

National Report

*The President
of the Energy Regulatory Office
in Poland*

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Acronyms and Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
Directive 2009/72/EC	Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC
Directive 2009/73/EC	Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC
ENTSO-E	European Network of Transmission System Operators for electricity
ENTSO-G	European Network of Transmission System Operators for gas
DNC	Distribution Network Code
TNC	Transmission Network Code
NES	National Electricity System
OGP Gaz-System S.A.	Operator Gazociągów Przesyłowych Gaz-System S.A.
DSO	Distribution System Operator
SSO	Storage System Operator
TSO	Transmission System Operator
RES	Renewable Energy Sources
PGNiG S.A.	Polskie Górnictwo Naftowe i Gazownictwo S.A.
PGNiG S.A. Group	Polskie Górnictwo Naftowe i Gazownictwo S.A. Group
President of ERO	President of Energy Regulatory Office
President of UOKiK	President of Office of Competition and Consumer Protection
PSE S.A.	Polskie Sieci Elektroenergetyczne S.A.
PSG Sp. z o.o.	Polska Spółka Gazownictwa Sp. z o.o.
Regulation 347/2013	Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy
Regulation 713/2009	Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators
Regulation 714/2009	Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003
Regulation 715/2009	Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
REMIT regulation	Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency

SGT EuRoPol GAZ S.A.	System Gazociągów Tranzytowych EuRoPol GAZ S.A.
TGE S.A.	Towarowa Giełda Energii S.A. (Polish Power Exchange)
TPA	Third Party Access
EU	European Union
ERO	Energy Regulatory Office
Act of 22 July 2016	Act of 22 July 2016 amending the Energy Law Act and certain other acts (Journal of Laws of 2016 item 1165 and 1986)
Act of 30 November 2016	Act of 30 November 2016 amending the Energy Law Act and certain other acts (Journal of Laws of 2016 item 1986)
Energy Law Act	Act of 10 April 1997 on Energy Law (Journal of Laws of 2012, item 1059, as amended)
Act on stocks	Act of 16 February 2007 on stocks of crude oil, petroleum products and natural gas, the principles of proceeding in circumstances of a threat to the fuel security of the State and disruption on the petroleum market (Journal of Laws of 2014, item 1695, as amended)

1. FOREWORD

The National Report of the President of the ERO describes a general situation on the electricity and gas market in Poland in 2017.

Developments on the electricity market are largely due to the amendments to domestic and European legislation made in recent years, including subsequent amendments to the Energy Law Act. In 2017, provisions on the liberalization of the domestic gas market entered into force. Pursuant to these provisions, gas prices were liberalized for all users of gaseous fuels, excluding household users. The entry into force of these new regulations is another milestone in the development of a competitive gas market in Poland.

The year 2017 also saw a strengthening of the customer's position on the electricity market. Last May, the President of the ERO's Negotiation Coordinator began its activity – a new institution which provides customers with a possibility of alternative resolution of disputes with energy companies.

A detailed description of the developments on the Polish electricity and gas market and activities undertaken by the Polish Regulator both at the national and European level is provided in this report to be submitted to the European Commission and ACER.

A handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke extending to the left.

2. MAIN DEVELOPMENTS IN THE ELECTRICITY AND GAS MARKETS

Legal and regulatory changes

In December 2017 new legal regulations were introduced with respect to the functioning of the electricity system. In order to ensure medium- and long-term security of electricity supply to final customers, which is cost-effective, non-discriminatory and compliant with the sustainable development rules, the Act on Capacity Market¹⁾ was adopted.

The Act changes entirely the perception of the electricity market which so far operated as an energy-only market, by introducing regulations on the so-called dual-commodity market, that is the electricity market and the capacity market.

Pursuant to the provisions on the capacity market, new rights and obligations of the regulator are established, including, among others:

- approval of the Rules of the Capacity Market, submitted by the transmission system operator, PSE S.A.,
- settlement of disputes on issues related, among others, to certification and capacity auctions (Article 79),
- monitoring the certification of processes on the capacity market (including general certification, certification for auctions and additional auctions, a preliminary auction and the course and results of capacity auctions),
- issuing opinions on parameters of an auction,
- authorization to withhold, re-institute and even invalidate a capacity auction,
- authorization to impose financial penalties.

The Act entered into force on 28 January 2018.

2017 saw for the first time the functioning of new regulations introduced to the Energy Law Act by the Act on Alternative Dispute Resolution (ADR)²⁾. The Act introduced the institution of amicable settlement of disputes involving consumers into the legal system, which is an alternative to pursuing claims in administrative proceedings (the President of the ERO) or in court. The new provisions provide for appointment of the President of the ERO's Negotiation Coordinator. Proceedings on alternative consumer dispute resolution, that is disputes between a consumer of gaseous fuels, electricity or heat in a household or a prosumer being a consumer, and an energy undertaking, are conducted by the Coordinator, upon request of a consumer of fuels or energy or upon request of a prosumer being a consumer. By conducting proceedings on alternative consumer dispute resolution, the Coordinator facilitates bringing the positions of the parties closer to one another in order to settle the dispute or presents a proposal of dispute resolution to the parties.

The Negotiation Coordinator began its activity in May 2017.

With respect to the gas sector, on 1 January 2017, the Act of 30 November 2016 on amending the Energy Law Act and certain other acts entered into force. Pursuant to Article 47 (1a) added under this Act, tariffs established by energy companies holding a licence for trade in gaseous fuels or for foreign trade in natural gas in the extent specified in this licence, shall not, as a rule, be subject to the approval of the President of the ERO. As of 1 January 2017, the obligation to submit tariffs for approval does not apply to sale of gaseous fuels:

- 1) at a virtual point,
- 2) in the form of liquefied natural gas (LNG) or compressed natural gas (CNG), and
- 3) gaseous fuels sold under tender, auction or public procurement procedure.

The above regulations are gradually aiming to eliminate the obligation to establish tariffs for gaseous fuels and submit them for approval of the President of the ERO. As of 1 October 2017, the obligation to establish tariffs for gaseous fuels sold to other groups of customers, except for households, and to submit them for approval of the President of the ERO, was abolished. The obligation to approve tariffs for this category of customers is maintained until 31 December 2023.

¹⁾ The Act of 8 December 2017 on Capacity Market (Journal of Laws of 2018, item 9).

²⁾ The Act of 23 September 2016 on Alternative Dispute Resolution (Journal of Laws of 2016, item 1823).

Legal changes made by the Act of 7 July 2017 on amending the act on stocks of crude oil, petroleum products and natural gas and the principles of proceeding in circumstances of a threat to the fuel security of the state and disruption on the petroleum market and other acts (hereinafter: Act of 7 July 2017) also had a material impact on the gas market. This Act specified, among others, new rules of maintaining mandatory stocks of natural gas. A requirement of physical maintaining mandatory stocks in a storage installation. This means that in order to demonstrate an actual volume of kept mandatory stocks of natural gas, energy companies should indicate a given storage installation and provide the volume of stocks physically allocated to a given storage installation. The Act also introduced a new competence of the regulator, that is issuing decisions on consent to conclude an agreement on performing tasks with respect to maintaining mandatory stocks of natural gas. This Act allows an energy company conducting business activity in the area of foreign trade in natural gas and an entity bringing natural gas to commission the performance of tasks related to maintenance of mandatory stocks of natural gas to another energy company conducting business activity in the area of foreign trade in natural gas or an energy company conducting business activity in the area of trading in gaseous fuels. The ordering companies are obliged to submit a draft agreement to the President of the ERO and obtain consent to conclude it.

Electricity market

Wholesale market

The volume of gross domestic electricity production in 2017 amounted to 165,852 GWh and was higher than that of the preceding year by around 2%. Also, gross domestic electricity consumption (168,139 GWh) increased in that year by around 2.1% as compared to 2016. The structure of electricity production in 2017 did not change significantly in comparison to 2016. A great majority of production (79%) is based on conventional fuels, that is hard coal and lignite. Similarly to the previous years, there has been a further growth of share of generation from wind and other renewable energy sources. Generation from wind sources remained the leader of "green" energy production, mainly due to the installation of new capacity in the domestic electricity system and favourable weather conditions.

In 2017, installed capacity in the domestic electricity system totalled 43,321 MW, and generating capacity 43,332 MW, which is an increase by 4.9% and 5.0%, respectively, as compared to 2016³⁾. An average annual demand for capacity was 22,979.7 MW, against maximum demand of 26,230.6 MW, which is an increase by 2.2% and 2.7%, respectively, as compared to 2016. The ratio of available capacity to generating capacity in 2017 was 67.3% (decrease by 2.1 percentage points as compared to 2016)⁴⁾.

The number and structure of entities of the electricity sector have not changed significantly. In 2017, the highest share in the electricity generation subsector amounting to 43.5%⁵⁾, was still held by PGE Polska Grupa Energetyczna S.A. (increase by 7.7 percentage point in comparison to the preceding year), whereas in the subsector of sales to final customers the leader was TAURON Polska Energia S.A. with the share of 10.8% (increase by 0.6 percentage point in comparison to the preceding year).

Three largest producers (which were part of the groups: PGE Polska Grupa Energetyczna S.A., TAURON Polska Energia S.A., ENEA S.A.) had in total almost 2/3 of the installed capacity and were responsible for almost 70% of domestic electricity production.

Retail market

In 2017, there were five big DSOs operating on the electricity market whose grids are directly connected to the transmission system and which are obliged to separate distribution activity performed by the system operator from other types of activity not connected with electricity distribution (unbundling). In addition, there were 178 vertically integrated undertakings designated as DSOs, which are not subject to the unbundling obligation.

The biggest share in the electricity sales to end-users is still held by the incumbent suppliers, performing a function of default suppliers for household consumers who have not decided to switch to

³⁾ As at 31 December 2016 and 2017, data of PSE S.A.

⁴⁾ Data based on average annual values from evening peak, data of PSE S.A.

⁵⁾ Share calculated taking into account the volume of electricity fed into the grid.

a new supplier. In 2017, there were five default suppliers and over 119 alternative trading companies active in the electricity supply to end-users, including households. On the electricity market there were also 178 suppliers acting within undertakings vertically integrated with the DSOs.

There were some 17.4 million of final customers, out of whom 90.8% (15.8 million) are the customers in the G tariff group, with a great majority of household consumers (over 14.9 million) that purchase electricity to consume it in their households. The rest of end-users are customers of the A and B tariff groups, supplied from the high and medium voltage grids, which are so-called industrial customers, and the customers connected to the low voltage grid consuming electricity for the purpose of conducted business activity, the so-called commercial customers, belong to group C.

Between the 4th quarter of 2016 and the 4th quarter of 2017, electricity prices in all tariff groups decreased: the strongest decrease in electricity prices was observed for household customers – by 4.4%, and the lowest for the C tariff group customers – by 0.7%. In 2017 distribution fees increased for customers in all tariff groups, except for the A tariff group customers. The highest increase in the distribution fee was for customers in the B tariff group – by 7.9% and the lowest for household customers – by 3.9%. For consumers in the A tariff group, the distribution fee decreased by 3.6%. The average electricity price for households, including a fee for electricity distribution in 2017, was PLN 0.5046/kWh⁶⁾.

Gas market

Wholesale market

As of the end of 2017, 200 entities held licence for trade in gaseous fuels in comparison to 196 at the end of 2016. 108 undertakings actively participated in natural gas trading. Gas trading undertakings from outside PGNiG S.A. Group acquired 86.1 TWh of natural gas.

Sale and purchase of gaseous fuels on the Polish wholesale market is performed mainly on the commodity exchange managed by TGE S.A., mainly due to the obligation of public sale of gas by the largest entities (currently PGNiG S.A.), arising under legal provisions in force. The gas exchange participants include mainly gas trading companies and big end-users which may act through brokerage houses or independently, after concluding a relevant contract with TGE S.A.. In 2017, as a result of performance of contracts concluded on TGE S.A., 123,704,647 MWh of natural gas were delivered at an average price of 81.00 PLN/MWh.

Natural gas purchase from abroad in the volume of 167 TWh was supplemented with gas from domestic sources in the amount of 42.1 TWh. Total supplies of gas from abroad in 2017 included imports and intracommunity purchase. In 2017, a significant part was still imports from the East, under a long-term contract concluded between PGNiG S.A. and Gazprom.

Active storage capacity of underground gas storages totaled 2,985.35 million m³ (as at the end of 2017).

Retail market

As at the end of 2017, there were 56 gas distribution system operators, including one legally separated operator (PSG Sp. z o.o. belonging to PGNiG S.A. Group) and 55 energy companies acting as local DSOs.

In 2017, the total number of gas customers exceeded 7 million. The total sale of natural gas (that is high-methane and nitrogen-rich natural gas supplied from gas networks) to final customers was 201,881,827 MWh. As compared to 2016, there was an increase of gas consumption by around 10%. This increase was generated by a group of industrial consumers.

In 2017, the sale of natural gas to final customers was dominated by undertakings of PGNiG S.A. Group, whose share increased, as compared to the previous year, to 80.74% (73.69% in the preceding year). This change was due to a significant decrease of the volume of gas brought from abroad directly

⁶⁾ The price was calculated as a ratio of revenues from sales of electricity and the volume of its sales to final customers in households with common service agreements (combining provisions of distribution and sales agreements). Based on data obtained from six entities trading in electricity, that is companies holding licences for trading in electricity, providing complex services to consumers of electricity in households.

by end users for their own needs. This was mainly due to changes in legal regulations on mandatory reserves.

Consumer protection

Since 2011, the Information Point for Fuel and Energy Customers operates within the structure of the ERO. The information point supports customers mostly by providing them with information on their rights and obligations in their relations with energy undertakings. In 2017, customers filed a total of 3,417 requests; among them the most common problems referred to the electricity (65%) and gas (14%) sector. Requests focused on issues related to terms and conditions of concluded agreements (23%) and unfair market practices, especially in the context of switching supplier (25.8%), switching supplier itself (6%), and complaints related to invoices (6%) and measurement systems (3%) and customer service (3%).

In 2017, the ERO received over 3,800 complaints lodged by household customers about the activity of electricity and gas undertakings. The complaints referred to, among others, invoicing (over 25% of all lodged complaints), unfair commercial practices (23%) and agreements (7%). The measures undertaken by the regulator mainly focused on examining a case with energy undertakings, including a verification whether they acted in line with the legal regulations in force, including the provisions of the Act on consumer rights. In a number of cases, the measures undertaken allowed to change the position of an energy undertaking and to consider customers' complaints. In cases of complaints which were beyond the competences of the President of the ERO, in the correspondence addressed to a customer, further options of asserting his/her rights were highlighted, for instance using the assistance of the President of the ERO's Negotiation Coordinator or instigating civil proceedings.

3. THE ELECTRICITY MARKET

3.1. Network regulation

3.1.1. Unbundling

TSO

In the territory of the Republic of Poland there is one transmission system operator for electricity – PSE S.A. with its seat in Konstancin-Jeziorna, whose 100% of shares belong to the State Treasury. Since 2015, the rights of the State Treasury attached to PSE S.A.'s shares have been exercised by the Government Plenipotentiary for Strategic Energy Infrastructure, pursuant to Article 12a of the Energy Law Act (in connection with the wording of the Regulation of the Council of Ministers of 3 December 2015 on the Government Plenipotentiary for Strategic Energy Infrastructure).

On 4 June 2014 the President of the ERO granted PSE S.A. the certificate of complying with independence criteria determined in Article 9d (1a) of the Energy Law Act.

In 2017, compliance with independence criteria and conditions of conducting licensed activity and exercising the TSO function was monitored on a current basis, and the monitoring results did not reveal any irregularities in the functioning of the TSO.

DSOs

Distribution system operators (DSOs) operating within vertically integrated companies and serving more than 100,000 customers connected to their grids, are obliged to be independent in terms of legal form, organizational structure and decision-making (Article 9d of the Energy Law Act). At the end of 2017 in the territory of the Republic of Poland 183 DSOs appointed under the decisions of the President of the ERO were involved in electricity distribution, including 5 entities legally separated from former distribution companies and 178 DSOs not obliged to be legally unbundled.

Pursuant to the provisions of the Energy Law Act, for failure to comply with the terms and criteria of independence, a transmission system operator or distribution system operator shall be subject to a financial penalty. The financial penalty shall also be imposed on an entity failing to ensure compliance with the independence criteria for the system operator designated for entity's grid. The financial penalty in the cases referenced above may not be lower than 1% or higher than 15% of the revenues of the entrepreneur on which the penalty was imposed, generated in the preceding fiscal year. Financial penalties shall be imposed thereunder by the President of the ERO. Irrespective of the financial penalty referenced above, the President of the ERO may impose a financial penalty also on a manager of the energy enterprise, in the amount not higher than 300% of his/her monthly remuneration.

There are no provisions in the Polish legal system which would impose a rebranding obligation on the DSO.

Compliance Programmes

Compliance Programmes are approved by the President of the ERO for five largest DSOs which are obliged to be unbundled in terms of legal and organizational form and decision making (Article 9d of the Energy Law Act). The other DSOs are not obliged to submit Programmes for approval. Implementation of the approved Compliance Programmes is controlled by the President of the ERO based on reports describing activities undertaken in the preceding year to implement the Compliance Programmes, submitted by DSOs each year, before 31 March.

Compliance Officers appointed by DSOs are responsible for monitoring the Compliance Programmes implementation. As the areas of activity are extensive, in most companies the Compliance Officer is assisted by regional coordinators who report to him/her in terms of the subject matter under monitoring, but in terms of their structural function, they report to directors of branches.

All operators published the Compliance Programmes on their websites. Employees were trained with respect to the Compliance Programme and had also an opportunity to ask Compliance Officers about interpretation of particular provisions of the Programme. As a rule, new employees are trained not later than one month after they were employed.

As part of the implementation of their tasks, Compliance Officers performed, among others, the following activities:

- 1) reviewed applied templates of documents and gave opinion on their consistency with the provisions of the Programmes,
- 2) reviewed procedures applied to the provision of basic business services, such as: connection to the grid, distribution, supplier switching, processing of complaints, customer service,
- 3) monitored proper use of DSO's brand in terms of differentiation from brands of other companies which are part of groups,
- 4) reviewed contents of DSOs' websites.

