
<thead>
<tr>
<th>No</th>
<th>unit</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Production</td>
<td>million ton</td>
<td>94.3</td>
<td>87.2</td>
<td>83.4</td>
<td>77.4</td>
</tr>
<tr>
<td>2</td>
<td>Productivity</td>
<td>one/ per capita</td>
<td>793</td>
<td>758</td>
<td>725</td>
<td>665</td>
</tr>
<tr>
<td>3</td>
<td>sales</td>
<td>million tons</td>
<td>93.4</td>
<td>86.7</td>
<td>82.7</td>
<td>73.0</td>
</tr>
<tr>
<td></td>
<td>incl</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>domestic</td>
<td>million tons</td>
<td>77.6</td>
<td>74.6</td>
<td>74.4</td>
<td>64.2</td>
</tr>
<tr>
<td></td>
<td>export</td>
<td>million tons</td>
<td>15.8</td>
<td>12.1</td>
<td>8.3</td>
<td>8.8</td>
</tr>
<tr>
<td>4</td>
<td>Employment</td>
<td>thousand</td>
<td>119.3</td>
<td>116.4</td>
<td>119.7</td>
<td>118.9</td>
</tr>
<tr>
<td>5</td>
<td>Average price</td>
<td>PLN/ton</td>
<td>183.62</td>
<td>191.10</td>
<td>256.90</td>
<td>274.68</td>
</tr>
<tr>
<td>6</td>
<td>Average cost of sold coal</td>
<td>PLN/ton</td>
<td>175.54</td>
<td>189.42</td>
<td>222.98</td>
<td>257.04</td>
</tr>
<tr>
<td>7</td>
<td>State subsidy</td>
<td>million PLN</td>
<td>660.8</td>
<td>430.0</td>
<td>372.4</td>
<td>382.2</td>
</tr>
<tr>
<td>8</td>
<td>Liabilities</td>
<td>million PLN</td>
<td>7 026.1</td>
<td>6 735.8</td>
<td>7 516.9</td>
<td>8 312.0</td>
</tr>
<tr>
<td>9</td>
<td>Profits/losses</td>
<td>million PLN</td>
<td>367.4</td>
<td>87.5</td>
<td>711.7</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Source: Ministry of Economy
During the period 2006-2010 the domestic consumption of coal decreased. In 2010, coal consumption in Poland amounted to 84.6 million tons and was lower than in 2006 by 2.7% or 2.4 million tons. Simultaneously, Poland’s output of coal decreased by 19.3% or 18.3 million tons, that is, from 94.4 million tons in 2006 to 76.2 million tons in 2010. Steam coal production decreased by 19.2% from 79.8 million tons to 64.5 million tons and the output of coking coal by 20% from 14.6 million tons to 11.7 million tons. The average rate of employment in the hard coal sector has decreased by 4.3% (a total of 5,200) in the period from 2006 to 2010. There were 114,100 workers at the end of 2010. The reductions in employment and output together with technical developments influenced productivity, which amounted to 671 tons per capita in 2010 and was 122 tons per capita lower than in 2006.

### 7.5.4. Hard coal sales and sales by customers

The total amount of hard coal sales in 2010 amounted to 75.4 million tons and this decreased by 19.4% or 18.1 million tons compared to in 2006 due to the reduction in steam coal sales by 14.6 million tons or 18.5% from 78.7 million tons in 2006 to 64.1 million tons in 2010 and of the reduction in coking coal sales by 3.5 million tons or 23.7%.

Nevertheless, the value of coal sold increased in the period 2006-2010. In 2010, the total coal sales amounted to 28.4% or 4.9 billion PLN higher than in 2006 (from 17.2 billion PLN to 22.0 billion PLN). In the period 2006-2010, the value of the coking and steam coal that had been sold increased (by 41% from 4.2 billion PLN to 6 billion PLN and by 24% from 12.9 billion PLN to 16 billion PLN respectively).

In the period 2006-2010, the majority of Polish coal was being sold on the domestic market. In 2010, 64.2 million tons of coal (13 million tons less compared to 2006) were sold on the domestic market. The value of the coal sold increased by 5.2 billion PLN from 14.1 billion to 19.3 billion PLN.

The dominant position among domestic hard coal consumers has been held by the electric energy sector. It bought 34.9 million tons of coal (53.9% of the total domestic sales of coal) in 2010. However, sales decreased by 6.5 million tons or 15.7% compared to in 2006 due to the negative impact of the global financial crisis in the years 2008-2009 and better access to imported coal. The sales of coal to coke plants decreased from 11.1 million tons in 2006 to 9.6 million tons in 2010.

Since the beginning of 2006 imports of hard coal have been growing dynamically. In 2010, imports of hard coal to Poland amounted to 13.6 million tons, which has almost tripled since 2006.

Since 2008, Poland has been a net importer of hard coal. The country mainly imports steam coal, which constitutes over 70% of imported coal.

Most of the imported coal comes from the Russian Federation. In 2010, it constituted nearly 60% of the total volume of imported coal. Imports of coal from Russia mainly consist of steam coal (80.1% of the total amount of steam coal imports). Thus the majority of coking coal (27.1%) comes from the Czech Republic.
7.5.5. Distribution channels

Polish hard coal is sold through various distribution channels. Sales on the domestic market are realised by coal mines and through a network of authorised companies as well as by independent middlemen. Coal is distributed domestically by means of rail and road transport.

