

**THE PRESIDENT  
OF THE ENERGY REGULATORY OFFICE IN POLAND**

**ACTIVITY REPORT  
2007**

**31 October 2007**

## Introduction

The Energy Law Act that was passed by the Polish Parliament almost ten years ago obliged the President of the Energy Regulatory Office to report annually to the Minister of Economy and inform the public opinion on the regulatory activity. This custom stemming from the experience of the countries that are much more advanced in the implementation of the market rules into the energy sector was adopted with the aim to achieve two goals. Firstly, reporting – according to the rule of transparency – was to identify the object of regulation, tools in use and their scope, but most of all – the results achieved. Secondly – it was to justify public expenditures on energy regulation.

The foundations indicated above turn out to be particularly important if the regulatory mission is taken into account. In Poland the regulator is a part of the central government administration. The institution of the President of the Energy Regulatory Office was established as a single person body with the aim to introduce and supervise the liberalisation of the energy market, prevent adverse effects of natural monopolies, enable sustainable development of the country, ensure security of energy supply, enhance competitiveness of the state economy and protect environment against negative impact of the energy processes. The main guidelines for the fulfilment of this mission are the goals formulated by the Polish government in the energy policy and the ones defined by the European Commission. The legal ground provides modern law that furnishes the usage of specialised regulatory mechanisms and tools.

The functioning of the market is not a result of a single decision. It is rather an outcome of a number of various decisions taken by stakeholders at the present moment or beforehand. Hence, the market can be seen as the evidence of an interpersonal humankind agreement on what to trade in, on what conditions, on the basis of what rights and obligations, what is permitted and what should be forbidden. The administrative interference in the energy sector, which functioned as a monopoly for more than half a century, should create favourable conditions for development of competition in the sector. Absence of the competition has resulted in a large number of negative consequences, among which the most important are: hindering the objective rationalisations of business activity as a consequence of the non-existence of mechanisms of effective allocation of capital and labour, and the arbitrary determination of prices that burden end users of fuels and energy with the cost of the sector mismanagement and investment wastefulness.

Poland is one of the countries that took enormous effort to restructure economy from the centrally commanded model to a market one that would guarantee efficiency and prosperity to citizens. But Poland is also a very specific country when considerations of the socio-psychological circumstances are to be taken into account because they strongly influence the transformation of the sector which has been playing a significant role in the economic and social dimension of the functioning of society. These circumstances make the regulatory mission extremely important and difficult, especially when having in mind that the regulator often acts as a substitute for the competitive market. In Poland the energy market has not yet

fully developed. It has just launched and the process of shaping and improvement is still ongoing.

It is a difficult and time consuming task to meet all expectations and change effectively the mechanisms of the monopoly sector and to change the way the energy sector is perceived by energy consumers. It becomes even tougher a task when work is performed under a permanent pressure of time. When performing the regulatory duties the President of the ERO and his co-workers tried to closely follow the constitutional rule set for the government administration bodies on acting on the basis of law and within the legal framework. The scope of activities was also shaped by different circumstances along with political, economic and social events of domestic and international character. It was because of them that the President of the ERO had to confront a number of dilemmas on regulatory strategy and technique. Some problems have been solved, for others the solutions are still to be found. The following issues have been identified as the most important regulatory dilemmas:

- development of the energy market,
- efficient ownership structure of the energy sector,
- efficiency of a single energy enterprise *versus* efficiency of a chosen energy activity and the whole economy,
- integration of the Polish energy sector with the EU and non-EU neighbouring countries,
- pricing policy of energy, fuels and services.

The following report provides for an analysis of the impact on energy enterprises by the activities of the President of the Energy Regulatory Office. They were executed according to the guidelines of the state energy policy and the provisions of law, mainly – the EL<sup>1</sup> Act. The description of the state, structure and changes in the energy sector and its sub-sectors in 2006 is a background for this analysis. The report on the energy sector and the four sub-sectors (electricity, heating, gaseous and liquid fuels) is based on the information collected, stored and processed by the Energy Regulatory Office according to the obligation of monitoring the electricity, heating and fuels markets, with special attention directed towards the assessment of the security of supply of electricity and gaseous fuels.

A description of the regulatory actions is presented from the operational perspective and the stress is placed on their results. Among the regulatory issues special attention should be drawn to the promotion of competition, which is based, to a growing extent, on the persuasive but not strictly administrative actions. This direction of proceeding by the Regulator is expected to develop. The report also presents the broadening scope of the co-operation with other state authorities, energy business associations as well as international co-operation with the institutions and regulatory associations.

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<sup>1</sup> The Act of 10 April 1997 The Energy Law (Journal of Laws of 2006 No. 89, Item 625, No. 104, Item 708, No. 158, Item 1123 and No. 170, Item 1217 and of 2007 No. 21, Item 124).

Mr Leszek Juchniewicz (Phd in economics) was the President of the Energy Regulatory Office from the 23<sup>rd</sup> June 1997 to the 31<sup>st</sup> July 2007. Starting from the 1<sup>st</sup> August 2007 the function has been executed by Mr Adam Szafranski (Phd in law). Then Mr Mariusz Swora (Phd in law) has been appointed the President of Energy Regulatory Office from the 13<sup>rd</sup> November 2007 till now. He is an author of many law publications referring administrative procedure and protection of competition.

I strongly recommend the report as a unique compendium of practical knowledge on the Polish energy sector. I truly believe that it will make the readers at least to confront the following juxtaposition: this is the present state of the energy sector – these are the prospects for its future.

## A. Electricity – National Power System (NPS)

### 1. Characteristics of the sector

The Polish electricity sub-sector consists of generation, transmission distribution and trade companies. Generation of electricity is based on coal fuels, however the Polish electricity sub-sector also uses other technologies i.e. based on gas firing as well as hydropower and other renewable energy sources, like wind and biomass. Although the contribution of the renewable energy sources has been growing the domination of coal in the fuel mix keeps the national energy security on a relatively high level.

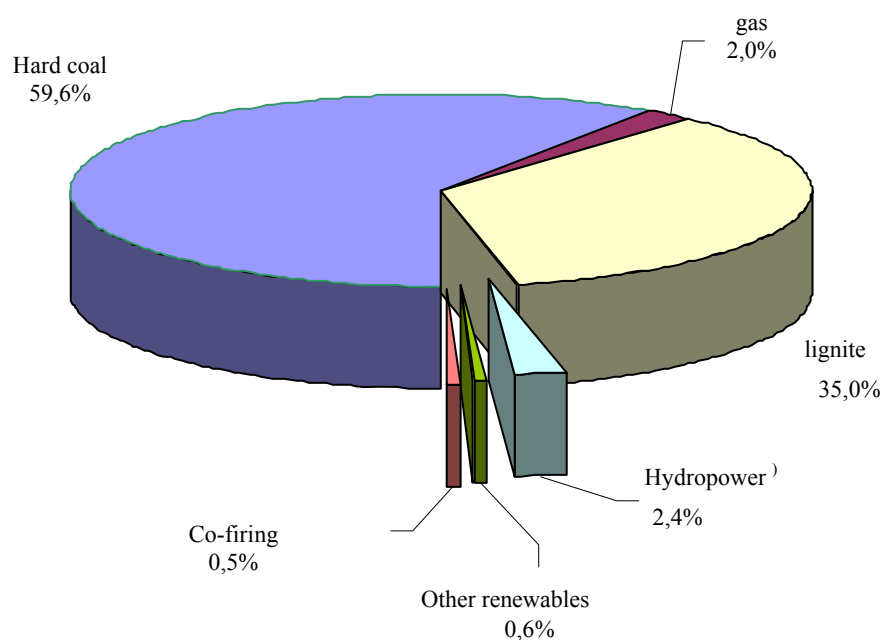
Transmission of electricity is based on high voltage grid, 220kV and 400 kV. In limited scope, 110 kV lines are used, where necessary. Distribution is based on 110 kV or lower voltage lines.

### Fuels

Despite the structural changes in the consumption of primary energy, coal remains the main carrier of energy in Poland. Currently the generation of energy is dominated by fuels coming from the domestic - Polish sources, hard (black) coal – 59,6% and lignite – 35%. The changes seen are relatively not significant, since 1995 the share of coal has decreased, in ten consecutive years, only by 2%. Mainly thanks to large resources of hard coal and lignite Polish energy dependency is lower than that of most of the European Union member states.

The electricity generation fuel mix is shown below.

**Picture 1.** The structure of primary energy carriers in 2005

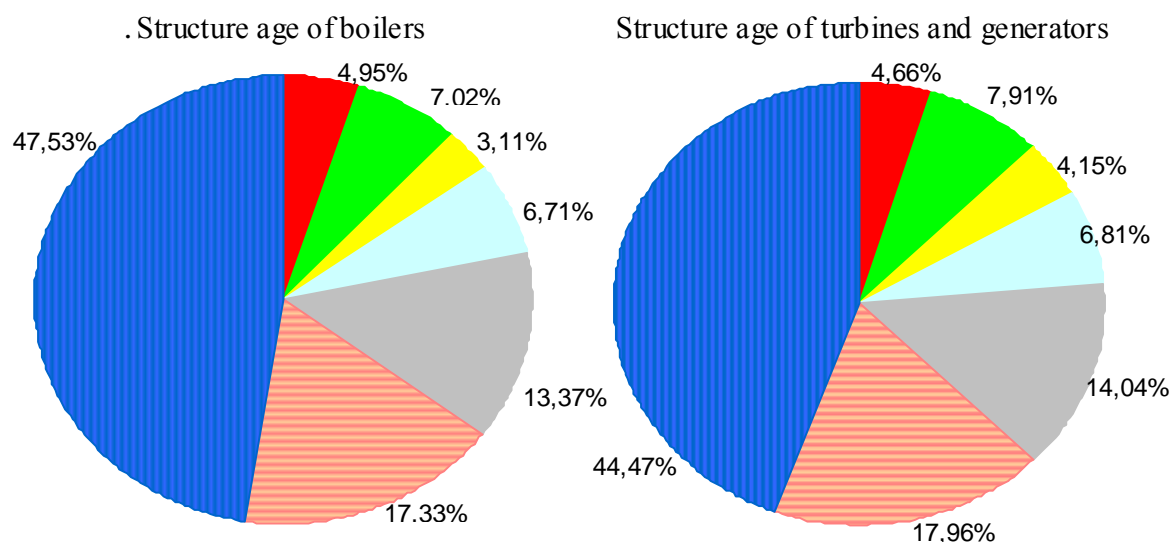


Source: „Statistical information on electricity”, December 2005, ARE

### Generation assets

Generation assets of the electricity sub-sector consist of 57 combined heat and power stations, 20 conventional power stations belonging to 49 entities, and 12 other plants, including hydropower stations. These assets sub-sector can be characterised as relatively worn out. See pictures below:

**Picture 2.** Age structure of boilers, turbines, and generators – years of work- in thermal professional power stations



Source: „Statistics of the Polish electricity sector”, ARE SA, Warsaw, 2006

- less than 5 years
- 5-10 years
- 10-15 years
- 15-20 years
- 20 - 25 years
- 25-30 years
- more than 30 years

In the last years most of investment efforts have been directed towards decreasing pollution, however the sector has been also running activities aimed at increasing efficiency through modernisation of old and building new capacities. The biggest investment is a new block in the Bełchatów Power Station, capacity of 833 MW, which is to be commissioned in 2009.

Installed capacity in the Polish power stations reached at the end of 2006 34 864 MW, including 32 232 MW in professional power stations (20 454 MW on hard coal, 8 806 MW on lignite, 769 MW on gas and 135 MW from other than hydropower renewable sources, and 2 497 MW in industrial power stations (98% of them thermal). Average demand for capacity reached in 2006 20 578 MW and was higher by 4,1% comparing to the previous year.

### Grid Infrastructure

National Transmission System consists of the following lines:

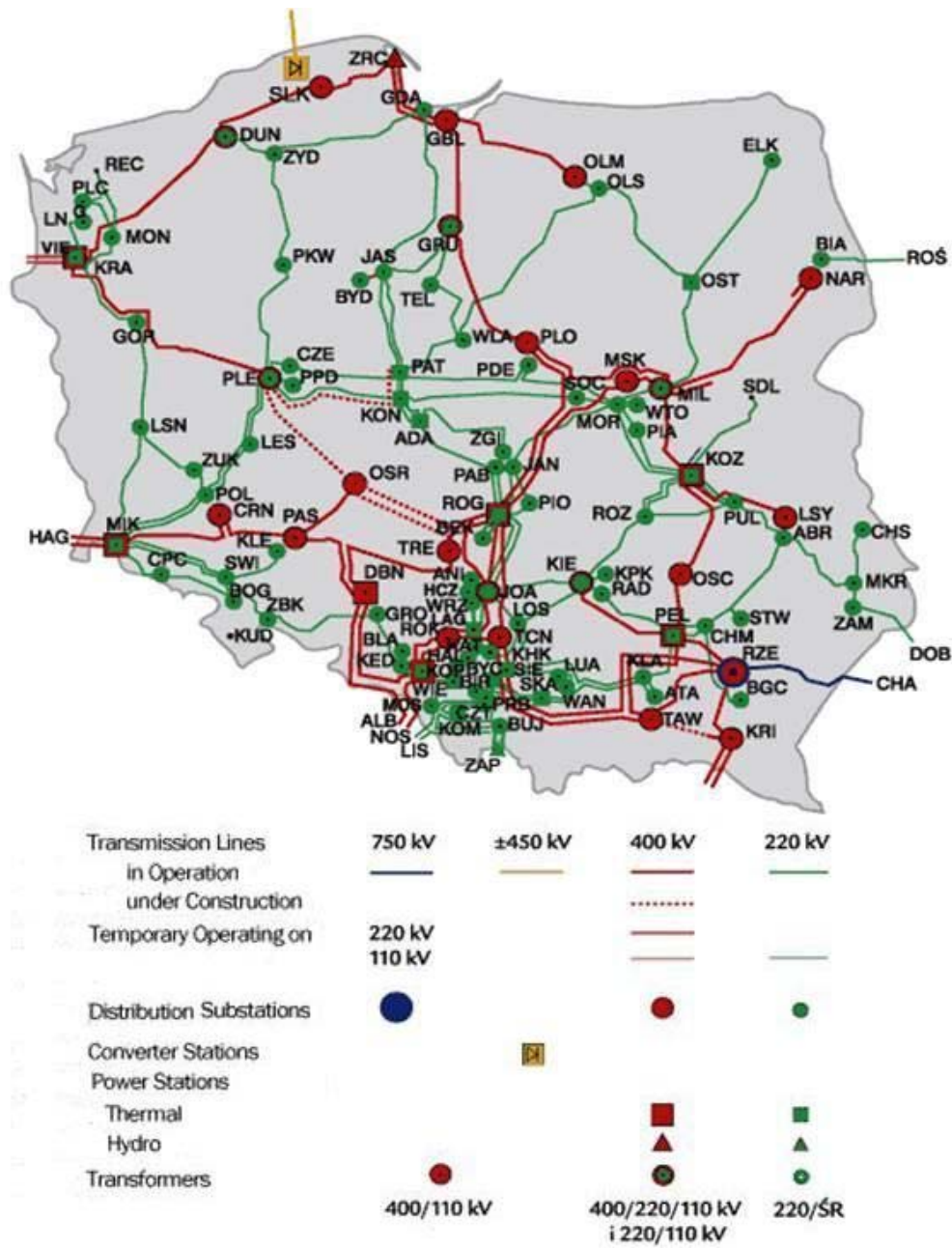
- 1 750 kV line, length 114 km
- 65 400 kV lines, total length 4 830 km
- 165 220 kV lines, total length 7 913 km
- 14 110 kV lines, total length 34 km.

The national transmission system is dominated by 220 kV lines built-in the years 1952 – 1972, generally obsolete and technically worn out.

In 1997-2004 real investment expenditures in the national transmission system were constantly falling from € 144 mln in 1997 to € 96 mln in 2004. The trend was reversed in 2005, when investment expenditures grew to almost € 114 mln. This change was resulting from the separation of the Transmission System Operator out of the structure of the Polish Power Grid Company, the owner of the grid until this operation. According to the Energy Law the TSO is obliged to run transmission activity only. The PPGC before the separation invested heavily in more profitable branches, like telecoms.

Territorial structure of the Polish national transmission grid is shown below.

Picture 3. Territorial scheme of the transmission grid.



Source:  
PSE-  
Operator  
SA  
In the  
strategy  
adopted  
by the  
PSE  
Operator

(Transmission System Operator) for the years 2005 – 2009 the emphasis was put on the developing internal network, liquidating congestion and later upgrade interconnections with neighbouring countries.

The national Transmission system is connected with neighbouring countries via the following interconnectors;

**Poland – Sweden**

Słupsk – Storno , undersea cable, 450kV

**Poland – Byelorussia**



Białystok – Roś, 220 kV, technical conditions unsatisfactory

#### **Poland - Ukraine**

Zamość - Dobrotwór 220kV

Rzeszów - Chmielnicka 750kV (at the moment out of service)

#### **Poland - Slovakia**

Krosno - Lemesany 400kV two-line grid

#### **Poland - The Czech Republic**

Bujaków - Liskowec 220 kV

Kopanina - Liskowec 220 kV

Wielopole - Nosowice 400 kV

Wielopole – Albrechtice 400 kV

#### **Poland – Germany**

Krajnik – Vierraden 220 kV two-line grid

Mikułowa – Kiesdorf 400kV

In 2006 system congestion of structural character, similarly to previous years, was existent at the borders with Germany, the Czech Republic and Slovakia. The transmission infrastructure was not being developed at that time, however works were started on the modernisation of the electricity station 400/220/110 kV Mikułowa and on the part of 400 kV line Krosno – Lemesany. The construction of 400kV line Tarnów – Krosno – Iskrzynia will also influence the size of crossborder exchange. For better management of crossborder exchange of electricity co-ordinated auctions for transmission capacities concerning annual and monthly periods were introduced in January 2005, and daily auctions for the day – ahead market in April 2005.

The situation in Poland, with growing demand for energy and limited investment expenditures in the grid infrastructure, general requirements of the European Union, creation of a single energy market and question of security of supplies forced Poland to develop interconnectors, however this action must be co-ordinated with domestic refurbishing of the transmission grid. The situation when interconnectors can not provide enough transmission capacity on the Polish side is not justified from economic point of view. However fast economic development and Foreign Direct Investment are concentrated mainly around big cities the power sector must not ignore remote areas. . The development of grid infrastructure would help Poland not only to gain from central European location and strengthen security of supplies in the region, but also would direct the flow of capital more evenly.

In future the PSE – Operator , focusing its activity on transmission of electricity, as the only owner of the transmission grid , will be in charge of upgrading the national transmission grid.

Currently a large part of the transmission grid is leased from PPGC Capital Group – the TSOs mother company.

## **Grid infrastructure – distribution**

**Distribution**– in 2005 distribution companies (14) had the following network potential:

- overhead 220 kV lines, length 232 km,
- overhead 110 kV lines, length 32 245 km,
- medium voltage lines, length 295 843 km,
- low voltage lines, length 412 770 km.

It is worth to mention that also companies of „industrial electricity” own 31 376 km of grids, what constitutes about 4% of lines run by professional distribution companies.

## **Technical conditions**

Technical conditions of distribution assets are differentiated, however average level of depreciation amortization is about 70%. (distribution grid, substations, transformers). The situation could jeopardise security and quality of supplies, but significant investment expenditures, which have been growing since 1998 (in real values) enable hopes for a stable future. The worst situation is in distant rural areas, where the density of the distribution grid is relatively low, and profitability of grid investment is limited. The growth of the Polish economy increases the demand for electricity, what, as a result, forces distribution companies to invest, especially in relatively backward parts of Poland.

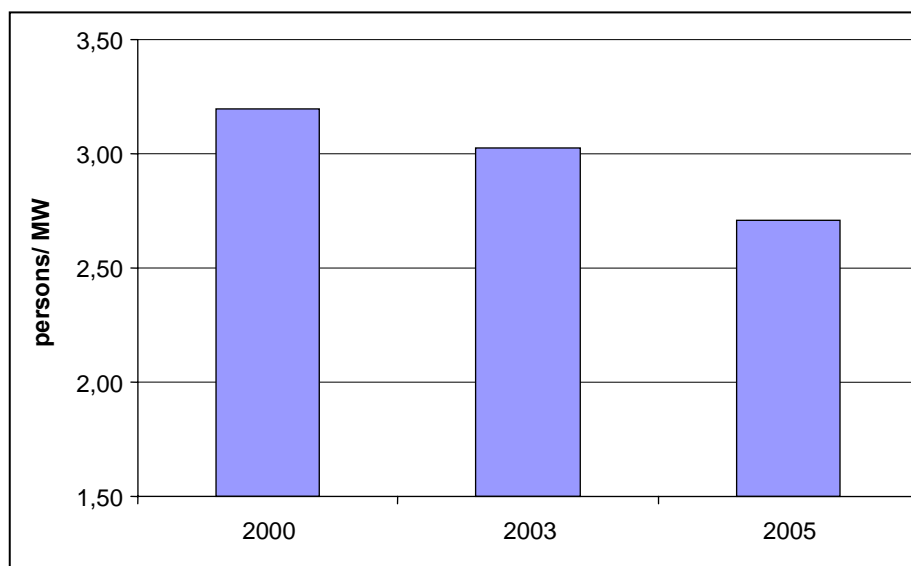
The president of the ERO is systematically increasing the part of assets which are to be the base of calculating the return on equity. The target is to reach 100% of Weighted Regulatory Assets (WRA) as a base for calculating regulated return on equity.

## **Employment**

The employment in the electricity sub-sector fell in the years 2001–2005 by 13,3% from 101 931 in 2001 to 88 390 in 2005. The biggest part of this process is the decrease of employment in professional power stations by 30%. There were many obstacles on the way of reducing employment in the past, as growing unemployment, relatively good standard of remuneration in the power sector, pressure of trade unions, etc. High economic growth, observed in Poland for several years eased the weight of this matter.

Although efficiency of workforce is constantly growing, it is still far behind European standards ( see picture 4 below).

Picture 4. Efficiency of workforce - number of employed per 1 MW of installed capacity.



Source: ERO based on data from ARE

### Financial standing

Financial standing of the electricity sub-sector is good, stable, profitability is growing specially of power stations and combined heat and power stations. (see table 1 below)

### Profitability of gross turnover

Years	Distribution companies	Power Stations and CHPs	Sector of Enterprises (General)
2003	2,4%	5,0%	2,8%
2004	3,7%	6,6%	6,0%
2005	4,9%	5,6%	4,9%
2006 I-VI	7,8%	9,2%	5,6%

Source: ERO based on data from Central Statistical Office (CSO) and ARE

Indicators of profitability show that the electricity sub-sector has the means of development and expansion, specially if conditions of activity of power stations and combined heat and power stations are compared with average of the national economy .

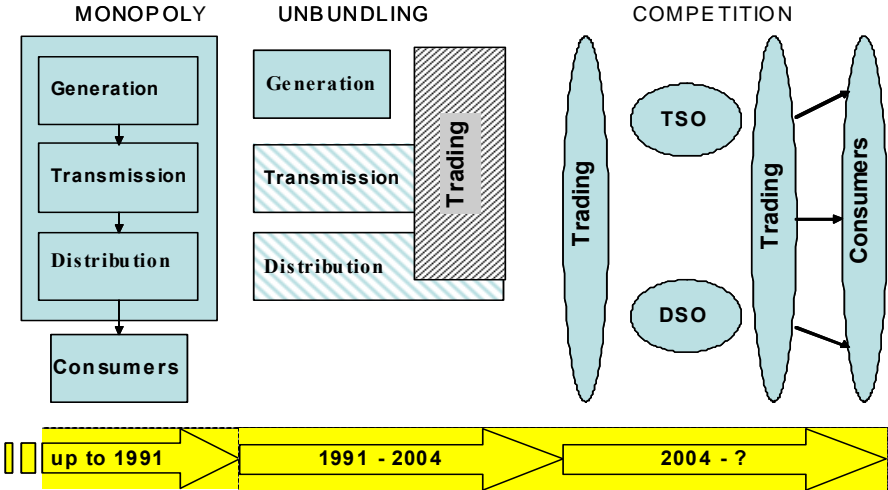
Total consolidated gross profit of distribution companies grew by 214% in the last three years, reaching in 2005 almost € 368 mln, almost the same quantity of gross profit, € 350 mln, was reached by generating companies.