Similarly to previous years, outsourcing part of services to other entities, both affiliated with the vertically integrated enterprise and external ones, was common. In the assessment of the President of the ERO, when entrusting the tasks the implementation of which is related to access to sensitive data, to third parties, it is necessary to provide Compliance Programme training to all employees involved in performing outsourcing-covered activities. A contractual obligation of a DSO contractor to comply with the provisions of the Programme is insufficient. This may lead to decreased protection of sensitive data.

In 2017 the President of the ERO imposed a financial penalty on one of the DSOs for a breach of the Compliance Programme, namely for sending measurement data to other trading companies than current suppliers of electricity to these customers.

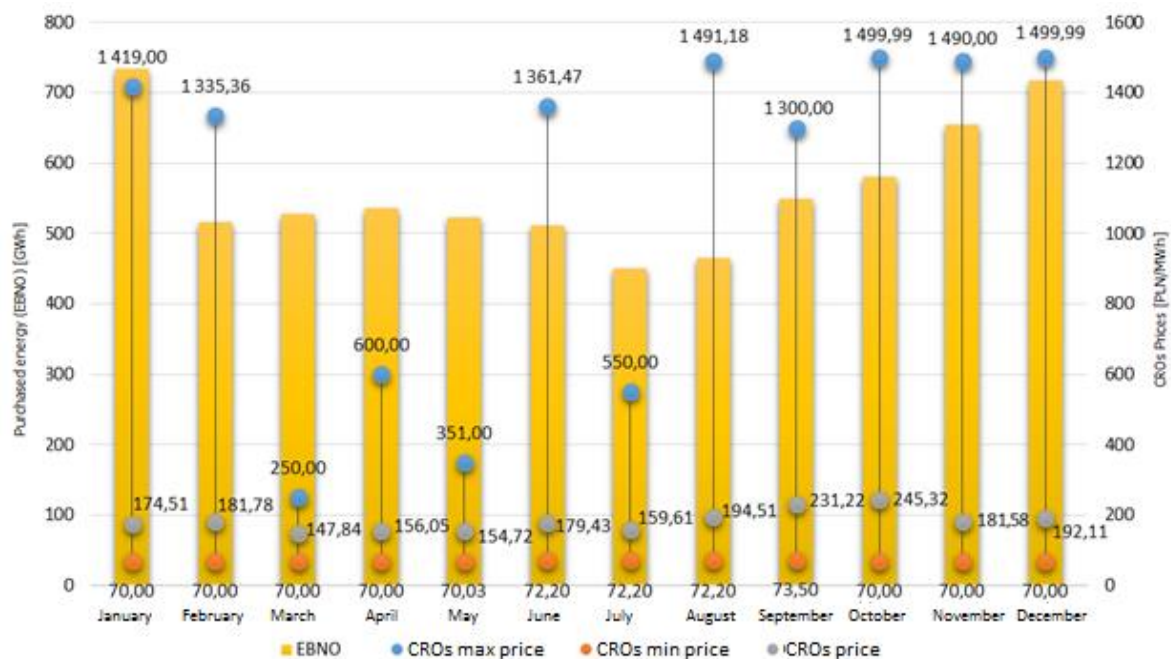
3.1.2. Technical functioning of the system

Balancing services

Rules for a mechanism of balancing the electricity system (the Balancing Market) are determined by transmission system operator in the electricity transmission network code (TNC), which is subject to approval by the President of the ERO.

At the end of 2017, 125 entities participated in balancing market processes, including 21 generators, 9 end-users, 8 network customers, 80 trading companies, a power exchange, 5 DSOs and PSE S.A. as the TSO. Technical and commercial data were notified by 46 market operators and concerned 356 scheduling units.

Information on the volume of unplanned balancing energy purchased from the Balancing Market and settlement prices of non-balancing on this market in particular months of 2017 is shown in Figure 1.

Figure 1. Purchased energy (EBNO) and the price of balancing energy on the Balancing Market (CROs) in 2017

Source: ERO, on the basis of data provided by PSE S.A.

In 2017, the total volume of electricity purchased on the Balancing Market (EBNO) amounted to 6.77 TWh, was lower by some 20% in comparison to the previous year and constituted some 4% of gross national electricity consumption. In 2017, the total volume of electricity delivered to the Balancing Market (EBND) amounted to 8.44 TWh and was by 0.38 TWh higher than the total volume of electricity purchased from the Balancing Market (EBNO), which indicates certain “over-contracting” of balancing market participants that occurred in most months of 2017, and the over-contracting volume was higher than in 2016.

The maximum settlement price of deviation (CRO) in the balancing market varied between 250.00 PLN/MWh and 1,499.99 PLN/MWh, whereas weighted average monthly prices of CRO oscillated between 147.84 PLN/MWh and 245.32 PLN/MWh. In eight months of the year, the maximum price exceeded 1.300 PLN/MWh (in 2016 there were seven months in which the maximum price exceeded 900.00 PLN/MWh), while in two months, the price was 1,499.99 PLN/MWh. The situations described above depended on various conditions, with the key and repetitive ones included atmospheric conditions, demand for capacity in the NES, capacity reserves in this system and market conditions.

The costs of removal of limitations in the NES specified in line with the definition included in the transmission network code amounted to PLN 407.3 million.

The operating power reserve (OPR) is settled on an hourly basis, and complementarily on a monthly and annual basis. Within these settlements, the average OPR price does not exceed the value of the reference hourly price valid in a given year. The number of settlement hours of OPR in 2017 amounted to 3,765 of which for 2,003 hours the OPR settlement price was equal to the reference price (41.79 PLN/MWh). Within these hours the settled OPR did not exceed the minimum hourly volume of this reserve required by the TSO, that is 3,451.1 MW in an hour. Weighted average hourly settlement price of OPR in 2017 amounted to 41.00 PLN/MWh, while hourly volume of this reserve stood at 3,512.6 MW in an hour.

In relation to the role of the DSOs in the system balancing, it should be underlined that their tasks include mainly acquisition and management of metering data. To this extent, distribution system operators co-manage the Balancing Market. These rules are specified in the distribution network codes (DNC) and have impact mainly on the TPA rule implementation. In addition, distribution system operators are obliged to undertake measures ordered by the transmission system operator, and these rules have been described by the TSO in the transmission network code. The key amendments to the distribution network codes of these operators in 2017 include:

- specification of the following rules: certification of the Demand Side Units used for providing DSR services on the request of the transmission system operator, rules and requirements related to

the scope and manner of providing measurement data from power supply facilities of certified Demand Side Units as part of provision of DSR services on the request of the transmission system operator,

- regulation and specification of requirements for some devices which are components of measurement and settlement systems and settlement systems, including reactive energy meters and active energy meters with precision class higher than 0.5, in connection with their exclusion from the legal metrological control (in 2017, one decision was issued, in the preceding year, decisions in this respect were issued also for the other DNC),
- introduction or updating standard consumption profiles used in commercial balancing of locations of supplying electricity to customers, with contractual capacity not exceeding 40 kW for three DNCs.

Attention should also be paid to the amendments made to transmission network codes and approved in 2017 by the President of the ERO, having indirect impact on system balancing, of which the key ones include:

- specification of provisions of transmission network codes with respect to calculation of transmission capacities offered for cross-border exchange at synchronous interconnections – with the Czech Republic, Slovakia and Germany, and non-synchronous ones – interconnections with Sweden and Lithuania, including in particular a specification of criteria taken into account by the TSO in determining the offered transmission capacity,
- introduction to the transmission network code, of new cooperation rules for the coordination of the NES development planning, including a new model of cooperation between the transmission system operator and distribution system operators in Poland in the creation of development plans for TSO and DSOs with respect to the transmission network and 110 kV distribution network.

Network security and reliability standards, quality of supply and service

The President of the ERO monitors the NES operation in terms of security of electricity supply, pursuant to a provision arising under Article 23 (2) (20f) of the Energy Law Act, on the basis of information on the NES operation, prepared and provided daily by the transmission system operator. This task is a general one and does not include all the actions referred to in Article 4 of Directive 2009/72/EC.

With regard to monitoring security and reliability of grid operation, the President of the ERO reviews ex post actions of electricity system operators undertaken as part of their statutory duties. These tasks relate in particular to ensuring proper operation of electricity systems, according to the operation rules agreed with the President of the ERO, approved in the network codes.

Monitoring time taken to connect and repair

The transmission system operator and distribution system operators publish on their websites information on continuity of electricity supplies with the use of SAIDI and SAIFI indicators for long-term planned and unplanned interruptions, taking into account extremely bad weather conditions, and the MAIFI indicator for short-term interruptions. The conducted verification of information published by network companies concerning the quality of electricity supplies allowed to standardize the calculation methodology and ways of quality data collection within particular network companies.

The year 2016 saw the new period of regulation (years 2016-2020), in which a quality regulation element was introduced. Implementation of quality regulation required, among others, determining efficiency (quality) parameters. Apart from the SAIDI and SAIFI parameters, the connection time was determined as one of key indicators.

In 2017, assumptions of the quality regulation were verified for the first time (the quality regulation element was introduced in 2016, which was at the same time the first year of the new regulation period covering the years 2016-2020). As a result, when specifying the regulated revenues for the year 2018, for two distribution system operators a quality regulation implementation ratio was applied.

Monitoring safeguard measures

The rules for taking emergency actions by system operators in the event of threat to security of electricity supply, such as introduction of restrictions on power supply and off-take, are described in detail in the relevant Ordinance of the Council of Ministers, as well as in the network codes developed by electricity system operators. These rules are subject to approval by the President of the ERO before their entry into force.

The transmission system operator develops annually a Plan of introduction of limitations in electricity supply and off-take. Should a situation occur which justifies undertaking emergency measures, after the electricity transmission system operator, electricity distribution system operator or electricity combined system operator in cooperation with stakeholders, have exhausted all available measures to ensure correct functioning of the electricity system, with due diligence, the Council of Ministers, upon a motion of the minister responsible for energy, may introduce, by means of an ordinance, limitations in electricity supply and off-take, for a specified period of time, in the territory of the Republic of Poland or its part.

In 2017, there were no events entailing introduction of limitations in electricity supply and off-take.

Pursuant to the provisions of the Energy Law Act, the body responsible for notifying the European Commission about undertaken emergency measures is the Minister of Energy.

Renewable energy sources: connection, access, dispatching and balancing

In 2017, 12,504 applications for connection of renewable energy sources (RES) to the grid were submitted to five biggest DSOs and TSO, with a total connection capacity of 1,392 MW. In 2017, 12,505 RES with a total capacity of 154 MW were connected to the grid. Solar power plants had the largest share in submitted applications and executed connections – 98.6% and 99.6%, respectively. Solar power plants also had the largest share in the total capacity of submitted applications for connection to the grid, that is 69.6%, and the largest share in the total capacity of RES connected in 2017, that is 73.5%.

At the end of 2017, the number of RES units waiting for connection amounted to 3,743 with a total capacity of 13,768 MW, out of which 2,794 solar plants with capacity of 1,863 MW, 643 wind plants with capacity of 11,577 MW.

The aforesaid data include micro-installations connected upon an application.

3.1.3. Network tariffs for connection and access

In 2017, similarly to the previous years, the President of the ERO approved electricity tariffs for the following entities:

- 1) transmission system operator (TSO) – for entities using a transmission service under an transmission agreement,
- 2) distribution system operators (DSOs) which on 1 July 2007 unbundled their activity – for customers connected to distribution grids at all voltage levels, that is for industrial customers, medium and small business and households,
- 3) electricity suppliers – with respect to customers of G tariff groups, connected to the grid of a given distribution system operator, to whom the supplier provides a complex service,
- 4) other energy companies, so-called companies of industrial power sector, with respect to electricity supply (group G) and distribution of electricity to customers connected to the grid of these companies.

Tariff approval for the transmission system operator – PSE S.A.

In August 2017, the President of the ERO called upon PSE S.A. to submit an application for approval of a tariff for 2018 within the scope of activity conducted by the company. The Company submitted a relevant application at the beginning of September 2017, and the submitted tariff was calculated by the company as a one-year tariff. In subsequent months, both selected cost items and volumes of energy and capacity which are a basis for calculation of transmission fees rates were analysed.

Proceedings on the PSE S.A.'s tariff for 2018 was completed with issuing a decision of the President of ERO approving this tariff on 14 December 2017.

Tariff approval for distribution system operators (DSOs) unbundled on 1 July 2007

Calculation of tariffs performed in 2017 by five largest DSOs again included assumptions and rules specified for a five-year regulation period, described in a document "Strategy for Regulation of Distribution System Operators for 2016-2020 published in 2015 by the President of the ERO. Detailed guidelines on tariff calculation for 2018 for distribution system operators were included in the document "DSO tariffs for 2018 (for DSOs unbundled on 1 July 2007)" published on the ERO's website. Basic parameters having an impact on the regulated revenue of distribution system operators were set based on rules arising from the documents: "Operating costs for Distribution System Operators for 2016-2020 (unbundled on 1 July 2007)", "Network losses for Distribution System Operators for 2016-2020 (unbundled on 1 July 2007)", "Method for calculation of return on capital employed for Distribution System Operators in 2016-2020" and "Quality regulation for Distribution System Operators (unbundled on 1 July 2007) in 2016-2020".

In the course of tariff approval for 2018:

The level of operational costs for every DSO was set based on corrective coefficients arising from decisions issued by the President of the ERO in 2016, establishing corrective coefficients determining the projected improvement of DSO operation efficiency in subsequent years of the 2016-2020 regulation period. When establishing a justified level of the network losses, results of the DSO efficiency assessment in this respect were also used.

In the pursuit of the goals of quality regulation described in the document "Quality regulation in the years 2016-2020 for Distribution System Operators", in the course of the tariff approval process for 2018, a quality regulation implementation rate Q was used for the first time, established according to the adopted rules on the basis of the following quality indices: SAIDI, SAIFI and Connection Realization Time, achieved in 2016. Considering the above, return on invested equity was set, taking into account: a quality regulation implementation rate Q (for three DSOs the ratio was equal to 1, for two DSOs 0.99445 and 0.97202, respectively, thus for the two DSOs, the return on equity was respectively lower) and the regulatory ratio WR (amounting to 1.01 for every of the five DSOs, which resulted in an increase of the amount of return on equity). The value of the regulatory ratio WR was established taking into consideration the necessity to intensify the DSOs activities aimed to implement the regulatory policy, among others, with respect to the implementation of the so-called Central System of Information Exchange and undertake innovative actions which are, among others, part of activities in favour of improvement of quality parameters of supplied electricity (e.g. through decreasing the SAIDI and SAIFI ratios as compared to previous years).

The method of calculation of other costs determining the level of the regulated revenue for every Distribution System Operator was specified in the document "DSO tariffs for 2018 (for DSOs unbundled on 1 July 2007)".

The tariff approval process for electricity distribution services for 2018 began in November 2017 and included five companies, that is PGE Dystrybucja S.A., TAURON Dystrybucja S.A., ENEA Operator Sp. z o.o. and ENERGA OPERATOR S.A., and innogy Stoen Operator Sp. z o.o. On 14 December 2017, the President of the ERO approved tariffs for the period until 31 December 2018 for five largest distribution system operators.

As a consequence of the approval of those companies' tariffs (five DSOs), the distribution fee rates for final customers decreased by 0.8% on average. The distribution fee rates for consumers in the G tariff group decreased by 0.5% on average, while for customers in the G tariff group they decreased in four DSOs, from 0.3% in PGE Dystrybucja S.A. to 2.2% in innogy Stoen Operator Sp. z o.o., whereas in the case of one DSO, that is Tauron Dystrybucja S.A., these rates increased by 0.15%. The decrease of distribution fee rates was mainly due to a decrease of the RES fee rate, set by the President of the ERO, published in the Information of the President of the ERO no. 81/2017 of 17 November 2017, which for 2018 is 0.00 PLN/MWh.

Prevention of cross-subsidizing

Tariff calculation for energy companies is based on clear rules which are intended to eliminate cross-subsidies between distribution and supply. The applied regulation model for biggest DSOs is a revenue cap with elements of cost of service. In 2015 the cost efficiency and technical efficiency (network losses) model was updated, using, among others, benchmarking. This model was a starting point for the subsequent regulatory period, that is 2016-2020. 2017 was also the first year of applying quality regulation elements.

3.1.4. Cross-border issues

Approval of rules for access to the cross-border infrastructure, including the rules for the allocation of capacity and congestion management

In 2017, methods of transmission capacity allocation approved by the President of the ERO in 2015 – allocation of transmission capacity through a day-ahead market coupling mechanism – were still applied on the Polish-Swedish and Polish-Lithuanian borders.

On 17 May 2017, the President of the ERO issued two decisions on non-granting of long-term transmission rights with respect to the bidding zone borders Poland-Sweden⁷⁾ and Poland-Lithuania⁸⁾. These decisions were issued after consultations with market participants on their needs with respect to cross-zonal risk hedging opportunities on concerned borders of the bidding zone, and after performing an analysis whether products or combinations of products offered on the forward market are efficient and whether they have been coordinated with regulatory bodies of Sweden and Lithuania, respectively.

On 2 October 2017 ACER issued a decision on harmonized allocation rules for long-term transmission rights (HAR)⁹⁾. On 17 October 2017, the President of the ERO issued a decision approving regional requirements for the capacity calculation region (Core) under harmonized allocation rules for long-term transmission rights¹⁰⁾. This decision was coordinated with regulatory bodies of the capacity calculation region (Core).

By a decision of 6 November 2017, the President of the ERO approved an application of a TSO regarding, among others, establishment of a single allocation platform and a set of requirements concerning it – the Joint Allocation Office (JAO) was appointed to become a single allocation platform. This decision was coordinated with all other regulatory bodies.