Direct sales are realised in the coal mine: coal is purchased by individual consumers or supplied directly within the framework of contracts concluded with electricity and heat producers as well as customer groups and coke plants.

Hard coal is sometimes delivered to large customers such as power plants, combined heat and power (CHP) and heating plants through a network of authorised companies. It refers to accidental deliveries and depends on the awarding of contracts.

Hard coal is delivered to the EU and exported outside the EU mainly through middlemen (trade companies) including Weglokoks S.A. In 2010, Polish producers sold middlemen 9.3 million tons of coal for foreign trade, which was 5.1 million tons or 35.2% less compared to in 2006.

Direct sales of coal outside Poland by coal producers are marginal. In 2006, they sold 1.4 million tons of coal abroad (8.7% of the total coal delivery to the EU and exports) and in 2010 1.3 million tons or 12.2% of total sales outside Poland.

The distribution of Polish hard coal abroad is carried out both by sea (53.6%) and overland (46.4%).

7.5.6. Hard coal pricing mechanism

The price of hard coal is regulated by supply and demand market relations and customers have freedom of choice over the coal producer, supplier and coal origin.

There are various forms of transaction — sales based on the pricelist, public procurement and contracts. Individuals and small customers buy coal on the basis of the price list, while large customers such as electricity generators, coking plants and groups of customers buy coal on the basis of annually negotiated contracts.

In 2010, the ex-mine price of hard coal was over 60% or 108.75 PLN per ton higher than in 2006. The price of steam coal price rose from 164.49 PLN per ton to 250.48 PLN per ton, while the price of coking coal rose from 285.20 PLN per ton to 529.58 PLN per ton.

7.6. Nuclear sector

On 13 January 2009, the Council of Ministers of the Republic of Poland approved a resolution on activities undertaken in the field of the development of nuclear power generation.

Pursuant to the Act at least two nuclear power plants will be constructed and at least one of them should begin working by 2020.

On 12 May 2009, the resolution on establishing the government commissioner for nuclear power was prepared. The plenipotentiary is the undersecretary of state in the Ministry of
Economy. He is responsible for developing and introducing nuclear energy. His tasks include, among other things, preparing and presenting to the Council of Ministers a project for the Polish Nuclear Power Programme (PEJ), which will set out a number of nuclear power plants in Poland and define their sizes and potential locations.

In August 2009, the Council of Ministers approved the framework schedule of actions for nuclear energy, spanning the period from the establishment of the Government Commissioner for Nuclear Power up to the completion and launching of the first nuclear power plant. All activities necessary for implementing nuclear energy were divided, from the perspective of responsibilities, into two types: those remaining in the competences of the government administration and those that were the responsibility of an investor. Moreover, the tasks were divided into stages, covering the whole investment cycle.

**Stage I – until 30 June 2011**
- being prepared and approved by the Council of Ministers of the Polish Nuclear Power Program PEJ,
- enacting and coming into force of the nuclear power industry’s law regulations;

**Stage II – from 1 July 2011 to 31 December 2013**
- establishing locations and concluding a contract for the chosen nuclear technology of the first nuclear power plant;

**Stage III – from 1 January 2014 to 31 December 2015**
- preparing an engineering design and obtaining permission as required by law;

**Stage IV – from 1 January 2016 to 31 December, 2020**
- obtaining permission to build the first unit of the first nuclear power plant, and for the beginning of the building of the next units/nuclear power plants;

**Stage V – from 1 January 2021 to 31 December, 2030**
- beginning and continuation of building the new units/nuclear power plants.

### 7.6.1. Nuclear Power Programme

In the middle of 2009, the basic document was drafted: the Polish Nuclear Power Programme – PEJ. The programme, which is a comprehensive first-stage document, defines the activities of particular importance in the preparatory stage of the investment, and leads to specifications for the number, sizes and possible locations of nuclear power plants. These include location studies for power plants and the storage of low and medium active waste, economic studies for energy generation and the establishment of an institutional infrastructure, including ensuring the operation of a competent and independent nuclear supervision agency. Moreover, the programme sets out a group of long-term activities, going beyond any one stage, such as the education of personnel for the nuclear sector, an information and education campaign, the development of research and scientific resources and maximum participation by national industry in terms of supplies of equipment and specialised services.

Work on the draft of the programme is now in its final stage. What remains to be done is to supplement it with the conclusions of the Strategic Environment Impact Assessment, which is now at the stage of time-consuming cross-border consultations.

### 7.6.2. Legislative framework

One of the basic tasks is creating a legislative infrastructure. The legal regulations relating to the development of nuclear energy in force since 1 July 2011 include the following.
- The Act on the preparation and implementation of investments in the field of nuclear energy generation and accompanying investments;
- The Act amending the Act on the Nuclear Law, taking into account the following:
  - supplementing regulation pertaining to the scope of civil responsibility for nuclear damage
  - the procedure for drafting and updating the strategy of the state in the field of nuclear energy
  - obligations of operators in the area of informing the public on the status and operation of nuclear energy facilities.