### Structural characteristics of the market

The participants of the energy market on the supply side include generation companies, transmission company, distribution companies and trading entities. On the demand side

wholesale customers and final customers. The Power Exchange is an intermediary between energy selling companies and buyers listed on the PX. The structure of the power market and its evolution for the last 17 years is seen in picture 5 below.

Picture 5. The structure of the electricity market (evolution)



Source: ERO

The structure of the electricity market consists of 3 basic segments; bilateral market, Power Exchange and balancing market. Contracts are concluded by participating parties, and their details are known only to the participants. The most important part of bilateral contracts are transactions concluded as Long Term Power Purchase Agreements. The share of energy sold in LT PPAs in 2006 amounted about 54% of total energy sales of the system generators.

A balancing mechanism functioning in Poland was based on utilization by the TSO of incremental and reduction bids submitted by generators. In financial settlements for imbalance of loads an incentive mechanism was applied, with a dual price system. The end consumers were grouped within the schedule unit of a distribution company. The customers switching suppliers in most cases were charged individually for imbalances. Balancing mechanisms and settlement rules were put into force by operators' management decisions. After amendments of the law, since May 2005 the principles of balancing of the electric power system and congestion management in the National Power System are subject to Regulator's approval, which allows for a real and effective Regulator's influence on the shape of applied mechanisms. The Power Exchange trades in relatively small quantities of energy and so do virtual trade platforms.

Still the structure of the Polish energy market could hardly be described as fully competitive. Due to heritage of command economy, when for tens of years the system was dominated by a single supplier with no competition whatsoever, and non-existence of market economy tradition, in recent years both sides of the market have been making significant efforts to turn it into a fully competitive market.

## 2.1. Supply side of the market

Gross generation of electricity in 2006 reached 162 TWh and was higher by 3,1% comparing to 2005. Its structure, shown in table 2, did not show significant changes.

Table 2. Structure of electricity generation in 2005 and 2006

Kind of generation	Generation [GWh]		Dynamics [%]	Structure of generation [%]	
	2005	2006	2006/2005	2005	2006
<b>Generation total</b>	<b>156 931</b>	<b>161 859</b>	<b>103,1</b>	<b>100,0</b>	<b>100,0</b>
including:					
– professional power stations	148 426	153 010	103,1	94,6	94,5
including:					
– thermal Power stations:	144 899	150 246	103,7	97,6	98,2
Including fuelled by:					
– hard coal	86 315	93 060	107,8	59,6	61,9
– lignite	54 865	53 464	97,4	37,9	35,6
– gas only	2 944	2 570	87,3	2,0	1,7
– co-firing of biogas	774	1 151	148,6	0,5	0,8
– hydropower	3 528	2 764	78,4	2,4	1,8
– industrial power stations	8 020	8 260	103,0	5,1	5,1
including:					
– thermal	7 387	7 583	102,6	92,1	91,8
– including: gas	231	195	84,3	2,9	2,4
– renewables	633	677	106,9	7,9	8,2
– other independent power stations	485	589	121,6	0,3	0,4

**Source:** Statistical information on electricity, ARE December 2006

The quantity of energy not supplied as a result of grid failure amounted in 2006 3,5 GWh and was almost four times lower than the same figure for 2005. (13,9 GWh)

National electricity consumption reached 149 847 GWh in 2006, 3,5% more than in 2005. The dynamics of the growth in 2004 – 2005 was much lower, reaching only 0,5%.

### Concentration

The lack of competitive pressure creates conditions for inefficiencies and their effects are transferred to customers – more severely in the situation where the elasticity of demand is low. The stronger the concentration in a given sub-sector is – the stricter regulatory oversight is required, with full application of ex-ante regulation.

## Concentration of generation

The level of electricity generation, measured by HHI indicator has remained stable since 2004 – the year of establishing the biggest Polish energy consortium BOT SA. The ERO has analyzed market position of ten biggest electricity generators and the results are given below

Table 3 The level of concentration in the generation sub-sector. \*)

Year	Number of generators with market share > 5% (available capacity)	Market share of three biggest generators (available capacity) [%]	HHI Indicator	
			Powers stations, available capacity	Power stations, generation
2003	9	49,0	1 189,1	1 328,1
2004**)	7	62,1	1 748,6	2 138,7
2005**)	7	62,6	1 779,3	2 250,0
2006***)	7	62,6	1 777,8	2 089,2

\*) For 10 biggest electricity generators

\*\*\*) After the creation of BOT holding

\*\*\*) November – December 2006

**Source:** ERO

Despite the fact that the creation of BOT, by consolidation of three major power stations in Poland, increased the level of concentration significantly, it is still lower than in most EU countries, remaining on the verge of medium and high level concentration.

## Concentration of sales

### Wholesale trade in energy

The base of wholesale energy trade are non-standardized short, medium-term contracts and Long –Term Power Purchase Agreements. The Power Exchange and virtual wholesale trade platforms are playing only a minor role.

Table 4 Structure of sales (in TWh)

Year	Total	LTPPAs*)	Bilateral contracts	Spot market	Balancing market **)	Contract market
2003	109,56	51,12	49,55	0,74	8,15	0
2004	120,52	54,48	53,81	1,10	11,13	0
2005	124,43	39,45	71,93	1,05	12,01	0
2006	126,01	47,12	70,70	0,19	7,99	0

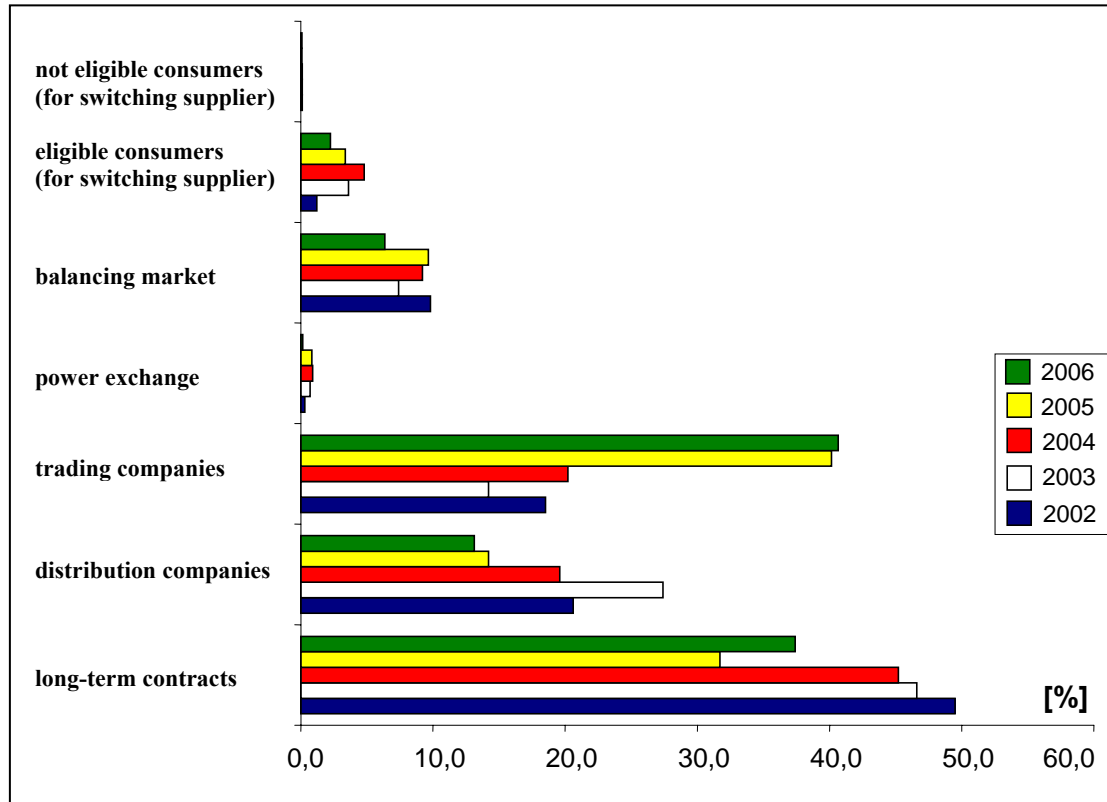
\*) Regulated

\*\*\*) Together with must-run generation enforced by system requirements

**Source:** ERO

The biggest growth of sales by system generators was observed in the segment of LT PPAs. (18,4%) The quantity of sales to traders remained unchanged, however the share of this segment of the trade was the largest. (see picture 6)

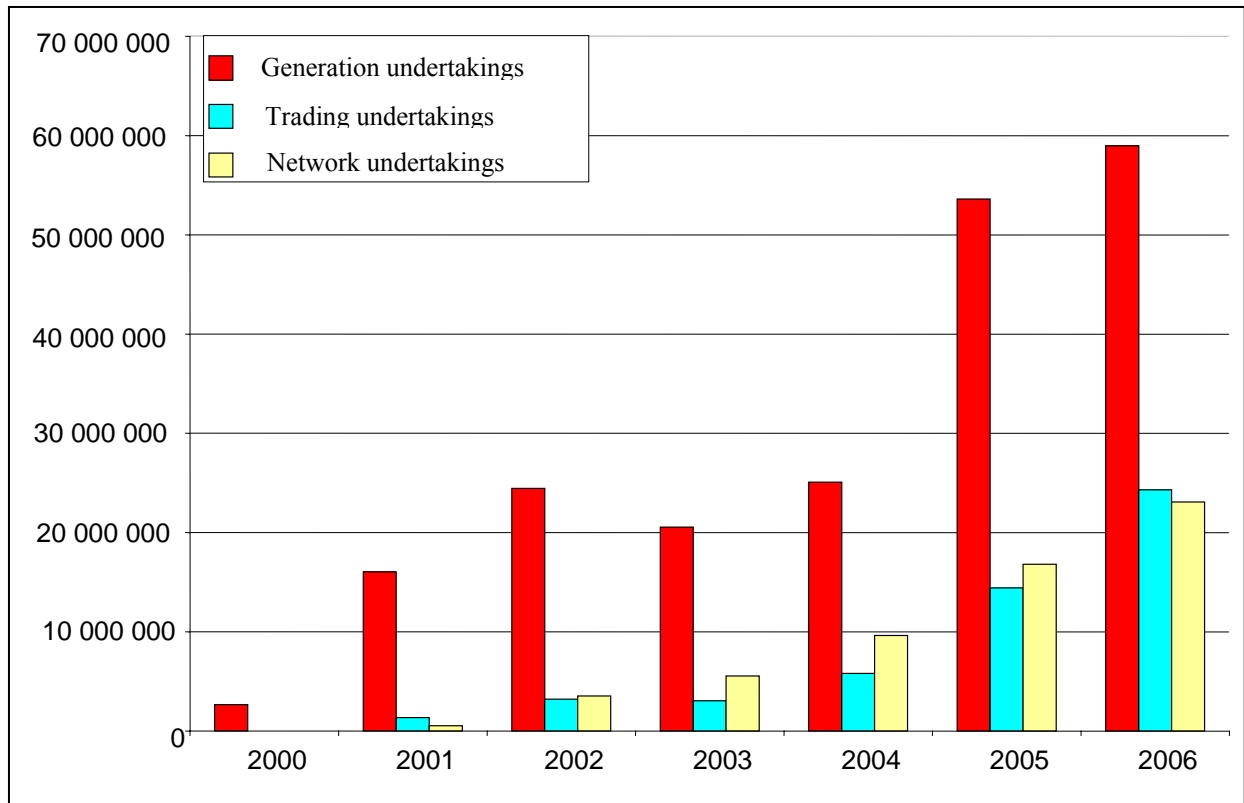
**Picture 6.** Sales structure of system generators.



Source: ERO

The growing importance of the traders is confirmed by the growth of their purchases, reaching 24% comparing to the previous year. The quantity of energy purchased in major segments of the market is shown in picture 7.

Picture 7. Sources of energy purchases.



Source: ERO

However the growth of purchases from generators can be viewed as a positive sign, the growth of trade between traders creates a threat of making a long chain of intermediaries, thus increasing final prices.

### Consolidation.

The process of consolidation is aimed at the creation of four strong entities called energy groups, vertically consolidated, owning generation, distribution, trade, and in one case also transmission assets. The groups are to be strong enough to face competition on the single European energy market. The privatization of the sector is foreseen for the years 2008 – 2011, leaving strategic assets in the hands of the state treasury.

### Balance of international exchange.

The importance of international exchange has been growing, with a fall in 2006, since 2002. The structure of international exchange and real flows of energy can be seen below:

Table 4. Intersystem exchange of electricity (in GWh)

	2002	2003	2004	2005	2006	Dynamics 2006/2005 [%]	Dynamics 2006/2002 [%]



<b>Trade balance</b>	<b>7 069</b>	<b>10 161</b>	<b>9 293</b>	<b>11 172</b>	<b>11 014</b>	<b>98,6</b>	<b>155,8</b>
<b>Export</b>	9 678	13 222	12 487	14 290	13 434	94,0	138,8
<b>Import</b>	2 609	3 061	3 194	3 119	2 420	77,6	92,8
<b>Real flows</b>							
<b>From Poland</b>	<b>11 538</b>	<b>15 146</b>	<b>14 605</b>	<b>16 188</b>	<b>15 775</b>	<b>97,4</b>	<b>136,7</b>
<b>to :</b>							
The Czech Republic	8 442	9 490	9 156	11 167	10 183	91,2	120,6
Germany	606	282	450	1 046	720	68,8	118,8
Slovakia	2 294	2 728	2 623	2 792	3 373	120,8	147,0
Sweden	196	2 646	2 376	1 182	1 498	126,7	764,3
<b>To Poland</b>	<b>4 469</b>	<b>4 985</b>	<b>5 312</b>	<b>5 002</b>	<b>4 774</b>	<b>95,4</b>	<b>106,8</b>
<b>from:</b>							
Byelorussia	799	1 226	1 001	874	1 045	119,6	130,8
The Czech Republic	86	57	80	63	44	69,8	51,2
Germany	1 871	2 761	3 156	2 264	2 546	112,5	136,1
Slovakia	1	0	8	0,320	4	1250	400,0
Sweden	1 124	11	214	817	264	32,3	23,5
Ukraine	588	931	853	983	870	88,5	148,0

Source: ERO based on data from the Polish Power Grid Company

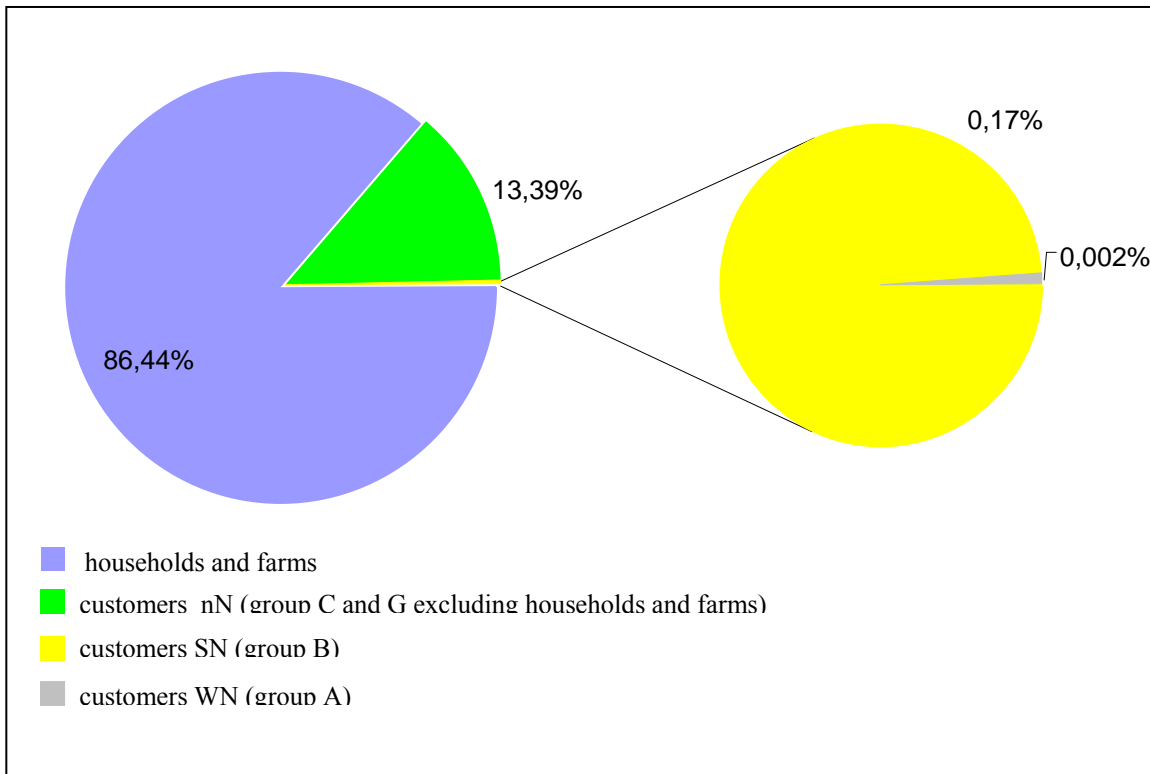
The most important issue related to electricity exchange is limited transfer capacity of the Polish grid resulting in congestion on interconnectors. It is mainly caused by a high market pressure resulting from significant price differences of electricity in Poland and Germany, the Czech Republic and Sweden.

### Consumers of Energy

Final consumers of energy in Poland are, like in other European countries, divided in numerous groups, depending on the type of activity, the volume of energy bought, and the voltage of connections. The most numerous groups of consumers – households, farms and small businesses do not have the upper hand when dealing with energy giants. However the main task of the Regulator is to balance the interests of all stakeholders, the weaker side in the market must be specially protected, for instance by the Spokesman of the Consumers in the Energy Regulatory Office.

The structure of consumers is given below.

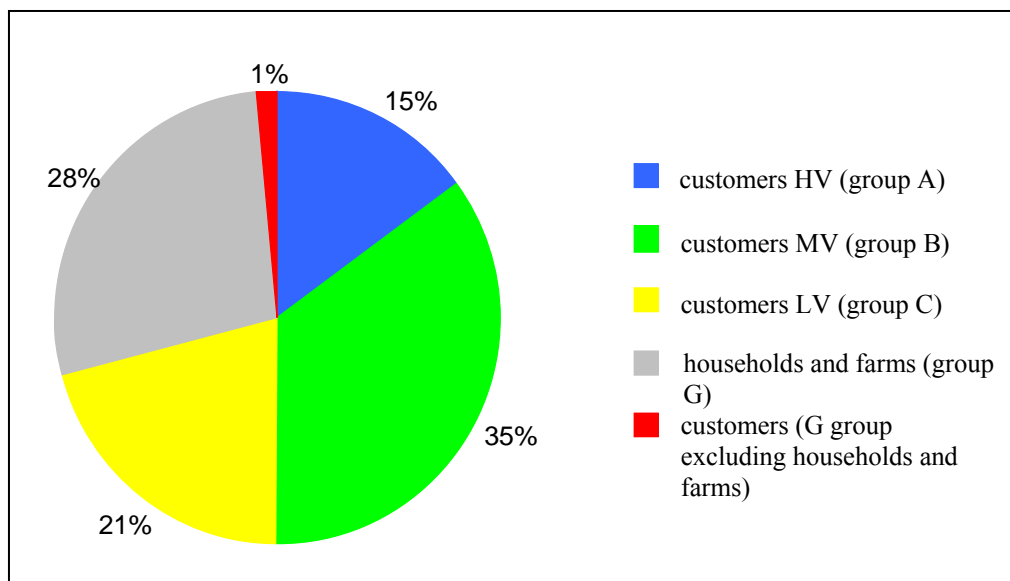
Picture 9. Tariff consumers of electricity.



Source: ERO

Total number of final customers in Poland reaches 15,7 mln, and the biggest group consists of households and farms. Although this group exceeds 86% of the total number of customers, their energy consumption is on the level of 28%. The structure of consumption is presented in picture 10.

Picture 10. The structure of electricity sales to tariff consumers.



Source: ERO

The prices of energy and transmission depend on the volume of energy bought. It is clearly seen in the table 5.

Table 5. Prices of energy and transmission service in tariff groups.

(3rd quarter of 2006 ) (In Polish Zlotys, zł, € 1= 3,8 zł)

	Average sale price	Energy price	Transmission fee
Average	278,63	133,87	144,76
High voltage customers (group A)	198,22	123,63	74,59
Medium voltage customers (group B )	230,31	126,56	103,75
Low voltage customers (group C)	341,43	136,94	204,49
Customers group G	332,97	145,70	187,27
Including households and farms	332,58	145,62	186,96

Source: ERO

General pattern seen from the picture above is that high voltage customers relatively pay less for transmission services than other groups.

### 2.3. Prices and access to information

The access to information on prices, conditions of network and other services to the participants of the market is of vital importance to the functioning of competition.

## Wholesale Prices

### Wholesale prices of generators

Table 6. Average sale prices of generators (1€ = 3,8 zł)

Segment	Average electricity price [zł/MWh]					Change[%]
	2002	2003	2004	2005	2006	2006/2005
Total	144,34	143,83	139,08	137,78	138,46	0,5
LT PPAs	154,88	166,68	160,29	183,64	170,69	- 7,1
Other than LT PPAs	120,55	123,84	118,69	116,44	119,20	2,4
including:						
- sales to distribution companies	114,62	120,10	118,48	116,97	118,76	1,5
- sales to traders	110,71	118,48	112,57	111,23	116,65	4,9
- sales on the PX	131,64	114,80	113,42	117,38	136,60	16,4
- sales on the Balancing Market	153,17	153,67	133,68	135,62	133,24	- 1,8

Source: ERO

In the segment of Long – Term Power Purchase Agreements the prices decreased, by 7,1% as compared to 2005. Average price was on the level of 170,96 zł/MWh.

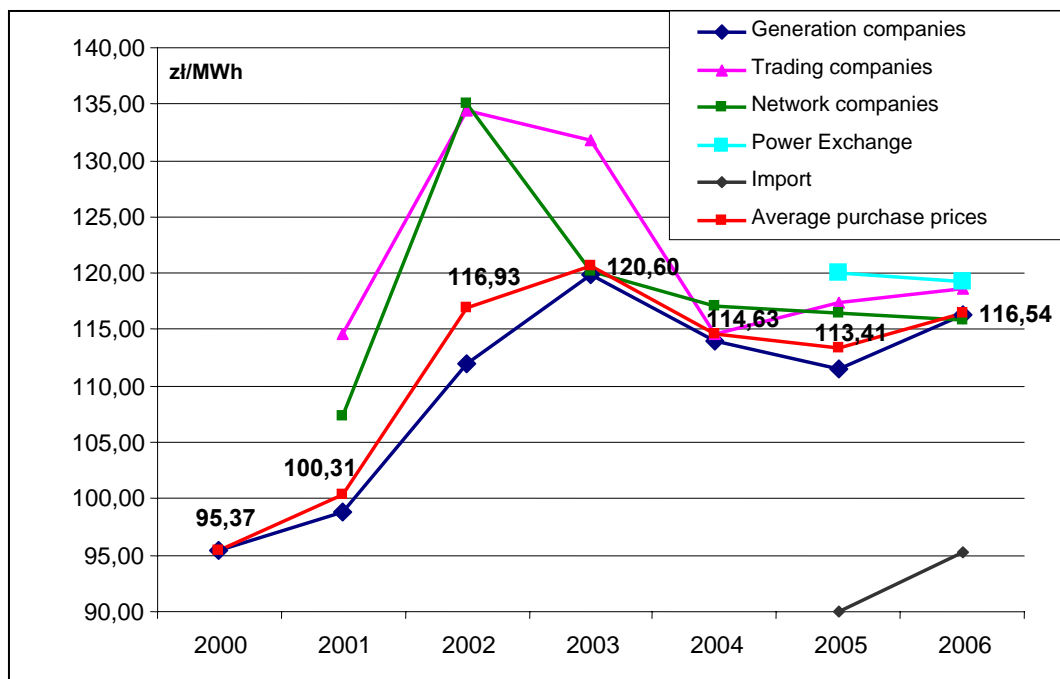
In that part of the market which is subject to competition mechanisms average price reached 119,20 zł/MWh, higher by 2,4% than in 2005. The fall of prices was only observed in the balancing market, by 1,8%, at average price of 133,24 zł/MWh. The volume of sales to traders grew by 4,9% at average price of 116,65 zł/MWh.