Due to the opinion issued by the ACER in September 2015¹¹⁾ and ongoing intensive works on the duly coordinated implementation of guideline on capacity allocation and congestion management¹²⁾ and on forward capacity allocation¹³⁾, the President of the ERO did not complete the administrative proceedings conducted with respect to synchronous interconnections for all time horizons: forward, day-ahead and intraday auctions.

Irrespective of the above, transmission capacities on synchronous borders were allocated through auctions organized by the JAO. While intraday transmission capacity allocation on these interconnectors was performed by a Czech TSO – ČEPS, a.s.

⁷⁾ <http://bip.ure.gov.pl/download/3/8918/20170517NiewydawanieprzezPolskieSieciElektroenergetyczneSAdlugoterminowych-prawpr.pdf>

⁸⁾ <http://bip.ure.gov.pl/download/3/8917/20170517NiewydawanieprzezPolskieSieciElektroenergetyczneSAdlugoterminowych-prawpr.pdf>

⁹⁾ https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2003-2017%20on%20HAR.pdf

¹⁰⁾ <http://bip.ure.gov.pl/download/3/9261/20171017WniosekPolskichSieciElektroenergetycznychSA.pdf>

¹¹⁾ http://www.acer.europa.eu/Official_documents/-Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2009-2015.pdf

¹²⁾ <http://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32015R1222&qid=1527680130005&from=EN>

¹³⁾ <http://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32016R1719&qid=1527680237741&from=EN>

Revenues from transmission capacity allocation on interconnections with the EU Member States and the manner of their utilization in 2017

From 1 January to 31 December 2017, revenues from allocation of transmission capacity on interconnections with the EU member states totalled PLN 97,131,949.17¹⁴⁾. This amount will in total be paid into the Earmarked Fund, from which the TSO allocates funds to maintain or increase capacity of interconnections by investments in the grid, that is the purposes specified in Regulation 714/2009. The investment projects related to maintenance and increase of transmission capacity on interconnections of the NES with transmission systems of the EU member states have been specified in the Development Plan agreed by the President of the ERO. So far, the TSO allocated part of the funds accumulated in the Purpose Fund to be one of the sources of financing of investments which are part of the project of construction of an interconnector between Poland and Lithuania, along with the necessary improvement of the NES. In 2017, no funds were spent from the Earmarked Fund.

Unplanned flows of electricity

Number of transmission capacities available at synchronous borders (Germany, Czech Republic, Slovakia) in the direction of exports is much higher than in the case of imports. This situation is due primarily to the existence of unplanned energy flows¹⁵⁾. Unscheduled energy flows also mean that a significant portion of transmission capacities is made available in shorter time horizons. In particular, transmission capacities towards imports were made available only at daily auctions – on average 77% of offered transmission capacities and on auctions on the day of delivery – on average 23% of offered transmission capacities. Similarly, transmission capacities towards exports were made available only at daily auctions – an average of 61% and on auctions on the day of delivery – an average of 39% of offered transmission capacities.

In 2017, as in previous years, inter-TSO remedial actions were taken, i.e. ad-hoc measures aimed at ensuring safe system operation. These activities included bilateral operational supplies (Cross-Border Redispatching) and multilateral supplies (Multilateral Remedial Actions – MRA). As a result of launching the physical phase shifting transformers (hereinafter "PST") in June 2016 at the Mikułowa power station and disconnecting the Krajnik- Vierraden line, the capability of power flows management on Poland-Germany interconnectors improved significantly, which translated into a significant reduction in the volume of inter-TSO countermeasures. In 2017, the total volumes of operative supplies amounted to 32,650 [MWh] for Cross-Border Redispatching and 5,950 [MWh] for MRA type supplies, which accounted for approx. 4% and approx. 6% of supplies delivered in 2016, respectively.

The settings of phase shifting transformers in the Mikułowa station in 2017 caused both PST operation in the direction of strengthening the flow towards DE – PL, as well as towards the weakening of the flow from DE. These settings are selected under the regional operational planning process on D-1 (the so-called Day Ahead Congestion Forecast (DACF) implemented under the supervision of TSCNET¹⁶⁾) and then adjusted as part of the Intra Day Congestion Forecast (IDCF). Such an approach means that PSTs are not set in advance to repel energy flowing from Germany to Poland, nor to repel energy flowing from Poland to Germany. PSTs' regulatory options may only be used if it is necessary from the point of view of network operation security. Experience from previous use of PSTs has shown that they must be used almost every day. As a result of regional arrangements aimed at improvement of the operational planning process and agreeing PST settings, starting from 22 June 2016, that is from the moment of launching the PST, their settings adopted in the first iteration of the DACF process correspond to the values estimated in the WAPP process (Week Ahead Planning Process) implemented by German TSOs.

It should also be emphasized that the regional DACF process in which PST settings are established is implemented already after the process of calculating and allocating transmission capacities (that is

¹⁴⁾ The above referenced revenue amount is as at 15 February 2018. The TSO's financial statements for 2017 are currently being drafted, including their verification by a statutory auditor. The figures presented above may change because settlements for 2017 have not been completed.

¹⁵⁾ More on this issue in the National Reports of the President of ERO in 2016 and in 2017.

¹⁶⁾ TSCNET Services GmbH is a company providing services to those transmission system operators which are members of the Transmission System Operator Security Cooperation (TSC) initiative.

after closing the so-called day-ahead market), and the projected flows at the DE-PL border take into account commercial flows realized using the allocated transmission capacities¹⁷⁾.

Due to the problem of lack of coordination in determining and allocating transmission capacity in the former region of Central and Eastern Europe¹⁸⁾, the President of the ERO in 2017 actively monitored the implementation of the allocation procedure at the German-Austrian border, including through participation in meetings organized on this matter by the regulatory authorities concerned. In connection with the published joint German-Austrian communication on the implementation of allocation at the Austrian-German border¹⁹⁾, in the opinion of the President of ERO, it was necessary to undertake actions aimed at including PSE S.A. in the work of German and Austrian operators on the implementation of the planned allocation. Without taking into account the data of the Polish transmission system in the calculation, the introduced allocation will not significantly reduce unscheduled flows. In light of this, on 26 May 2017 a meeting was held at the ERO seat, at which the representatives of the President of the Energy Regulatory Office and PSE S.A. presented their previous actions taken to include the Polish TSO in the works on allocation of transmission capacity at the Austrian-German border and discussed were possible further measures that could be undertaken by market participants to support the activities of the ERO and PSE S.A. The meeting was attended by representatives of associations of electricity market participants (associations of trading companies, TOE, KIGEiT and PKEE, PTPIREE, TGPE), as well as representatives of the Ministry of Energy and the Ministry of Foreign Affairs. As a result of the meeting, similar positions of the participating organizations regarding the capacity allocation at the DE – AT border were sent to BNetzA, the German electricity market regulator. An additional purpose of the meeting at the ERO was also to acquaint participants of this meeting with activities at the DE-AT border and their impact on the operation of the domestic electricity market.

Monitoring investment plans and assessment of their consistency with the Community-wide network development plan

As part of the implemented tasks, analyses of planned volumes performance are conducted annually. Their results are used in the process of agreeing further versions of development plans or their updates. These analyses are performed on the basis of annual reports on the development plan execution, to submit which the companies are obliged under Article 16 (18) of the Energy Law Act. The conducted analyses of the reports on development plans' implementation in 2017 showed that five biggest DSOs and the TSO executed in total level of investment expenditures higher by PLN 346 million than it was planned. TSO realized investments in the amount of PLN 1,460 million, whereas the planned level of investments amounted to PLN 936 million. Five biggest DSOs executed investments in the amount of PLN 5,908 million, whereas the planned level amounted to PLN 6,086 million.

In 2017, the development plan with respect to satisfying current and future electricity demand in the years 2016-2020 agreed with the President of the ERO was valid. The agreement process on the development plan was completed in January 2016.

The control of consistency of PSE S.A.'s development plan with the European-wide development plan (TYNDP) established by ENTSO-E, is carried out alongside every update of each of the aforesaid documents. Identified inconsistencies are clarified with TSO on regular basis (usually these inconsistencies result from different dates of documents' updates). In 2017 the above referenced documents were not updated, therefore no assessment was performed.

Monitoring technical cooperation between the EU and third country TSOs

National electricity system is connected with two electricity systems of two third countries which are not members of the EU – Belarus and Ukraine. In case of the cross-border interconnection with Belarus,

¹⁷⁾ More about the application of the PST on the DE – PL border in the paragraph *Monitoring of coordinated cross-border exchange* in point 3.1.5 of this report.

¹⁸⁾ More on this issue in Reports on the activities of the President of the ERO in 2015 and in 2016.

¹⁹⁾ "Austria and Germany: agreement on the common framework for congestion management" available from: https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/EN/2017/15052017_DE_AU.html

the existing line remains decommissioned due to the poor technical condition that prevents its utilization. Interconnection with Ukraine enables electricity supplies, which are carried out with a use of transmission capacity allocation mechanism based on explicit monthly auctions. The auctions, implemented by the Polish TSO, are unilateral.

Cooperation with regulatory authorities from other EU Member States and within the Commission's working groups

In 2017 the President of the ERO continued the tasks and projects started in the previous years. Further cooperation with ACER was a priority, especially with respect to the implementation of network codes and guidelines. Works on market development focused also on projects of early implementation of solutions that would be subject to the planned legal regulation, the energy market monitoring report, as well as other issues related to market-based aspects of cross-border cooperation.

The decision on the establishment of capacity calculation regions (CCR)²⁰ in practice shaped the new framework for regional cooperation, in which national regulatory authorities, transmission system operators and nominated electricity market operators (NEMO) are currently engaged. The borders of the Polish price zone have been ascribed to three independent CCRs: Core (synchronous interconnections), Hansa (interconnection with Sweden) and Baltic (interconnection with Lithuania).

In 2017, cooperation with the regulators of the countries of the Visegrad Group as part of the V4 Regulators' Forum was continued. The purpose of regular high-level meetings of V4 regulators is to tighten cooperation and discuss current energy issues of national, regional and EU character. At the beginning of 2017, an expert group implementing a project analysis of deregulation of energy markets in the Visegrad Group countries completed its works. The purpose of the project was to analyse and assess positive and negative aspects of fully liberalized and regulated energy markets with respect to customers in households in the V4 countries.

In 2017, as part of the Baltic Electricity Market Forum which is held twice a year, the regulators from Latvia, Lithuania, Estonia, Sweden, Finland and Poland exchanged information on current initiatives and problems related to the development and integration of the Baltic States' markets.

As part of cooperation with other regulatory bodies, with respect to tasks arising from the REMIT regulation, in 2017 representatives of the President of the ERO participated as observers in the works of the Southern Group, in which regulatory bodies from Austria, Slovenia, Hungary, the Czech Republic and Croatia cooperate, and in the works of the Nordic Baltic Group, in which energy regulatory bodies from Sweden, Norway, Denmark, Finland, Lithuania, Latvia, Estonia and Great Britain and Nord Pool energy exchange cooperate. In addition, in 2017 actions aimed at the President of the ERO formally joining, as a full member, a multilateral agreement of the Southern Group, were continued. A letter of intent with this respect was signed at the beginning of 2018. In the case of the Nordic-Baltic Group, in 2017 a draft of a new agreement of regulatory bodies with PPATs was being developed. Drafting a separate agreement on cooperation only among regulatory bodies was also planned.

In 2017 the President of the ERO was involved in preliminary works on the selection of projects which were included in the third EU list of projects of common interest, necessary to implement energy infrastructure priority corridors and areas specified in Annex 1 to Regulation 347/2013. These works were carried out in regional groups consisting of representatives of the Commission, ACER, ENTSO-E, member states, national regulatory bodies, transmission system operators. The President of the ERO participated in the works of the following groups: "Baltic Energy Market Interconnection Plan in electricity" (BEMIP Electricity) and "North-South Electricity Interconnections in Central Eastern and South Eastern Europe" (NSI East Electricity). The works of the regional groups were completed, and the Commission announced the third list of projects of common interest in November 2017.

²⁰ Decision of ACER of 17 November 2016 (published on: https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency-/Individual%20decisions/ACER%20Decision%2006-2016%20on%20CCR.pdf).

3.1.5. Compliance

Compliance of the regulatory authority with any legally binding decisions issued by the ACER and the European Commission and with the ACER guidelines

Pursuant to Article 37 (1) (d) of Directive 2009/72/EC, the regulators' obligations include compliance with and implementation of all legally binding decisions of the Agency and the Commission.

On 2 October 2017, the ACER issued a decision on harmonized allocation rights (HAR), which is addressed to all TSOs. This decision was published on the ACER's website²¹.

On 14 November 2017, ACER issued two decisions on maximum and minimum clearing prices. The first decision refers to prices which are to be applied in all bidding zones participating in single day-ahead coupling, and the other decision concerns settlement prices which are to be applied in all bidding zones participating in single intraday coupling. These decisions are addressed to all nominated electricity market operators (NEMOs) and were published on the ACER's website²².

On 14 December 2017, ACER issued a decision on the congestion income distribution methodology (CIDM) addressed to all TSOs. This decision was published on the ACER's website²³.

In the reporting period, the Commission or the ACER did not issue any legally binding decision addressed to the President of the ERO.

Compliance of operators' activities with relevant EU legislation

Electricity system operators perform tasks arising from the Energy Law Act (mainly Article 9c (2) and 3)), Regulation 714/2009 and regulations issued on its basis. The President of the ERO monitors performance of these tasks on its own, as well as in cooperation with other regulatory authorities and the ACER.

Monitoring of compliance with independence criteria

Since 4 June 2014, that is the date of issuing a decision on granting energy company PSE S.A. a certificate of compliance with independence criteria, meeting these criteria is subject to monitoring and periodic review. A particular emphasis is placed on monitoring of issues which were pointed out as problematic in the opinion of the European Commission, that is the issue of PSE S.A.'s rights to disposing of electricity facilities used for the fulfilment of duties in the field of electricity transmission, non-discrimination of their owners and other system users, as well as the issue of PSE S.A.'s independence in the context of independence of respective government bodies.

The monitoring is carried out by tracking of press releases, websites and current checks and calling upon PSE S.A. to update the changing information on the composition of the company's bodies. The evaluations conducted hitherto show the lack of violation of independence criteria.

Monitoring of coordinated cross-border exchange

In 2017, the commercial balance on the Polish borders amounted to +2,382 GWh (imports). Electricity exports totalled 4,588 GWh and increased by around 84% in comparison to the previous year. In 2017, electricity was mainly imported from Sweden, Lithuania, Ukraine and the Czech Republic and totalled 6,970 GWh (increase by some 31% in comparison to the previous year).

²¹ https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2003-2017%20on%20HAR.pdf

²² https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2004-2017%20on%20NEMOs%20HMMCP%20for%20single%20day-ahead%20coupling.pdf
https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2005-2017%20on%20NEMOs%20HMMCP%20for%20single%20intraday%20coupling.pdf

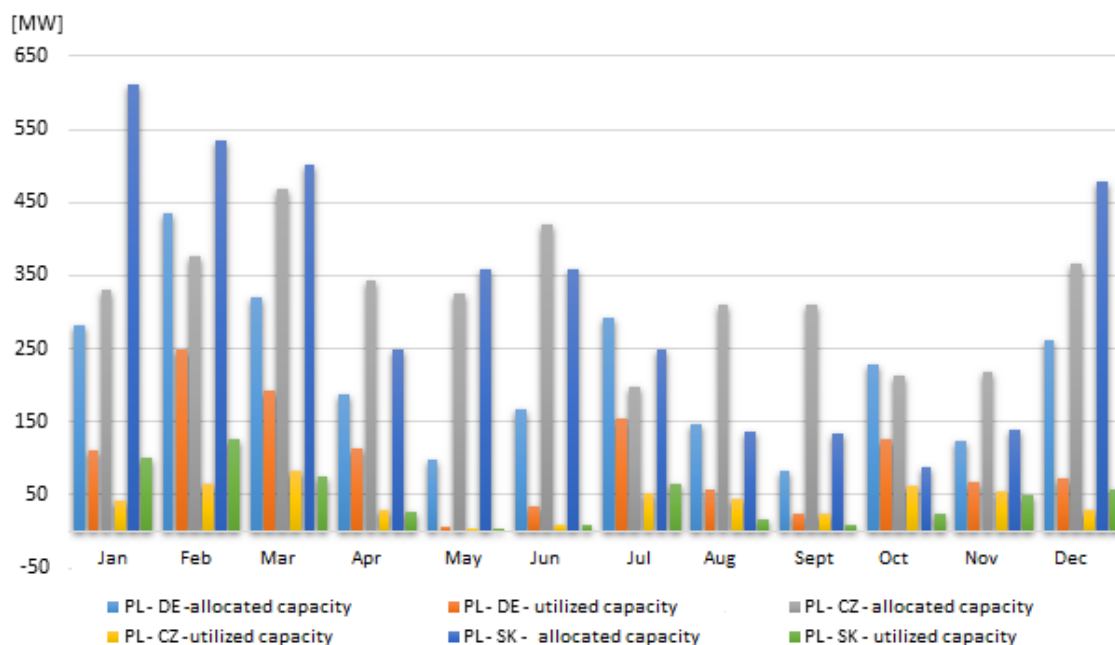
²³ https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual%20decisions/ACER%20Decision%2007-2017%20on%20CIDM.pdf

At the same time, there is still a significant difference between commercial and actual flows of electricity on synchronous borders (Germany, Czech Republic, Slovakia), which may be due to an increase in unplanned electricity flows, which contributes to a significant limitation of transmission capacities offered to the participants on these borders.

In 2017, cross-border transmission capacity on synchronous profile were made available via explicit auctions organized both in export direction and in day-ahead and intra-day export direction.