The amendment of the Nuclear Law introduced national regulations defining safety requirements for nuclear facilities, including nuclear power plants, at the highest level attainable in line with international regulations and guidelines, as well as experience drawn from the construction and operation of nuclear facilities in countries at the forefront of the development of nuclear technologies.

The safety requirements included in the Act were formulated in a manner allowing for competitiveness over nuclear technologies, without determining reactor types. An investor's choice will be limited to the most modern technologies, meeting the highest requirement relating to nuclear safety and the physical protection of nuclear energy facilities.

The provisions of the Act formulated an unequivocal primacy of safety over other aspects of the functioning of nuclear technologies, not only at the stage of technology selection, but in the whole process of its implementation and functioning, supervised and inspected by the state authority for nuclear supervision. The provisions are to ensure full transparency for the decisions of the nuclear supervision authority pertaining to nuclear facilities and information on the condition of the facilities and safety of their operation, including all the factors and events affecting nuclear safety and the radiologic protection of the country.

In the second half of 2011, the investor will choose two potential locations for further analysis.

In 2013, the location of the first nuclear power plant and the supplier of the technology for the nuclear power plants will be chosen.

In 2020, the first nuclear unit should be connected.

It is expected that, in 2030, approximately 6,000 MW of nuclear power energy will be installed in Poland and nuclear power energy will produce approximately 16% of electric energy.

7.7. District heating

7.7.1. Supply and demand
Because of Poland’s relatively cold climate, a large share of the total energy is used for heating. The IEA report on Poland (2011) refers to a survey conducted in 2002 that found that heating and hot water account for the majority of households’ energy use (71% and 15% respectively). The country follows the same trend witnessed in the socialist era as regards district heating, and is one of the few European countries with a significant share of heat supplied from existing district heating systems with respect to total heat supply. Poland has more than 19,000 km of district heating grids owned by over 460 licensed enterprises. The installed heat generation capacity was over 60,000 MWth in 2008.

In practice, district heating systems exist in every city agglomeration. According to the data of ERO, in 2008 about 500 energy companies carried out heating activities based on district heating systems with the ordered power being over 5 MW. They have a source of heat power over 61,000 MWt. The annual amount of heat production equals about 400 PJ and the amount of heat supplied to consumer reaches 300 PJ.

According to recent estimates, district heating provides 50% to 60% of residential heating, and up to between 75% and 80% in urban areas.

Because of the local nature of district heating, there is no common district heating market throughout the whole country. There are large differences between local district heating markets in terms of infrastructure ownership and operation, the number of connected clients and their density, the availability of various heat sources, competitive pressure from other heat options (such as individual gas boilers) and other factors. In most cases, district heating enterprises are vertically integrated and have licences for different activities — heat generation, transmission and/or supply. Coal is the main fuel used for heat generation (76% in 2008) although its share has been gradually declining over the last few years while the share of biomass has been growing.

District heating alone constituted about 10% of energy demand in Poland in 2006, and this figure is expected to increase to up to 12% by 2030. A detailed composition of the demand for final energy in the country is shown in the table below.

<table>
<thead>
<tr>
<th>Table 24</th>
<th>Demand for final energy by carriers [Mtoe]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
</tr>
<tr>
<td>Coal</td>
<td>12.3</td>
</tr>
<tr>
<td>Oil products</td>
<td>21.9</td>
</tr>
<tr>
<td>Natural gas</td>
<td>10.0</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>4.2</td>
</tr>
<tr>
<td>Electricity</td>
<td>9.5</td>
</tr>
<tr>
<td>District heat</td>
<td>7.0</td>
</tr>
<tr>
<td>Other fuels</td>
<td>0.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>65.5</td>
</tr>
</tbody>
</table>

When all the demand for heat is taken into account, that is, by merging district and other means of heating, the figure increases sharply. According to a study in 2009 by the Ministry of Economy based on the estimations of PEP 2030, heating and cooling (both district and non-district) was projected to constitute almost half of the gross energy consumption in Poland, starting from 2010, and this ratio is expected to remain around the same in the near future till 2020.
Table 25 Expected gross final energy consumption in heating and cooling [Mtoe]

<table>
<thead>
<tr>
<th>Description</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>reference</td>
<td>additional</td>
<td>reference</td>
<td>additional</td>
<td>reference</td>
</tr>
<tr>
<td></td>
<td>energy</td>
<td>energy</td>
<td>reference</td>
<td>energy</td>
<td>reference</td>
</tr>
<tr>
<td>(1) heating and cooling (district and non-district)</td>
<td>31.6</td>
<td>32.4</td>
<td>33.0</td>
<td>32.5</td>
<td>34.7</td>
</tr>
<tr>
<td>(2) electricity</td>
<td>12.9</td>
<td>12.1</td>
<td>13.4</td>
<td>12.3</td>
<td>14.0</td>
</tr>
<tr>
<td>(3) transport as in Article 3(4)a</td>
<td>16.8</td>
<td>16.8</td>
<td>17.0</td>
<td>17.0</td>
<td>17.5</td>
</tr>
<tr>
<td>(4) Gross final energy consumption</td>
<td><strong>61.3</strong></td>
<td><strong>61.3</strong></td>
<td><strong>63.4</strong></td>
<td><strong>61.8</strong></td>
<td><strong>62.4</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>reference</td>
<td>additional</td>
<td>reference</td>
<td>additional</td>
<td>reference</td>
<td></td>
</tr>
<tr>
<td></td>
<td>energy</td>
<td>energy</td>
<td>reference</td>
<td>energy</td>
<td>reference</td>
<td></td>
</tr>
<tr>
<td>(1) heating and cooling</td>
<td>38.8</td>
<td>33.1</td>
<td>40.3</td>
<td>33.4</td>
<td>41.8</td>
<td>33.8</td>
</tr>
<tr>
<td>(2) electricity</td>
<td>15.3</td>
<td>13.1</td>
<td>15.7</td>
<td>13.4</td>
<td>16.2</td>
<td>13.7</td>
</tr>
<tr>
<td>(3) transport as in Article 3(4)a</td>
<td>17.9</td>
<td>17.8</td>
<td>18.2</td>
<td>18.2</td>
<td>18.4</td>
<td>18.6</td>
</tr>
<tr>
<td>(4) Gross final energy consumption</td>
<td><strong>72.0</strong></td>
<td><strong>64.0</strong></td>
<td><strong>74.2</strong></td>
<td><strong>65.0</strong></td>
<td><strong>76.4</strong></td>
<td><strong>66.1</strong></td>
</tr>
</tbody>
</table>