Price on the Power Exchange grew by 16,4%, however due to limited volume of trade (only 0,2%) this rise did not have significant influence on the level of prices in general.

### Average prices paid by traders

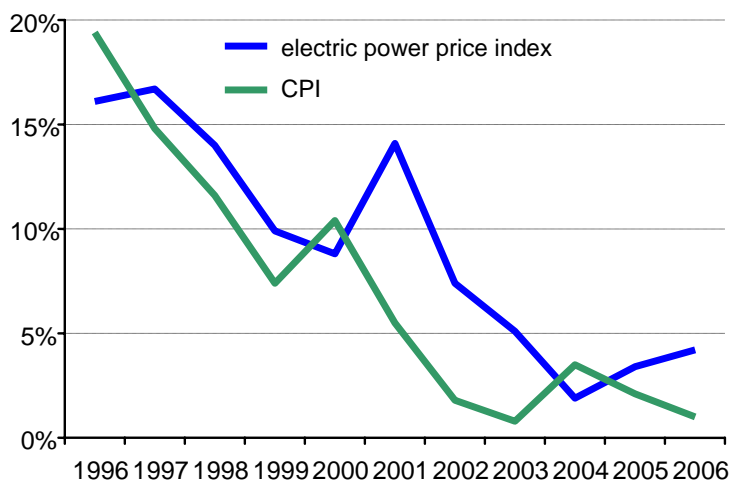
Average prices paid by traders grew in 2006 comparing to 2005 by 2,8%. Average purchase price reached 116,29 zł/MWh, 4,74 zł/MW more than in the previous year. The structure of purchases is shown below:

Picture 11. Average purchase prices of energy from different sources.



Source: ERO

A sharp fall of prices observed after the peak of 2002 did not mean the fall of prices in absolute values. Comparison of the dynamics of retail prices with the indicator of inflation (see picture 12) leads to the conclusion that the real revenues of energy companies are growing.



Source: ERO based on data from Central Statistical Office.

### *Accessibility of information*

The main source of information about wholesale energy prices are web pages of the following entities:

- PPGC Operator - prices from the balancing market

- Power Exchange - daily prices on the day ahead market
- virtual trading platforms

Retail tariff prices are quoted on the web pages of distribution companies, and can be obtained directly from customer service offices of regional distribution centers, belonging generally to distribution companies.

Very few independent traders place tariff calculators on their web pages, enabling clients to compare competitive offers.

Operators of transmission and distribution grids publish information on grid codes, connection forms and standard service application forms.

The Transmission System Operator also publishes data on intersystem exchange, (principles of co-ordinated auctions, forecasts of transmission capacity, transmission capacity offered) The participants of the market can also obtain the above information in the regional office of co-ordinated auctions in Prague. ([www.e-trace.biz](http://www.e-trace.biz))

It should be underlined that distributors did not place any information referring to switching procedures. According to information given by distribution companies (which supplies to retail customers cover almost 100 % of the market), a switching procedure should last 1-3 months. Most of distribution companies reserved the right to set the time of switching procedure accordingly to the requirements resulting from technical aspects of adjusting metering systems. This issue was addressed in 2006 in the approval process of the DSOs' Grid Codes by the President of the Energy Regulatory Office.

### **3. The Polish Electricity Sector in the European Union**

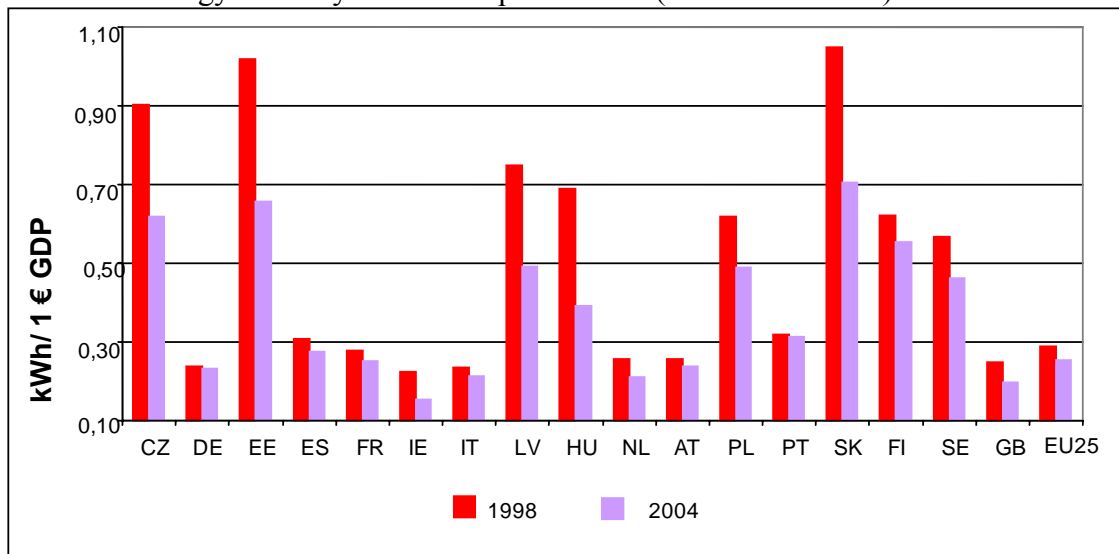
The Polish economy has undergone fundamental changes in the process of adaptation to the requirements of the European Union, similar to those in all new member countries (except Cyprus and Malta) after the year 2004. The adaptation of the power sector has been a long and painful process. It is parallel to a pan-European aim of the building of a single energy market, thus strengthening the transformation of the energy sector in all emerging European economies.

When analyzing the power sector in Poland against the background of the EU economy there are four major differences, also observed in other new member countries:

- higher energy intensity
- fuel mix dominated by domestic coal with lower energy dependency as a result
- lower energy consumption per capita
- lower efficiency of labor

Energy intensity and its dynamics are shown below.

Picture14. Energy intensity in the European Union (KWh/€1 of GDP)

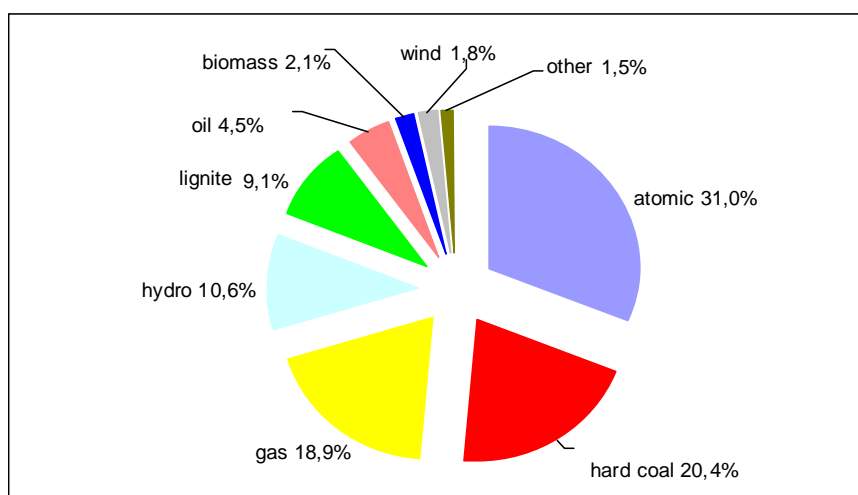


Source: ERO based on “Europe in figures – Eurostat Yearbook 2006-07.

Sharp decrease of energy consumption per 1 unit of GDP observed in all new member countries did not reduce significant differences still existing. If this tendency is to prevail in the years to come the new economies will need about 10 – 15 years to achieve the level of the European average.

EU fuel mix is well diversified comparing to the Polish “coal monoculture” See the details below:

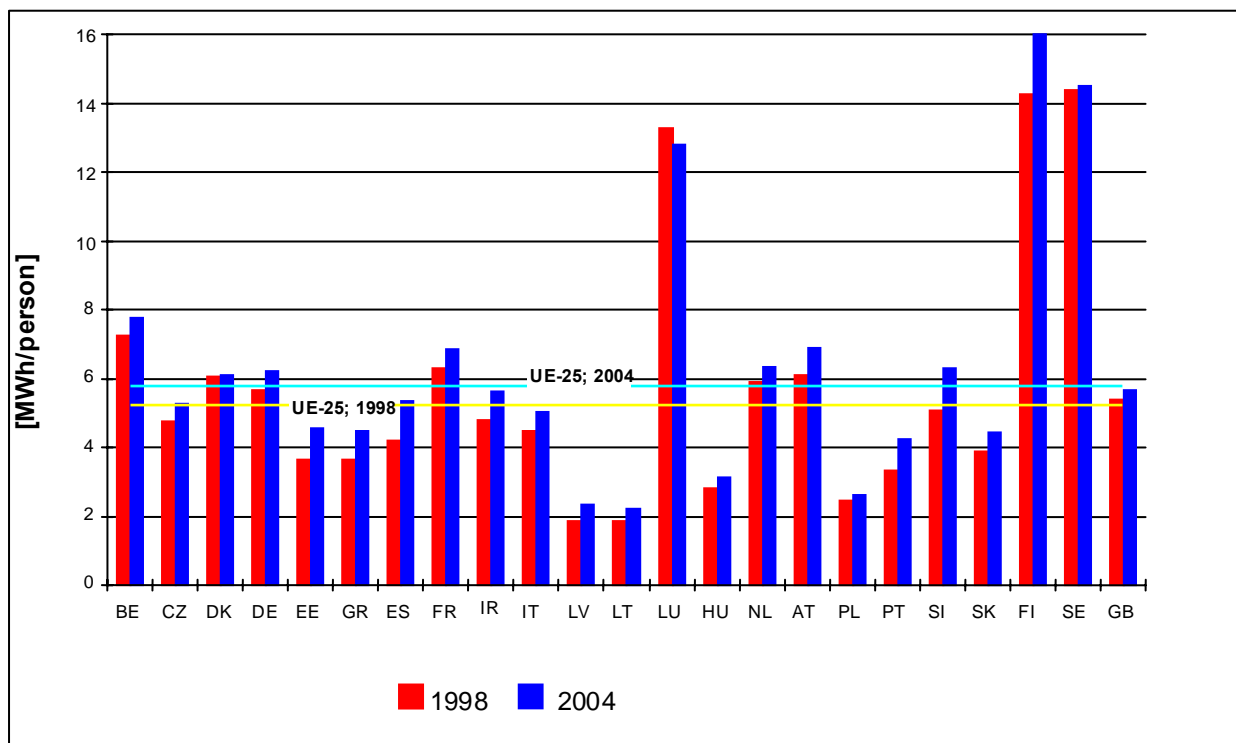
Picture 15. The EU 25 fuel mix in electricity generation.



Source: „Europe in Figures – Eurostat yearbook 2006-07”

Low energy consumption (seen in picture 15) and significantly lower labour efficiency in the electricity sector show that the transformation in the energy sector is far from finished. The tasks lying ahead will demand enormous investment effort of the sector, affecting also the whole economy and the consumers at the end.

Picture 16. Electricity consumption in the EU member countries.



Source: „Europe in Figures – Eurostat yearbook 2006-07”

## B. The gas Sector

### 1. Characteristics of the sector

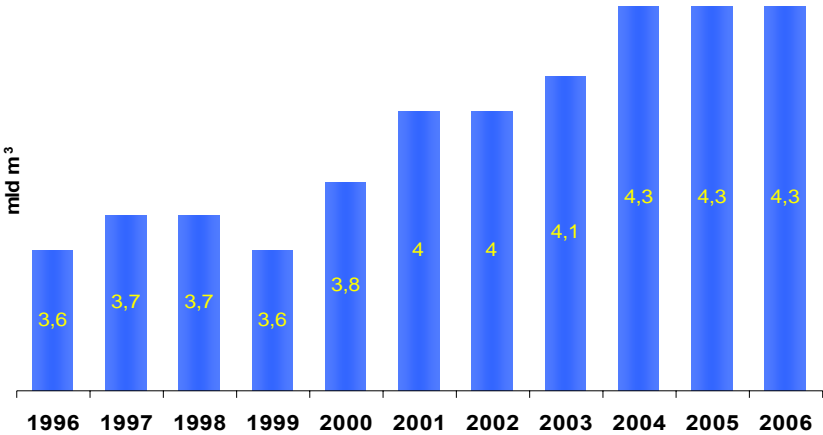
In Poland natural gas plays relatively minor role comparing to coal (13% of the total volume of energy carriers). Role which has been growing in the European Community after the Chernobyl shock mostly due to environmental reasons, is also gaining importance in Poland.



Poland possesses significant deposits of natural gas, estimated for about 110 bcm, national extraction of gas can not cover growing demand, so Poland is a gas importer, mostly from Russian sources.

The dynamics of gas extraction from national sources is presented in picture 17 below.

Picture 17. Gas extraction in Poland.

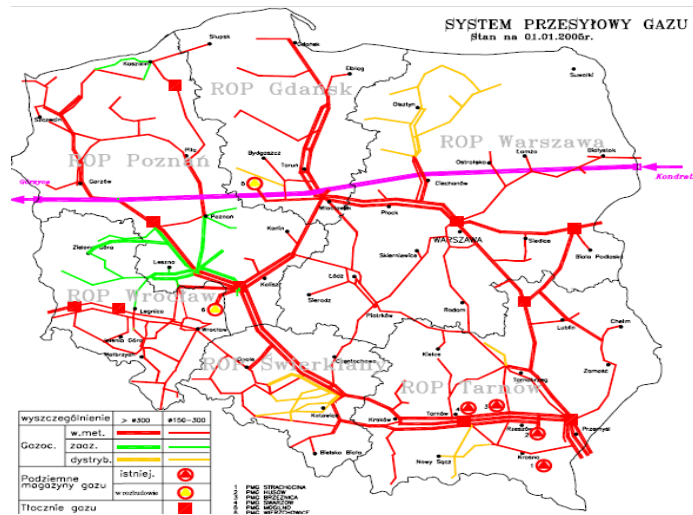


Source: Polish Oil and Gas Company SA

*Gas infrastructure*

Gas infrastructure in Poland consists of transmission and distribution lines. Transmission lines, 13,4 thousand kilometers long create national transmission system. Transmission system is operated by the National Dispatching Center of Gas and Regional Dispatching Centers. Technical condition of transmission pipelines can be characterized as relatively satisfactory. The best level of transmission grid density can be observed in the south of Poland, specially in industrialized areas. (see picture 18).

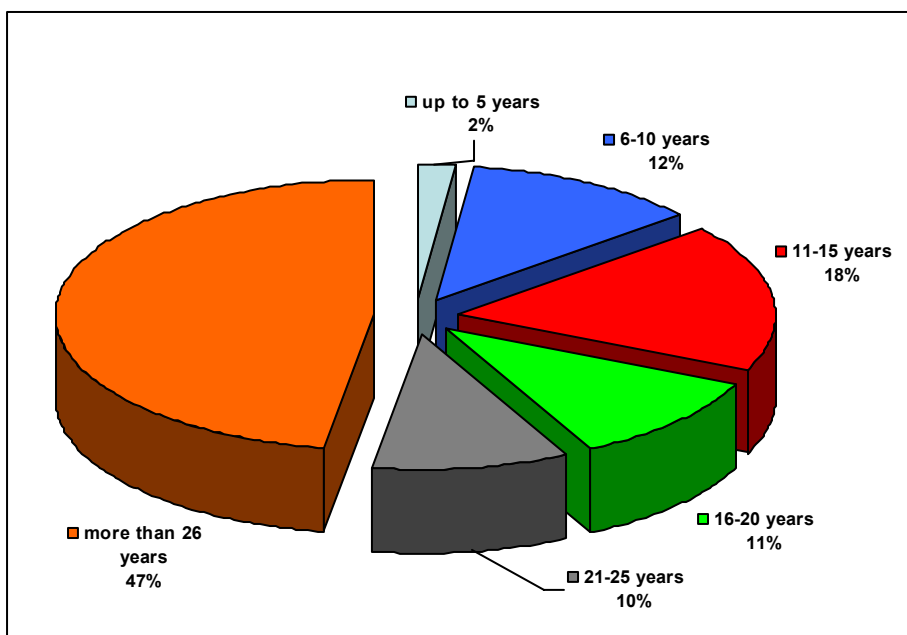
Picture 18. Level of transmission grid density.



Source : OGP Gas System SA

Gas distribution system is relatively well developed in southern and central Poland. Its length reaches over 101 thousand kilometers, supplying gas to 6,8 mln household customers and industrial customers. The age structure of the gas transmission grid is shown below.

Picture 19. Age structure of transmission pipelines.



Source : OGP

Gas System SA

An autonomous part of the Polish gas transmission system is a 688 km long on the Polish territory, transeuropean east-west Yamal pipeline. About 90% of gas transmitted by this pipeline goes to customers in Germany, only 2,88 bcm is dedicated to the Polish market. Gas storages are another important segment of the Polish gas system. Their capacity, according to

the policy of the European Union is constantly growing, reaching now over 1,65 bcm of capacity.

*Employment*

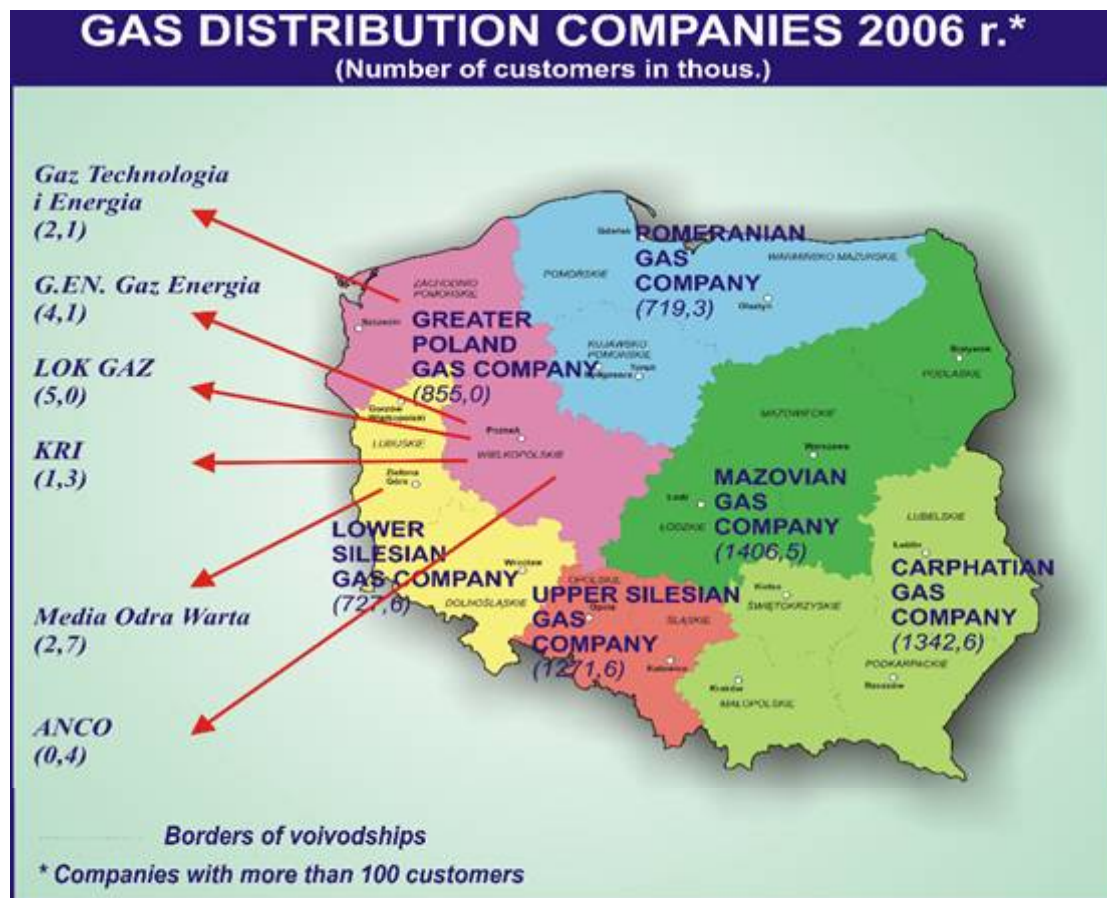
The employment has decreased during the last decade by 36,6%. The structure of workforce employed is presented below:

Table 7. Employment structure in the gas sector

	Measure	2006 r.
Employment <sup>2)</sup>	1 person employed	19 803,
Including:		
– transmission		2 172,
– distribution		12 341,
– trade		5 034,
– storage		255,

Source: ERO based on data from POGC

Picture 20 Location of distribution companies in Poland.



Source: ERO based on data from POGC

<sup>2)</sup> Estimated.

### *Ownership and organisational structure*

The Polish Oil and Gas Company Capital Group, with market share of about 99%, is an entity listed on the Warsaw Stock Exchange, with the ownership of the State Treasury of over 84%. According to the requirements of the EU the Transmission System Operator was separated from the organisational structure of the POGC, in the form of a state treasury company - the Gas System.

Six distribution companies were separated from organisational structure of POGC however they remain within the POGC capital group. The location of distribution companies of POGC is presented in picture 19 above.

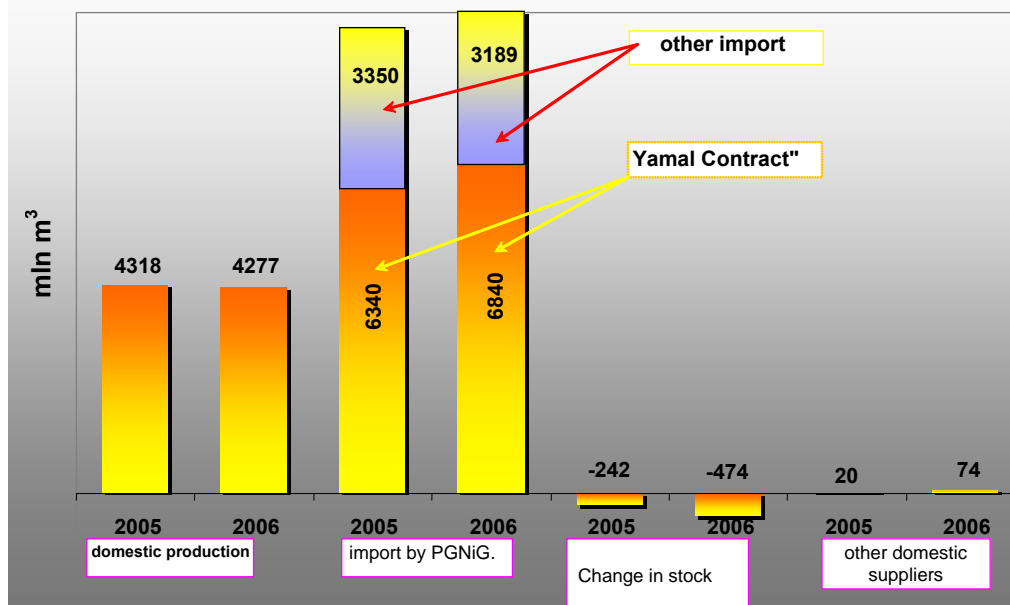
### *Financial standing*

Due to almost monopolistic position of the POGC Capital Group in the Polish market, the figures for this company practically reflect in full the situation of the sector. In 2006 consolidated net profit reached € 313 mln, by 39% better comparing to 2005. Calculated total net profitability of the company reached 8%, comparing to 7% in the previous year. Good financial result of the POGC and positive forecasts for the future will allow the company to finance necessary network investment.

## **2. Structural characteristics of the market**

The Polish gas market is dominated by one supplier and one seller – the Polish Oil and Gas Company. The shares of other market participants do not exceed 0,7%. Most of gas is imported, mainly from Russia. The structure of the origins of gas is as follows:

Picture 21. Sources of origin of gas in Poland in 2005 and 2006.



Source: POGC CG

The Yamal contract between Poland and Russia dominated import of gas. Other sources are Germany, Norway and central Asian countries.

### Supply side of the market

#### Concentration and consolidation

The Polish Oil and Gas Company Capital Group, an incumbent supplier and distributor has been until now, and will remain in the future, a monopolistic entity in the market. High costs of network investment and measuring equipment hinders competition and a number of new entrants to the market is small. Household customers are supplied directly from the distribution network by 6 local distribution companies. The only step of certain significance to competition was the separation of Transmission System Operator. The structure of sales to final customers is shown below.