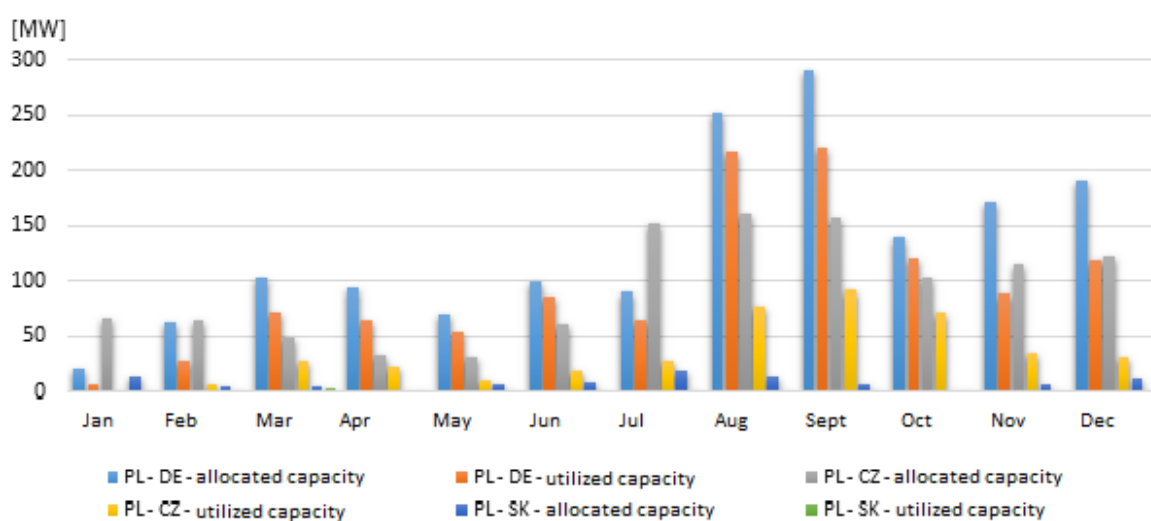
The figures below show monthly average volumes of allocated and utilized transmission capacities in export and import directions, respectively, on the synchronous interconnections.

Figure 2. Comparison of average monthly transmission capacity, made available in coordinated auctions, allocated and utilized in export direction on synchronous interconnections in 2017 [MW]



Source: ERO, on the basis of data provided by PSE S.A.

Figure 3. Comparison of average monthly transmission capacity made available in coordinated auctions, allocated and utilized in import direction on synchronous interconnections in 2017 [MW]



Source: ERO, on the basis of data provided by PSE S.A.

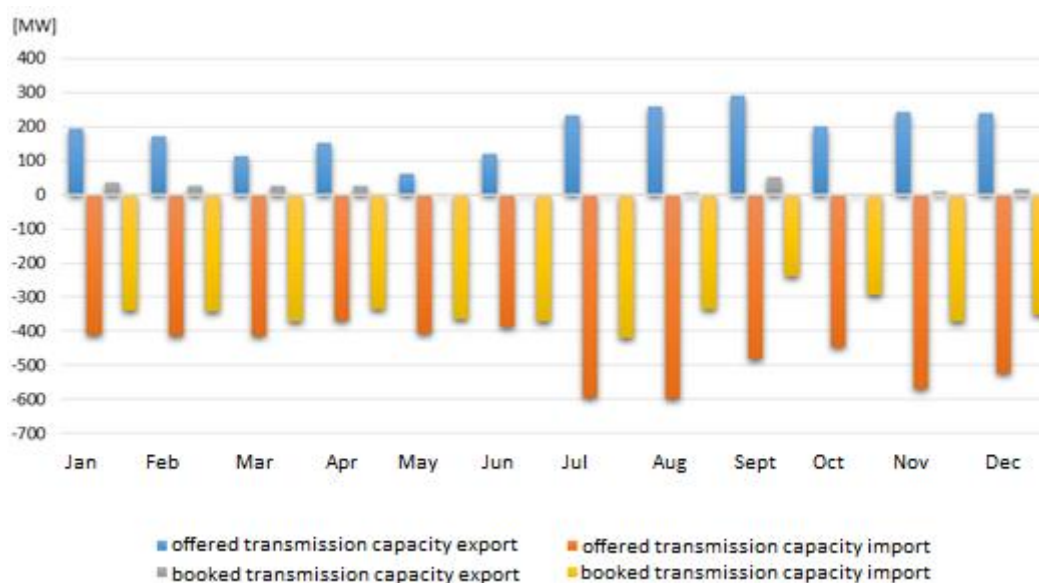
Allocation of total transmission capacities offered on a technical profile (jointly: Germany, Czech Republic, Slovakia) to commercial profiles (separately: Germany, Czech Republic, Slovakia) is carried

out according to a price ranking of offers submitted by these participants. The data presented above do not indicate a lack of clear interest in any of the borders, but in case of exports market participants in most months of 2017 expected the highest market surplus on the borders with the Czech Republic and Slovakia. At the same time, the degree of utilization of allocated transmission capacities may indicate that to the greatest degree, the transmission capacities allocated to the Czech Republic and Slovakia were utilized. The situation in allocation of transmission capacities was similar in the case of electricity imports. In particular, the greatest volume of offered transmission capacities was allocated from the Czech Republic and Slovakia. The amount of offered and allocated transmission capacities in 2017 differed, which is largely due to the re-launch (after a breakdown) of the second (out of two) phase-shifting transformer on the Polish-German border. The PST is used to ensure safe operation of the transmission grid in NES in a set of combined systems. Due to a delay in the investment project implementation on the German side (the PST in the Vierraden station may be installed only in subsequent years), an efficient regulation of the PST installed in the Mikułowa station required temporary switching off the 220 kV line Krajnik-Vierraden, which is the weakest and often overloaded element of the Poland-Germany interconnection. Temporary switching off the line Krajnik-Vierraden contributes to maintaining safe operation of transmission grids in Poland and Germany, even when there is a heavy load of the Polish-German interconnection by unplanned flows.

In 2017 transmission capacity allocation on direct current interconnectors Poland-Sweden and Poland-Lithuania was performed under implicit auctions by TGE S.A. and Nord Pool AS on the basis of market coupling mechanism.

The average monthly volumes of offered and allocated transmission capacities in 2017 are presented in the Figures below.

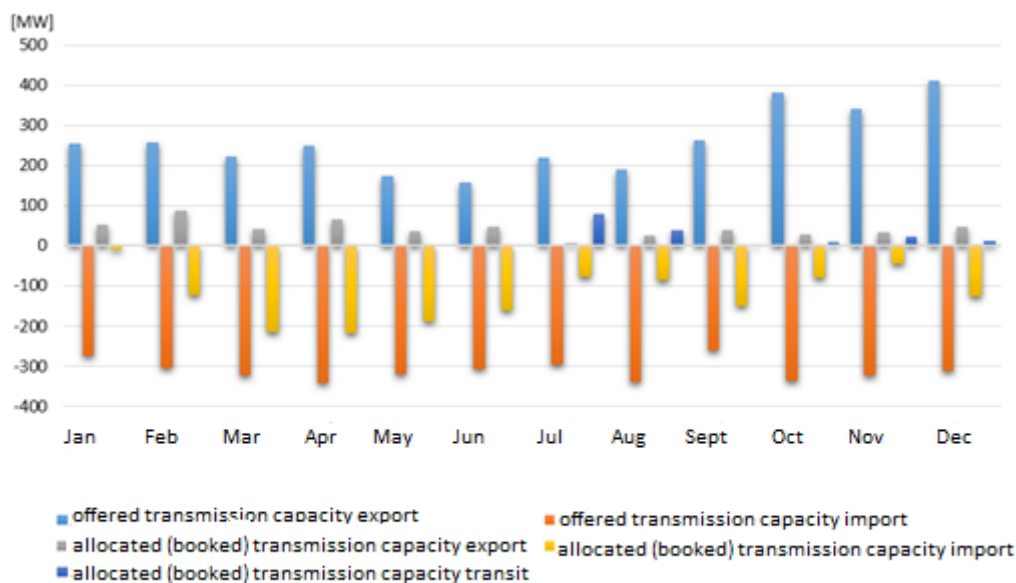
Figure 4. Comparison of monthly average transmission capacities offered and allocated on the Poland-Sweden interconnector in 2017 [MW]



Source: ERO, on the basis of data provided by PSE S.A.

In 2017 for most of the time electricity prices were lower on the Scandinavian market, which in consequence resulted mainly in electricity imports to Poland from Sweden, limited due to the NES safety reasons during the night time. Maximum volumes of offered transmission capacities on this border amounted to 600 MW in both directions. A similar situation occurred on the Poland-Lithuania interconnector, though in the case of this interconnector, electricity was periodically exported. The direction of commercial exchange on this interconnection was largely due to availability of the interconnector Lithuania-Sweden. Maximum volumes of offered transmission capacities amounted to: 492 MW in export direction to Lithuania, and 488 MW in import direction to Poland. In addition, from July to December 2017 transmission capacities for purposes of transit from Sweden to Lithuania, of average volume of 27 MW, were offered and allocated.

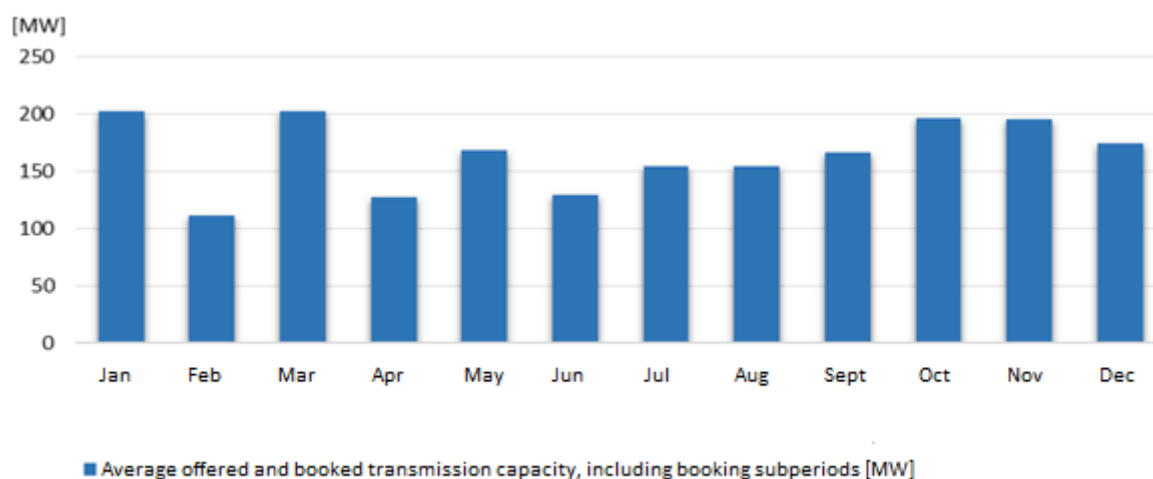
Figure 5. Comparison of monthly average transmission capacities offered and allocated on the Poland-Lithuania interconnector in 2017 [MW]



Source: ERO, on the basis of data provided by PSE S.A.

Transmission capacities on the Poland-Ukraine interconnection were made available on the basis of explicit monthly auctions. Transmission capacity only in import direction to Poland of up to 210 MW were allocated to participants. Temporary limitations in transmission capacities were caused by extension of emergency line shutdown.

Figure 6. Monthly average transmission capacities offered on the Poland-Ukraine interconnector (import), direction UKRENERGO-PSE S.A. in 2017



Source: ERO, on the basis of data provided by PSE S.A.

Monitoring the limitations of transmission services in cross-border exchange due to lack of capacity or grid failures in 2017

In case of cross-border exchange on synchronous interconnections and interconnections Poland-Sweden and Poland-Lithuania, the limitations (reductions) of allocated transmission capacities did not occur in 2017.

While on the Poland-Ukraine interconnector via 220 kV Zamość-Dobrotwór line, there was a reduction of allocated transmission capacity from 210 MW to 0 MW from 00:00 of 11 February 2017 to 24:00 of 12 February 2017 caused by an extension of emergency shutdown of Zamość-Mokre line.

Concentration of transmission capacities made available by PSE S.A., allocated via auctions on synchronous interconnectors in 2017

In 2017, transmission capacities on synchronous interconnectors were allocated via day-ahead auctions to 27 different entities (market participants) in total. Maximum share in the market for one entity was around 27.34%.

3.2. Promoting competition

3.2.1. Wholesale market

The volume of gross domestic electricity generation in 2017 reached 165,852 GWh (increase by 1.98%). At the same time, gross domestic electricity consumption amounted to 168,139 GWh and increased by over 2.1% in comparison to 2016. In 2017 the rate of increase of domestic consumption of electricity was lower by 2.5 percentage points than the GDP increase rate, which – according to preliminary estimates of the Central Statistical Office – amounted to 4.6%.

In 2017, the share of imports in the domestic balance of electricity flows constituted 8.0% of total electricity fed into, while the share of exports constituted 6.6% of electricity off-taken. In 2016 both these parameters were at a similar level.

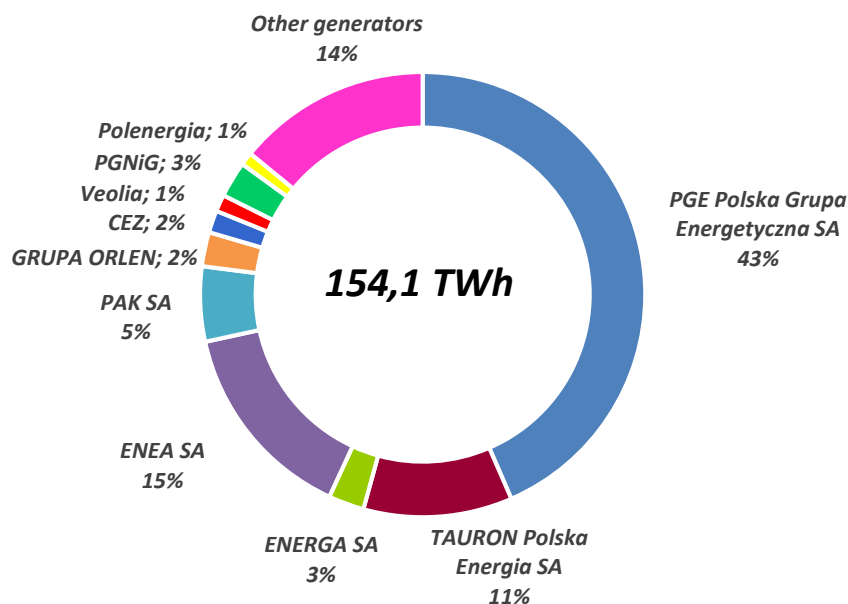
The electricity production structure has not changed considerably as compared to 2016. A great majority of generation is still based on conventional fuels, that is hard coal and lignite. At the same time, the generation leader in the RES segment was still wind generation.

Wholesale electricity market structure by entities

The biggest share in electricity generation subsector in 2017 totalling 43.5%²⁴⁾, was still held by the group PGE Polska Grupa Energetyczna S.A. (increase by 7.7 percentage point in comparison to the previous year). While the leader on the market of sale to final customers was TAURON Polska Energia S.A. with a share of 10.8% (increase by 0.6 percentage point in comparison to the previous year).

Share of groups in the volume of electricity fed into the grid is shown in the figure below.

²⁴⁾ Share calculated according to the volume of electricity fed into the grid.

Figure 7. Share of groups in the volume of electricity fed into the grid in 2017 (as at 31 December 2017)

Source: Own analysis based on data of the Ministry of Energy and ERO.

With respect to the market share of three largest entities (CR3) measured according to the volume of electricity fed into the grid (taking into account the volume of electricity supplied by generators directly to final customers), in 2017 an increase of this index was considerable and amounted to 69%, which is an increase by 14.1 percentage points as compared to the previous year. A similar trend may be observed for the index of the share held by three largest generators in installed capacity – by 12.3 percentage points. Three largest generators (members of groups: PGE Polska Grupa Energetyczna S.A., TAURON Polska Energia S.A., ENEA S.A.) held in total almost 2/3 of installed capacities and were responsible for almost 70% of domestic electricity production. Among three dominant entities on the electricity generation market, in 2017 the importance of generators being part of groups increased significantly: PGE Polska Grupa Energetyczna S.A. and ENEA S.A. This is due to the fact that in 2017 a takeover by the above mentioned groups of generation assets from other groups, that is EDF and ENGiE Energia Polska, respectively, was finalized. The above referenced indices are presented in the table below.

Table 1. Market shares and concentration of the generation subsector*

Year	Number of companies holding at least a 5% share in installed capacity	Number of companies holding at least a 5% share in electricity fed into the grid	Share of three largest entities in installed capacity [%]	Share of three largest entities	HHI ²⁵⁾	
					Installed capacity in electricity fed into the grid	Electricity fed into the grid
2016	5	6	50.8	54.9	1,309.3	1,640.0
2017	4	4	63.1	69.0	1,795.9	2,281.1

* For all entities operating in the generation sector, which are subject to an obligation of reporting statistics, including installed capacity and energy fed into the grid from wind and hydro sources.