District heating suffers from an old and degraded infrastructure, which is the cause of high heat losses, inefficiency and resulting high costs and which leads to the incentivising of individual heating with competitive costs in recent years. In order to tackle this problem Poland has taken many steps to modernise its district heating systems, including the installation of heat meters in individual buildings and improvements in customer services.

7.7.2. Regulation in the sector

The ERO, through its nine regional offices, is responsible for issuing licences for, inter alia, heat generation, transmission, distribution and trade, and regulating district heating tariffs. District heating is based on the ordinances of the Ministry of Economy concerning the detailed principles of the establishment and calculation of tariffs and billing principles for heat supply (17 September 2010), and concerning detailed conditions for the functioning of heating systems (15 January 2007).

Energy enterprises possessing licences (for heat generation it is at least a capacity of 5 MW installed in sources or a capacity of 5 MW of power ordered) shall formulate tariffs, which are subject to approval by the president of ERO. No licence shall be required to perform any business activity in the field of heat generation obtained in industrial technical processes. Energy enterprises possessing licences submit tariffs by their own initiative or upon the request of the president of ERO. Within 60 days the president shall approve the tariff or refuse to approve it when it is inconsistent with the principles and provisions mentioned in the
Energy Law Act and in the ordinance. The president submits, within seven days from the approval, approved tariffs for heat for publication in the territorially appropriate Voivodeship Official Journal.

An enterprise that applies prices and tariffs and does not conform to the duty to submit the tariffs to the president of ERO for approval shall be fined. The amount of the fine can be up to 15% of the revenues of the fined enterprise obtained from the licensed activity in the previous fiscal year. In the process of approving heat tariffs the president of ERO aims to balance the interests of the energy enterprise and the customers.

7.7.3. District heating and renewables

District heating is important in Poland and is largely fuelled by coal, which constitutes almost 80% of the total heat demand. District heating systems have a significant market for heat supply services, but the use of renewable energy is, at present, at a very low level (4%). The figure below illustrates the whole breakdown of heat demand for the fuel used.

Table 26 Structure for covering the demand for heat

![Table 26](image)


The opportunities to use renewable energy in all the sources of heat disclosed in the figures above include, inter alia, biomass with cogeneration, solar panels as a support for hot water systems and monovalent or bivalent heat pumps for the purposes of heating, hot water and cooling in households and district heat networks.

Activities aiming to promote the district heating and cooling infrastructure using RES will be undertaken as part of work on regulations implementing Directive 2009/28/EC, in agreement with the minister in charge of the infrastructure. Potential provisions will be included in the Act on energy from renewable sources that is going to be adopted in 2011.

7.7.4. Combined heat and power
The extensive use of coal in district heating is another concern due to heavy CO2 emissions, which it is considered will be addressed via wider use of CHP plants. CHP is relatively well developed in Poland. More than 15% of total electricity and over 60% of heat comes from CHP plants. There is an economic potential for further increasing the use of CHP plants in Poland. Inefficient heat boilers, which provide over a third of the heat in district heating systems, in many cases can be economically replaced by more efficient modern cogeneration systems. The main question relates to ensuring the economic viability of such investments for introducing the modern and energy efficient systems due to regulatory uncertainties.

Poland supports cogeneration in accordance with the EU directive on CHP. There is a legal obligation for energy suppliers to ensure that a certain share of electricity sales comes from cogeneration (at least 13.7% in 2005 and 16% in 2010). Suppliers must either submit the requested amount of certificates of CHP origin (so called “red/brown certificates”) to ERO, or pay a substitution fee. They can either obtain the certificates of origin by generating their own CHP or buy them on the tradable certificate market, similar to the tradable “green certificates” system for renewable energy. In addition, heat suppliers have an obligation to purchase heat from CHP plants in an amount not exceeding the demand of consumers connected to the network. The existing mechanisms have not proven very effective and have not stimulated significant investments in new cogeneration. From 2009, ERO is obliged to publish information on the costs of heat produced by CHP plants and heat-only boilers. This is expected to create additional incentives for the wider use of CHP, which provides heat at lower cost.