Table 8. The structure of sales to final customers

Details	Sales of POGC Capital Group		Including:			
	volume	[%]	From the transmission network and directly from sources		Sales of distribution companies of POGC CG	
			volume	[%]	volume	[%]
<b>Total</b>	13 352,29	100,0	5 395,7	40,41	7 958,66	59,59
<b>1. Industry, included:</b>	8 090,24	60,59	5 235,8	39,21	2 854,44	21,38
Nitro fertilizer factories	2 399,30	17,97	2 399,3	17,97	0,00	0,00

Combined heat and power stations	1 013,06	7,59	960,8	7,20	52,26	0,39
Heat stations	237,13	1,78	12,6	0,09	224,53	1,68
Other small customers consumption less than 1 mln mcm per year	657,37	4,92	10,1	0,08	647,27	4,85
Other mid-size customers (consumption over 1mln mcm to 25 mln mcm per year	2 104,48	15,76	536,8	4,02	1 567,68	11,74
Other big consumers, consumption over 25 mcm per year	1 678,90	12,57	1 316,2	9,86	362,70	2,72
<b>2. Trade and services</b>	1 333,63	9,99	33,0	0,25	1 300,63	9,74
Other small customers consumption less than 1 mln mcm per year	1 206,12	9,03	4,7	0,04	1 201,42	9,00
Other mid-size customers (consumption over 1mln mcm to 25 mln mcm per year	127,51	0,95	28,3	0,21	99,21	0,74
Big consumers, consumption over 25 mcm per year	0,00	0,00	0,0	0,00	0,00	0,00
<b>3. Household consumers</b>	3 801,51	28,47	0,0	0,00	3 801,51	28,47
<b>4. Export</b>	40,60	0,30	40,6	0,30	0,00	0,00
<b>5. OGP Gas-System SA</b>	86,30	0,65	86,3	0,65	0,00	0,00

Source: ERO based on POGC CP

### *The integration with neighbouring systems*

The integration with neighbouring other EU member countries is relatively low, for instance transmission capacity with the biggest EU system, the German, is only on the level of 1 bcm per year. The Polish system is concentrated on the transmission along the East – West axis, and its total transmission capacity should reach this year 13,3 bcm and is likely to increase by 100 mcm annually over the next four years.

Table 9. Interconnectors with other systems.

Name of the operator	Country	Place of connection	Total Transfer Capacity*) [mcm/year]	Allocated capacities for Long term contracts [mcm/year]	directions	Kind of nominations**)
Uktransgaz	Ukraine	Drozdowicze	4 800	4 388	Poland	a)
Bieltransgaz	Byelorussia	Wysokoje	5 000	1 732	Poland	a)
		Tietierowka	100	60	Polska	a)
VNG AG	Germany	Lasów	1 000	817	Polska	a)
		Kaminke	90	40	Germany	a)
EuRoPol Gaz	Poland	Włocławek	2 800	1 502	Polska	a)
		Lwówek	1 100	1 075	Polska	a)

\*) Maximum interruptible capacity

\*\*\*) Kind of nominations: a) monthly and weekly

Source: ERO

### Gas consumers

Similarly to the situation in the electricity sub-sector gas consumers are divided into groups, depending, first of all, on the volume of purchases and kinds of gas. The position of consumers, specially household and small industrial, is weak versus monopoly position of POGC CG. Gas prices are regulated in tariffs according to tariff group of consumers.

The prices of gas in tariff groups are shown below.

Table 10. Average gas prices in tariff groups ( zł/1 cm, €1 = 3,8 zł)

Tariff group	Average gas price	Average distribution price	Average supply price
<b>High Methane gas GZ-50</b>			
W-1	1,07	0,60	1,68
W-2	0,82	0,49	1,31
W-3	0,73	0,42	1,15
W-4 do W-10 and industrial customers of POGC CG	0,69	0,20	0,89
<b>Nitrated gas GZ-41,5</b>			
S-1	0,81	0,35	1,16
S-2	0,61	0,29	0,89
S-3	0,53	0,27	0,80
S-4 to S-10 and industrial customers of POGC CG	0,50	0,16	0,66
<b>Nitrated gas GZ-35</b>			
Z-1	0,82	0,38	1,21
Z-2	0,56	0,29	0,85
Z-3	0,47	0,26	0,74
Z-4 to Z-7	0,45	0,22	0,67

Source: ERO

The highest price and distribution fee is paid by consumers from the lowest consumption groups (1) and it decreases significantly in high consumption groups. (3 to 7)

### 3. Access to information

The main source of information on the wholesale market about tariffs and conditions of services are web pages of two main entities acting on this market:

- Polish Oil and Gas Company CG
- Transmission System Operator Gas System

Distribution companies also offer information on tariffs on their web pages, and directly in local branch offices, specialized call centers or customer service bureaus. The base of the information are tariffs approved by the Regulator and published in the “Branch Bulletin of ERO – Gaseous Fuels” and accessible on the ERO web page.

Distribution companies are also obliged by the Regulator to present switching procedures, according to the principles, contained in the Grid Code.

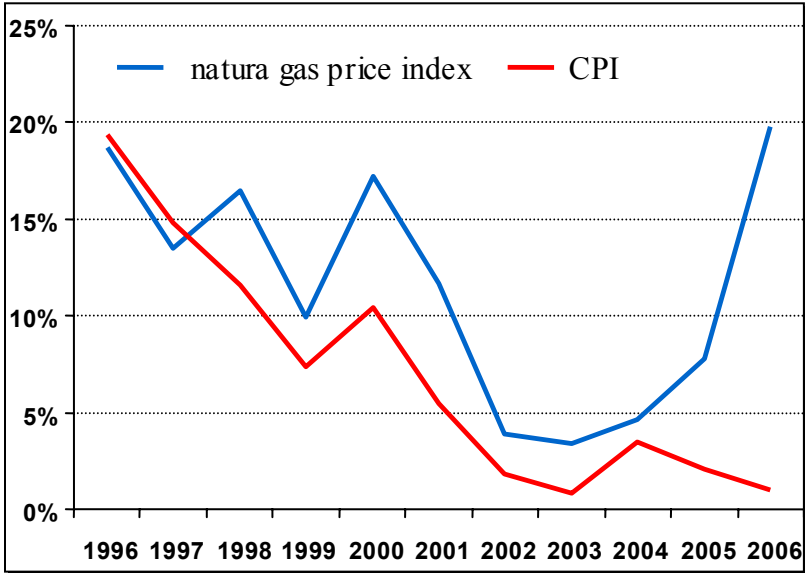
*Wholesale prices*

Wholesale prices are prices of gas sold directly from transmission pipelines. They are subject to regulatory approval. Due to sharp rise of prices of imported gas the wholesale prices on the Polish market almost doubled in comparison to the level at the beginning of 2000.

*Retail prices*

Rapid growth of prices of imported gas was the main reason of sharp increase of retail prices. The biggest rise was observed in 2006, when retail gas prices rose by 19% at the inflation of 1%. Due to processes on the world market the correlation of very low inflation and gas prices was in the years 2004 – 2006 non-existent. (See picture 22)

Picture 22. Correlation between natural gas prices and inflation 1996 – 2006.



Source: ERO, based on data from Central Statistical Office

*Procedures and contracts*



The gas transmission system functioning is subject to provisions of the grid code elaborated by the TSO – Gas System, containing the rules of using the pipelines, balancing and congestion management. The parts referred to balancing and congestion management are approved by the Regulator. The grid codes of the distribution companies were prepared in 2006 and submitted to the Regulator for approval. The analyses of the documents were carried out in 2006, but the proceedings have not been finished.

**4. The Polish gas sector in the European Union**

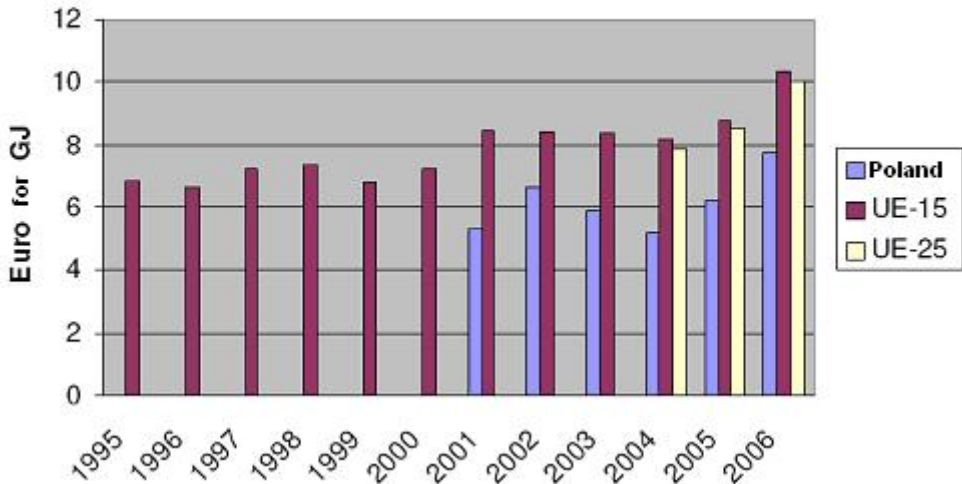
The share of gas in the national mix of primary energy carriers equals in Poland 13% and is significantly lower than EU average of 24,8%. The Polish share in the generation of gas in the EU member countries is on the level of 4%.

One of the most important challenges the Polish gas sector is facing now is a need to harmonize the Polish transmission system with the pan-European system, very well developed in the Western part of the continent.

Diversification of gas sources is one of the priorities of the Polish government, however it will require significant investment effort.

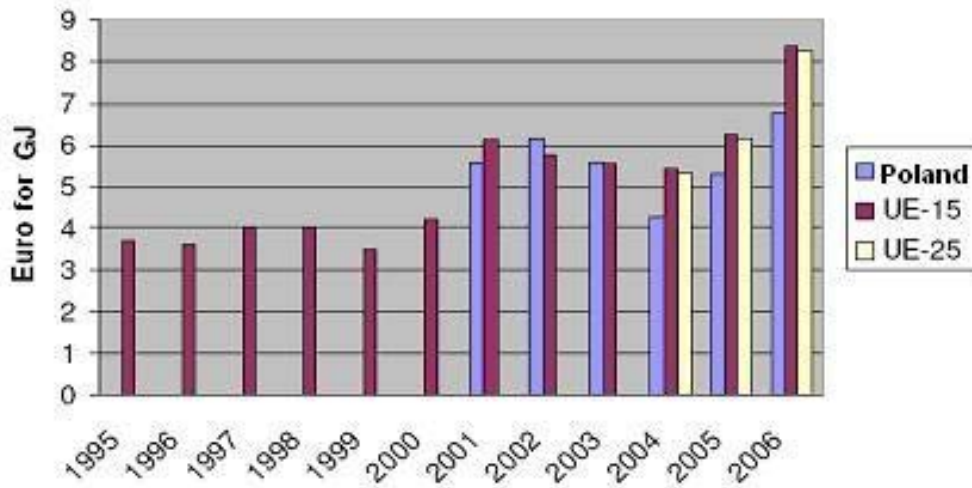
The prices of gas are still lower than EU average. (see pictures 23 and 24 below)

Picture 23. Average household natural gas prices in Poland and EU.



Source: <http://epp.eurostat.ec.europa.eu>

Picture 24. Average natural gas prices in Poland and EU gas prices for industrial customers



Source: <http://epp.eurostat.ec.europa.eu>

Sharp rise of prices for household and industrial customers observed in 2004 – 2006 reached respectively 49% and 59%, however they are still lower than European average, respectively by 29% and 18%.

## C. District Heating

### 1. Characteristics of the sector

#### 1.1. Assets, generation and transmission capacity (capacity, network, assets and employment)

District heating in Poland plays bigger role than in most European countries. It consists of heat sources and distribution network. The system is de-centralized, almost 2/3 of district heating companies have sources of capacity not exceeding 50 MW. Only a few companies have capacity over 1000 MW. Total installed capacity exceeds 65 1000 MW, and employment is at a level of 48 000 people. The sources are concentrated in relatively few industrialized urban centers in Poland . (see table 11 below)

Table 11. District heating.

Details	Employment	Installed capacity [MW]	The length of pipelines [km]
<b>Poland</b>	<b>48 261</b>	<b>65 189,4</b>	<b>18 577,1</b>
Lower Silesia	2 903	3 751,2	1 370,9

Kujawy - Pomeranian	3 296	6 275,3	1 138,7
Lublin	2 720	2 994,9	944,3
Lubuskie	1 059	1 294,0	313,4
Lodz	3 626	4 263,4	1 356,8
Little Poland	3 077	4 714,3	1 447,9
Mazovia	5 533	9 781,4	2 839,5
Opole	1 353	1 899,8	538,4
Carpathian	2 210	2 511,8	811,0
Podlasie	1 707	1 512,7	515,1
Pomeranian	3 175	3 960,9	1 281,2
Upper Silesian	9 068	12 533,9	3 185,9
Świętokrzyskie	1 681	1 435,3	400,5
Warmia and Masury	1 969	1 522,8	550,4
Great Poland	2 765	3 769,5	1 106,9
Western Pomeranian	2 119	2 968,2	776,2

Source: ERO

Over 30% of assets of district heating companies is concentrated mainly in heavily urbanized Upper Silesia and Mazovia. An average size of company's gross assets grew in the years 2004 – 2006 by 38%. The situation of the district heating undertakings is far from satisfactory, due to very high level of depreciation, reaching, Polish average 57,14% in 2006, 3% more than in 2002.

#### *Territorial, organisational and ownership characteristics of the sector*

The process of ownership and organisational transformations in the DH sector is slow and has not been finished yet. The majority of communes have already taken over DH system assets and created their own organisational units in the form of limited liability companies, joint stock companies or budgetary entities. In some communes, DH companies were privatized (with participation of national or foreign capital), and a few companies are listed on the stock exchange.

The ownership and organisational changes constitute only the beginning of the DH sector restructuring process, which includes economic transformation and related technical activities. These aim at improving energy use efficiency, decrease of environmental pollution, increase heat supply reliability, improving of the customer services quality etc.

Unfortunately, until 1997, the energy sector had remained regulated by the old legislation, issued in the former economic system legal framework and inadequate in the new social and economic situation. This was a serious obstacle for energy sector transformation. The change of the legal framework was initiated by the Energy Law of 1997. It has to be underlined, however, that the implementation of the Energy Law was possible only after several ordinances were issued and amended.

At the end of 2006 62% of district heating companies belonged to the state (state treasury and municipally property). Remaining 38% belongs to private owners, including 9,5% in the hands of foreign investors. When analyzing the structure of capacity ownership the situation

is different – at the end of 2005 over 50% of available capacity belonged to private owners, 60% of it to foreign investors. The process of ownership and organisational transformation will be continued in the future.

*Prices and economic results (financial standing – efficiency indicators, receivables, liabilities, investment expenditures)*

Analysis of the financial standing of district heating companies leads to the conclusion that the situation is improving. The year 2003 marked the turning point – from losses to profitability. Although the prices of heat grew in 2003 only by 0,8%, less than the inflation indicator, the efforts to improve efficiency brought positive results. The year 2005 was the third year of profitability, however almost all surplus was created in private sector, specially in the companies with dominating foreign capital ownership.

Profitability of the sector depends mainly on the scale of activity. The impact of economy of scale - relatively high density of pipelines and customers, number of high consumption customers - increases significantly efficiency, thus limiting the rise of prices. It is clearly presented in table 12, juxtaposing the volume of sales, profitability and prices.

Table 12. Prices and profitability versus the volume of sales.

Years	Annual sale of heat [GJ]				
	total	100 thousand and less	100 thousand - 1 mln	1-2 mln	over 2 mln
<b>Price [zł/GJ]</b>					
2002	28,37	35,70	31,34	29,28	26,96
2003	28,55	36,96	31,99	29,71	27,06
2004	29,06	37,74	32,43	30,10	27,44
2005	29,22	38,70	33,12	29,68	27,58
<b>Profitability [%]</b>					
2002	- 0,56	- 7,79	- 1,38	- 0,82	0,26
2003	1,39	- 5,95	- 1,31	0,32	2,89
2004	1,50	- 6,66	- 1,08	- 1,73	3,58
2005	1,45	- 8,19	- 1,35	- 0,67	3,45

Source: ERO

The size of investment outlays increased in the years 2002–2005 by 8%, reaching €368 mln in 2005. This amount is not satisfactory, comparing to requirements, specially of environmental character.

## 2. Structural characteristics of the market.

Technical characteristics of the heat distribution network significantly reduce consumers' choice and functioning of competition. An individual customer has in theory the right to choose a supplier of heat, but in practice this right is limited by the nature of existing networks and very high costs of new investment.

Centralized heat is specially in urbanized areas sold to households through administration units of blocks of flats, so the growth of heat prices paid by individual consumers is slightly higher than the price growth of heat at generators. (see table 13)

Table 13. The dynamics of heat prices 2000–2005.

	2000	2001	2002	2003	2004	2005
	Previous year = 100					
<b>Total</b>	<b>110,1</b>	<b>105,5</b>	<b>101,9</b>	<b>100,8</b>	<b>103,5</b>	<b>102,1</b>
The growth of customer prices	104,3	106,9	106,4	103,4	101,9	101,8
The growth of prices in generating companies	.	103,1	107,5	100,6	101,8	100,6

Source: Statistical Bulletin of Central Statistical Office.

The volume of heat consumed by final customers has been decreasing since 2003, mainly due to better thermal insulation, use of metering devices and temperature control systems and state support of energy saving programs. (see table 14 below)

Table 14. The structure of heat generation 2002–2005.

Years	Number of companies	Heat generation			Recovery	Own consumption of heat companies	Heat given to networks	Heat losses	Heat delivered to customers connected to networks
		total	included						
			Full co-generation	Limited cogeneration					
[TJ]									
2002	849	467 527,8	.	.	24 939,7	156 424,6	336 043,0	37 104,9	298 938,1
2003	813	460 722,7	.	.	29 558,6	140 845,4	349 435,8	36 862,8	312 573,1
2004	782	442 549,5	220 834,8	54 267,5	27 619,8	139 474,0	330 695,2	37 126,3	293 568,9
2005	665	430 217,9	212 592,2	61 906,9	28 435,9	128 897,8	329 756,1	36 971,3	292 784,8

Source: ERO

The forecasts which at the beginning of this decade predicted very high rise of heat prices, due to abolishing of administrative prices, were not confirmed. The policy of the Regulator in this sector cannot be treated as a factor of excessive growth of prices which remain relatively stable.

## D. LIQUID FUELS

### 1. Characteristics of resources

#### *Generation and import of liquid fuels*

Poland does not have significant deposits of oil. Most of oil ( about 17,5 mln tons) is imported from Russia, by the “Friendship” pipeline, a State Treasury property. Two companies dominate the Polish liquid fuels’ market – “Orlen” with four refineries and “Lotos” with three. About 0,5 mln tons is imported from other countries; Kazakhstan, Ukraine, Norway, Great Britain and others.

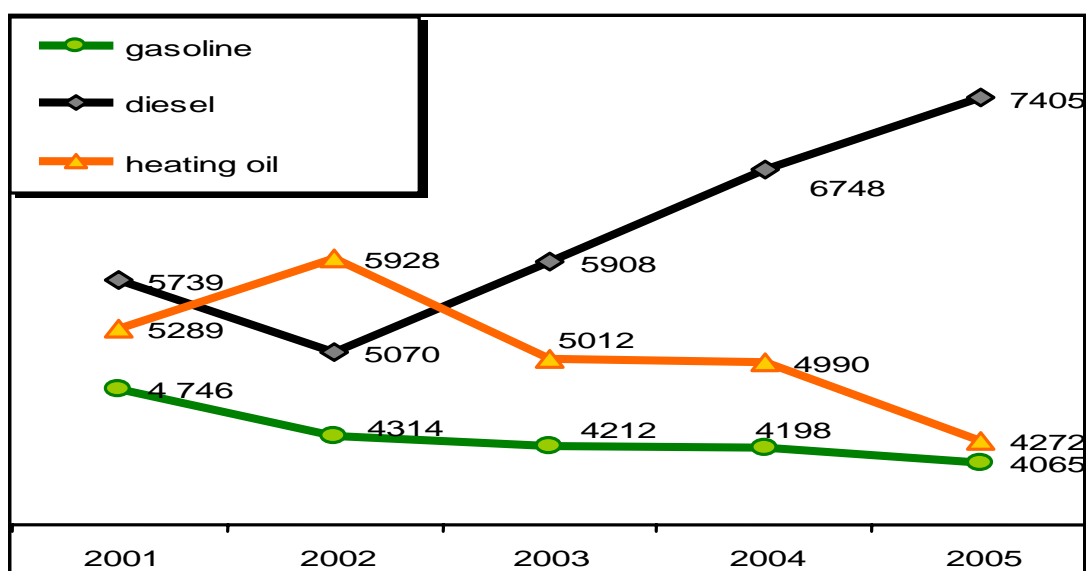
#### *Storage of liquid fuels*

According to the policy of the European Union and requirements referring to security of supplies the capacity of Polish fuel storages is constantly growing, reaching at the end of 2006 1,6 mln cubic meters, most of it in tanks of Logistic Operator of Liquid Fuels, a company known before under the name of Naftobaza.

#### *The consumption of liquid fuels*

The structure of consumption of liquid fuels has been changing since 2001. The share of diesel and automotive gas is growing, and the share of gasoline is decreasing. It is expected that the share of diesel and automotive gas (LPG) will continue in the future. The details (without LPG) are presented below :

Picture 24. The structure of the consumption of liquid fuels.



Source: ERO based on Central Statistical Office

Thanks to low prices (less than 50% of gasoline) the consumption of LPG grew from 500 thousand tons in the year 2000 to 1,8 mln tons in 2005.

## **2. Characteristics of the market**

### *Sales, prices and quality*

Wholesale market is dominated by two biggest Polish companies, Orlen and Lotos (about 80% of supplies). Retail market consists of about 7000 fuel stations and 5900 LPG gas stations. The biggest players, Orlen and Lotos, have only about 30% of the retail market share. Big international concerns like BP, Statoil or Shell are also active in this segment of the market, and their share is systematically growing.

Prices of liquid fuels on the Polish market reflect world tendencies. The state administration has a tool to curb skyrocketing rise of prices through decreasing excise tax (for instance this step was undertaken on 1<sup>st</sup> January 2006)

Comparing to the rest of Europe gasoline and diesel prices in Poland were in 2006 on the level close to European average.

Due to constant monitoring by the State Trade Inspection and imposing fines by the Regulator the quality of liquid fuels has been constantly improving in the years 2003–2006. At the beginning of this period 24% of fuels did not meet quality standards, at the end of this period only 4%.

## Part II.

### Accomplishment of legal duties of the President of ERO

#### 1. A list of legal duties of the President of ERO

The regulatory framework for the Polish energy sector was defined in the Act - Energy Law developed with particular consideration to its conformity with the European Union law, among others, with Directive 96/92/EC on common rules for the Internal Energy Market.

The regulatory authority represented by the President of the Energy Regulatory Office (ERO) was established in order to implement and supervise the energy markets' liberalisation process. Its establishment was closely connected with the creation of the competitive European energy market – to ensure security of energy supplies, improvement of competitiveness of the economy, as well as protection of environment against negative impact of energy processes. Another aim of the ERO is supporting uniformity of solutions in the field of energy regulation, adoption of the relevant EU standards and thus facilitating appropriate structural and system transformations in energy undertakings.

The Act - Energy Law was adopted on 10<sup>th</sup> April 1997 and has been amended several times since. Most of the updates were aimed at ensuring further harmonisation with the European law, including provisions of Directive 98/30/EC 1998 on common rules for gas market, and, recently, with the Directives 2003/54/EC, 2003/55/EC and other relevant acts.

The Energy law and secondary legislation issued on its basis include instruments of regulation and of promotion of competition and protection against monopoly abuse. They include **licensing** procedures applied to energy undertakings, which means that such control of access to the market is reserved to the State by means of an authorisation (in form of a license) for carrying out certain energy activities. In this way the reliability of entrepreneurs entering the energy market is verified.