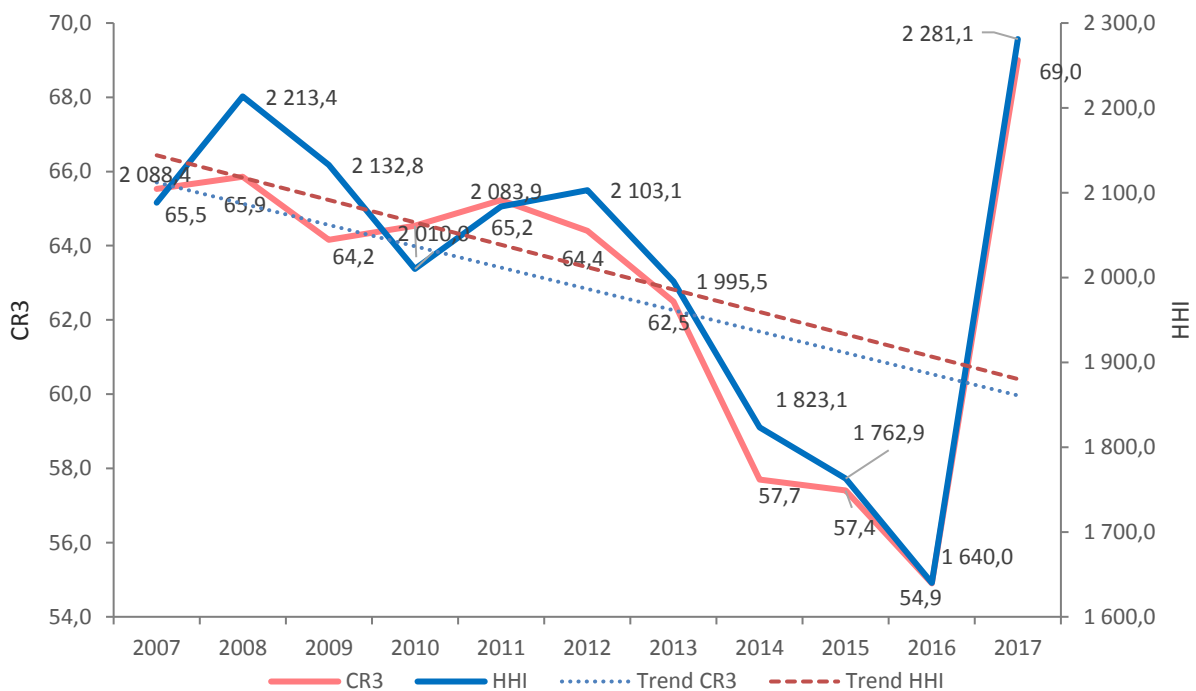
Source: Own analysis based on data of the Ministry of Energy and ERO.

²⁵⁾ The Herfindahl-Hirschman index (HHI) is defined as the sum of squares of individual market shares of all companies forming a given branch: HHI > 5,000 – very high concentration, HHI from 1,800 to 5,000 – high concentration, HHI from 750 to 1,800 – medium concentration, below 750 – low concentration (according to the "Report on progress in creating the internal electricity and gas market", Brussels 2005 and J. Kaminski: *Methods for estimating market power in the energy sector*, Energetyczna Polityka, Volume 12, Zeszyt 2 / 2, 2009).

A many-year downward trend concerning in particular HHI measured according to installed capacity and according to volume of electricity fed into the grid (including volume of electricity supplied by generators directly to final consumers) changed considerably in 2017. After several years of decrease, in 2017 both indices significantly increased by 37.1% and 39.1%, respectively, as compared to the preceding year. It is worth emphasizing that this index calculated for generation in 2017 reached a value allowing to state that the market concentration changed from medium to high. While the index calculated for installed capacity is slightly below the high concentration threshold.

The changes of concentration index (HHI) and index of market shares of three largest entities (CR3) in the generation subsector in the years 2007-2017 are presented in the figure below.

Figure 8. Concentration level in generation subsector (HHI) and market shares of three largest entities (CR3) by volume of electricity fed into the grid, in 2007-2017



Source: Own analysis based on data of the Ministry of Energy and ERO.

With reference to the data presented above regarding concentration, it should be noted that these indices changed so significantly the previous year due to organizational changes in the generation sector, that is taking over by two groups – PGE Polska Grupa Energetyczna S.A. and ENEA S.A. of assets of other groups, that is EDF and ENGIE Energia Polska, respectively.

Sales of electricity in respective market segments

The structure and mechanisms of market operation do not differ from the corresponding structures and mechanisms, which formed in a majority of other European states deemed competitive markets. Market participants have, on a non-discriminatory basis, wide access to various forms of electricity sales and access to information on volumes and prices at which electricity is contracted and sold on a wholesale market.

The tables below present shaping the types of electricity sales in segments of generation and trading in the years 2016-2017.

Table 2. Types of electricity sales by generators in 2016-2017 [TWh]

Year	Trading companies	Regulated markets, including power exchange	Balancing market	Exports	Final customers	Other sales*
2016	64.7	66.0	10.0	0.0	2.5	3.2
2017	102.2	28.3	7.9	0.0	2.1	1.6

* Other sales include volumes of electricity sold to TSO and DSOs as well as sales to small local distributors.

Source: Data of the Ministry of Energy and ERO.

Table 3. Types of electricity sales by trading companies in 2016-2017 [TWh]

Year	Trading companies	Regulated markets, including power exchange	Balancing market	Exports	Final customers	Other sales*
2016	131.7	90.8	5.1	2.9	116.7	19.3
2017	127.2	61.4	5.8	3.6	122.7	17.5

* Other sales include volumes of electricity sold to TSO and DSOs as well as sales to small local distributors.

In 2017, the main types of electricity sales among generators were: sales to trading companies (72% share in total sale of electricity by generators), as well as sales on the regulated market where power exchange played a dominant role (20% share). In 2017 the trend of the type of sales reversed as compared to the preceding year. Part of the volume of electricity sold via power exchange was redirected in 2017 to other types of sales, mainly to trading companies. This is undoubtedly due to the fact that transactions of vertically integrated undertakings which participated in the public aid programmes of covering stranded costs were executed in public trading (power exchange), and after the end of participation in this programme, the major part of generated electricity was directed from the competitive market to entities belonging to their own group. This resulted in an outflow of considerable volume of electricity from the power exchange²⁶⁾. At the same time, sale of electricity by generators to the balancing market decreased by 16%.

In case of trading companies, they targeted their sales mainly towards other trading companies (38% share in total electricity sales of trading companies), as well as towards final customers (36% share). They also target their sales of electricity towards power exchange (18% share), but to a lesser extent than in 2016.

On the domestic wholesale market, electricity is traded under bilateral contracts (OTC market), on the organized market run by TGE S.A. (power exchange) and via brokerage platforms.

Analysing the above, it should also be indicated that the turnover of trading companies is a key part of the wholesale electricity market. Since 2010, these companies have been increasing considerably the portfolio of electricity purchase from power exchange, which translated into an increase of share of this type of satisfying electricity demand in subsequent years in the total volume of purchased electricity. In 2017, this trend changed dramatically. Trading companies reduced the portfolio of electricity purchase from power exchange in favour of increasing the portfolio of purchase under bilateral contracts in own groups.

3.2.1.1. Monitoring the level of prices, the level of transparency, the level of effectiveness of market opening and competition

On the basis of surveys submitted by electricity producers and trading companies, as well as from reports of public statistics and data from power exchange, information on, among others, the average annual prices of electricity sales on the competitive market, and average quarterly prices of electricity sales on competitive market, as well as average quarterly prices of electricity sold under other rules than sale on Polish power exchange are calculated and published.

²⁶⁾ In order to preserve the original concept of introducing the exchange obligation, it was necessary to increase this obligation. As of 1 January 2018, the percentage share of sales of generated electricity subject to the obligation referred to in Article 49 (1) of the Energy Law Act, increased to 30% (Article 86 (7) (5) and Article 100 of the Act on Capacity Market. This regulation applies to energy companies selling electricity generated as of 1 January 2018. To preserve the original concept of introducing the exchange obligation, it was necessary to increase this obligation from the current level of 15% to 30% of the national gross electricity production.

Average annual price of electricity sales on the competitive market and the method for its calculation

In 2017, the average annual price of sales of electricity on the competitive market was 163.70 PLN/MWh. Simultaneously, this price was by around 4% higher than the weighted-average price of a contract for baseload delivery on the day-ahead market in 2017 (157.94 PLN/MWh) and by around 2% higher than the weighted-average price of a contract for baseload delivery in 2018 (BASE_Y-18) on the commodity derivatives market (CDM), which in the contracts concluded in 2017 was at the level of 167.50 PLN/MWh.

To calculate the average annual price on the competitive market, the algorithm was used, similarly to the preceding years.

Average quarterly price of electricity sales on the competitive market and the method for its calculation

The Table below shows average quarterly prices of electricity sales on the competitive market in 2017.

Table 4. Average quarterly prices of electricity sales on the competitive market in 2017

Quarter	Average quarterly price of electricity sales on the competitive market [PLN/MWh]
I	160.60
II	162.50
III	167.86
IV	164.05

Source: Data of TGE S.A. and the ERO.

Quarterly prices set by the President of the ERO are similar to quarterly prices from the power exchange. Algorithm adopted for price calculation, the same as in the previous years, to a great extent takes into account volumes of electricity sold on the power exchange, which allows electricity wholesale market participants to estimate its level in close approximation even before official publication of this price by the President of the ERO.

Average quarterly price of electricity which is not subject to the power exchange obligation

The volumes and average quarterly price of electricity sold under rules other than those determined in Article 49a (1) and (2) of the Energy Law Act²⁷⁾, in respective quarters of 2017, are presented in the Table below:

Table 5. Volumes and average quarterly price of electricity sold under the rules other than those stipulated in Article 49a (1) and (2) of the Energy Law Act, in 2017

Quarter	Average quarterly price of electricity sold under rules other than those determined in Article 49a (1) and (2) of the Energy Law Act*[PLN/MWh]	Volume of electricity sold under rules other than those determined in Article 49a (1) and (2) of the Energy Law Act [TWh]
I	164.78	22.89
II	165.54	20.98
III	167.16	21.07
IV	165.11	22.22

* The price does not include taxes (VAT, excise tax), charges not related to the volume of sold electricity or obligations related to certificates of origin.

Source: ERO, on the basis of data submitted by electricity producers for respective quarters of 2017.

²⁷⁾ Article 49a(1) and (2) of the Energy Law Act specifies the obligations with respect to sale of electricity in the manner ensuring public access to it (power exchange obligation).

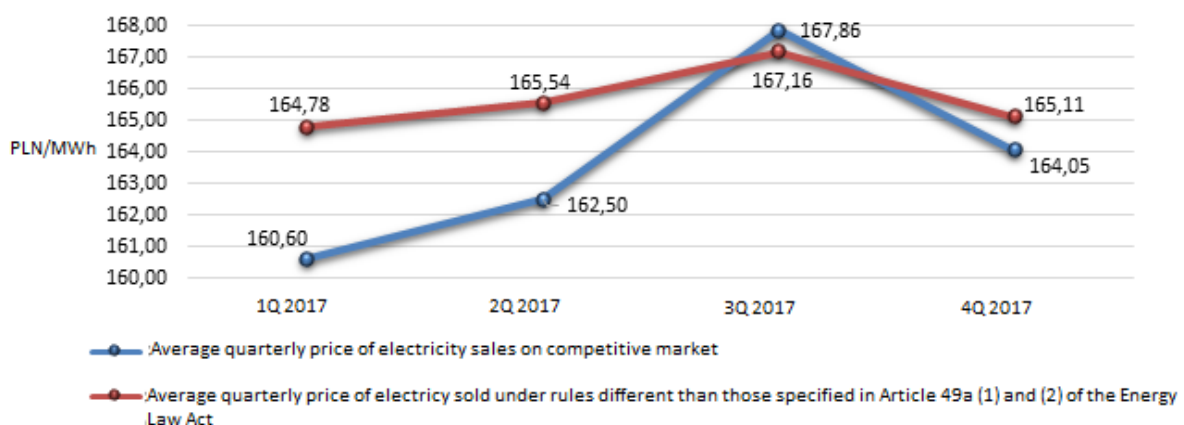
The quarterly prices referred to above were set on the basis of data concerning performance of agreements on electricity sales to trading companies, concluded by energy companies generating electricity, obliged to sell part of generated electricity in the manner specified in Article 49a (2) and (3) of the Energy Law Act.

Values of average quarterly prices of electricity referred to above varied in 2017 from 164.78 PLN/MWh to 167.16 PLN/MWh. The analysis of particular quarters of 2017 shows that in quarter I, as compared to quarter IV 2016, this price fell by 2.82%, to increase in quarter II by 0.46% as compared to quarter I 2017. In quarter III the above price also increased (by 0.98%) as compared to quarter II, to decrease by 1.23% in quarter IV as compared to quarter III. The value of this price in the last quarter of 2017 was at a slightly higher level than in quarter I 2017.

Attention should also be paid to a considerably higher volume of electricity sold in 2017 than in 2016, under rules different than those specified in Article 49a (1) and (2) of the Energy Law Act. In 2017, 87.16 TWh were sold, while in 2016 49.15 TWh, which means an increase by 77.3%. Such a significant income was undoubtedly due to withdrawal from trading on power exchange of considerable volume of electricity due to subsequent entities leaving the public aid programme related to termination of long-term contracts and targeting electricity sold in public trade so far to sales out of power exchange in bilateral contracts, that is to companies belonging to own group.

The figure below shows a comparison of average quarterly price of electricity sold under rules different than those specified in Article 49a (1) and (2) of the Energy Law Act with an average quarterly price of electricity sales on a competitive market in particular quarters of 2017.

Figure 9. Average quarterly prices of electricity sold under rules different than those specified in Article 49a (1) and (2) of the Energy Law Act and average quarterly prices of electricity sales on a competitive market in 2017

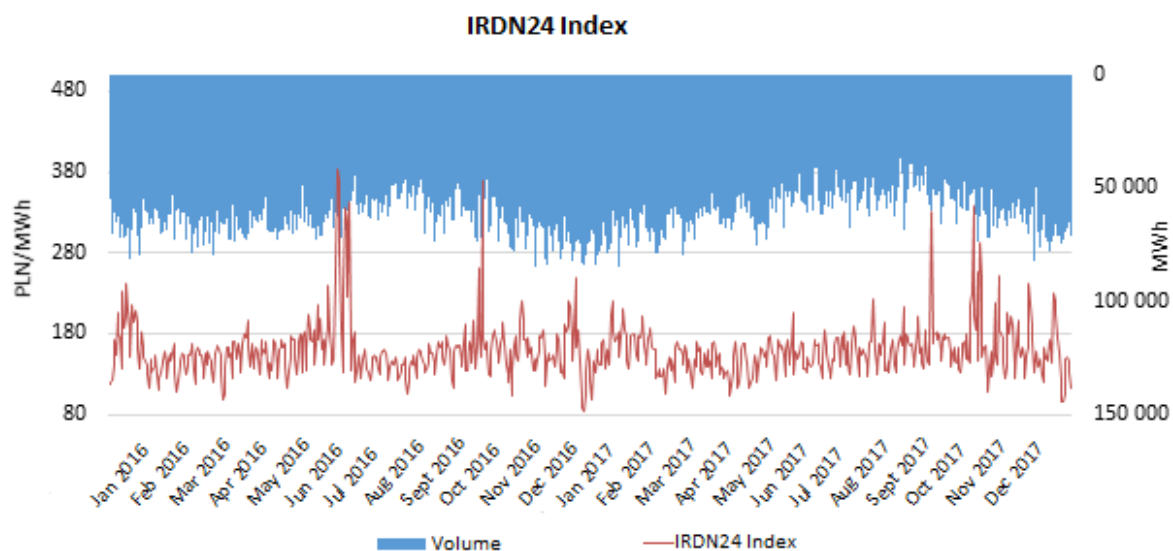


Source: ERO's own analysis.

Prices on SPOT market of TGE S.A.

The below figure presents development of electricity prices on the spot market – day-ahead (DAM), managed by TGE S.A., measured with the IRDN24 index. This index shows arithmetic average price of all transactions, except for block products, of DAM trading session, calculated for particular delivery date for entire day.

Figure 10. Average monthly electricity price of spot transactions, measured by IRDN24 [PLN/MWh], and volume of electricity traded on DAM market (without block products) [MWh] in 2016-2017



Source: ERO, on the basis of data provided by TGE S.A.

Volume-weighted average price of electricity on DAM in 2017 amounted to 157.96 PLN/MWh and was lower by 3.78% in comparison to 2016 when this price was 161.74 PLN/MWh.

Prices on commodity forward instruments market with physical delivery of TGE S.A.

In 2017 an increase in electricity prices on commodity forward instruments market with physical delivery of TGE S.A. was observed. This tendency was reflected by the y/y increase of prices in BASE_Y forward contracts (yearly contract with baseload delivery for another year). The volume-weighted average transaction price of BASE_Y-18 contract in the entire year 2017 was at the level of 167.50 PLN/MWh, in comparison to 2016, when the volume average-weighted transaction price of the corresponding BASE_Y-17 forward contracts amounted to 159.26 PLN/MWh.

At the same time, average monthly price of BASE_Y-18 contracts in December 2017 was equal to 770.63 PLN/MWh, whereas the monthly average price of corresponding contracts (BASE_Y-17) concluded in December 2016 amounted to 160.44 PLN/MWh, which indicates an increase of the price of these contracts by 10.7%.

Transparency of the wholesale energy market – fulfilment of obligations under the REMIT Regulation

Participants of the wholesale energy market, pursuant to the provisions of the REMIT regulation, are subject to the prohibition of manipulation or attempts to manipulate the market, as well as conducting trade based on inside information.

A special role in the process of detecting irregularities on the wholesale energy market rests with persons dealing professionally with the intermediation of transactions (PPATs)²⁸⁾ that are required to create and maintain effective mechanisms and procedures to identify cases of violation of the prohibition of use of inside information and the prohibition of market manipulation.

Close cooperation between these entities and regulators is crucial in preventing abuses on the energy market. In 2017, activities recognized as the activity proper to PPATs were actively conducted by three entities: TGE S.A., PSE S.A. and OGP Gaz-System S.A.

²⁸⁾ PPATs – Persons Professionally Arranging Transactions.

The most important information related to the REMIT Regulation has been published on the ERO's website²⁹⁾. Market players may also send their questions about performance of obligations arising from the above mentioned Regulation and from secondary legislation on registration of market participants in the national register of market participants, to the ERO's dedicated e-mail address³⁰⁾. The activities undertaken by the President of the ERO are complementary to the information published by the ACER on the REMIT Portal³¹⁾ dedicated to any issues included in the REMIT Regulation.

Participants of the Polish energy market are registered by the President of the ERO by means of the Centralized European Register of Energy Market Participants (CEREMP). As at the end of 2017, the number of market participants from Poland registered in the CEREMP system was over 600 (some 4.7% of all registered entities). The number of registered market participants from Poland in 2017 increased by around 10% as compared to 2016. Information on concluded transactions and orders by wholesale energy market participants is reported exclusively by intermediation of entities which are granted the Registered Reporting Mechanism (RRM) by the ACER.