PEP 2030 envisages increasing the electricity produced from highly efficient cogeneration two fold by 2020. To this end the government has adopted a Programme for the Development of Cogeneration in Poland to 2030, with the aim of identifying the CHP potential and developing new mechanisms for CHP support. The extensive district heating system in the country presents a unique opportunity for further development of CHP, as well as for using heat from various sources like industrial heat waste and heat from incinerators.

There are three CHP plants, operated by two companies: ZEC Bytom (Miechowice and Szombierki CHP plants) and EC Zabrze. Both companies are 100% state owned and the plan is that they will be privatised. In addition to electricity production (55.0 MW and 73.9 MW respectively), these companies supply heating water to the distribution systems in these three areas, that is, Bytom, and the Zabrze and Ruda Slaska municipalities, with 372.7 MWt and 431.6 MWt of thermal capacity respectively.

In the district heating sector several initiatives are being taken by various stakeholders. Among them can be cited the projects in Lodz and Poznan, which plan to use 100% biomass, 80% from forest biomass and the rest originating from agriculture. This will be producing 67 MW of green electricity and this means 460,000 tons less CO2, worth €70 million. Thanks to these two projects the two cities will be able to reach 20% green energy use by November 2011 compared to 15% as targeted in the 2020 PEP.

7.7.5. Tariff and methodology

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23 IEA Report on Poland, 2011
ERO approves district heating tariffs. Until 3 November 2010, the only method for heat tariff calculation was cost-based regulation; according to the “cost plus” methodology, the tariff covered all justified costs. Nonetheless, this method has a disadvantage, in that it does not necessarily provide incentives for heating companies to reduce costs and improve efficiency.

The heat tariff shall ensure the justified expenses of the energy enterprises are covered (including a justified return on investment) and the customers are protected against an unjustified increase in the prices and fee rates.

The prices and payment rates are settled on the basis of planning the following:

- justified annual costs for the conducting of business activities in respect of heat supply;
- justified annual costs of modernisation and development and investment costs with respect to environmental protection; and
- justified return on investment from such activity.

The price of heat is calculated as the ratio of the justified planned income over the planned sale of heat. Costs are determined on the basis of the planned annual heat production for activities in relation to the sum of thermal power ordered by the customers and the estimated annual sale of heat.

The justified return on capital from heat activity is based on the planned return on capital and should take into account the return on equity and debt, serving to finance assets engaged in heat production and heat supply, and the inclusion of the return on capital must not lead to an unjustified increase in prices and fees for customers.

The categorisation of customers into tariff groups of customers depends on the level of justified costs and the following criteria: the type of heat carrier and its parameters; the heat source or the set of sources that are supplying the heating grid; the grid, which is used for the specific heat carrier; the point of the heat delivery; the scope of the heat services; the requirements regarding to the quality standards and continuity of heat supply; and the quantity of the ordered heat capacity and characteristic of the heat receipt.

PEP 2030 envisages that many actions will be taken. Most importantly it plans to prepare and gradual implement new rules to regulate the prices of district heat to ensure the elimination of cross-subsidies between combined heat and power generation and revenues from the production of electricity and certificates, by introducing a method of comparison (benchmarking) for the determination of heat prices, effective from 2010. Furthermore, it foresees changing the regulatory mechanisms through the introduction of pricing methods for heat with the use of reference prices and incentives to optimise the heat supply costs. In addition, it is proposed that the preparation of new rules will regulate the prices of district heating by introducing the comparative method by 2010, and to gradually implement the new rules in 2011. Finally, PEP 2030 underlines a preference for cogeneration as the preferred technology in the construction of new power generation.

On 11 March 2010, the Act of 8 January 2010 entered into force, which amended the Energy Law and certain other Acts. In accordance with the Polish Energy Law Act (as amended) and as regards PEP 2030, the president of ERO is obliged to announce the average sale prices of heat generated in non-cogeneration units and a reference index determining the prices of heat
from cogeneration. The new ordinance concerning heat tariffs deals with the main issues, such as limiting annual increases in heat prices from cogeneration, ways to avoid an increase in heat prices from cogeneration in the long term, balancing the interests of customers and giving financial support to cogeneration development, and how to take into account the costs of CO2 emission.

From 3 November 2010, a new regulation is applied in Poland by the ordinance of the Ministry of Economy, concerning the detailed principles for the establishment and calculation of tariffs and billing principles for heat supply (17 September 2010). The regulation indicates the possibility of calculating the planned revenue on the basis of a simplified formula and the way to calculate reference heat prices. The regulation sets out the method for calculating the reference price based on the source, such as coal and biomass. The average price is determined as the weighted average of the prices of heat calculated respectively for each type of fuel used to produce electricity and heat at the source and the planned amount of the chemical energy of fuels to produce each unit of electricity and heat.