The key elements of the regulation are the approval of **tariffs** and the requirement of keeping accounting records in accordance with the standards which ensure cost transparency and elimination of cross-subsidies. It is closely connected with long-term energy planning and co-ordination of energy enterprises' **investment plans**.

The regulatory authority has a powerful tool to support market behaviours – the power to **exempt energy undertakings operating in a competitive environment** from mandatory submission of tariffs for approval. Therefore, in particular circumstances, the regulation consists of continuous monitoring of markets and behaviour of their participants. The broadly understood control of entrepreneurs operating on the market allows the Regulator to intervene by reintroducing the obligation of tariffs to be approved, or, in case any irregularities appear, by imposing penalties. Moreover, as a mediator, the Regulator **settles disputes** between individual market participants, in particular – between suppliers and customers.



The powers and responsibilities of the President of the ERO include also: supervision of *quality parameters* of supplies and customer-oriented services in the field of trade in gaseous fuels and electricity, *imposition of penalties* accordingly to the rules defined in the Act, cooperation with competent bodies in *counteracting* energy undertakings' monopolistic practices

Powers and responsibilities of the President of the ERO have been extended through many changes in The Energy Law that have been conducted since 1997 (25 amendments). These changes stemmed from the gained experience of The Energy Law implementation, which showed the need to specify some regulations. Furthermore, many regulation related to The Energy Law had been changed, which required subsequent changes in the EL itself. Lastly, many changes resulted from provisions of new EC's directives. The list of most important amendments to the EL provides Annex 1.

## **2. Fulfilling duties and the Regulator's strategy**

Changing legal environment, the accession to the European Union in 2004 and dynamics of developments in the power sector are the main factors enlarging duties and, to much smaller extent, powers of the Polish Regulator.

The regulator, a central administration body, is a one – man organ, supported in his actions by his executive tool – the Energy Regulatory Office. The structure of the office reflects main duties of the Regulator and the policy of employment was one of the most important part of the Regulators program, specially at the early stages of functioning.

Right after the establishment in 1997 the Regulator hired people mostly with university education, combining knowledge of economy, law and technical aspects of functioning of the power sector. Professional experience was less important, due to the fact that regulatory practice was a new thing in Poland at the second part of the nineties. This policy has proved to be successful, bringing expected results.

### **2.1. Organisational structure of the Energy Regulatory Office**

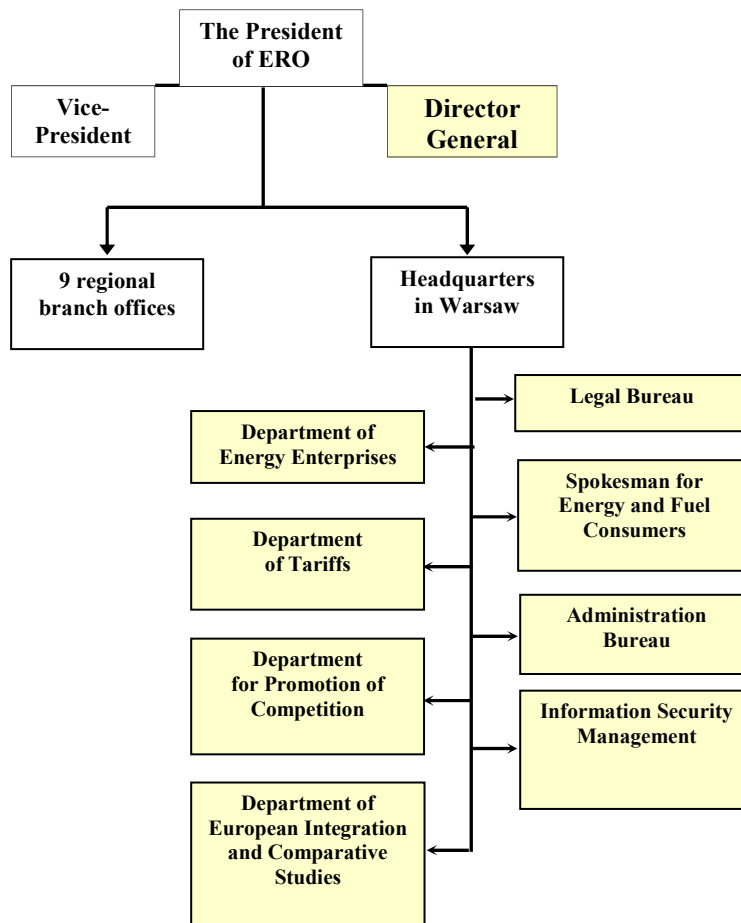
#### **2.1.1 The chart**

Three fundamental principles were employed when the Office was created:

- organisational structure should create favourable conditions for training and self – education
- it should be flexible, ready to absorb growing duties
- it should be close to customers and business friendly

Organisational structure in 2006 is presented in the chart below:

Picture 25. Organisational structure of ERO



Source: ERO

### 2.1.2 Basic hierarchical layout

All competencies contained in the Energy Law are in the hands of the President of The Energy Regulatory Office. The President runs the Office with the help of the Vice President, General Director and directors of organisational units. He personally supervises his Cabinet, which supports him in his basic functions, organising his internal and external activities, contacts with different governmental bodies, other administrative institutions, prepares documents, publications and press reports. Organisation and functions of organisational units was set in internal regulations of ERO.

Merit departments

In 2006 there were four departments in the structure of ERO;

1. Department of Energy Enterprises, dealing with:

- licensing procedures and control of licensed enterprises

- nominating of TSOs and DSOs
  - issuing permissions for the construction of direct and indirect gas pipelines
  - agreeing development plans of transmission and distribution undertakings
  - agreeing of energy rationing
  - issuing and revoking certificates of origin
  - controlling obligatory purchases of green or red energy
  - control of fuel storage obligations
  - nominating and revoking qualification commissions
  - monitoring the market of biofuels and other liquid fuels
2. Tariff Department, dealing with:
- tariff approval and related matters
  - setting: (a) correction parameters (b) periods of regulations (c) return on equity (d) maximum share of fixed fees
  - elaborating of benchmarking methodologies
  - monitoring of accounting
  - setting criteria for connections to the networks
3. Department for Promotion of Competition, dealing with:
- elaborating and implementing mechanisms of competition
  - monitoring access to networks
  - approval of grid codes within the scope of balancing and congestion management
  - organisation and running tender procedures for new capacities
  - monitoring functioning of competition mechanisms
  - settling disputes referring to transmission of energy and gas,
  - releasing from duty to submit tariffs for regulatory approval
  - nominating of last resort suppliers and organising tenders
  - dealing with the liquidation of Long Term Power Purchase Agreements
4. Department of European Integration and Comparative Studies, dealing with :
- co-ordinating Regulator's duties connected with the European integration
  - preparing Regulator's reports and documents to the EU ,
  - organising foreign exchange and co-operation
  - preparing information on the world energy sector
  - collecting data on the energy sector
  - elaborating methods and monitoring security of supplies.

Legal services of ERO are carried out by Legal Bureau. It covers:

- elaborating opinions on draft f legal acts
- elaborating internal legal acts
- preparing legal positions and statements
- collecting legal acts, decisions of the President of ERO and General Director
- spreading legal knowledge in the office
- court representation of the President of ERO

Financial, budgetary and administrative matters are within the scope of competencies of the Service Bureau. Another three separate organisational units perform the following functions:

- Spokesman of Consumers of Fuels and Energy – a relatively rare position in regulatory bodies is responsible for help and information for customers, co-operation with energy enterprises and their organisations with reference to consumer protection. It sets a list of connection refusals.

- Internal auditor responsible for internal monitoring and audit.
- Classified Information Protection Unit

### *Regional Offices*

Regional Offices of the Energy Regulatory Office were established at the beginning of 1998, with the aim to make access to the Office closer. There are 9 regional branches in the organisational structure of ERO. The location of the branches is shown below.

Picture 26. Regional Offices of ERO.



Source: ERO

At the beginning the functions of the regional Offices were limited. They were mainly related to heat tariff approval, licensing of district heating companies, preparing approval of development plans decisions, contacts with local administration and settling local disputes. The employment in most of regional offices remained stable, despite the fact that their scope of activities was significantly widened. The chronology of the growth of competencies is presented below:

Table 15. Evolution of duties of regional offices.

Calendar year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Proceedings related to claiming reservations on the basis of art. 7 par. 9 EL								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Administrative procedures of district heat licensing							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data collection and analyses					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Administrative procedures in gas supply licensing					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Administrative procedures in electricity supplies licensing					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tariff approval procedures within the scope of gas supplies					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tariff approval procedures within the scope of electricity supplies				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tariff approval procedures within the scope of heat supplies		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Control activity		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Administrative procedures in imposing fines		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Settling claims referring to energy activities		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Settlement of disputes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Administrative procedures in heat supplies licensing	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Source: ERO

This relatively wide scope of competencies is characterised by one dominating factor – local specifics of regulated markets. The widest scope of “regional” regulations refers to district heating. Decentralisation of regulation should preserve its uniform character, where proper procedures are approved and implemented. Necessary flexibility must not hinder unified regulatory approach, when arbitrary decisions on regional level would not be compatible with national regulatory standards.

The units of organisational structure of the Energy Regulatory Office do not always show satisfactory level of flexibility to cope with new duties and tasks of the Regulator. To handle the problem the President of ERO on several occasions created vertical units, in the form of

working groups or task forces. Two of them are of permanent character, due to their importance they are approved in the organisational regulations of ERO.

1. Standardisation and Tarification in District Heating. Working Group performs:

- analyses of district heating tariffs
- audit of tariff heat tariffs approval proceedings
- expertise of legal acts
- initiating and running staff training
- preparing Regulator's positions
- publishing opinions on common matters in the whole structure of ERO

2. Interdisciplinary International Co-operation Task Force is:

- elaborating positions and opinions used in co-operation with international institutions, first of all with the European Commission and international associations of energy regulators,
- co-ordinating Regulator's co-operation with international bodies,
- collecting international experience and publishing information.

The Regulator established numerous working groups and task forces of provisional character. They were targeted at elaborating solutions of specified problems, like, for instance:

- licensing
- benchmarking in the tariff system
- preparing terms of reference for shaping of the energy market model
- co-ordinating internal functional problems of ERO
- standardisation of tariffs
- addressing renewable energy issues
- promoting customer's market
- strengthening Regulator's supervision
- implementing competitive energy market.

Most of the teams after fulfilling their duties were dissolved, however some of them have survived many years of activity. An example of team co-operation was an ad-hoc task force set in 2006 made of representatives of, Polish Power Grid Company and association of power stations to address the issue of pricing of must run generation.

#### **2.1.4. Representatives, spokesmen and experts**

In 2006 the Regulator delegated his representatives to participate in numerous external groups within the power sector. One of the most important was the governmental Steering Team for the Realisation of „Program for the electricity sub-sector” His representatives also participated in the works on the amendments in the Energy Law run under the auspices of the Minister of Economy

## **2.2 Co-operation with other bodies of the state administration**

Co-operation with other organs of the state administration focused on removing pathologies from the energy sector. The most vulnerable part of it is the sub-sector of fuels. The Regulator received in 2006 231 questions from different state organs referred to liquid fuels sub-sector only. The co-operation of the Regulator and other relevant institutions and law enforcement agencies led to the removal of many irregularities like, discovered for instance in only one province, 104 entities trading in liquid fuels without necessary licenses. ERO is an important body in fighting fraud in the energy sector. The results are positive, for instance the quality of fuels significantly increased in 2006, reaching acceptable European standards (see part dedicated to liquid fuels).

## **2.3. Co-operation with professional associations**

The Regulator and his personnel actively took part in exchange of views with numerous professional associations and other relevant organisations. This process has been continued since the very beginning of the Regulator's activities. It covers representatives of all sub-sectors who maintain working contacts with ERO. Special role is played by the National Agency of Energy Conservation (KAPE) – a leading institution of this kind in Poland, and the Agency of the Energy Market (ARE), the main external source of statistical information for ERO.

## **2.4. International co-operation**

The growing role of international co-operation, specially focused on the European Union, has been seen observed since the Polish accession to the EU. To tackle this issue the Regulator set the Interdisciplinary International Co-operation Task Force consisting of internal and external experts, co-ordinating international activities of ERO. The delegates of the Regulator, after gaining valuable experience, are now contributing their knowledge and will of co-operation to the international institutions where they are involved.

### *Co-operation with EU institutions*

The representatives of the President of ERO took part in the 13<sup>th</sup> European Forum of Electricity Regulators (Florence Forum) and the 11<sup>th</sup> European Forum of Gas Regulators (Madrid).

The National Report prepared by the Regulator contained a review of changing ownership structures and practical means which are being implemented to develop energy markets, increase competition and transborder connections. The report elaborated in Poland contains not only historical data but also forecasts for the future. The regulators associated in ERGEG prepared „ERGEG's Assessment of the development of the European Energy Market 2006” The assessment was a base for „Accompanying document to the Communication from the

Commission the Council and the European Parliament, Prospects for the internal gas and electricity market” published by the EC on 10<sup>th</sup> January 2007.

The Directorate General for Competition received a report prepared with the Polish Regulator’s contribution on the current state and prospect of competition in the EU.

This does not mean that reporting is a dominant part of the Regulator’s co-operation with the European Union relevant bodies. The President of ERO, together with other European structures, delivered merit opinions on the proposed directives on efficient energy consumption, reliability of supplies and infrastructure investment (in Poland co-ordinated by the Minister of Economy). He also played a major role in consultations with EU on question of dissolving the Long Term Power Purchase Agreements (work also co-ordinated by EU with the Minister of Economy).

Another very important part of European co-operation is the elaboration of projects financed or co-financed by the Union. They include the following programs:

- enforcement of the Regulatory supervision of the power sector
- implementation of competitive energy market
- projects related to the establishment of E-office.

#### *Activity in the regulator’s associations*

The President of ERO is a member of three organisations:

- European Regulators’ Group for Electricity and Gas – **ERGEG**
- Council of European Energy Regulators – **CEER**
- Energy Regulators’ Regional Association – **ERRA**

Together with the Polish accession into the European Union the co-operation within the institutional framework of EU regulatory institutions became a priority for the President of ERO. Due to the fact that the organisational structure of ERO is not compatible with the needs of rapidly expanding European co-operation, this task was assigned to the Interdisciplinary International Co-operation Task Force.

#### *ERGEG*

The President of ERO himself or designated representatives participated in the plenary session of ERGEG, works of three working groups and selected task forces. The following groups functioned within the structure of ERGEG in 2006:

1. Electricity Focus Group,
2. Gas Focus Group,
3. Customer Protection Focus Group

One of the significant problems solved was the draft on “Good Practice Guidelines on Information Management & Transparency”. Another examples are “Guidelines of Good Practices for Electricity Balancing Markets Integration”, extended during the consultation process by elements of intra-day market and automatically activated reserves. Another important elaborated document was “Guidelines on Inter-TSO Compensation” paper EU,



however it was not approved because of different opinions on the inter TSO settlements issue among the Regulators.

In 2006 the Regional energy initiatives that had started a year before as so called mini Fora were institutionalised. Poland participated in two (Northern and Central–Eastern Europe) out of seven regional electricity initiatives and in two out of 4 in regional gas initiative (North–North–West and South–South–East).

The most important issues discussed within the regional initiatives were :

*in electricity*

- flow based method in congestion management
- harmonisation of Regulators' competencies
- development of interconnectors
- transparency of markets
- merchant lines.

*in gas*

- diversification of gas supplies
- development of south–north intersystem connections
- development of gas systems integration

Poland was a full member of three regional initiatives and due to growing interest of Polish gas market players in participation in North–North–West regional gas initiative, Poland obtained the status of an aspirant member.

*CEER*

During 2006, 5 working groups were active within the structure of CEER. They include:

- Electricity Working Group
- Gas Working Group
- Single Energy Market Working Group
- New Member Countries Working Group
- European South – East Working Group

The President of ERO and his representatives participated in general assemblies of CEER, Single Energy Market Working Group, Electricity Working Group, Gas Working Group and International Training and Benchmarking Working Group. The representatives of the Regulator also participated in numerous task forces, of permanent or provisional character. Continuous co-operation with ERGEG and CEER is of significant importance for the regulatory practice in Poland.

*ERRA*

In 2006 the representatives of the President of ERO actively participated in the works of Energy Regulators' Regional Association, mainly in two main bodies of ERRA - Tariff and Pricing Committee and Licensing and Competition Committee. They also participated in working groups and training schemes, organised by this association. The Regulator also prepared data on the Polish energy sector for further analyses by relevant structures of ERRA.

*Co-operation with other international bodies.*

In 2006 the co-operation with The Energy Charter was systematically continued. The representatives of the President of ERO took part in the conference on the role of governments and international institutions on security of supplies. They also participated in the works of the United Nations Economic Commission for Europe, specially in the field of gas reform.

- ERRA Training Course on Price Regulation and Tariffs, March 13-16 2006, Budapest,
- ERRA Course on Monitoring Energy Markets, January 23-25 2006, Almaty,
- 5<sup>th</sup> ERR Energy Regulation and Investment Conference, May 15-18 2006, Budapest,
- Women's Energy Club – Dialogue on Energy Policy and Competitiveness, March 8, 2006, Brussels,
- Energy Day, 30<sup>th</sup> November 2006, Brussels,
- Public debate on the Greek Book : „ European strategy for balanced, competitive and safe energy” 22<sup>nd</sup> September 2006, Brussels,
- International Entrepreneurship Forum 2006, 31<sup>st</sup> August – 2<sup>nd</sup> September 2006, Riga.

### **3. Activities of the President of ERO**

#### **A. Electricity**

##### **1. Regulation**

Basic duty of the President of ERO is to carry out effective regulation. Main regulatory tools like licensing, agreeing development plans, tariff approval, approval of grid codes, designating distribution and transmission system operator, wide controlling rights, are the base of regulatory activity. Regulation is a form of entering into economic freedom, aimed at limiting monopoly abuse when an energy undertaking carries out its activity in the conditions of a natural monopoly.

##### **1.1. Licensing**

Licensing in the energy sector is a typical form of administrative regulation, which control entries to the market and supervises activity. A license is an administrative act which gives the right to run energy activity but also introduces certain limitations on a licensee.

Since 1<sup>st</sup> May 2004 a license can be obtained by a company which has its head office on territory of the republic of Poland or the territory of a member country of the European Union or EFTA.

A company willing to obtain a license for energy activity in Poland should prove having technical and financial ability possibilities, qualified personnel and fulfil other relevant requirements to obtain it. The system of licensing, similar to other systems in the EU member countries, is business friendly and does not create artificial barriers to market entry.

Major changes in the electricity licensing regime were introduced in 2005. Generation unit of capacity lower than 50 MW were exempted from a duty to obtain a license (unless they were producing renewable energy). Former threshold of licensing was set at the level of 5 MW. Also in 2005 the legislator divided licenses into two separate categories; distribution and transmission, in line with EU directives.

The number of licenses granted in the years 1998 – 2006 is shown below.

Table 16. Licenses granted 1998-2006

Electric energy	1998	1999	2000	2001	2002	2003	2004	2005	2006
Generation	49	5	35	49	7	8	473	145	77
Transmission or distribution	100	97	23	24	14	7	19	25	14
Trade	101	123	50	30	26	27	27*)	45**)	25***)
<b>Total</b>	<b>250</b>	<b>225</b>	<b>108</b>	<b>103</b>	<b>47</b>	<b>42</b>	<b>519</b>	<b>215</b>	<b>116</b>

\*) Including one for a foreign licensee

\*\*\*) Including eight for a foreign licensees

\*\*\*) Including five for a foreign licensees

Source: ERO

Table 17 presents Regulator's activity in the scope of licensing in 2006. (Comparing the number of licenses at the end of 2005 and 2006. including licenses withdrawn by the Regulator or expired.

Table 17. Licenses valid at the end of 2005 and 2006.

Electric energy	2005	2006
Generation	699	750
Transmission and distribution	202	208
Trade	309	320
<b>Total</b>	<b>1 210</b>	<b>1 278</b>

Source: ERO

The licensing procedure is carried out taking account for equal treatment of all entities applying for licenses. Elaborated and implemented procedure does not disturb the running of energy activity by independent entrepreneurs. All details referring to licensing procedure, are placed on the ERO's web page. Also addresses and contact details of all licensees are presented there.

## 1.2 Tariffs for electricity

The process of tariff approval consists of detailed analyses of a tariff application and is finalised by a decision of the President of ERO. Tariff approval is one of the most important tools of regulation. It's basic principle is to balance the contradictory interests of energy undertakings and customers. A tariff is for a company the most important factor determining the level of revenues, thus giving means for energy activity.

### 1.2.1.Pricing and its evolution

The first tariff approval procedures were implemented in 1999, when also the first approval decisions were taken. The main idea of the procedure was to approve tariffs and fees on the level of covering justified costs. The most important problem of the tariff regulation was the idea of “justified costs”, because the Regulator and the energy companies naturally presented differences in the understanding of this matter. The next step was the implementation of tariff regulation based on the revenue cap formulae. When the Regulator approves the level of revenues, a regulated company has the right to set prices and fees. This method released the President of ERO from a duty to monitor micromanagement of a given company, that means to analyse particular costs positions.

The revenue cap methodology was introduced at the end of 2001. It required much wider then before implementation of benchmarking. The best conditions to apply benchmarking analyses were at that time in the distribution sub-sector, where 33 energy undertakings existed. The idea of benchmarking was the comparison between “a model company” performing it’s functions in the same environment as a company being analysed. When costs of certain category are higher then in the model, an energy undertaking is obliged to find measures to reduce them. The level of ineffectiveness was set by the difference between real costs and model costs.

As a result, the implementation of this method of tariff approval forced the most effective companies to reduce costs by 5%, the most ineffective by 15%.

In the transmission sub-sector, due to the fact that only one TSO carries out activity in Poland, the method of justified costs approach has been maintained.

### **1.2.2. Tariffs for electricity (2006)**

In 2006 the President of ERO issued 206 administrative decisions referring to electricity tariffication, including:

- 126 decisions about electricity tariff approval
- 64 decisions about approval of changes
- 12 decisions about extinction of proceedings
- 5 decisions refusing to approve tariffs

#### *Approval of Polish Power Grid Company’s tariffs*

In 2006 the PPGC submitted an application asking for the increase of tariff justifying it with growing gas prices. The Regulator refused to change the tariff. At the end of 2006, the Regulator approved the tariff for the next year, using justified costs methodology. The tariff was higher by 7,4% comparing to 2006.

#### *Approval of tariffs for TSO – PSE - Operator*

The tariff for 2006 was approved at the end of 2005. During 2006 the undertaking did not submitted application for changes. The tariff for 2007 was approved in January 2006, and, due to the more favourable economic environment, it was by 11,5% lower than in the previous year.

### *Tariff approval for distribution system operators*

In 2006 the Regulator carried out a regulatory review, which disclosed the lack of expected efficiency improvement and cost reduction. The tariff approval regime became ineffective, due to the following factors:

- the decreased of number of regulated entities from 33 to 14 (due to consolidation) leading to a smaller sample base for benchmarking
- specific nature of this sub-sector and legal obstacles to implementing some European solutions
- the extinction of validity of efficiency improvement factor X.

The new tariffs, approved for 2007 concerned 13 distribution companies (excluding Warsaw's Stoen)

The rise of prices for final customers (nominal) reached 2,22 – 3,12%. It was mainly due to growing share of obligatory purchases of more expensive energy from renewable sources, and, for the first time allowed, full return on equity.

### *Tariff approval for industrial power undertakings*

Additional group of energy undertakings which are obliged to submit tariffs for regulatory approval are companies of so called „industrial power sector” where revenues from energy activity are additional sources of incomes. The regulatory control is necessary, due to the fact, that no company from this part of electricity sector performs its activity in competitive environment.

### *Tariff approval for co-generation*

The President of ERO released, since 1<sup>st</sup> July 2001, energy generation and trade from obligatory license approval, with the exception of full co-generation. After a number of changes to this decision now only gas fired co-generation remains subject to tariff approval.

## **1.2.3 Conclusions**

It should be underlined that although the Regulator approves the level of revenues which should cover justified costs, the energy undertakings point towards reaching higher revenues, and therefore they submit requests for higher tariffs. The acceptance of requests mentioned above would mean higher than justified growth of prices to final consumers. The reduction of expectations implemented by the President of ERO is shown below.