As at the end of 2017, in Poland, the entities performing the RRM tasks in 2017 were the same entities which held the RRM status the preceding year, that is: TGE S.A., OGP Gaz-System S.A., PSE S.A. and PGE Dom Maklerski S.A.

Market participants may publish inside information on their websites and via TGE Information Platform (in Polish: GPI – Giełdowa Platforma Informacyjna)³²⁾ run by TGE S.A. and available free of charge to all market participants. This platform has been registered with ACER and operates as RIS (Regulated Information Services).

Within the competences specified in the Energy Law Act in the area of monitoring the wholesale energy market under the REMIT Regulation³³⁾, in 2017 the President of the ERO began a comprehensive examination of the implementation by energy companies of the following obligations:

- obligation to register in the national register of energy market participants (CEREMP) in the event when market participants enter into transactions subject to notification to ACER – the obligation arising under Article 9 of the REMIT Regulation,
- obligation to provide ACER with data on transactions concluded on wholesale energy markets – the obligation arising under Article 8 of the REMIT Regulation.

The above mentioned investigations concerned the implementation of duties in the event of conclusion by energy companies of bilateral contracts (OTC), i.e. outside organized trading, such as power exchange.

In 2017, administrative proceedings were conducted to impose financial penalties under Article 56 (1) of the Energy Law Act with respect to:

- failure to provide ACER with data, contrary to the obligation referred to in Article 8 (1) of the REMIT Regulation (section 40) – in 6 cases the penalty was waived,
- selling energy products on the wholesale energy market without a required entry in the market participants register (CEREMP) referred to in Article 23a (1) of the Energy Law Act (section 42) – in 7 cases, the proceedings were discontinued, in 5 cases the penalty was waived.

3.2.2. Retail market

In 2017 there were five default suppliers and over 119 alternative trading companies actively selling electricity to final consumers, including households. On the electricity market there were also

²⁹⁾ <http://www.ure.gov.pl/pl/rynki-energii/energia-elektryczna/remit/6013,REMIT.html>

³⁰⁾ REMIT.rejestracja@ure.gov.pl

³¹⁾ <https://www.acer-remit.eu/portal/home>

³²⁾ Regulated Information Services (RIS, in Polish: Giełdowa Platforma Informacyjna (GPI)) has been operational since 27 February 2014 and has been created in cooperation with representatives of the entire power sector, under the patronage of the President of the ERO.

³³⁾ In the light of Article 23 (2) (19b) of the Energy Law Act, the remit of activities of the President of the ERO includes performing tasks, duties and using powers determined in a binding manner for the regulatory authority in the REMIT Regulation, and cooperation with ACER, regulatory authorities of the European Union Member States or Member States of European Free Trade Agreement (EFTA) – parties to the Agreement on the European Economic Area, competent authority in matters of competition and consumer protection and the authority competent for supervision of the financial market, to the extent necessary to perform the obligations set out in the REMIT Regulation.

178 suppliers operating under companies vertically integrated with the DSOs. The greatest share in electricity sales to final customers is still held by incumbent suppliers which are default suppliers to households that have not selected a new supplier.

In 2017 there were around 17.4 million final customers, out of which 90.8% (15.8 million) are G tariff group consumers³⁴⁾, including in great majority household consumers (over 14.9 million). The other group were final customers supplied with electricity from medium- and high-voltage grid – so-called industrial consumers from A and B tariff groups, and consumers connected to low-voltage grid, off-taking electricity for the purposes of conducted business activity (C tariff group).

3.2.2.1. Monitoring the level of prices, the level of transparency, the level of effectiveness of market opening and competition

Since 2010, all electricity suppliers selling electricity to final consumers are legally obliged to publish on their websites and make publically available in their premises information on electricity sales and terms and conditions of their application. In case of big industrial/commercial consumers, offers are presented individually by trading companies. Prices and other terms and conditions of the agreement are each time negotiated with the client and are different, depending on delivery time, volume and firmness of off-take.

Average electricity sale prices broken down by electricity consumption are presented in the Table below.

Table 6. Number of consumers, volume, value and average prices of electricity applied to final consumers, broken down by consumption

Consumption	Number of customers [items]	Volume [MWh]	Value [PLN thousand]	Average price [PLN/MWh]
< 50 MWh	16 877 058	44 885 607	11 919 619	265,56
50 – 2 000 MWh	76 683	28 336 520	6 355 286	224,28
> 2 000 MWh	6 374	34 598 939	6 531 882	188,79
TOTAL	16 960 115	107 821 066	24 806 787	230,07

Source: On the basis of quarterly surveys of default suppliers in 2017.

Similarly to the previous years, in 2017 an online tariff calculator was made available on the ERO's website, allowing consumers to compare electricity suppliers' offers addressed to households, and thus helping them to select the most favourable offer for them. In 2017, around 30 suppliers published their offers in the Calculator on average per month.

Undoubtedly, a possibility to take advantage of the list of suppliers active within an operational area of the operator to whose grid the customer is connected, which is published on the website of that operator, is a great facilitation to a consumer who switches supplier.

In 2017 more than 236 thousands of consumers of A, B, and C tariff groups actively exercised their right to purchase electricity from a chosen supplier, whereas in the household segment this number amounted to more than 487 thousand. In 2017, the number of consumers that switched suppliers increased as compared to 2016. At the end of 2017 the number of TPA consumers was higher by over 20% as compared to 2016, whereas in case of consumers from A, B and C tariff groups this increase was by 43.83%, and in case of consumers from the G tariff group – by 12.68%. When assessing the supplier switching growth rate, it should be borne in mind, however, that from a global perspective, still relatively few consumers (around 4.15%) exercised their right to switch supplier (around 3.46% as at the end of 2016). The total volume of electricity supplied in 2017 to TPA final consumers was 66,673,476 GWh, that is 47.48% of energy provided in total to final consumers.

A common practice among suppliers is non-informing the consumers about all elements of the offer, e.g. additional charges (commercial charges), or misinforming them, which leads consumers to conclude agreements which are unfavourable to them. As the President of ERO is not a competent body in such cases, regulator informed consumers about their rights and forwarded 183 cases which could indicate

³⁴⁾ A, B and C tariff group consumers are those final customers that off-take electricity from high-, medium- and low-voltage grid for other needs than living and housing needs. G tariff group consumers are consumers off-taking electricity from low-voltage grid for living and housing needs.

illegal activities of suppliers to the President of the UOKiK for investigation (suspicion of practices infringing collective interests of consumers and unfair market practices or unfair competition).

3.2.2.2. Recommendations on supply prices, investigations and measures to promote effective competition

System of price regulation

Electricity tariffs for consumers of G tariff group are still subject to approval by the President of the ERO (they are published in the "Branch Bulletin of the Energy Regulatory Office – Electricity"). It should, however, be emphasized that tariffs are only applied with respect to default suppliers. A supplier that is not a default one uses price lists that are not approved by the President of the ERO.

Tariff calculation is based on clear rules, which cover, among others, external costs of energy companies, including costs of supporting different energy sources, including, among others, RES. Hence, the risk of suffering the loss by energy companies is reduced to minimum. Moreover, in case of significant change of external conditions, the companies are allowed to apply to the President of the ERO for the tariff correction with regard to increased costs. As a result of conducted proceedings, in December 2017 these tariffs were approved by the President of the ERO for the period until 31 December 2018.

Conducting investigations and undertaking measures to promote effective competition

The President of the ERO supervises energy companies on a current basis, in terms of compliance of application of tariffs with the terms and conditions specified in them, due to incoming correspondence from consumers of fuels and energy.

In 2017 there was a considerable number of complaints voiced against practices of energy undertakings. The most often reported problems included:

- lack of reliable and complete information on the terms and conditions of the offer, including with respect to electricity prices and agreement validity date,
- persuading consumers to sign a blank, not completed agreement form, often under time pressure, and printing additional information on the terms and conditions of the agreement without the consumer's knowledge or consent,
- passing oneself off as employee of the existing suppliers or of the DSO,
- lack of reliable information on the necessity to adapt the measuring and metering system after switching supplier,
- falsifying signatures on agreements and numerous discrepancies with respect to the presented terms and conditions of the agreement,
- double invoicing, that is issuing invoices to a consumer by a new and previous supplier,
- concluding electricity sales agreements by mistake, as a result of the above mentioned practices of energy undertakings.

In 2017, many interventions made by the President of the ERO resulted in the supplier resigning from charging the consumer with contractual penalties or paying the consumer compensation in the amount of the contractual penalty, which the consumer was charged by the previous supplier. These situations concerned the supplier switching procedure in the course of which due to the supplier's omission or a mistake of its representative or an error in the IT system, the customer was charged with such a penalty. It should be emphasized that the consumer could assert his/her rights from the supplier in court, nevertheless, the clarifications that the President of ERO demands from energy companies in similar cases often turn out to be sufficient to complete the case in a satisfactory manner to the consumer.

As part of the interventions, one of the alternative suppliers decided to terminate many proceedings in an amicable manner by terminating the disputed agreements, without charging the consumers with contractual penalties for early termination of contracts. At the same time, the President of the ERO drew attention to the need to exercise particular caution when signing contracts by customers, regardless of

consumer rights, e.g. the right to withdraw from a contract concluded outside the business premises within 14 days. The President of the ERO drew particular attention to the fact that each contract should be carefully read before signing, and the consumers should pay attention to its duration and the manner and terms of contract termination, as well as the obligations resulting from them, in particular fees for early termination of the contract (contractual penalties). In addition, the customers should carefully read the terms of termination of the existing contract binding them with the current supplier – whether additional obligations arise from it. However, if the content of the contract is incomprehensible or the font used makes it impossible to read the content of the contract, abstaining from signing it should be considered.

In the described cases, the President of the ERO initiated explanatory proceedings, which in many cases resulted in clarifying the matter and withdrawing from the agreements concluded in the aforementioned manner. Appropriate explanations were addressed to the complainants, and some cases were referred to the UOKiK in connection with the suspicion of practices that infringe collective consumer interests. The complaints addressed to the President of the ERO, which were sent to the UOKiK, concerned one of the suppliers using contractual provisions regarding the so-called tacit consent to accept a renewal offer, i.e. a mechanism for automatic extension of the settlement period according to the Price List, which can be considered as an abusive clause. The UOKiK informed that it will take appropriate action in this matter, in accordance with its statutory competences.

Cooperation with poviats and municipal ombudsmen of consumer rights was also continued, also in the form of training organized by the ERO. The President of the ERO also published an announcement on its website in which it emphasized the necessity to be particularly prudent when signing and terminating agreements by consumers that as part of conducted agricultural activity run farms and small entrepreneurs who are not covered by provisions protecting consumers (households) of the Act on consumer rights protection.

In 2017, the President of the ERO continued making available a special complaint form to consumers on the ERO's website (campaign "Consumers report unfair practices"). As a result of submitted complaints and performed monitoring, some energy undertakings adopted remedy programmes and the number of complaints lodged by consumers about the practices described above decreased.

Antimonopoly proceedings in cases of competition restricting practices and other activities undertaken by the President of the Office for Competition and Consumer Protection (UOKiK) in relation to companies in the energy sector³⁵⁾

Antimonopoly proceedings:

In 2017, the President of the UOKiK conducted six anti-monopoly proceedings concerning concentration with the participation of entrepreneurs from the energy sector (producers /suppliers of electricity or heat). In five cases a consent was issued pursuant to Article 18 of the Act of 16 February 2007 on Competition and Consumer Protection (hereinafter: the Act on Competition and Consumer Protection). It was considered that as a result, there would be no significant restriction of competition, in particular through arising or strengthening of a dominant position on the market. These were the proceedings concluded with the issuance of the following decisions:

- 1) By Decision No. DKK-5/2017 of 11 January 2017, the President of the UOKiK issued a consent to the concentration consisting in the establishment by Enea S.A. with its registered office in Poznań and Energa S.A. with its registered office in Gdańsk, a joint venture under the business name of Elektrownia Ostrołęka S.A. with its registered office in Ostrołęka,
- 2) By Decision No. DKK-15/2017 of 23 January 2017, the President of the UOKiK issued a consent to the concentration involving the acquisition by Enea S.A. with its registered office in Poznań of control over ENERGIE Energia Polska S.A. with its registered office in Zawada,
- 3) By Decision No. DKK-87/2017 of 5 June 2017, the President of the UOKiK issued a consent to the concentration consisting in the establishment by PGE Polska Grupa Energetyczna S.A. with its registered office in Warsaw and Energy Pool Developpement SAS with its registered office in Le Bourget du Lac (France) a joint venture under the business name of PGE Energy Pool Polska sp. z o.o. with its registered office in Warsaw,

³⁵⁾ On the basis of information provided by the UOKiK.

- 4) By Decision No. DKK-154/2017 of 2 October 2017, the President of the UOKiK issued a consent to the concentration consisting in the acquisition by CEZ ESCO Poland BV with its registered office in Amsterdam (the Netherlands) of control over OEM Energy sp. z o.o. with its registered office in Marklowice,
- 5) By Decision No. DKK-206/2017 of 22 December 2017, the President of the UOKiK issued a consent to the concentration involving the acquisition by Enea S.A. with its registered office in Poznań of control over Polska Grupa Górnicza sp. z o. o. with its registered office in Katowice, which will be held jointly with PGE Górnictwo i Energetyka Konwencjonalna S.A. with its registered office in Bełchatów, Energa Kogeneracja sp. z o.o. with its registered office in Elbląg, PGNiG Termika S.A. with registered office in Warsaw and Fundusz Inwestycji Polskich Przedsiębiorstw FIZAN with its registered office in Warsaw.

In the case of the sixth concentration, which consists in the acquisition by PGE Polska Grupa Energetyczna S.A. with its registered office in Warsaw of control over EDF Polska S.A. with its registered office in Warsaw, the President of the UOKiK pursuant to Article 19 (1) of the Act on Competition and Consumer Protection, issued a conditional consent to this concentration by means of Decision No. DKK-156/2017 of 4 October 2017. The condition imposed by the President of the UOKiK was to involve the sale by PGE Polska Grupa Energetyczna S.A. as of 1 January 2018, including the volume of sales made by entities belonging to its group (hereinafter: "the PGE Group") within the meaning of Article 4 (14) of the Act on Competition and Consumer Protection, pursuant to the principles set out in Article 49a of the Energy Law Act, an additional volume of electricity corresponding to the actual amount of electricity generated in a given calendar year at Rybnik Power Plant, reduced by the electricity volume produced in the Rybnik Power Plant subject to the obligation to sell electricity pursuant to Article 49a of the Energy Law Act ("Additional Volume"), over the volume resulting from the obligation specified in Article 49a of the Energy Law Act on the generation assets of the PGE Group. At the same time, each increase in the obligation to sell electricity, referred to in Article 49a of the above Act, by one percentage point above the level binding on the day of the decision (i.e. 15%), causes the reduction of the Additional Volume ("Updated Additional Volume") on the terms set out below:

$$Q=(85\% - 2*N\%)*P$$

where:

Q – Updated Additional Volume;

P – the volume of electricity corresponding to the actual amount of electricity generated in a given calendar year at the Rybnik Power Plant;

N – increasing the obligation to sell electricity pursuant to Article 49a of the Energy Law, expressed in percentage points above the level binding on the day of the decision (i.e. 15%);

and:

if in a given calendar year $Q < 0$, it is assumed that in the same calendar year $Q = 0$.

The condition ceases to apply depending on which of the following events occurs earlier:

1. at the end of 31 December 2021, or
2. when Rybnik Power Station ceases to belong (irrespective of the legal form of such a change, e.g. as an enterprise, its organized part, asset pool, etc.) to any entity belonging to the PGE Group or jointly controlled by any entity belonging to the PGE Group.

At the same time, the President of the UOKiK imposed on PGE Polska Grupa Energetyczna S.A. the obligation to report the fulfilment of the condition for a given calendar year until the end of the first quarter of the following year.

Completed investigations into competition restricting practices:

- 1) By decision of 19 May 2017, the explanatory proceedings were completed with the purpose to preliminarily determine whether the principles and mode of connection of real estate to the power grid and increasing the connection capacity applied by ENERGA – OPERATOR S.A. with its registered office in Gdańsk do not violate the provisions of the Act on Competition and Consumer Protection, including whether the case has antimonopoly character. Obtained materials and their analysis did not provide the grounds to initiate antimonopoly proceedings.

- 2) By decision of 22 September 2017, the explanatory proceedings were finalized with a view to preliminarily determine whether the activities of ENERGA – OPERATOR S.A. with its registered office in Gdańsk on the local electricity distribution market in relation to Multimedia Polska Energia Sp. z o.o. with registered office in Gdynia, with which entrepreneur the Company is bound with the General Distribution Agreement for the comprehensive service no. CJ 00062/15 of 27 March 2015, do not violate the provisions of the Act on Competition and Consumer Protection, including whether the case has antimonopoly character. Obtained materials and their analysis did not provide the grounds to initiate antimonopoly proceedings.
- 3) By decision of 10 July 2017, the explanatory proceedings were finalized with a view to determine whether the actions of entrepreneurs: ENERGA – OPERATOR S.A. with its registered office in Gdańsk, TAURON Distribution S.A. with its registered office in Krakow and ENEA Operator Sp. z o.o. with its registered office in Poznań do not lead to violation of the provision of Article 9 (1) and (2) (5) or Article 6 of the Act on Competition and Consumer Protection. Obtained materials and their analysis did not provide the grounds to initiate antimonopoly proceedings.
- 4) By decision of 14 July 2017, explanatory proceedings were initiated to determine whether the actions of the entrepreneur PGE Dystrybucja S.A. with its registered office in Lublin consisting in concluding lease contracts for road lighting equipment with municipalities do not lead to violation of the provisions of the Act on Competition and Consumer Protection. As part of the conducted explanatory proceedings, the content of model agreements proposed to municipalities by PGE Dystrybucja S.A. was analysed. Part of the provisions of the abovementioned model agreements raised the objections of the President of UOKiK, in particular, with respect to provisions limiting the entrepreneur's liability or giving it the right to unilaterally change the essential terms of the contract. PGE Dystrybucja S.A. undertook to amend or delete the contested provisions of the above mentioned model agreements. New model agreements should be introduced into legal use in 2018.