The regulation limits the increase in revenues. The enterprises apply the simplified tariff calculation to 2% above inflation (until 30 March 2011), to 2% above the increase in the average selling prices of heat from sources that are not cogeneration units (from 31 March 2011 to 31 March 2013 or after 31 March 2014) and to 2% above the costs of buying CO2 allowances during the entry into force of the next accounting period for CO2 emissions (from 31 March 2013 to 31 March 2014). The regulation restricts the application of tariffs, in which a simplified method of calculation is used for one year. The president of ERO is authorised to set the correction factors determining the proposed improvement in effectiveness of the power company and change regarding the terms of exercising their economic activity, and determines the tariffs and correction factors’ validity. As such, ERO can balance the interests of energy enterprises and customers. Finally, it should be emphasised that energy enterprises are obliged to calculate tariffs in order to protect the interests of consumers against unreasonable levels of prices and rates.25

8. Summary of participation in international organisations, conventions, treaties and agreements

From the very beginning, Poland has adopted a very active foreign policy, which has mostly meant being on friendly diplomatic and economic terms with other countries.

Poland participates in the actions of various international organisations; some of them are presented below.

- Energy Charter: the fundamental aim of the ECT is to strengthen the rule of law on energy issues, by creating a level playing field of rules to be observed by all participating governments, thereby mitigating the risks associated with energy-related investment and trade.
- OECD: its fundamental goal is a drive for reaching the highest economic growth and the highest possible levels of employment and living standards, as well as the financial stability and freedom of international exchange and assistance to the least developed countries. Poland has been a member of OECD since 1998.

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25 Aleksandra Gawlikowska/Fyk, Eligiusz Balcerzak/Paweł Bogusławski (RO, The Republic of Poland); Technical Exchange Programme: Sustainable Energy Regulation, March 3-4, 2011, Warsaw, Poland
- Baltic States Council; this is the local forum of cooperation between the Baltic States. This organisation has existed since 1992. It includes Denmark, Estonia, Finland, Latvia, Germany, Norway, Poland, Russia and Sweden. Its main task is the coordination of activities within the scope of the preservation of the natural environment of the Baltic Sea and development of the power and shipping infrastructure, as well as tightening the bonds of cooperation in this matter with the EU.

- World Trade Organisation (WTO); its basic aim is the liberalisation of international trade, reduction of duties and adoption of the pro-commercial invest policy. Poland was one of the founders of the WTO and ratified an appropriate agreement in 1995.

- International Monetary Fund; its tasks are supporting the monetary cooperation on an international level, creating conditions for regulating current settlements in the international trade, providing support in liquidating the insolvency, monitoring the facility of the financial systems of the members and striving to regulate the development and growth of the international trade. Poland has been a member of the IMF since 1986.

- IEA, affiliated with OECD; this was founded for the purpose of preventing disruptions in oil supplies, as well as acting as a source of information about statistics on the international market for oil and other energy sectors. For other purposes the IEA promotes and develops alternative energy sources, rational energy policies and multinational cooperation in energy technology.

- Nuclear Energy Agency OECD (NEA); its mission is to assist its member countries in maintaining and further developing, through international cooperation, the scientific, technological and legal bases required for the safe, environmentally friendly and economical use of nuclear energy for peaceful purposes.

- International Framework for Nuclear Energy Cooperation (IFNEC): it provides a forum for cooperation among participating states to explore mutually beneficial approaches to ensure the use of nuclear energy for peaceful purposes and proceeds in a manner that is efficient and meets the highest standards of safety, security and non-proliferation.

- International Energy Forum: the forum was created with the purpose of facilitating dialogue between oil producing and oil consuming countries.

- Main regional initiatives:
  - High Level Group on north-south interconnections, chaired by the European Commission, which includes Bulgaria, the Czech Republic, Hungary, Poland, Romania and Slovakia as members, and Croatia as an observer. The group has a mandate to devise an action plan for the development of interconnections in gas, electricity and oil by the end of 2011.
  - High Level Group on Baltic Interconnections, chaired by the European Commission. Participating countries are Finland, Estonia, Latvia, Lithuania, Poland, Germany, Denmark, Sweden and, as an observer, Norway. The aim of the group is to set and implement an action plan for cooperation in the field of gas and electricity with the purpose of integrating the Baltic Energy Market.
  - Visegrad Group (4+): the group comprises the Czech Republic, Hungary, Poland and Slovakia, plus Croatia as an observer. The main activity in the field of energy is devoted to north-south interconnections in gas and electricity (complementary to the Commission’s work), and energy efficiency.

8.1. **List of BITs on the protection and promotion of foreign investments**

See Annex 2.
8.2. Membership in international economic and environmental organisations

Poland ratified the ECT and the PEEREA on 24 November 2000. For Poland, the ECT entered into force on 23 July 2001.

Poland is a member of the United Nations and a number of its specialised agencies (the Office of the UN High Commissioner for Refugees, International Labour Organisation, UNESCO, WHO, International Bank for Reconstruction and Development, International Monetary Fund), the Council of Europe, the Organisation for Security and Cooperation in Europe and the Central European Initiative.

It is a full member of the International Organisation for Migration.

Poland is a member of the WTO, the European Bank for Reconstruction and Development and the OECD.

In 1999, the country joined the North Atlantic Treaty Organisation.

In 1994, Poland applied to join the EU and entered into negotiations for full EU membership in March 1998. In May 2004, Poland and nine other countries joined the EU as full members. Poland is also involved in several initiatives and organisations working in the energy sector.

8.3. Important conventions to which Poland is a party

Since the Polish accession to the EU on 1 May 2004, pursuant to the priority rule stating that the community law comes before state law, the EU regulations shall apply directly.