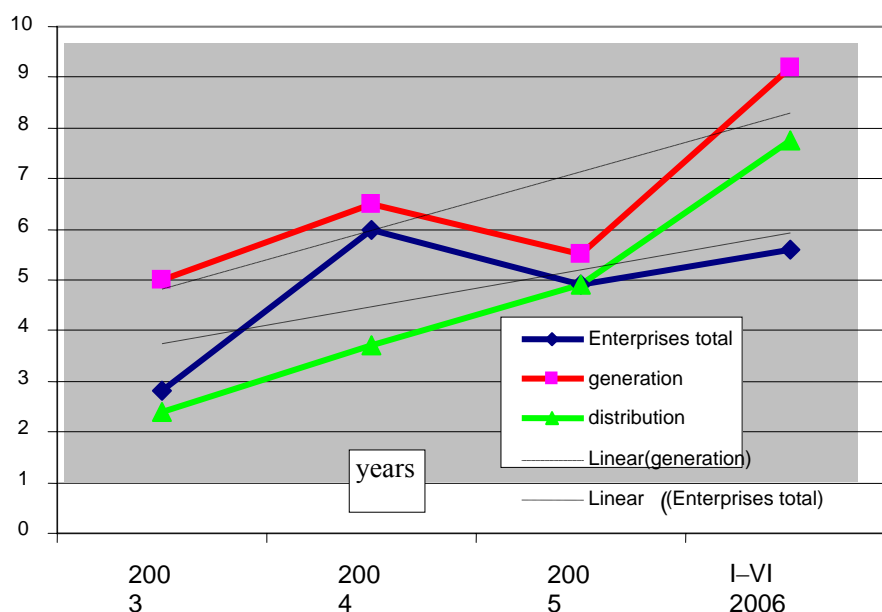
Table 18. Regulatory effects of tariff approval process – Distribution Companies

Year of tariff approval	Yearly revenues		Decrease of revenues	Average growth of prices proposed by energy undertakings	Growth of prices approved by the President of ERO
	Proposed by energy enterprises	Approved in tariffs			
	[zł mln]				
1999	24 280	21 500	2 780	n.d.	13,0
2000	24 260	22 500	1 760	n.d.	8-14
2001	23 985	23 320	665	n.d.	3,4-10,5
2002	25 147	24 201	946	8,5	5,6
2003	25 152	24 827	325	3,9	2,5
2004	26 711	26 073	638	5,1	2,7
2005	27 788	27 351	437	4,6	3,2
2006	29 327	28 919	409	2,5	1,1

Source: ERO

In the years 1999 – 2001 the tariff regulation was based on a costly method of justified costs. This approach was abandoned in 2002, when revenue cap method was implemented. The new approach removed asymmetry in information, which gave energy undertakings possibilities to increase costs without justification. The new methodology offers better consumer protection and does not worsen economic conditions of energy activity (see picture below).

Picture 25. Dynamics of profitability growth 2003-2006 [%]



Source: ERO based on data from ARE

High dynamics of profitability of distribution companies comparing to the indicator of the whole economy leads to the conclusion that the new approach of tariff approval, including

full return on equity gives energy undertakings financial means sufficient not only for running activities but also for development.

The new model of revenue cap regulation, implemented in Poland four years ago, is one of the most developed systems in Central Eastern Europe, more advanced than tariff approval solutions implemented in some regulatory bodies in Western Europe.

### **1.3. Agreeing development plans of network companies**

Energy companies dealing with transmission or distribution of energy are obliged to submit to the Regulator development plans related to the supply of energy. The Regulator, analysing a given application takes into consideration conformity of proposed plans with future demand for energy, the Energy Law and general national energy policy assumptions. Agreeing development plans is, in the Polish conditions, one of the major tools of regulation. The most important part of a given development project are investment plans referring to modernisation and development of the grids and methods of financing.

Development plan of distribution and transmission companies are generally capital consuming. And the return on equity, like in any infrastructure investment, is generally long. Financial aspects of development plans are strictly connected with forecast revenues, and, taking into consideration regulatory aspect, tariffs. Thus agreeing development plans is strictly connected with further tariff approval process

#### *Principles and procedures of agreeing development plans*

Energy undertakings dealing with distribution or transmission of gaseous fuels, electricity or heat prepare for their respective areas of activity development plans within the scope of present and future supplies for gaseous fuels, electricity and heat, taking into consideration local territorial development plans. The companies which submitted development plans in 2006 for agreeing, could be divided into following categories:

- PSE – Operator SA,
- 14 distribution companies of utmost importance for the functioning of the national electricity system
- local distribution companies performing distribution performing activity on a small scale

#### *PSE – Operator SA*

PSE – Operator SA performs in the Polish electricity system the role of utmost importance – the Transmission System Operator. In December 2006 the President of ERO agreed development plans within the scope of fulfilling present and future demand for electric energy, elaborated by PPGC for the years 2006–2020. For the years 2006–2010 the development plan contains detailed program (together with financial projection), the part related to the years 2011–2020 is of aggregated character. Comparing to the first version of the program for the years 2005–2009 the share of grid investment was significantly increased.



Additionally, due to expected growth of international energy exchange, most of all within the framework of Pan- European Single Energy Market, the PPGC is going to invest heavily into international connections with neighbouring countries, first of all with Lithuania.

Main positions of the PPGC's development plan are expenditures for the construction and development of stations, substations and grids – 57% of the total, 28% for modernisation of already existing grids and stations. The amount of infrastructure investment expenditures reaches 86% of all investment. Other positions include: IT systems – 9%, buildings and constructions – 3,5%, preparatory expenditures and purchases of ready objects – 1%, reserve – 0,5%.

The development of the transmission grid plans, resulting from the evaluation of the conditions of work of National Electricity System, contains:

- a) activity related to high voltage grid :
  - liquidation of transmission congestion ,
  - installation of new transformers 400/110 kV i 220/110 kV,
- b) modernisation of already existing and installations of new systems of automatic control

The draft plan assumes also the limitation of forced generation, which, due to its share in the national generation reaching 10%, significantly deforms market pricing mechanisms. Potentially the most effective investment in this field will be the installation and commissioning of new transformers 220/110 kV in : Konin, Pątnów, Koziernice, Skawina, Bieruń, Kopanina, Moszczenica, Halemba, Rybnik. Potentially profitable, but requiring additional analyses of efficiency, are grid connection with the north of Poland due to the size of forced generation in the power stations of Ostrołęka and Dolna Odra.

#### *Distribution companies in the electricity sub-sector*

2006 was the last year of regulation of distribution companies. The Regulator decided to adapt the model of estimating justified level of investment for regulatory purposes, and the evaluation of execution of investment expenditures for the years 2002 – 2005 was carried out. A necessity to apply a specified model to evaluate investment targets of distribution companies results from the size of investment and the informational asymmetry between the Regulator and distribution companies. Present experience shows that the quantity of investment outlays, contained in the investment program are, in the Polish conditions, generally higher than the real execution. The Regulator must verify development plans and evaluate the level of necessary distribution investment (distribution companies run also non-regulated activities). The verification of investment expenditures is of utmost importance to future prices of distribution services, which should not exceed socially accepted level.

Undue level of investment outlays and its reflection in the calculation of revenues could lead to unjustified growth of income. Further means for growing quantity of investment expenditures should come from other sources than rise of prices and fees – mainly from improving efficiency of functioning, specially investment processes.

The changes in the model of evaluation of justified level of investment expenditures should take into consideration organisational transformation in the distribution sub-sector in the years 2002-2005 (horizontal consolidation), and should comply with specific conditions of activity of given energy undertakings. To understand better principles of grid asset management implemented in distribution companies and to learn more about investment needs after 2006, the Energy Regulatory Office elaborated “Framework draft development plan of grid companies dealing with distribution of energy” - Energy Territorial Undertakings. The changes in the new document regarded modified scope of information supplied by energy undertakings which should enable to introduce necessary changes into the method of estimating justified investment outlays. The companies were asked to submit remarks and opinions on the subject and offer their own propositions, connected with information outlay in a draft plan.

A serious obstacle fading the framework draft development plan was the lack of an ordinance on detailed conditions of the functioning of the electricity system, which was to regulate the way of co-ordinating development plans in particular entities of the system.

The analysis of the execution of investment outlays on distribution of energy in the years 2002–2005 was carried out in the reporting year. The base of the analyses was the comparison of planned investment expenditures contained in tariffs, with their execution.

The evaluation of investment activity was carried out at the following assumptions:

- \_ investment expenditures of companies created on the base of a merger of distribution companies is a sum of expenditures of all distribution companies which were the base of the merger
- basic settlement period are calendar years
- the comparison of constant prices and current prices was calculated according to RPI (Retail Price Index)

The level of execution of investment expenditures in 2002 – 2005, related to the level approved in tariffs, shows that the distribution sub-sector execution (in constant prices 2005) exceeds the assumed level by € 38 mln (7 companies exceeded the assumptions by € 121 mln, 7 did not achieve the assumed level with the difference of about € 83 mln).

The information submitted by the distribution companies shows that basic source of financing investment outlays in the years 2002–2005 were depreciation deductions – about 85% of the total. Other sources were: credits, profits and others. This situation shows that the room for external investment sources is relatively high. It should be added, that in tariffs for the year 2007 full return on equity was included.

However, the picture can be disrupted by a threat of the transfer of „investment potential” due to the planned consolidation, from distribution to other entities, or directly, by transfer of financial means - which should be allocated into distribution investment outlays - to dividends or other purposes. In the case of distribution companies, the most important factor of investment outlays is the growth of demand for energy for small, including household, or medium size customers.

In 2002-2005 investment expenditures (in prices 2005) reached € 2,17 bln , including € 1,62 bln (74,4% of the total) for electric equipment (grid, transformers)

### *Industrial electricity sub-sector*

In 2006 the President of ERO agreed 11 draft development plans of grid companies running local distribution activity on a small scale. According to the Energy Law the companies with over 100 customers supplying not less than 50 GWh of energy per year are obliged to submit their development plans for regulatory approval.

#### **1.4. Nominating Distribution and Transmission System Operators**

Nomination of a transmission system operator or a distribution system operator is a regulatory administrative decision taken on the motion of the owner of the grid. This regulatory tool can evaluate if a given company is able to perform its function as an operator of the system, securing equal access to the grids.

The Energy Law imposes on vertically integrated companies a duty to separate transmission system operators and distribution system operators.

When in mid 2006 there were no applications from companies willing to obtain the status of transmission system operators, the President of ERO elaborated and placed on the web page of the office „Information on the nomination of Distribution System Operators by the President of ERO” containing guidelines referring to prepare nomination applications. A list of documents necessary for the start of application procedures and legal requirements were also added.

#### *Nomination of the Transmission System Operator*

The company PPGC – Operator SA was established as a part of the restructuring program of the Polish Power Grid Company connected with the separation of transmission activity from the mother company. The creation of the PPGC Operator was mainly determined by the requirements of Directive 2003/54/WE of 16<sup>th</sup> June 2003 regarding common rules of functioning of the Single Energy Market, imposing a duty to separate transmission from other kinds of activity.

PPGC – Operator on 1<sup>st</sup> April 2004 obtained a license for the transmission of electricity on the territory of the Republic of Poland. The President of the ERO issued a decision on the 28<sup>th</sup> July 2004 nominating the PPGC Operator SA as the TSO for the period from 1<sup>st</sup> August 2004 to 30<sup>th</sup> June 2005. The new company obtained assets from the PPGC in the form of leasing agreement, valid until 31<sup>st</sup> December 2007. The matters connected with investment management were regulated by the „Agreement on Investment Management”.

On 30<sup>th</sup> November 2005 the PPGC and PPGC Operator submitted to the President of ERO the next application for nominating PPGC Operator for the function of the Transmission System Operator of the electricity system. The decision of the President of ERO from 26<sup>th</sup> January 2006, taking into consideration the requirements ownership transformation process aiming at granting the Transmission System Operator legal status coherent with the requirements of the Energy Law, security of work of the National Transmission System, and the period of the leasing agreement, nominated PPGC Operator for the function of the Transmission System Operator from 1<sup>st</sup> February 2006 to 31<sup>st</sup> December 2007.

At the moment of consideration of the application the PPGC Operator was a company functioning within the PPGC structure, that means within the structure of a vertically integrated company. According to the Energy Law the transmission system operator should act in the form of a joint-stock company, with full ownership of the State Treasury. The PPGC informed the President of ERO about the adaptation steps. The program “The conception of consolidation of BOT GiE SA (three system power stations) and PPGC with the participation of chosen companies from the power sector”. The document sets the method of transferring the ownership of PPGC Operator to the State Treasury, what fulfils the requirements of the Energy Law.

#### *Nomination of Distribution System Operators.*

The first company which received the appointment for the function of the Distribution System Operator was an undertaking “Energoserwis Kleszczów” Sp.z o.o. from Rogowiec, central Poland. The Kleszczów community, as the owner of a local distribution grid, submitted an application to the President of ERO with the request to nominate the company mentioned above for the position of the Distribution System Operator on the area of the Kleszczów borough.

The President of ERO, in his decision of 1<sup>st</sup> February 2006, nominated the above mentioned company for the function of the DSO for the period from 1<sup>st</sup> February 2006 to 5<sup>th</sup> September 2010.

In November and December 2006 the President of ERO received applications from 14 energy undertakings (distribution companies) for the nomination for DSO position.

According to the requirements of the Energy Law, since 1<sup>st</sup> July 2007, vertically integrated companies are obliged to separate legally and organisationally an independent distribution system operator.

During the nomination proceedings the President of ERO took into consideration not only legal requirements, but also economic efficiency of companies mentioned above, checking if their financial standing enables them to perform the function of distribution system operators.

In the light of information obtained during the nomination procedure it was stated that the companies fulfilled the conditions contained in the Energy Law on the separation of distribution activity from other fields of activity. To fulfil these duties the energy undertakings separated from their structures organisational entities – in the form of branches, divisions or departments dealing with distribution activities. The persons performing managerial functions in the DSOs do not participate in management structures of the companies dealing with other kinds of economic activity, can initiate independent actions, including decisions on the exploitation, maintaining and development of the distribution grid.

Between 20<sup>th</sup> and 29<sup>th</sup> December 2006 the President of ERO nominated 14 distribution system operators, for the period from 1<sup>st</sup> January 2007 until 30<sup>th</sup> June 2007. After 1<sup>st</sup> July 2007 all distribution system operators will obtain legal independence, thus acting in other organisational structures. During the period of nomination procedures all distribution companies were introducing the program of restructurisation, leading to the separation of an independent distribution system operator. (in the case of distribution companies being one-man

join-stock companies of the State Treasury – according to the governmental „ Program for the electricity sector” of 27<sup>th</sup> March 2006).

According to art. 9h par. 1 of the Energy Law, The President of ERO nominating the distribution system operator is to designate the area of activity. Due to the fact that the energy distribution companies applying for a license for distribution in designated areas of their activity, and did not attach applications of other companies, performing distribution activity on their respective territories, the President of the ERO issuing a decision for nomination designated the area of activity contained in the license application, excluding distribution networks managed by other transmission system operators. In a basic territorial unit of the administrative structure of Poland a few electric distribution system operators can perform distribution activity.

### **1.5 Agreeing on load reducing plan elaborated by the transmission system operator**

In the case of jeopardising security of supply on the territory of the Republic of Poland the load reduction plan can be introduced for a limited period of time. The operators of electricity systems are obliged by virtue of law to prepare a draft of reductions. The draft must be agreed with the Regulator, who evaluates it, fulfilling regulatory role referring to the functioning of system operators in case of emergency, when security of supplies is threatened.

It must be explained, that according to art. 11 of the Energy Law, when:

- the energy security of the Republic of Poland is threatened by long term imbalance on the energy and fuel markets, or there is:
- threatened personal security
- threat of material losses

on the territory of the Republic of Poland, or on its part, reductions in supplies of energy can be implemented. These include rationing of energy concerning maximum capacity and daily limits of consumption.

The plans prepared by the transmission systems operators and their annual updating are subject to agreeing with the President of ERO until the 31<sup>st</sup> of August every year. The plan elaborated by the transmission system operator PPGC – Operator was agreed with the President of ERO on 31<sup>st</sup> August 2004. The President of ERO issued the decision of 29<sup>th</sup> August 2006, acknowledging the „Plan of introducing reductions in supplies and consumption of electricity, valid for the period from 1<sup>st</sup> September 2006 and 31<sup>st</sup> August 2007.

### **1.6 Approval of the grid code with reference to balancing and congestion management**

The grid code is a document of technical and economic charter, containing principles for grid access set by the system operator, responsible for the integrity of the system. The provisions contained in the grid code also define rights and duties of the grid users, and decide, to a significant extent, about the directions and amounts of financial flows between the participants of the market. In the years 2001 – 2005 the grid codes were introduced by the operators as annexes to transmission and distribution contracts. The way the changes were

implemented was often questioned by the market participants. So it was necessary to guarantee that the principles of grid use would offer equal treatment and would not be used as a tool of monopoly abuse by the dominating actor – the monopoly operator (at least on the territory covered by a given grid). This is why the European legislator elaborated special competencies of the national regulatory authorities in the process of grid code approval, referring to balancing of the system and congestion management.

Fulfilling this duty the transmission system operator submitted the grid code for regulatory approval in the part related to balancing of the system and congestion management, together with a report on consultation with market participants. The Grid Code contained numerous changes comparing to former versions. The following principles were introduced: over-territorial group balancing, what facilitated the creation of balancing groups on the whole territory of the National Electricity System, and adjusted principles of domestic market functioning to the principle applied in other EU member countries. This solution makes possible:

- further integration of Central and Eastern European markets.
- modified formula of imbalance energy prices, decreasing these prices, however the mechanism of pricing was left to motivate the energy customers to forecast the demand for energy more precisely and creates favourable conditions for customer switching, reducing also basic barrier in the access to the market – relatively high costs of balancing,
- decreasing a settlement unit to 1 kWh facilitated the participation in the market for small customers and balancing groups,
- changed principles of settlements for the must-run generation electricity, and settled during outages of generation units, a new settlement generation unit was also implemented, thus reducing market power abuse.

Moreover, due to growing scale of so called „congestion gaming” and growing costs of functioning of the electricity system the President of ERO approved, proposed by the transmission system operator, new principles of pricing the must-run generation electricity. This change related to joint settlement of generation units within the structure of one generator.

The code was approved by the decision of the President of ERO and entered into force on 1<sup>st</sup> June 2006. According to some generators, a changed formula of generation settlement did not reflect the dynamics of the prices on the energy market. Thus the President of ERO initiated in October 2006 the Tri-Party Team, consisting of representatives of the President of ERO, transmission system operator and Economic Association of Polish Power Stations aimed at elaborating a new formula of must-run generation pricing. ERO analysed the number of centrally started units on the order of TSO and related costs. In December 2006 the Tri-Party Team agreed that the formula of establishing prices for forced generation should relate to forecast energy market prices, published, according to the Energy Law, by the President of ERO. The code, changed on the motion of the PPGC was approved by the decision of the President of the ERO on 22<sup>nd</sup> December 2006, and entered into force on 1<sup>st</sup> January 2007.

The distribution system operators, fulfilling a legal duty, elaborated and submitted to the President of ERO on 18<sup>th</sup> April 2006 draft grid codes in part related to balancing of the distribution system and congestion management. The first versions of the drafts did not meet

the requirements of the Energy Law. Main differences related to the principles of balancing, mainly did not foresee a possibility for group balancing, consisting of customers connected to different distribution grids.

Taking into consideration the fact that grid codes are a fundamental element for the objective and unified principle of grid activity for customers, the President of ERO continued efforts aiming at approval of the grid code..

The regulations in the approved grid codes meet the expectations of market participants. They introduced unified procedures of switching, requirements of measuring, and standards of services. The customers consuming small quantities of energy are able to run balancing procedures on the base of standard consumption profiles, elaborated by the distribution system operators and approved by the President of ERO. The instructions show detailed roles of measurement operators within the scope of publishing information necessary in the process of balancing.

It is necessary to underline, that the discussions on the approval of grid codes were carried out in a specific legal environment. Old, still valid legislation, did not regulate detailed functions of the electricity system. Moreover, no distribution system operator was nominated, and these functions were performed by distribution companies. For that reason the state of full independence of distribution system operators was extremely difficult to achieve. The conflict of interests between independent operator's activity and incumbent position of the old supplier willing to defend his monopoly position by blocking access of independent suppliers to his „old” customers is the main obstacle.

### **1.7. Supervising of the quality of supply standards**

Supervising quality standards and quality parameters is aimed at defending customers against effects of quality deformation, caused by a company acting on a monopoly market.

According to art. 23 pos. 2 point 10 of the Energy Law, control of maintaining quality parameters is carried out on the motion of a customer. Verification of standards of services and quality parameters generally follows complaints of customers, mainly referring to monopoly practices of energy undertakings. Most of complaints refer to voltage drops, lack of sustainability of supplies, and poor quality of services such as exceeded periods of answers on restoring of supplies, cutting supplies etc. When the President of ERO recognises a complaint, he requests from the company responsible for misbehaviour to remove irregularities.

The policy of maintaining high level of reliability of energy supplies is closely related to the tariff approval process. Approved by the President of the ERO prices and fees should be calculated on the basis of expenditures necessary to maintaining quality parameters and standards of supplies. A customer is authorised by law to demand compensation set in the Tariff Ordinance of the Ministry of Economy. Moreover the tariffs contain the value of compensations for: failing to proceed a complaint from customers, unjustified delay in removing outages, failing to deliver information on request, specially referring to tariffs, fees, settlements or billing.

Within the framework of the project financed by the European Union – Transition Facility 2005/017-488.02.04 „Strengthening regulatory supervision” – Part 2 – „Integrated IT system for remote control of quality of supplies in a place of energy supply to a customer and

preparing reports” is presently being accomplished. The implementation of the system will let the President of the ERO to perform supervision of quality standards on the whole territory of the country.

### **1.8 Granting permission for the construction of a direct line**

Granting permission for the construction of a direct line is a relatively new regulatory tool. During the administrative proceedings the President of ERO analyses an application containing a prospect of a significant investment, which could have an impact on the functioning of the electricity system. Using this tool the president of ERO is able to block the realisation of a construction which would be costly and ineffective, imposing negative consequences on the functioning of the system. It is also a tool protecting an investor against difficulties resulting from technical constraints of the grid.

Granting permission for the construction of direct lines – the President of ERO, according to art.7a par.4 of the Energy Law, takes into consideration the following aspects:

- the level of utilisation of already existing power grids
- number of refusals of performing transmission or electricity by already existing grids received by a subject willing to obtain a permission.

In the year 2006 the President of ERO did not receive any application for the construction of a direct line.

## **2. Monitoring of functioning of the electricity system**

Main tools of regulation, such as licensing, tariff approval, agreeing development plans, or approval of grid codes belong to the category of so called „firm regulatory tools”. Using them the President of ERO can effectively shape the energy sector as a whole and particular energy undertakings. However, one of the most important duties of the Regulator is monitoring of the electricity system. Although it can be seen as a complementary duty of the President of ERO, it obliges him to organise a long – time systematic observation of the sector, thus giving him a possibility to uncover irregularities and cope with them.

### **2.1. Monitoring of congestion management principles and allocation of transfer capacity in intersystem connectors**

The monitoring obligation of realisation by the transmission system operator duties concerning the access to the grid in transborder electricity exchange comes directly from the Energy Law and Regulation 1228/2003/CE. It is a key element in the process of the creation of pan – European single energy market.

Allocation of transmission capacities in 2006 on the interconnectors of the National Electricity System and neighbouring systems was organised on the basis of co-ordinated auctions. The procedure of nomination is shown below.

Table 19. Procedure of nominating transmission capacity in the intersystem exchange.