3.3. Security of supply

Security of electricity supply is a comprehensive issue, covering both short- and long-term activities. The process of monitoring this security, carried out by the President of the ERO, includes the acquisition and analysis of information, including, among others:

- obtaining and analysing information on the current operation of the NES,
- acquiring and analysing information on the condition of the network infrastructure and investment needs of the electricity TSO and DSOs, while agreeing on the development plans of network enterprises.

3.3.1. Monitoring balance of supply and demand

As a result of obtaining measurement data from the NES operation regarding the power balance in the system, the analysis of the main figures included in this balance sheet is presented below, while they are recognized as the key parameters to assess the electricity supply to customers at a safe level. The surplus power available to the transmission system operator was identified as a decisive parameter in terms of security – as the most important tool available to the power transmission system operator, by means of which it balanced domestic power demand.

Monitoring the level of installed capacity and generating capacity in the NES

As at the end of 2017, the installed capacity in the NES was 43,421 MW, and generating capacity – 43,332 MW, which is an increase by 4.89% and 4.98% respectively in relation to 2016. The average annual demand for power was at the level of 22,569 MW with a maximum demand of 26,230 MW, which means an increase by 0.38% and an increase by 2.67%, respectively. The ratio of available capacity to generating capacity in 2017 remained at a similar level as in 2016 and amounted to 67.3% (a decrease by 2.1 percentage points as compared to 2016).

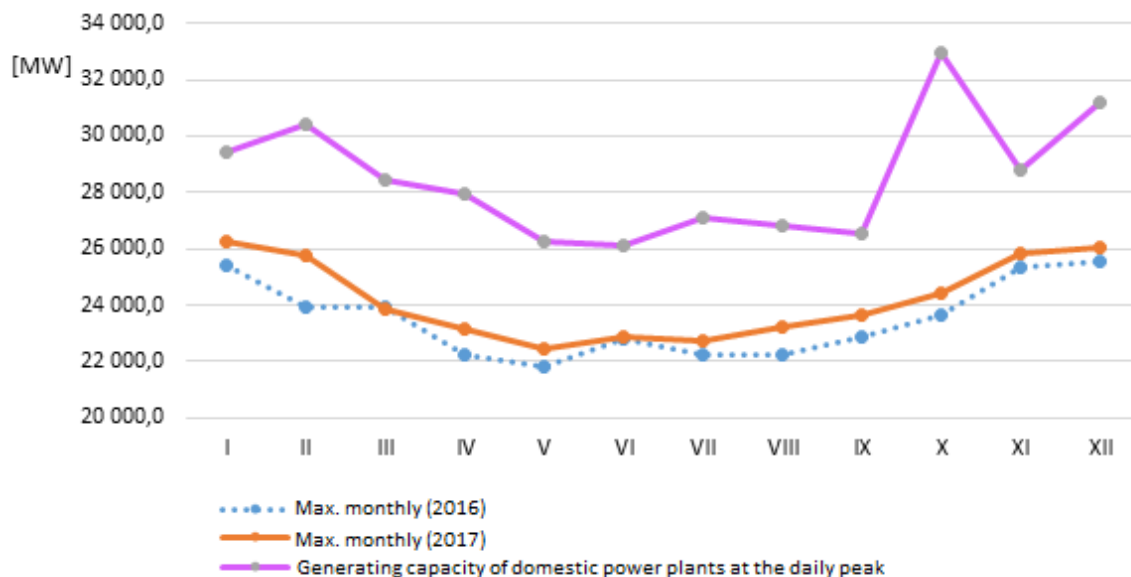
The power plants remaining at the disposal of the power transmission system operator had a 62% share in the installed capacity in the NES.

Monitoring the demand for peak capacity in the NES

In 2017, the average annual demand for capacity (in relation to the value from the evening peak) was 22,979.7 MW, which was an increase by approx. 2.21% as compared to 2016, while the maximum demand in daily load peaks amounted to 26,230.6 MW, an increase by approx. 2.68% compared to 2016.

The figure below shows the changes in the peak capacity demand in particular months of 2017 in comparison with the reference values from the previous year. In addition, the available capacity for the TSO corresponding to the occurrence of the daily extreme in a given month was presented.

Figure 11. Maximum monthly domestic demand for peak capacity for business days in 2016-2017



Source: ERO, on the basis of data provided by PSE S.A.

As it can be seen from the chart above, practically throughout the entire 2017 the demand for peak capacity remained at a higher level than the year before. A characteristic atypical "collapse" of the generating capacity line for data for October 2017 results from the breakdown of grid operation with significant impact – due to the passage of the storm wind "Grzegorz" (29-31.10.2017).

Monitoring of electricity supply

In 2017, 165,852 GWh of electricity were generated in Poland, which was an increase (by 3.2 TWh, i.e. by 1.98%) as compared to the previous year. In turn, domestic electricity consumption reached a higher level of 168,139 GWh, which is an increase by 2.13% in comparison to the previous year.

As electricity generation in 2017 did not cover domestic consumption, attention should be paid to the continuation of the trend with the growing share of electricity imports in this period.

In 2017, the dominant volume, that is as much as 85.49% of the generated electricity came from commercial power plants and commercial heat and power plants. 83.82% of energy came from commercial thermal power stations, and only 1.67% from commercial hydroelectric power plants. The share of industrial (captive) heat and power plants in energy generation slightly decreased by approx. 0.72%.

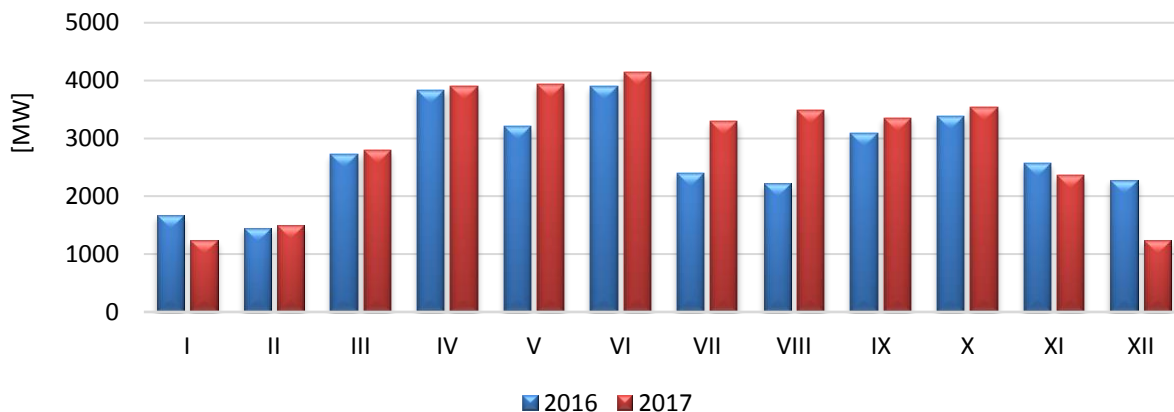
Although the most important group of commercial thermal power plants generated slightly more energy than a year earlier (increase by 0.5%), it is worth noting the limitation of production in the sub-segment of hard-coal based generation – a decrease in energy production by 1.82%, partly compensated by an increase in generation based on lignite (increase by 1.52%).

However, in 2017 a significant increase in electricity generation from gas-fuelled sources (increase by 24.17%) is worth noting.

Monitoring of losses

Capacity losses caused by standstills due to major and medium repairs, throughout practically the entire 2017 (except for winter months) were on average levels above the volumes regarding the reference periods of 2016.

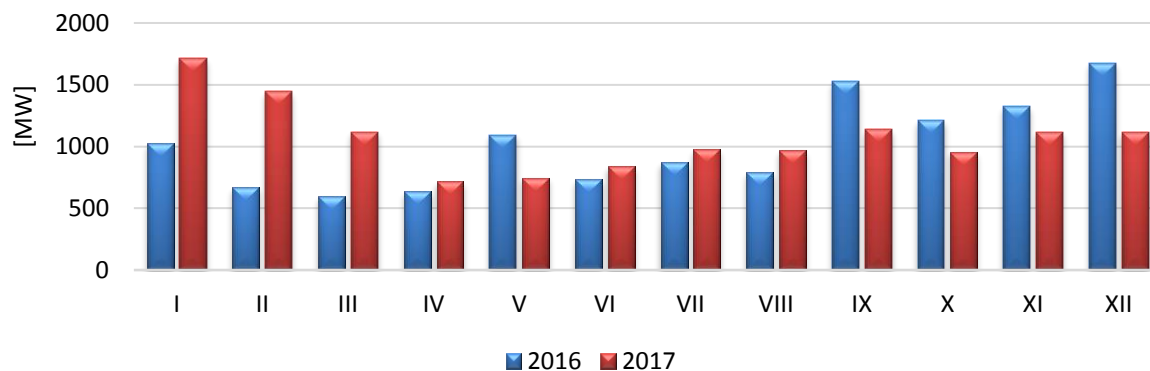
Figure 12. Losses due to major and medium repairs



Source: ERO, on the basis of data provided by PSE S.A.

Power losses due to breakdowns of centrally dispatched generation units (CDGU) in 2017 were at an average level slightly higher than in 2016, with the accumulation of these breakdowns in the first half of 2017.

Figure 13. Losses due to breakdowns



Source: ERO, on the basis of data provided by PSE S.A.

Grid breakdowns, resulting from unfavourable weather conditions, which resulted in limitations of electricity supply to customers, were separately focused on. The main reason for grid breakdowns in 2017 were extreme (extremely unfavourable) atmospheric conditions (including the storm in August, storm winds in October: "Ksawery" and "Grzegorz"), which resulted in toppling trees outside of the standard tree felling belts, causing permanent damage to power grids – like breaking wires, breaking electricity poles, damaging overhead stations. The scale and extent of these breakdowns, in turn, resulted in long repair.

Below a summary of the amount of energy not supplied to customers in the NES during the whole 2017 is presented.

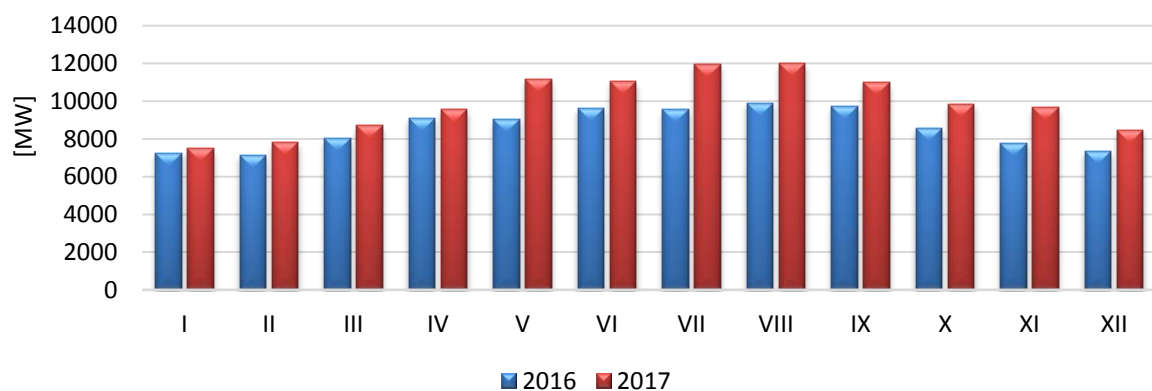
Table 7. Restrictions on supplies to customers in the NES in 2017 [in MWh]

Specification	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2017
Power supply limitations due to lack of capacity in NES	0	0	0	0	0	0	0	0	0	0	0	0	0
Power supply limitations due to breakdowns of transmission system	0	0	0	0	0	0	0	0	0	0	0	0	0
Power supply limitations due to breakdowns of distribution system	631	765	531	2 765	83	4 396	1 068	13 192	288	18 592	971	5 567	48 849
Including due to bad weather conditions	452	711	321	2 516	59	4 324	999	13 061	125	18 596	944	5 329	47 437
TOTAL power supply limitations	631	765	531	2 765	83	4 396	1 068	13 192	288	18 592	971	5 567	48 849

Source: ERO, on the basis of data provided by PSE S.A.

According to the data, the largest limitations in electricity supply to customers occurred in August 2017 (as a result of the strong wind-storm in the Kuyavian-Pomeranian Voivodeship) and in October 2017 (as a result of the impact of the "Ksawery" wind storm) – as mentioned above.

Other power losses resulting from stoppages and ramp down of CDGU capacities reported by power plants due to operational conditions and caused by network operation conditions, were practically throughout the entire 2017 at a higher level than in the same period a year earlier.

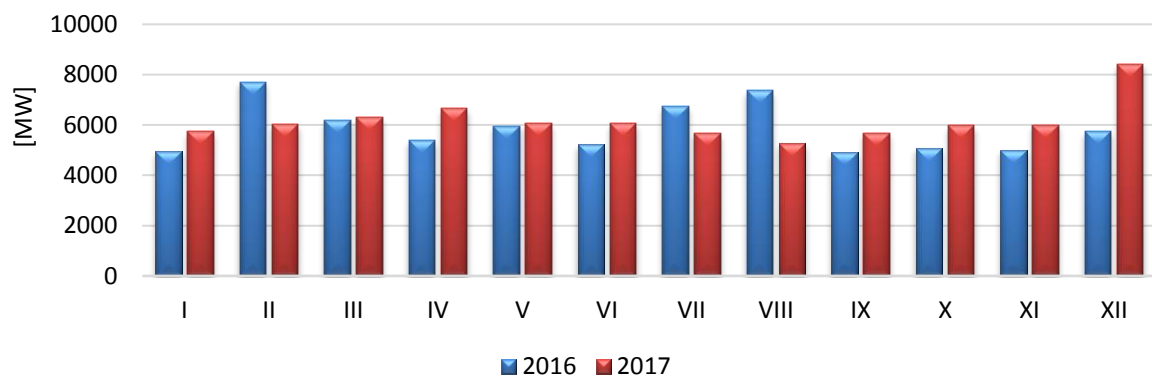
Figure 14. Other losses (including operational and caused by network operation conditions)

Source: ERO, on the basis of data provided by PSE S.A.

Reserve monitoring

As a result of comparing the average annual volume of capacity reserves in commercial power plants, in 2017 an increase by 4.46% in these reserves was recorded as compared to 2016, from 5,869 MW to 6,131 MW.

Below a graphical representation of average monthly volumes of capacity reserves in commercial power plants based on data from daily peaks in domestic demand for power in 2017 as compared to the same figures a year earlier is included.

Figure 15. Capacity reserves in commercial power plants

Source: ERO, on the basis of data provided by PSE S.A.

The table below presents the tabulated specification of volumes of reserves corresponding to the time periods in which the maximum and minimum demand for power occurred in a given month.

Table 8. Volumes of capacity reserves corresponding to maximum and minimum power demand

YEAR 2017	Maximum power demand				Minimum power demand			
	Date of occurrence	NES demand for capacity	Available power reserve in CDGU	Reserve/Demand	Date of occurrence	NES demand for capacity	Available power reserve in CDGU	Reserve/Demand
		[MW]	[MW]	[%]		[MW]	[MW]	[%]
January	09-01-2017 17:30	26 231	3 745	14,28	01-01-2017 03:30	13 407	14 869	110,91
February	08-02-2017 17:30	25 746	4 524	17,57	27-02-2017 02:45	14 673	13 929	94,93
March	09-03-2017 19:00	23 824	5 709	23,96	12-03-2017 06:00	13 916	11 142	80,07
April	28-04-2017 13:15	23 172	4 653	20,08	17-04-2017 05:45	11 785	14 707	124,80
May	30-05-2017 13:15	22 413	4 288	19,13	28-05-2017 05:00	12 387	12 824	103,53
June	28-06-2017 13:30	22 875	3 831	16,75	18-06-2017 05:00	12 074	11 444	94,78
July	31-07-2017 13:30	22 700	4 299	18,94	30-07-2017 05:30	12 320	13 365	108,48
August	01-08-2017 13:15	23 221	3 235	13,93	13-08-2017 05:45	12 228	10 726	87,72
September	26-09-2017 19:45	23 630	4 562	19,30	03-09-2017 06:00	12 653	11 935	94,32
October	30-10-2017 17:30	24 421	8 234	33,72	01-10-2017 03:30	14 056	11 781	83,81
November	30-11-2017 16:45	25 848	3 156	12,21	01-11-2017 06:30	14 414	13 569	94,14
December	19-12-2017 16:15	26 070	5 850	22,44	25-12-2017 07:45	13 098	19 148	146,19

Source: ERO, on the basis of data provided by PSE S.A.

The above table shows the calculation of the amount of the reserve based on the sum of the thermal CDGU spinning reserve, water CDGU reserve and thermal JWCD cold reserve. As it appears from the presented data, the lowest ratio of the level of reserves to the NES demand for power occurred during the afternoon peak demand for capacity on 30 November 2017 (12.21%). Selected cases of increased demand for power (individual hourly intervals), for which the 18% reserve buffer could not be maintained in relation to the demand, respectively: at the peak of the morning demand – June and August and in the afternoon peak – January and February are also noteworthy.

The maximum capacity reserves, both for the morning and evening peaks, occurred on 25 December 2017, when the demand for power was at a moderate level, typical for a public holiday.

In 2017, the periods for which the power reserve (thermal spinning CDGU + water CDGU) were below the reference level of 9% were relatively short, and in the second half of that year – incidental (when including cold reserve in CDGU in the capacity reserve, it was found that such periods did not occur).

It should also be noted that for selected months of 2017 there were time slots, in which power reserve decreased below the reference level of 9% for longer than one hour. For example, on 23 March 2017 (in the afternoon peak, at 19:00) and 19 May 2017 (in the morning peak, at 9:45) in a single quarter of an hour corresponding to the peak capacity demand, power reserve levels were the lowest in 2017 (thermal spinning CDGU + water CDGU) in the amount of approx. 6.0%.