Currently, matters related to the enforceability of foreign judgments in Poland are regulated by the following:

- domestic law (the Polish Code of Civil Procedure);
- the EU law (such as Brussels I Regulation as of 1 July 2007);
- international treaties (“the Lugano Convention” between member states of the European Free Trade Association (EFTA)).

These treaties have priority over domestic law. Issues connected with treaties relate mainly to non-member states of the EU.

On 1 February 2000, the Convention of 16 September 1988 on jurisdiction and the enforcement of judgments in civil and commercial matters (the Lugano Convention) also came into force in Poland. At the moment parties to the Lugano Convention are member states of the EU (except for Lichtenstein) as well as Switzerland, Iceland and Norway (with the exception of Poland, which acceded to the Lugano Convention before joining the EU).

On 1 July 2007, Brussels I Regulation entered into force in Denmark (as the last EU member state).

A replacement (the Lugano Convention; SR 0.275.12) was concluded in Lugano on 30 October 2007. The signatories are the Swiss Confederation, the European Community, the Kingdom of Denmark, the Kingdom of Norway and the Republic of Iceland. It is the successor to the Lugano Convention on jurisdiction and the enforcement of judgments in civil and commercial matters of 16 September 1988 (SR 0.275.11), which is why it is often referred to as the revised Lugano Convention. At the same time, it also serves as a parallel agreement to Council Regulation (EC) 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (Brussels I-Regulation).

While the Lugano Convention 2007 entered into force for the EU, Denmark and Norway on 1 January 2010, it has only applied for Switzerland since 1 January 2011. For Iceland it entered into force on 1 May 2011.

These three Acts have been applied to civil and commercial disputes in international business relations. They provide that court judgements and equivalent instruments issued in one of the signatory states are recognised and enforceable in all other states who are party to the Acts, without the need to institute special proceedings. The provisions of the Acts have priority over the Polish Code of Civil Procedure.

Parties to a contract may include an arbitration clause in the contract. This will allow the enforcement of a foreign arbitration award within the territory of Poland since Poland is a party to the New York Convention on the Recognition and Enforcement of Arbitration Awards. Polish courts recognise foreign arbitration awards if they are not contrary to Polish public policy and do not violate provisions of the New York Convention.

9. Exceptions to national treatment (the Blue Book)

As it stands, Poland currently has three exceptions to the national treatment, which fall into the following categories specified in the Blue Book of the Energy Charter (Annex I): Land/Real Estate – B, Access/Registration/Screening – A2, Reciprocity – B.

Land/real estate

Unless otherwise provided for in the Act of 24 March 1920 on the Acquisition of Real Estate by Foreign Persons, (Journal of Laws, 1996, No. 54, item 245, with amendments — articles 1, 3e and 8.1), the acquisition of real estate (the right of ownership to real estate or perpetual usufruct) requires a permit from the minister competent in internal affairs, in agreement with the Ministry of National Defence and in the case of agrarian real estate — in agreement with the minister competent in matters of countryside development. The acquisition or entering into the possession of shares of a commercial company with its seat on the territory of Poland, which is the owner or perpetual usufruct of real estate, requires a permit in the following circumstances:

a) if, as a result, the company becomes a foreign-controlled company, or
b) if the company is a controlled company and its shares are acquired or entered into possession by a foreigner who is not a shareholder of this company.
For acquisition of shares of companies admitted for public trading, permits are not required. Permits are also not required for the purchasing of individual residential apartments and in some other cases listed in the Act, such as inheritance, as well as when a company is the owner or perpetual usufruct of an individual residential apartment or real estate whose acquisition does not require a permit to be obtained. Legal persons and commercial companies having their seats on the territory of Poland, controlled by foreigners, may acquire undeveloped real estate for their statutory purposes, the total area of which in the whole country shall not exceed 0.4 ha within cities (however, in border zones a permit is required for the acquisition of real estate regardless of its size).

For foreigners being citizens or entrepreneurs of member states of the EEA a permit is not required, except for the acquisition of the following:

- agricultural and forest real estate, during the period of 12 years after the Republic of Poland’s accession to the EU;
- secondary houses, during the period of five years after the Republic of Poland’s accession to the EU.

A “foreigner” in the meaning of the Act may be as follows:

(i) a natural person not having Polish citizenship;
(ii) a legal person having his or her seat abroad;
(iii) a partnership not being a legal person or persons mentioned in i) and ii), having its seat abroad and created according to the legislation of foreign countries;
(iv) a legal person and commercial company not being a legal person, having its seat in Poland and being directly or indirectly controlled by persons described above in (i), (ii) and (iii).

The company is assumed to be under the control of a foreigner if he or she has a dominant position in the company in the meaning of the Commercial Companies Code.

Access/registration/screening

In accordance with the Act of 10 April 1997 the Energy Law (Journal of Laws, 2003, No. 153, item 1504 with amendments – Article 33.1) a concession for conducting economic activity concerning the production of fuels and energy (electricity or heat) and the storage, transmission, distribution and trade of fuels and energy may be granted by the president of the ERA only if the applicant has its registered office or place of residence on the territory of a EU member state or an EFTA member country – party to the EEA Agreement. (The restriction does not concern types of economic activity not requiring any concession).