Details	Description
Rules and principles	According to Regulation 1228/2003
Base quantities	TTC – Total Transmission Capacity TRM – Transmission Reliability Margin NTC – Net Transfer Capacity AAC – Already Allocated Capacity ATC – Available Transmission Capacity
Profile of intersystem exchange for which transmission capacities are nominated	Technical Profile – total border cut of profiles managed by TSOs of Germany, the Czech Republic, and Slovakia, nomination of quantities TTC, NTC, and ATC for technical profile
Criteria of reliability	Criterion <i>n-1</i> : line of intersystem exchange, line of Polish electricity system, line of neighbouring electricity system
Nomination of TTC	Based on accessible for a given period mathematical models of connected systems
Criteria taken into consideration at the nomination of TRM	Weather conditions (temperature), generation of wind power plants in Germany, not agreed balancing flows, behaviour of market participants, accidents, model and calculation mistakes.
Time span of calculations	Yearly, monthly and daily plans for TTC, NTC i ATC
Available Transmission Capacity	Capacity band for particular border cuts, and: – a sum of available transmission capacity can not be higher for a given technical profile – limitations announced by neighbouring TSOs must be taken into consideration

Source: ERO

The system of monitoring principles of congestion management is subject to constant analyses and development measures carried out by the regional energy initiatives. The Regulator evaluates:

- trade balance and real flows in the intersystem exchange
- transmission system capacity offered and allocated in yearly, monthly and daily auctions
- process of transmission capacities offered in yearly, monthly and daily auctions
- income of PSE – Operator and the ways of spending them
- the level of using transmission capacity reserved in yearly, monthly and daily auctions
- the structure of reserved transmission capacity in yearly auctions with reference to the number of market participants
- the behaviour of market participants with reference to submitted offers in the yearly auctions
- quantity and the level of utilisation of transmission capacity reserved for execution of historical contracts.

Due to entering into force guidelines for congestion management ERGEG is working now on the compatibility of congestion management in the intersystem exchange with the new guidelines.

## **2.2. Monitoring of balancing mechanisms of the electricity system and congestion management.**

Principles of system balancing and congestion management in the national electricity system were set by the operators and approved by the President of ERO as part of the grid code. The President of ERO monitors the activity of operators through analyses of received information

and periodical reports and through observations of effects generated by these mechanisms. The President of ERO received on 4<sup>th</sup> May 2005, the right to evaluate the functioning of the market and analyses of possible misbehaviour.

The system which is functioning now in Poland is based on the mechanism of using by the transmission system operator incremental and reduction offers, submitted by generators. The functioning of the balancing market defined in the program approved by the Government on 2<sup>nd</sup> December 1999 should contain the following elements:

- transactions on the balancing market concern a part of customers' demand, not covered by direct contracts or transactions on the Power Exchange, or this part of demand which can not be covered due to technical possibilities of realisation of concluded contracts.
- the operator of the balancing market (transmission system operator) is obliged to carry out hourly balancing of electricity on the national scale and to supply and receive energy declared on the balancing market, remaining financially neutral.

Activity of the transmission system operator should be neutral as this segment of the market should be only used for physical realisation of sales contracts for electricity, and be not a part of the market play.

Unfortunately, adverse effects of the functioning of the market appeared almost on the initial stage. First of all, the costs of removing system congestion were growing from over € 5 mln per month to over € 12 mln with increasing tendency.

The main obstacle of the approved model of the Balancing Market was a possibility of notifying by market participants energy sales unfeasible contracts that could not be executed due to technical constraints.

The reasons of growing costs were as follows:

- transferring part of trade activity into the balancing market (more attractive than other segments)
- transferring part of generation costs into transmission tariff
- misbehaviour of some generators:

Congestion game became one of the most significant kinds of misbehaviour – offering more expensive energy instead of cheaper – thus the transmission system operator reduced cheaper units and had to call the more expensive ones into operation. This situation led to improper pricing of electricity on the market and consequent reduction of energy prices on bilateral market at least in 2002 – 2005. The grid code which entered into force on 1<sup>st</sup> June 2006 significantly reduced these malfunctions of the balancing market.

The President of ERO systematically analyses quarterly reports on the functioning of the balancing market, including cash flows, and monthly information about the costs of functioning of the balancing market and congestion management. Prices on the balancing market were shaped in 2006 as follows:

Table 20. Prices and volume of energy on the balancing market in 2006.

Month (€ 1 = 3,8 zł)	CRO* [zł/ MWh]	CROs** [zł/ MWh]	CROz*** [zł /MWh]	Incremental Energy [MWh]	Reduction Energy [MWh]	Trade [MWh]
January	119,40	213,55	85,97	120 142	- 66 977	187 119
February	114,39	166,43	93,40	51 530	- 98 462	149 992
March	116,11	178,08	94,00	37 182	- 92 431	129 613
April	121,93	193,66	86,79	102 393	- 83 315	185 708
May	121,27	188,96	88,03	86 241	- 74 893	161 134
June	119,78	141,95	88,41	42 530	- 230 619	273 149
July	118,07	139,40	80,69	36 809	- 391 326	428 135
August	124,51	141,17	81,19	120 018	- 43 279	163 297
September	121,75	140,46	82,98	99 066	- 46 140	145 206
October	131,99	144,55	80,53	288 963	- 21 272	310 235
November	143,52	151,65	76,83	194 536	- 38 137	232 673
December	129,75	148,16	76,00	130 637	- 90 202	220 839
<b>Average Weighted Price</b>	<b>124,08</b>	<b>158,16</b>	<b>83,58</b>	<b>1310047</b>	<b>- 1277053</b>	<b>2587100</b>

\* **CRO** – unified price of settling imbalance, calculated as a quotient of minimum costs of changes of verified quantities of supplied energy from active Schedule Units securing balancing of the demand for energy on the balancing market.

\*\* **CROs** – Settlement imbalance price of sales of energy from the balancing market calculated as an average weighted price of prices coming from incremental bands of balancing offers used in a given hour.

\*\*\* **CROz** – Settlement imbalance price of purchase of energy on the balancing market, calculated as an average weighted price of prices reduction bands of balancing offers used in a given hour.

Source: ERO

Observations of the prices on the balancing market confirm significant fall of settlement unbalancing price of sales of energy since June 2006 and further stabilisation. It is due to a changed formula of fixing this price, introduced by the new grid code since 1<sup>st</sup> June 2006. In spite of restrictive character of dual pricing system the difference between CROs and CROz prices significantly decreased after the changes in the grid code. Also the prices were more predictable for the participants of the market. It was a major step towards the removal of barriers to the participation in the balancing market, specially for small entities and wind generators.

### 2.3. Monitoring of grid connection conditions and grid repairs

Monitoring of grid connection conditions let the Regulator to observe processes related to the issued conditions of connections to the grid and applied practice for different connection groups.

According to the amendment in the Energy Law of 3<sup>rd</sup> May 2005 The President of ERO is authorised to raise objections to refusals of connections given by the DSOs on the basis of economic reasons. This regulation protects customers against monopoly practices of energy undertakings.

Numerous procedures led energy undertakings to changing decisions and offering new technical conditions of supplies to customers whose applications for connections had been originally rejected. This new competence of the Regulator gave a possibility to elaborate

transparent rules regarding the economic evaluation of new connections, which led to a decreased number of refusals and shorter period of necessary connection procedures.

#### **2.4. Monitoring of fulfilling by the transmission and distribution system operators the obligation to publish information on interconnectors and transmission capacity allocation**

The President of ERO is monitoring information published by the transmission and distribution system operators on intersystem exchange and using the grid and evaluating the level of fulfilling this duty by the operators. Improper activity of the operators in this field would significantly hinder the functioning of the National Electricity System.

The transmission system operator publishes information on intersystem exchange on his web page ([www.pse-operator.pl](http://www.pse-operator.pl)) The users can also obtain information in the auction office in Prague ([www.e-trace.biz](http://www.e-trace.biz)), and the scope of information fulfils the requirements of the Regulation 1228/2003/CE. According to the above, the Transmission System Operator publishes the following data:

- estimated quantities referring to daily, monthly and yearly auctions of Total Transmission Capacity (TTC) Net Transmission Capacity (NTC) and Available Transmission Capacity (ATC)
- offered and allocated transmission capacity,
- prices of transmission capacity,
- number of participants taking part in auctions,
- number of offers submitted by the participants regarding trade profile.

Moreover, the Transmission System Operator publishes price curves of submitted offers for transmission capacity.

The operator also elaborates and publishes Annual Co-ordinated Plans and Monthly Co-ordinated Plans, monthly and annual reports on the functioning of the National Electricity System, daily information referring to the demand for energy in the national system, and national balance of energy exchange. The TSO publishes on its web page the principles of participation in the Balancing Market, standard contracts and data on the current functioning of the BM. The exchange of information is carried out by the system “Exchange of Information on the Energy Market”.

#### **2.5. Monitoring security of supplies**

Security of supplies of energy and fuels is one of the basic element of energy security. Energy security, defined in the governmental document „The energy policy of Poland until 2025” is defined as a state of the economy where the current and future demand for energy can be efficiently covered with minimised negative impact of the energy sector on the environment. However it is the Minister of Economy is responsible for maintaining proper level of security of supplies, also the President of the ERO is obliged to monitor the activity of the energy sector taking into consideration the above mentioned aspect of its functioning, including:

- the analysis of development plan agreeing procedures as a source of information, which shows technical conditions of energy infrastructure, investment needs of transmission and distribution system operators.
- monitoring electricity system – detailed analysis of functioning of the transmission system operator – PSE – Operator, and distribution system operators, nominated by the President of ERO at the end of 2006.
- updating of the „Plan of introducing reductions in the supplies of electricity”
- monitoring fuels stocks necessary for maintaining continuity of energy supplies.

Summarising the monitoring results it is possible to state that the energy security is not being threatened now. Proportion of available capacity to peak demand shows that the system is stable and there is no immediate threat to its stability in the nearest future.

Economic results of generation and distribution companies show that their financial standing is generally good, however the size of investment does not reflect this situation. The age structure of generating blocks is worsening, which in the long run can lead to supply problems.

There is no doubt that with the advance of globalization and further integration of Poland with the structures of the European Union, the question of energy security will have more economic, than today’s mostly technical dimension. The access to new technologies, possibilities of running different kinds of economic activity and development of financial infrastructure make the realisation of even most ambitious investment projects possible. The size of investment expenditures must be strictly connected with the level of revenues which heavily depends on pricing. Excessive prices of energy would hinder the functioning of the economy as a whole, as a consequence depriving energy companies of necessary financial means. In this situation regulatory intervention should balance the interests of customers and the sector.

### **3. Promotion of competition**

#### *Pro-market activity*

One of the most important obligations imposed on the President of the ERO in 2005 was a duty to approve transmission and distribution grid codes, in the parts referring to balancing of the system and congestion management. The new rules were implemented into the national legal system the principles contained in Directive 2003/54/EU and met the expectations of the participants of the market, removing discrimination in approach to certain groups of stakeholders.

The most important change referred to shifting from territorial balancing to over-territorial method. This approach decreases balancing costs and makes the customer choice more transparent. The operator was also obliged to publish a catalogue of information listed in the new regulation.

It is worth to mention that the activity of the Regulator within the scope of grid code approval was carried out in the conditions of lack of detailed legal regulations referring to principles of functioning of the electricity sub-sector, being within the powers of the Minister of Economy.

The legislator imposing additional duties on the President of ERO had not supplied him with the tools of execution.

### *Settlement of disputes*

In 2006 20 administrative proceedings concerning dispute settlement were initiated. 3 proceeding from 2005 were finished. 1 procedure from 2006 was finished, the rest are under consideration. 14 temporary decisions were issued, setting conditions for continuing supplies until the final settlement. The most frequent matters appearing in disputes were pertaining to:

- legal character of the grid codes
- the scope of TSO's responsibility for failing to fulfil contract obligations
- procedures of changing contracts when grid codes are changed
- changes of transmission contract in accordance with grid code regulations

### *Publishing compliance programs*

According to the Energy Law the transmission system operators, acting within vertically integrated structures, are obliged to implement unbundling, elaboration and implementation of programs aimed at removing discrimination in the access to the grid and non-discriminatory approach to all customers. They are obliged to report to the Regulator on the matter and the reports are published in the "ERO Bulletin".

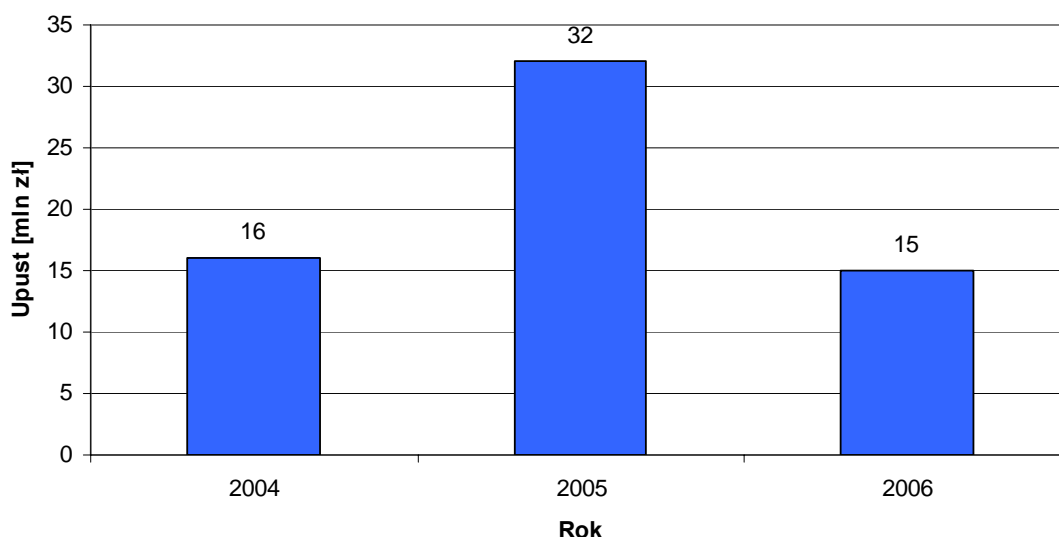
Promotion of competition is one of the most important duties of the President of ERO. It should be pointed out that strict regulatory activities are precisely defined in the Energy Law whereas the promotion of competition is not precisely specified. Thus the main element of the promotion of competition is the exposition of the need to build a competitive energy market, to build a strong position of customers versus energy companies, to shape consumer awareness, and publish information of energy market functioning in other EC economies.

One of the key elements of latter approach were publications in so called Regulator's Library, touching, often for the first time in Poland, topic issues on the principles of competition in the energy markets. One of the most important publications was "Consumer on the energy market. The evaluation of the European regulators". The main target of this publication was the presentation of the best solutions adopted.

The introduction of full competitive market in Poland is hindered by numerous obstacles. The main is the existence of Long Term Power Purchase Agreements, price control on the ceertain segments of the market, low liquidity of the Power Exchange, transmission congestion and the lack of intra-day market.

Another important obstacle are historical ties between former monopolistic or semi-monopolistic suppliers. The present state of the market is still far from satisfactory, however the threat of customer switching forced some suppliers to negotiate terms of contracts, including. The accumulated size of these discounts is shown below.

Picture 26. Estimated size of accumulated discounts in 2004-2006



Source: ERO

In 2006 the President of ERO approved for the first time grid codes within the scope of balancing market and congestion management. It helped to decrease the costs of participation in the balancing market, thus opening the access to the market.

Also unified procedures of switching were elaborated, giving better protection against monopoly abuse by incumbent suppliers.

The new structure of the market – growing horizontal consolidation, should impact the changes in the legislative framework of competition, creating protective means against possible monopoly abuse of consolidated entities.

### 3.1. Customer switching

The President of ERO systematically monitors the customer behaviour. The number of companies executing TPA rights has been steadily growing since 2001 but the overall figures are far from satisfactory (see the table below).

Table 21. TPA principle in the electricity sector.

Period	Average yearly threshold for eligibility [GWh]	Number of eligible customers	Yearly purchases [TWh]	Number of switching customers	Theoretical opening of the market. [%]	Indicator of participation in the market [%]
1	2	3	4	5	6	7
4 Sept 31 Dec 1998	> 500	12	9,5	6	9	4,1
1 Jan-31 Dec 1999	> 100	80	23,0	12	22	5,5
1 Jan-31 Dec 2000	> 40	138	28,5	13	30	5,9
1 Jan-31 Dec 2001	> 40	138	29,0	6	30	5,0
1 Jan-31	> 10	560	36,0	19	37	6,0

Dec2002						
1 Jan-31 Dec 2003	> 10	641 <sup>3)</sup>	37,0	29	38	7,0
1 Jan-30 June 2004	> 1	ok. 6 000	53,0	64	52	9,5
1 June 31 Dec 2004	All excluding household	about 1,7 mln	82,0	78	80	10,0
1 Jan-31 Dec 2005	All excluding household	about 1,7 mln	78,0	35 <sup>4)</sup>	74	7,1
1 Jan-31 Dec 2006	All excluding household	about 1,7 mln	82,0	61	73,5	7,6
Since 1 July 2007	All	about 15,8 mln	About 111,0	-	100	-

Source: ERO

The volume of electricity supplied to the switching customers reached in 2006 8 469 GWh, about 7,6% of total supplies. The energy was delivered mainly to companies with very high yearly consumption, which were able to invest into metering systems and cover the costs of participation in the balancing market.

### 3.2. Long Term Power Purchase Agreements

Long Term Power Purchase Agreements were concluded in the years 1993 – 1998 between the Polish Power Grid Company and electricity generators as a guarantee of credit obtained by some generators for environmental and efficiency investment. They covered about 50% of installed capacity ( 14 000 MW) and total quantity reached the amount of 20 billion zł.

Long Term Power Purchase Agreements, reaching the year 2027, are one of the most significant obstacles hindering competition. Since the beginning of his activity the President of URE actively participated in the elaboration of the solution of this problem.

Numerous solutions offered by the state administration, with significant participation of ERO were not implemented due to resistance of interested parties or were rejected by governmental decisions. After the Polish accession to the European Community the works on the solution of the problem were accelerated under the pressure of the European Commission. The solution which was elaborated at the end of 2006 assumes the compensations paid to the generators for stranded costs and transfer of costs on final consumers. The compensations are to be paid in yearly instalments, based on current prices of energy.

## 4. Access to the grid in transborder electricity exchange

Proper capacity access management is of key importance in the implementation of the pan-European energy market. The Regulation 1228/2003/CE introduces detailed conditions of the access to the grid. According to the European legislation the Regulator is obliged to elaborate and publish a report on the revenues of the TSO coming from the allocation of transmission



capacity and the ways of spending them, including regular evaluation of congestion management methods.

## B. Gas Sector

### 1. Regulation

Regulation in the gas sector basically is similar in methodology to the regulation in the electricity sector, however the sector is differently structured than the electricity sector. The structure of the electricity sector is differentiated to a significant extent, and the structure of the gas sector has remained unchanged for decades, where the Polish Oil and Gas company, a company listed on the Warsaw Stock Exchange, but in 84% owned by the State Treasury, an incumbent undertaking, possesses 99,3% market share. POGC enjoys monopoly position in exploration and extraction of gas, import, storage, distribution and trade. The centralisation of trade, and keeping exploration and extraction activity within the hands of POGC Capital Group does not create favourable conditions for efficiency improvement and makes easier monopoly abuse. In this situation it is impossible to resign from regulatory control of this company, and, practically, of the sector as a whole.

#### 1.1. Licenses

The number of licenses granted for all kinds of energy activities has been systematically growing, but still the conditions of the development of competition are far from satisfactory. The licenses granted, besides the giant POGC, have been, specially from 2002, granted to companies starting local activity which would not undermine the position of POGC.

Gas undertakings, enjoy comparing to the electricity sector relative stability of legislation. Number and dynamics of licenses granted in 1999-2006 is shown below.

Table 22. Licenses granted by the President of ERO for gas related activities 1999–2006.

	1998	1999	2000	2001	2002	2003	2004	2005	2006
Generation of gaseous fuels	0	8	0	0	0	1	1	2	0
Transmission and distribution	0	34	15	12	7	6	5	10	5
Trade in gaseous fuels	0	33	15	13	8	9	9	14	8
Storage	0	0	0	0	0	0	0	0	1
Liquefaction of gaseous fuels	0	0	0	0	0	0	0	0	4
Foreign trade in gaseous fuels	0	0	0	7	2	4	3	8	4
Total	0	75	30	32	17	20	18	34	22

Source: ERO

Granting, refusals, changes and withdrawals of licenses.

The process of granting licenses in 2006 for the first time covered the following activities:

1. Liquefaction and regasification of gas in liquid natural gas installations. There are 12 licensed installations of local range dealing with regasification of gas.

## 2. Storage of gaseous fuels

The Polish Oil and Gas Company is the only one owner of gas storage facilities on the territory of Poland. Almost all storage capacity is used for the needs of POGC. Only a part of storage capacity in Mogilno was allocated to the needs of the Transmission System Operator, separated from the structure of POGC for the balancing purposes. The Regulator asked the incumbent company to list all the storage capacities and asked it to submit an application for storage license.

Another important tool of licensing procedures is “promise of a license” granted to investors who fulfil the requirements of the licensing regime, what makes investment process easier and predictable. The number of licenses granted in 2006 is shown below:

Table 23. Licenses and promises granted in 2006.

Activity	Granted in 2006	Promises	Licenses
Storage		0	1
Distribution		6	5
Trade		4	8
Foreign trade			4
Liquefaction		1	4
<b>Total</b>		<b>11</b>	<b>22</b>

Source: ERO

### *Withdrawals and changes*

Since March to May 2006 the President of ERO analysed activity of foreign trade license holders. It was discovered that only 4 companies out of 28 started activity within this field. Many of the companies treated the granting of the license as a tool of upgrading, not a real obligation. After administrative procedure 6 licenses were withdrawn, and other license holders declared the will to start such activity.

## **1.2. Tariffs for gaseous fuels.**

### **1.2.1. Pricing and its evolution.**

The Polish gas sector was the last where the administrative fixing of prices was abolished and the new regime of regulatory approval introduced. The base of calculation are justified costs of licensed activity, including expenditures on modernisation, environmental protection and the efficiency of consumption on the demand side. The costs contained in the tariffs reflect planned values, what brings certain level of uncertainty. The prices of imported gas are shaped not only by dynamics of prices following the formula of the most important Yamal

contract, but also by the exchange rate of the Polish currency. The price of high-methane gas is set as a weighted average price of gas prices from domestic sources and import.

Import prices are fixed quarterly, depending on the dynamics of prices of oils on the Rotterdam stock exchange in nine month periods preceding a given quarter. The most important element in the preparations of tariffs is the proper evaluation of prices of gas from imported sources.

### **1.2.2. Tariffs for gaseous fuels.**

The new tariff approved by the Regulator on 17<sup>th</sup> March 2006, valid from 1<sup>st</sup> April 2006, for the gas transmission system operator Gas System, was calculated on the base of, planned by the undertaking and corrected by the President of ERO, transmission service costs plus return on equity engaged in the licensed activity, estimated at 7,1%. The expenses connected with the leasing of transmission assets were also included. The share of constant fees was increased from 40 to 50%, thus reducing payments for customers with balanced consumption.

The national monopoly supplier – POGC – in the first quarter of 2006 used the tariff approved in 2003. Due to rapid rise of gas prices the new tariff from 1<sup>st</sup> Jan 2006 rose the tariff price by 8,8% (the undertaking proposed a 20% rise).

Another novelty was the introduction of storage tariffs. Their presence in the scheme is a sign of the implementation of the TPA principle into storage activity in the nearest future.

The process of tariff approval for distribution companies went relatively smoothly. The companies adjusted the methodology of tariff settlement to the requirements of the Regulator. The most important of them referred to return on equity (14,81% of 50% of capital), limitations of the rise of distribution fees and the share of gas planned for losses.

The regulator a few times refused to amend the tariffs according to the requirements of the POGC. However the growth of prices on the world gas market forced the President of ERO to approve a new application in December 2006. The rise of the new tariff reached 9,9% comparing to 14,3% required by the undertaking.

### **1.2.3. The effects of regulation in 2006**

The effects of regulation can be estimated by comparing required tariff quantities with the level of approval. The reduction of proposed tariffs of POGC is shown below:

I quarter	- 934,4 mln zł,
II quarter	- 195,8 mln zł,
III and IV quarters	- 251,4 mln zł,
Total	- 1 676,1 mln zł;

- OGP Gaz-System SA in 2006 - 33,9 mln zł
- SGT EuRoPol GAZ SA in 2006 - 194,6 mln zł.

- Total regulatory reduction of tariffs is estimated in 2006 for 1 840,4 mln zł.