Reciprocity

According to the Act of 2 July 2004 on Freedom of Economic Activity (Journal of Laws, 2004 No. 173, item 1807, with amendments – Article 13) foreign persons from the EU member states or EFTA member countries — parties to the EEA Agreement may undertake and conduct economic activity on the same terms and conditions as Polish entrepreneurs.

Citizens of countries other than those mentioned above having obtained a permit to settle down on the territory of Poland and in some other circumstances defined in the Act, enjoy
with regard to the undertaking and conducting of economic activity on the territory of Poland the same rights as Polish citizens.

Foreign persons other than those mentioned earlier shall have the right to undertake and conduct an economic activity in Poland only in the form of a limited partnership, limited joint stock partnership, limited liability company or a joint stock company, as well as to join such partnerships or companies and to take over or acquire shares in these entities, unless otherwise provided for in international agreements.
Annex 1  Exceptions to national treatment

LAND/REAL ESTATE  COUNTRY: POLAND

I. MEASURE

Act of 24 March 1920 on the Acquisition of Real Estate by Foreign Persons (Journal of Laws, 1996, No. 54, item 245, with amendments), articles 1, 3e, 7a and 8.1.

SECTOR

National economy

LEVEL OF GOVERNMENT

National

DESCRIPTION

• Unless otherwise provided for in the Act, the acquisition of real estate (the right of ownership to real estate or perpetual usufruct) requires a permit from the minister competent in internal affairs, in agreement with the Ministry of National Defence and in the case of agrarian real estate — in agreement with the minister competent in matters of countryside development. The acquisition or entering into possession of shares of a commercial company with its seat on the territory of Poland, which is the owner or perpetual usufruct of real estate, requires a permit for the following:

•
  a) if, as a result, the company becomes a foreign-controlled company; or
  b) if the company is a controlled company and its shares are acquired or entered into possession by a foreigner who is not a shareholder of this company.

A minister competent in internal affairs may define in the permit special conditions for the foreigner intending to acquire a real estate, on the fulfilment whereof the possibility to acquire the real estate shall be conditioned.

For the acquisition of shares of companies admitted for public trading, permits are not required. Permits are also not required for the purchase of individual residential apartments and in some other cases listed in the Act, such as inheritance, as well when a company is the owner or perpetual usufruct of an individual residential apartment or real estate whose acquisition does not require a permit to be obtained.

Legal persons and commercial companies having their seat on the territory of Poland, controlled by foreigners, may acquire undeveloped real estate for their statutory purposes, the
total area of which in the whole country shall not exceed 0.4 ha within cities (however, in border zones a permit is required for the acquisition of real estate regardless of its size).

For foreigners being citizens or entrepreneurs of member states of the EEA a permit is not required, except for the acquisition of the following:

- agricultural and forest real estate, during the period of 12 years after the Republic of Poland’s accession to the EU;
- secondary houses, during the period of five years after the Republic of Poland’s accession to the EU.

A “foreigner” in the meaning of the Act may be as follows:

(i) a natural person not having Polish citizenship;
(ii) a legal person having his or her seat abroad;
(iii) a partnership not being a legal person or persons mentioned in i) and ii), having its seat abroad and created according to the legislation of foreign countries;
(iv) a legal person and commercial company not being a legal person, having its seat in Poland and being directly or indirectly controlled by persons described above in (i), (ii) and (iii).

The company is assumed to be under the control of a foreigner if he or she has a dominant position in the company in the meaning of the Commercial Companies Code.

OTHER EXCEPTIONS

None
ACCESS/REGISTRATION/SCREENING

COUNTRY: POLAND

MEASURES


SECTOR

Energy sector

LEVEL OF GOVERNMENT

National

DESCRIPTION

A concession for conducting economic activity concerning the production of fuels and energy (electricity or heat) and the storage, transmission, distribution and trade of fuels and energy may be granted by the president of the ERA only if the applicant has its registered office or place of residence in the territory of a EU member state or an EFTA member country — party to the EEA Agreement (the restriction does not concern types of economic activity not requiring any concession).

OTHER EXCEPTIONS

None
RECIPROCITY

COUNTRY: POLAND

MEASURE

Act of 2 July 2004 on Freedom of Economic Activity (Consolidated text: Dziennik Ustaw No. 220, item 1447, with subsequent amendments: No. 239, item 1593; 2011, No. 85, item 459), Article 13

SECTOR

National Economy

LEVEL OF GOVERNMENT

National

DESCRIPTION

- According to the Act, foreign persons from the EU member states or EFTA member countries — parties to the EEA Agreement — may undertake and conduct economic activity on the same terms and conditions as Polish entrepreneurs.

- Citizens of countries other than those mentioned above, having obtained permits to settle down on the territory of Poland and in some other circumstances defined in the Act, enjoy with regard to the undertaking and conduct of economic activity on the territory of Poland the same rights as Polish citizens.

- Foreign persons other than those mentioned earlier shall have the right to undertake and conduct an economic activity in Poland only in the form of a limited partnership, limited joint stock partnership, limited liability company or a joint stock company, as well as to join such partnerships or companies and to take over or acquire shares in these entities, unless otherwise provided for in international agreements.

PHASE-OUT

No plans at present

OTHER EXCEPTIONS

None
### Annex 2 BITs of Poland as of 1 June 2011

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*Source: UNCTAD*