### **1.3. The nomination of Transmission System Operators and Distribution System Operators**

#### **1.3.1. The nomination of Transmission System Operator**

The President of ERO, after analysing submitted documentation appointed the Gas System company as a Transmission System Operator. The decision sets time span for its validity for 7 years, so the term of the appointment covers the period until 1<sup>st</sup> July 2014. The Transmission System Operator has been leasing network assets from POGC.

#### **1.3.2. The nomination of Distribution System Operators**

The separation of distribution system operators from the structures of mother companies and the nominating them as Distribution System Operators is the next step in the regulatory reform of the gas sector.

In October and December of 2006 the President of ERO received applications for the appointment of six distribution companies as DSOs.

In the light of information supplied by the applicants the Regulator stated that the companies had fulfilled all the conditions contained in the Energy Law, thus appointed them according to the applications, for the position of DSOs on their respective areas of activity. According to legal requirements the managements of the distribution system operators do not participate in management process of other energy companies dealing with gaseous fuels. The companies are independent in their activity, including exploitation, repairing and development of the grid. They also deal with allocation of transfer capacity, nominations and congestion management.

### **1.4. Granting permissions for constructions of direct pipelines**

No such permissions were granted in 2006.

### **1.5. Agreeing restriction plans in gas consumption**

The main aim of restrictions in the gas consumption is to secure supplies to most vulnerable customers in case of serious disruptions in the functioning of the system. The “Plan of introducing reductions in gas supplies and consumption” elaborated by the Transmission System Operator, Gas System SA, was approved by the President of ERO on 25<sup>th</sup> August 2006. The updated version, submitted by the undertaking, was approved on 16<sup>th</sup> August 2006, for the period until 31<sup>st</sup> August 2007.

### **1.6. Agreeing development plans of gas network companies**

One of the most important competencies of the President of ERO is agreeing development plans of network companies. It helps to co-ordinate investment expenditures with other regulatory activities referred to a given undertaking, specially with the tariff approval process. The size of investment outlays is one of the most important factors determining the revenues and thus, the tariffs.

In 2006 for the first time the Regulator approved a development plan of the transmission system operator – Gas System SA valid for the years 2006 – 2008. The plan, elaborated in accordance with governmental assumptions of the energy policy, focused on the development of conditions for competition on the whole territory of the country, through the limitation of congestion and development of telemetric systems.

The President of ERO also agreed development plans of distribution companies. It is worth to mention that in the years 2003 – 2005 only in 2005 the overall investment plan of all distributors was executed in over 100%. (See the table below)

Table 24 . Investment outlays by distribution companies (prices 2005)

	2003	2004	2005	2003-2005
Plan [zł 000]	408 798	519 210	546 066	1 474 074
Execution[zł 000]	368 194	422 145	565 944	1 356 282
% of execution	90	81	104	92

Source: ERO

The development plans have not been realised mostly due to financial shortages caused by miscalculation of revenues. Although the plans were not realised, the growth of investment outlays observed in the years 2003–2006 can be characterised as impressive, specially comparing to the previous decade. The plan approved for the years 2007–2008 envisages stability, with the annual growth of 2–4% (see the table below)

Table 25. Annual investment outlays (prices of 2005)

	Realisation				Plan		
	2002	2003	2004	2005	2006	2007	2008
Outlays [zł 000]	312 699	368 194	422 145	565 944	652 959	681 646	694 435
Rate of growth (%)		18	15	34	15	4	2

Source: ERO

### 1.7. Approval of grid codes regarding balancing and congestion management

The grid code of the Polish Transmission system operator, Gas System SA was approved in the part related to balancing and congestion management by the decision of the Regulator on 21<sup>st</sup> June 2006. Due to regulatory intervention the operator introduced into the final version of the grid code the following changes:

- elimination of unclear entries

- inclusion of detailed principles of settlements regarding unsatisfactory parameters of supplies
- transfer of entries regarding balancing fees to the part subject to regulatory approval
- other minor changes regarding congestion management aimed at lifting discriminatory practices.

In 2006 the President of ERO also approved grid codes for six distribution companies, where the applicants implemented substantial changes after regulatory intervention. They mainly related to:

- the co-operation of distribution system operators with other market participants , including offering access to telemetric data
- principles of settlements
- conditions of switching
- the quantity of discounts for unsatisfactory quality of supplies.

### **1.8. Monitoring standard of service and quality of supplies**

Regulatory activity regarding unsatisfactory level of service and quality of supplies is connected closely with two other regulatory tasks: tariff approval and agreeing development plans. The tariffs subjected to regulatory approval must contain detailed regulations on the size of compensations paid by energy undertakings for not maintaining the standard of service and quality of supplies.

The regulator, when approving developments plans takes into consideration the size of necessary investment needed for maintaining and improving the quality.

## **2. Monitoring of the gas system**

From the Regulator's point of view monitoring of an energy sector makes the evaluation of the quality of regulatory activity possible. Moreover, the signals generated within a given sector give warnings about undesirable developments in the areas subject to regulation. The conclusions resulting from the observations are published in the form of reports, elaborations and individual research publications. Monitoring of a given sector is also an important tool in the execution of reporting obligations, specially imposed by the European Commission's relevant bodies.

### **2.1. Monitoring of allocation principles and congestion management**

The Regulator constantly monitors the functioning of the gas system within the scope of capacity allocation, mechanisms of balancing and congestion management. The functioning of the system is clearly defined in the transmission grid code, approved by the Regulator.

The Regulator also agrees development plans aimed at the liquidation of congestion and other obstacles hindering the fluency of gas flows.

### **2.2. Monitoring of gas storage, liquefaction of gas, and other services**

POGC SA has been until now the only one owner of gas storage capacity in Poland. In 2006 the undertaking did not start activities aimed at the offering of gas storage services to other companies. Though regulatory interventions and informing the Minister of Economy and Minister of Treasury the company in the reporting period did not start actions which would lead to the facilitation of the access to gas storage service.

### **2.3. Monitoring of security of supplies.**

According to the definition of security of supplies applied by the European Union it is a guarantee of access to energy of proper quality, whenever necessary, supplied at reasonable, transparent price determined by the costs. The most significant regulatory actions, undertaken with the aim of monitoring the security of supplies were:

- updating of data base regarding the situation in the sector specially financial standing of energy undertakings
- evaluation of the state of grid infrastructure with special attention paid to investment increasing the level of reliability of supplies,
- increasing diversification of gas supplies sources.

The last element of regulatory activity mentioned above is of special importance. According to the ordinance issued by the Government in the years 2005 – 2009 maximal level of purchases from one source of gas should not be higher than 72%. The licenses granted by the Regulator for trade in gas contain the obligation of diversification.

The dependence on the Russian supplies should be limited by the implementation of the following means:

- the construction of an LNG terminal
- the exploration of domestic sources
- the intensification of import from other destinations.

The program, which is to be realised by one, heavily concentrated undertaking, POGC SA, should also be diversified, its monopoly position.

However the functioning of gas infrastructure can be characterised as stable, it will require further investment outlays, because over 50% of assets are over 26 years old.

### **3. Promotion of competition**

Promotion of competition contains two kinds of activities

- regulatory – aimed at creating conditions for competition by administrative means
- promotional - spreading knowledge of competition, advantages of market solutions and increasing, low in the Polish conditions, consumer awareness.

Administrative measures, undertaken by the Regulator and other relevant bodies of state administration, resulted in unbundling, implementation of TPA rule and other steps, described

in this report. Promotional measures, such as publications, reports, media related activity, public presentations and lectures of the President of ERO and his experts.

The President of the ERO asked for the means from the European Community for the realisation of the program “ The implementation of competition in the energy market”. The program is to consist of the following parts:

- the evaluation of criteria, guidelines and principles of realisation of gas release program,
- analysis of economic aspects of the diversification programs,
- analysis of conditions of liquidation of tariff approval procedures in gas trade
- analysis of possibilities of virtual trade in gas
- elaboration of a method of balancing for small customers
- elaboration of standard of measurement and data transmission
- evaluation of the costs of switching borne by distribution companies

Full implementation of the program mentioned above would significantly increase the development of competition, which is on the preliminary stage for the time being.

#### **4. Monitoring of access to the transmission grid**

The Energy Law imposes on the Regulator a duty to approve a list of pieces of information which should be published by the gas transmission system operator. The Regulator also issues opinions on applications submitted by the TSO to primary dispatchers of the grid on offering access. This procedure prevents blocking of transmission capacity. In the year 2006 there were no relevant cases, which would require regulatory intervention.

### **C. District Heating**

District heating until regulatory reform 1997–1998 was under the umbrella of monopoly position, the lack of competition, administratively fixed prices, and subsidies when necessary. Regulatory reform, taking into consideration natural monopoly of suppliers and the lack of competition was based on legal and financial tools.

#### **1. Licensing**

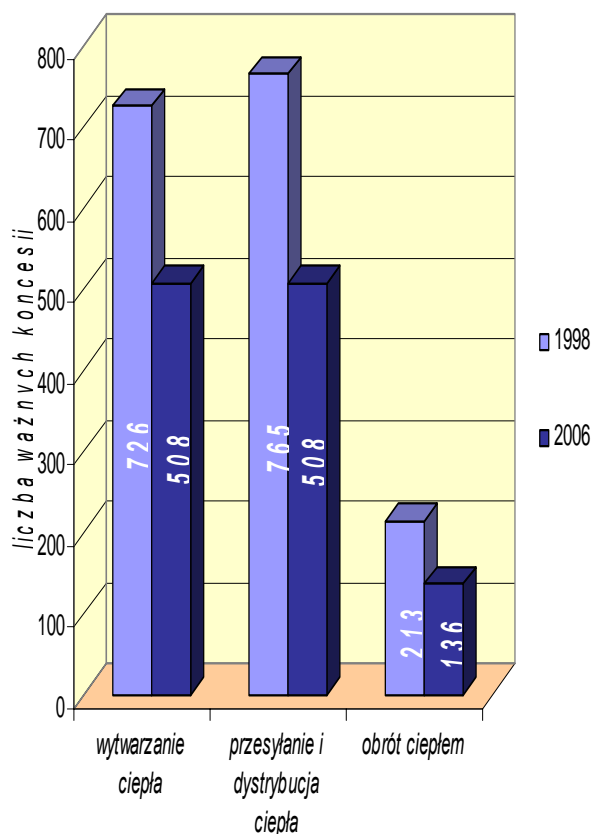
The licensing process implemented significant changes, improving general situation in the efficiency of the sector. Licenses condition imposed on district heating companies numerous duties, listed below:

- installing automatic weather regulation systems
- elaboration of programs of the rational fuel consumption
- reducing grid water losses
- elaboration of programs reducing environmental burden
- obtaining permissions for the emission of pollution.



Because the threshold of licensing was decreased from 1 MW of heat to 5 MW of heat capacity, the number of licensed companies has been systematically falling (see the picture below).

Picture 27. Licenses according to the kinds of heating activity.



Explanation:

Liczba ważnych koncesji - number of valid licenses

Wytwarzanie ciepła - heat generation

Przesyłanie i dystrybucja – transmission and distribution

Obrót ciepłem – trade in heat

Source: ERO

## 2. Heat tariffs

Until 1998 heat prices and fees were set by the Minister of Finance. Generally the prices did not satisfactorily reflect the costs. They generally were lower than the level of costs. Administrative setting of prices adversely affected the efficiency of the whole district heating sector.

The situation was changed with the implementation of the Energy Law. According to this legislation the tariffs elaborated by heat companies and submitted for regulatory approval should guarantee:

- covering justified costs plus justified return on equity
- protection of consumers against unjustified rise of prices
- balancing of interests of suppliers and consumers

Taking into consideration a complicated nature, monopoly position and social vulnerability of the sector tariff approval in district heating requires deep analysis of all elements of costs. In the Polish conditions, heat regulation is carried out by 9 regional offices of ERO. The results of tariff approval process and regulatory benefits are shown below:

Table 26. Regulatory effects in the years 2001-2006 (in zł million)

Years	Annual revenues		Regulatory effects	
	Proposed by enterprises	Approved in tariffs		
				w %
2001	9 448	9 026	422	4,5
2002	8 429	8 135	294	3,5
2003	8 138	7 887	251	3,1
2004	7 063	6 901	162	2,3
2005	5 725	5 551	174	3,0
2006	8 053	7 749	304	3,8

Source: ERO

Due to regulatory intervention the size of consolidated regulatory effects exceeds 1,5 bln zł over the last six years. This is another argument to leave regulatory control of the sector as it is.

#### **D. Other duties of the President of ERO**

Other duties of the President of ERO include:

- **Licensing of liquid fuels** which covers generation, storage and trade. Due to high level of diversification of trade companies (in Poland even fuel stations are subject to licensing regime), the number of licenses in this sub-sector reached, for the end of 2006, 8580. Prices of liquid fuels due to competitive environment prevailing in the sector are not subject to regulatory approval.
- **Licensing of renewable energy sources.** All generators, producing energy in renewable sources are subject to licensing. At the end of 2006 the number of licensed sources reached 868, including 6 biomass, 74 biogas, 104 wind and 684 hydro, of total installed

capacity 1 307,54 MW. The President of ERO granted also 36 promises of licenses, mostly for wind generators, of total capacity 692 MW.

- **Issuing and redemption of certificates of origin.** This is the main tool of regulatory support for generation of energy in renewable sources. In 2006 the President of ERO issued 4 112 certificates of origin for 4 449 960 MWh and redeemed 4 659 certificates for 3 884 211 MWh.
- **Control of realisation of obligatory purchases from renewable energy sources.** 2006 was the first full year of functioning detailed regulation of obligatory purchases and the monitoring procedures. However the results will be known later, it is possible to state after observations of the energy sector that significant majority of companies did not have problem with fulfilling this obligation in 2006.
- **Support of co-generation.** The share of energy from co-generation should have exceeded 13,7% in total energy sales in 2006. The procedures, due to their complicated nature, have not been finished until now. The introduction of certificates of origin of energy coming from co-generation would make easy regulatory control of this duty.
- **Monitoring of fuel stocks.** The control of January 15<sup>th</sup>, 2006, covered 117 undertakings. 12 of them did not fulfil the requirements referred to the size of stored fuels. On October 31<sup>st</sup> the number of undertakings not fulfilling this obligation was reduced to 1 (out of 112 controlled), however on November 31<sup>st</sup> it increased to 6 (including 3 system enterprises), out of 102 subject to control.
- **Efficiency growth control.** According to analyses carried out in ERO the Polish power sector still does not execute fully its possibilities of efficiency improvement. The President of ERO issued guidelines which would force the energy companies to undertake proper actions (energy conservation, implementation of best practices, higher level of competitiveness, etc).
- **Imposing financial fines.** Due to strict regulatory control and disciplinary measures undertaken in the previous years, the President of ERO in 2006 imposed financial fines only on 5 undertakings (total value of 76 000 zł). Most of undertakings appealed to the antimonopoly court.
- **Tariff obligation control.** In 2006 15 companies did not submit tariffs for regulatory approval. It was stated after investigation that two of them had ceased activity. The other 13, after regulatory intervention, submitted required tariffs.
- **Grid connection refusals.** In 2006 electricity companies reported 296 refusals of connection, gas 2223 and district heating 20, mainly due to unfavourable economic and technical conditions. The President of ERO stated objections to 161 decisions (120 referred to gas and 41 to electricity)
- **Appointment of qualification commissions.** In 2006 445 qualification commissions were active in the field of approval qualifications of persons employed in the exploitation of grids, equipment and installations. The commissions employed 5 637 people.
- **Monitoring of bio-components and liquid biofuels market.** This duty, mostly of statistical character, is to give a clear picture of the dynamics of the consumption of these carriers of energy. The results have been published on the ERO's web page.

### **III. Spreading market knowledge and consumer rights**

#### **1. Public statistics**

The President of ERO is authorised to collect data regarding the functioning of the power sector. However the number of questionnaires which have to be fulfilled by energy undertakings has been systematically falling, the data collected by the President of ERO can be the base for deep analyses of the situation in one of the most significant branches of the national economy. The activity of the President of ERO within the scope of presented above is fully compatible with the requirements of the national statistics and Eurostat. A very special place regarding the power sector is dedicated to district heating companies. Over 800 biggest heat undertakings are subject to regulatory statistical scrutiny. The data collected by the President of ERO can also help to verify the value of other statistical sources, gathered by other bodies of the state administration.

#### **2. Promotional and information activity**

This activity involves;

- Positions and communiqués of the President of ERO, issued when it is necessary to express regulatory opinion about urgent matters. So far 14 positions and 27 communiqués have been issued.
- Editorial activity covers the publication of bi-monthly “Bulletin of ERO” and two branch bulletins – gas and electricity. Branch bulletins contain official information about tariffs and licenses.
- Regulator’s Library – issues publications of ERO’s and external experts, related to most important problems facing the power sector in Poland and the European Community.
- Web page – ERO possesses its web page which contains detailed information and links covering all aspects of functioning of this institution.
- Co-operation with media and other events. The President of ERO and its employees published articles to professional and popular media, gave interviews and participated in numerous events, conferences, symposia, both in Poland and abroad.

#### **3. The activity of the Spokesman for Energy and Fuel Customers**

This is a unique body aimed at protection of interest of consumers, generally being a weaker part in disputes with energy undertakings. In 2006 the Spokesman processed 1317 cases, comparing to 108 in the first year of activity, 2002. In 2006 they mostly related to:

- quality standards – 20%,
- tariffs – 19%,
- illegal consumption of energy – 19%,
- connections to grids – 11%,
- the state of equipment – 8%,
- the division of costs – 4%,
- others – 19%,

The growth of spokesman's interventions observed in the years 2002 – 2006 proves that this initiative was a significant step in the protection of consumers, taking into consideration relatively weak consumer awareness in Poland.

#### **IV. Other matters**

##### **1. Court control of the activities of the President of ERO**

Court control remains one of the most important tools of controlling Regulator's actions, specially referring to compatibility of regulatory decisions with law. In 2006 the President of ERO issued 7 248 administrative decisions. Only 269 (3,71%) were subject to appeal procedures. The Court for Protection of Competition and Consumers received 253 decisions, and after judiciary procedure, until December 31<sup>st</sup> 2006, dismissed 4, rejected 22 and revoked 12 cases. 213 cases were left for consideration in 2007.

##### **2. The functioning of the office**

The Energy Regulatory Office employed in 2006 in the head office and regional branch offices 282 people, including 249 members of the Civil Corps. Over 90% of employers possessed university education. However the revenues of the office reached 79 205 thousand zł, mainly from license fees, the expenses reached 32 591 thousand zł (96% of the planned quantity).

## Annex 1

### The most important amendments to The Energy Law

**1. As a result of the amendment that took place in 2000** the terms of reference of the President of the ERO were expanded with possibility to define corrective coefficients in case of a documented change of the external conditions of the business activity performed by the energy enterprise. The corrective coefficients define the proposed improvement of the operation efficiency of the energy enterprises and the change of the terms on which such enterprises performs the stated types of business activity. The President of ERO was given by the same amendment the possibility to define the period of validity of these corrective coefficients.

**2. The 2003 amendment** removed the requirement of approval of the lignite prices by the President of ERO. Nevertheless it also introduced new legal obligation, that is to purchase the electricity and the heat generated using renewable energy sources or, alternatively, generate the electricity and heat using the renewable energy sources.

**3. The 2004 amendment** added the following responsibilities of the President of ERO:

- 1) Collecting and transforming information related to the energy enterprises, including the calculation and announcing of the following information by 31<sup>st</sup> March of each year: a) an average price of sale of electricity co-generated with heat, b) an average prices of sale of electricity on the competitive market – in the preceding calendar year;
- 2) Collecting information on the investment projects which are within the scope of interest of the European Union and its submission to the European Commission by 15<sup>th</sup> April of each year;
- 3) Issuing and redeeming the certificates of origin of the energy generated at renewable energy sources;

**4. The 2005 amendment** added the following responsibilities of the President of ERO:

- 1) Setting the amount of the justifiable return on investment referred to in Article 45 (1) point 1 for the energy enterprises which submit the tariffs for approval;
- 2) Setting the maximum share of the fixed charges in the total fees for the provision of transmission or distribution services for the various groups of customers in the tariffs applicable to gaseous fuels and energy, in the cases in which the protection of the interests of customers makes it necessary;
- 3) Granting and revoking permission for not complying with the obligation to provide a transmission, distribution, storage, liquefaction, regasification and upstream transport services of gaseous fuels;
- 4) Designation of the system operators for energy power and natural gas systems.
- 5) Approving the instructions of grid operation and use with respect to the aspects of system balancing and the congestion management;
- 6) Organising and conducting tenders the subject of which is: a) designation of last resort suppliers, b) construction of new electricity generating units and implementation of measures which reduce the electricity demand;

- 7) Supervising the implementation of the duties resulting from the Regulation of the European Parliament and of the Council no. 1228/2003/EC of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity (O.J. EC L 176 of 15.07.2003);
- 8) Specifying methods of efficiency monitoring and taking actions aimed to improve the efficiency of energy enterprises;
- 9) Defining and publishing indices and index prices important for the tariff shaping process;
- 10) Announcing the level of unit substitute fee for the obligation to purchase the electricity and heat generated using renewable energy sources in the Bulletin of the ERO by 31 March each year;
- 11) Monitoring the operation of the gas and electricity system at the following extent:
  - a) The rules governing the management and distribution of capacity of intersystem connections in co-operation of the proper bodies of the Member States of the European Union or the member states of the European Free Trade Agreement (EFTA) – the parties to the European Economic Area Agreement,
  - b) The balancing mechanisms designed for the gas or electricity system and the management of the restrictions in the national gas and electricity system,
  - c) The terms of connecting entities to the grid and the establishment of such connections and the repairs of such grids,
  - d) compliance of transmission and distribution system operators with the obligation to publish information on the intersystem connections, the grid use and the distribution of the transmission capacity to the parties of the gaseous fuels or energy transmission or distribution agreement, observing the requirement to treat that information as confidential for commercial reasons,
  - e) The terms of provision of the gaseous fuels storage services, natural gas liquefaction services and other services offered by energy enterprises,
  - f) Security of supply of gaseous fuels and electricity,
  - g) Compliance of transmission and distribution system operators with the tasks they shall be obliged to perform,
  - h) Compliance of energy enterprise with the obligation to issue and keep financial records and financial statements for activities related to the supply of gaseous fuels or energy.

**4a. The 2005 amendment also:**

- 1) Extended disputes types that could be resolved by the President of ERO to natural gas transport agreements, gaseous fuels storage agreements and natural gas liquefaction agreements;
- 2) Extended financial penalties that could be imposed by the President of ERO;
- 3) Enabled the President of ERO to verify the compliance with the obligation to purchase the electricity generated using renewable energy sources;
- 4) Implemented the requirement to verify the qualification of persons who operate the grids, equipment and installations of great significance to the energy industry by the qualification commissions every five years;
- 5) Obligated the enterprises that refused to conclude an agreement on the provision of services to notify the President of ERO and the requesting entity in writing without delay, specifying the grounds for refusal

6) Implemented the requirement to obtain permission from the President of ERO prior to the construction permit decision required by the construction law when constructing a direct gas pipeline or a direct line.

**5. The amendment of 2006 imposed on the President of ERO the following duties:**

- 1) Approval OF information given to the public by the operators of gas transmission systems
- 2) Issuing opinions on submitted applications on using the unused transmission capacities in the gas transmission operators networks
- 3) Approval of ways of using revenues resulted from selling unused but reserved before capacities.

**6. Other changes of law that affected the powers and responsibilities of the President of ERO:**

- a) The Act of January 23<sup>rd</sup> 2004 on Monitoring and Controlling the Quality of Liquid Fuels and Biofuels. According to this Act trading with liquid fuels by an undertaking require a license granted by the President of ERO (1170 application was submitted to the President of ERO regarding this license in 2005);
- b) The ordinance of July 22<sup>nd</sup> 2003 on Public Statistics Research Program issued on the basis of the Act of June 29<sup>th</sup> 1995 on Public Statistics imposed on the President of the ERO the duty of collecting statistics regarding renewable energy sources and heating supply;
- c) The Act of October 2<sup>nd</sup> 2003 on Biocomponents Used in Liquid Fuels and Biofuels obliged the President of ERO to collect information about the number of undertakings that produce and trade in biocomponents liquid fuels and biofuels and about the amount that is being traded and produced.