Evaluation of capacity surplus available to TSO

When analysing the level of capacity available to the TSO in the context of the demand for this capacity in the power system, it should be noted that from the point of view of average monthly values for 2017 (presented below, based on the Annual Coordination Plan (ACP)) the capacity surplus available to the TSO was planned at a safer level to ensure the current security of the NES operation, with the exception of September and October, when it was supposed to be deficient.

Table 9. Yearly capacity balance for 2017 based on ACP (values in daily peak on business days in MW)

Peak	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Generating capacity of domestic power plants available for TSO	29 558	29 526	27 846	26 657	25 827	26 292	26 201	26 089	25 760	27 364	28 980	30 250
Domestic demand for capacity	24 986	24 420	23 548	22 132	21 605	21 835	22 024	21 919	22 662	23 491	24 552	24 595
Capacity surplus available for TSO	4 572	5 106	4 298	4 525	4 222	4 457	4 178	4 170	3 098	3 873	4 427	5 655
Capacity surplus required by TSO (18% of demand)	4 497	4 396	4 239	3 984	3 889	3 930	3 964	3 945	4 079	4 228	4 419	4 427
Difference between capacity surplus available and required by TSO	75	710	59	542	333	526	213	225	-981	-356	8	1 228

Source: ERO, on the basis of data provided by PSE S.A.

Summary

The assessment of the security of electricity supply in 2017 allows to make the following observations:

- 1) On 9 January 2017, the largest demand for electricity in the history of the NES occurred (26,230,60 MW), which exceeded the representative figure from the previous year by over 684 MW (increase by approx. 2.68% y/y),
- 2) domestic electricity consumption increased to 168.14 TWh, that is by over 2.13% more than in 2016. The growth rate of this consumption was lower than the GDP growth rate in Poland in 2017, which according to preliminary estimates of the Central Statistical Office was 4.6%,
- 3) the volume of installed capacity remained at a relatively high level exceeding 43 GW, taking into account the dynamics of this increase by over 4.89% (y/y). This growth was accompanied by a parallel increase in the generating capacity by about 4.98% (y/y), i.e. the value of both capacities grew faster than in the previous year 2016,
- 4) the level of capacity available to the TSO in the context of the demand for this capacity in the power system, from the point of view of average monthly values for 2017, was at a safe level to ensure the operation of the NES (in accordance with the safety margin required by the TNC). However,

attention should be paid to the existence of negative reserves in the capacity surplus available above the required at the NES peak capacity demand, which means that in the process of controlling the system operation safety TSO must take appropriate countermeasures, adequate to the greater range of risk possible to occur,

- 5) the TSO has ensured an adequate level of reliability and security of the NES operation by delaying some of the renovation works and changes in the schedule of investment work,
- 6) an important factor increasing the security of electricity supply was the inclusion of new generation capacities in the power system, including:
 - block No. 11 in Koźienice with a capacity of 1075 MWe;
 - gas and steam block of 600 MWe in Płock (owned by PKN Orlen S.A.).

In 2017, the government draft Act on Capacity Market was approved, regarding – according to the justification – implementation of the capacity market, on which net generating capacity, which can be offered by generators and DSR units, will be a commodity; producers obtaining remuneration for its supply along with the obligation to supply it in periods of tight capacity balance (so-called emergency periods), i.e. in situations where there is a risk that problems may arise in meeting the customers' peak power demand. The above regulation is intended to improve Poland's energy security and prevent power shortages.

3.3.2. Monitoring investments in generation capacities

The President of the Energy Regulatory Office, realizing tasks resulting from the Energy Law Act in the field of monitoring the security of electricity supply, conducted in 2016 a study of investment plans of electricity generators fulfilling the obligation to prepare 15-year forecasts, pursuant to Article 16 (20) and (21) of the Energy Law Act.

Due to changes of market and legal conditions (including the planned introduction of the so-called BAT conclusions³⁶⁾ or starting work on the Act on Capacity Market) in the course of conducting research and data analysis, which led to a change in some investment plans of electricity generators, including investments for which the degree of implementation should be considered advanced, the President of the ERO decided to repeat the abovementioned research. At the turn of January and February 2017, the generators updated their investment forecasts presented in 2016. The results of the data analysis are presented in Figure 16. The following assumptions were made during the analysis:

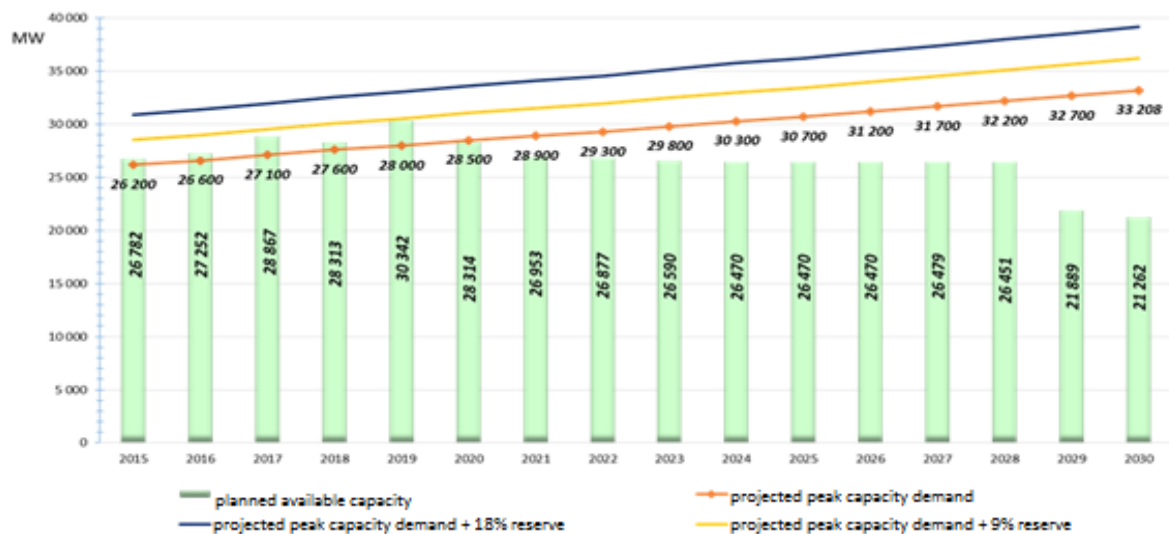
- new investments from dispersed generation (not included in the study of investment plans), wind sources and photovoltaic sources were not taken into account,
- withdrawal of generating units takes into account: BAT conclusions (anticipated to come into force as of 2021), lack of support system for cogeneration as of 2019 and lack of capacity market,
- results for 2015 are based on real data from the "Annual report on the NES operation for 2015" available on the website of PSE S.A.,
- the forecast peak demand for electric power is presented according to data provided by PSE S.A.,
- investments at the initial implementation stage were not taken into account.

It should be noted that the results of the study conducted by the President of the ERO coincide with the analysis carried out by PSE S.A. and the Ministry of Energy for the implementation of the capacity market mechanism provided for in the Act on Capacity Market.

Technical and market conditions taking place during the research period, such as the lack of appropriate investment signals for the construction of new generation capacities, limiting the possibility of electricity imports due to loop flows, the need to comply with the BAT conclusions have resulted in a large available capacity loss being observed since 2020, and the generating capacities do not guarantee coverage of the forecasted demand in the following years. Thus, in the opinion of the President of the ERO, the introduction of mechanisms supporting the construction of new generation capacities was fully justified.

³⁶⁾ Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European parliament and of the Council, for large combustion (EU OJ L 2017.212.1).

Figure 16. Available capacity against peak demand for capacity (including necessary reserves), based on investment plans of energy companies as at the beginning of 2017.



Source: ERO, on the basis of data provided by PSE S.A.

Investment projects related to cross-border infrastructure

Investment projects related to interconnections are included in the PSE S.A.'s Development Plan in terms of satisfying current and future electricity demand in 2016-2025:

- Modernization and development of 400/220 kV Krajnik substation
- Modernization and development of 400/220/110 kV Mikułowa substation
- Construction of 400 kV Kozienice – Siedlce Ujrzanów line
- Development of 400/220/110 kV Kozienice substation
- Construction of 400 kV Ostrołęka – Stanisławów line
- Development of 400/220 kV Stanisławów substation
- Development of 400/220/110 kV Ostrołęka substation
- Construction of 400 kV Ostrołęka – Olsztyn Mątki line
- Development of 400/220/110 kV Olsztyn Mątki substation
- Construction of 400 kV Baczyna – Krajnik line
- Development of 400/110 kV Baczyna substation
- Construction of 400 kV Mikułowa – Świebodzice line
- Construction of 400 kV Baczyna – Plewiska line

A list of investment projects aimed at construction and extension of the interconnections is included in Ten Year Network Development Plan, developed in 2016 (TYNDP 2016).

3.3.3. Measures to cover peak demand and remedy electricity shortfalls of one or more suppliers

Detailed information on announcing, organizing and conducting tenders for construction of new electricity generation capacity or implementation of actions reducing demand for electricity are included in the reports from previous years. In 2017, such measures were not undertaken by the President of the ERO.

With respect to other measures aimed at covering peak demand and remedying shortfall in electricity supply by one or more suppliers, these measures are determined by the minister responsible for energy, who is a competent authority to supervise the security of supply in gaseous fuels and electricity and to supervise the functioning of domestic energy systems to the extent specified in the Energy Law Act.

At the same time, in December 2017, the Act on Capacity Market was passed. It introduced the so-called capacity obligation which consisted in a capacity market unit remaining in readiness to supply power to the system and a commitment to supply a specified capacity to the system during the emergency periods. The tasks of the President of the ERO with respect to the capacity market include approval of the capacity market rules or resolving disputes regarding capacity auctions.

4. THE NATURAL GAS MARKET

4.1. Network regulation

4.1.1. Unbundling

TSO

There is one gas transmission system operator on the territory of Poland – OGP Gaz-System S.A., a company wholly owned by the State Treasury. TSO's activity in 2017 comprised:

- managing the national transmission system owned by OGP Gaz-System S.A. under a decision designating the company as the gas transmission operator for the period until 31 December 2030, issued by the President of ERO and under the licence for gaseous fuels transmission valid until 31 December 2030,
- managing the Polish section of the Yamal-Western Europe pipeline under the decision of the President of the ERO ex officio designating OGP Gaz-System S.A. for the period until 31 December 2025, as the TSO of the gas pipeline owned by EuRoPol Gaz S.A., which holds a licence for transmission of gaseous fuels.

In reference to OGP Gaz-System S.A. in the scope of operatorship on its own networks, the ownership unbundling (OU) model shall apply, whereas with regard to networks that do not constitute a property of OGP Gaz-System S.A., i.e. the Polish section of the Yamal pipeline – the independent system operator (ISO) model. Pursuant to Article 12a of the Energy Law Act the rights of State Treasury as the only shareholder are currently exercised by the Government Plenipotentiary for Strategic Energy Infrastructure.

The decisions on granting a certificate of independence in both networks to OGP Gaz-System S.A. along with opinions of the European Commission were issued in 2014-2015 and published in the Bulletin of the ERO. The procedure of certification of transmission system operators was regulated in Articles 9h¹ and 9h² of the Energy Law Act. Detailed information on the certification procedure were included in the previous Reports.

Unbundling rules determined in the Energy Law Act

The scope of activity that may be conducted by the TSO, DSO and SSO, the scope of exemption from the unbundling obligation for DSO and provisions on independence of the above mentioned system operators are regulated in the Energy Law Act and were described in detailed in the previous Reports.

Distribution System Operators

As of 31 December 2017, business activity in the scope of distribution of gaseous fuels was performed by 56 distribution system operators appointed by the decisions of the President of the ERO, including one legally unbundled operator.

This one DSO subject to the unbundling obligation is PSG Sp. z o.o. (Polska Spółka Gazownictwa Sp. z o.o.), which belongs to PGNiG S.A. Group. The company is carrying out business activity consisting

in distribution of gaseous fuels through distribution networks of low, medium and high pressure for the needs of customers located in the territory of the Republic of Poland. In addition, 55 energy undertakings performed DSO functions locally and were not subject to the unbundling obligation.

Storage System Operator

In 2017 the function of storage system operator was carried out by Gas Storage Poland Sp. z o.o. (previous name: Operator Systemu Magazynowania Sp. z o.o.), appointed SSO until 31 May 2022 under the decision of the President of the ERO. The company performs its function on the assets owned by PGNiG S.A. As of 31 December 2017 the company carried out its tasks as regards the following storage installations: CUGS Mogilno, UGS Husów, UGS Wierzchowice, UGS Strachocina, UGS Swarzędz, UGS Brzeźnica and CUGS Kosakowo. As at the end of 2017, their working storage capacity totalled 2,985.35 million m³.

Natural Gas Liquefaction System Operators

As at 31 December 2017, the President of the ERO issued seven decisions designating operators of natural gas liquefaction system. These operators are: PSG Sp. z o.o., DUON Dystrybucja S.A., LNG-Silesia Sp. z o.o., PGNiG S.A., Barter S.A., Polskie LNG S.A. and Blue Cold Sp. z o.o.

Compliance Programmes

There are two entities operating on the market which are obliged to develop compliance programmes and submit reports on their performance: Gas Storage Poland Sp. z o.o. (SSO) and PSG Sp. z o.o. (DSO).

In 2017, no cases of infringement of the principle of equal and non-discriminatory treatment of the distribution system users were detected within the DSO or SSO. There were also no complaints received regarding the application of Compliance Programme provisions, or any notification of the suspicion of conflict of interest.

In the DSO, the Compliance Officer reports directly to the management board and does not join his/her function with other positions. The Compliance Officer is supported in the performance of his/her tasks by coordinators from particular branches of the company. In the SSO, the Compliance Officer's function was combined in 2017 with a position in a department dealing with legal service. As part of tasks performance, Compliance Officers undertook, among others, the following measures:

- Provided answers to questions asked by employees, including interpretations of Compliance Programmes,
- Issued opinions on internal legal acts on these areas of activity which were covered by the Compliance Programme,
- Analysed provisions of internal regulations in force as to their consistency with the provisions of the Programme,
- Participated in the process of making information on the Company's activity available to third parties, including public administration bodies and energy undertakings,
- Conducted training for employees, including the newly recruited ones.

Both entities published their Compliance Programmes on their websites.

4.1.2. Technical functioning

Rules of balancing the transmission system

In accordance with the regulations in force in Poland, operational balancing in the national gas system (entry-exit system) is conducted by the TSO. The entry-exit system includes networks between the entry point to the transmission system and the exit point from the distribution system. Physical balancing is performed through the purchase and sale of gas by the TSO for the purpose of ensuring the network operation within its operational limits. Commercial balancing is based on the principle of

daily settlement of network users. The balancing rules of the system comply with the BAL NC regulation³⁷⁾, taking into account interim measures, described below.

There are three balancing areas of the National Transmission System (NTS): high-methane gas balancing area (NTSHM), balancing area on the Polish section of the Yamal pipeline (the so-called Transit Gas Pipeline System – TGPS) and nitrogen gas balancing area (NTSN). Nitrogen gas balancing area does not have any interconnection points with other balancing areas or balancing zones of other states.

The transmission system operator conducts the activity in the field of entry-exit system balancing mainly by selling/purchasing standard short-term products on the gas exchange. The purpose of operational balancing is to maintain the network in its operational limits and effective and economically justified network exploitation. This contributes to the increase of liquidity of short-term gas market in Poland.

Pursuant to Articles 45-50 of the NC BAL regulation, on 29 September 2017 the President of the ERO, upon request of OGP Gaz-System S.A., granted its consent to apply interim measures in the gas year 2016/2017. Interim measures applied on the high-methane gas balancing area include balancing market platform for localized products and imbalance tolerance at the level of 5% from 1 October 2017 to 31 March 2018. As of 1 April 2018, the imbalance tolerance level has been 2.5%. Due to the reduction of the level of tolerance in the procedure for approval of the report on interim measures, it was necessary to amend the TNC. The President of the ERO issued a decision to change the decision of 3 February 2016 on the approval of the TNC. As a result of the above change, from 1 April 2018 to 1 April 2019, a tolerance of 2.5% is applied. As of 6:00 on 1 April 2019, the tolerance will be 0%.

On the TGPS balancing area and nitrogen gas balancing area interim measures in the form of balancing market platform and temporary charge for imbalance have been introduced. Temporary charge for imbalance is calculated on the basis of the margin price mechanism, in a different manner in the case of TGPS balancing area and the nitrogen gas balancing area. In line with the balancing neutrality rule, the transmission system operator shall not generate profit or incur losses related to the transmission system balancing. Therefore, the President of the ERO, by means of a decision of 1 October 2015, approved the "Mechanism to ensure cost neutrality of the balancing activities of the Transmission System Operator, Gaz-System S.A.". The decision will be effective until 1 October 2018. In accordance with the adopted mechanism of ensuring cost neutrality in the gas year 2016/2017, the balancing neutrality charge for the gas year 2015/2016 was settled. In addition, the current result on balancing activities for the gas year 2016/2017 was settled in a moving manner in monthly cycles. However, as of 1 October 2017, the balancing neutrality fee has been settled only for monthly periods.

With the decision of 4 August 2017, the President of the ERO agreed for the TSO to carry out balancing services on the EEX trading platform in the GASPOOL balancing zone (Germany) and to transmit gas to and from this balancing zone. The previous decision issued in 2016 expired on 1 October 2017. The option of purchasing or selling standard short-term products by the TSO on the EEX exchange constitutes an additional alternative for transactions to physical balance the high-methane gas transmission system of the NTS and the TGPS area. In addition, under this decision, the TSO may trade in gas in the high-methane gas balancing area and transport gas to and from this balancing area to conduct balancing activity in the TGPS balancing area. The above referenced decision expires on 1 October 2018. It should be noted that trading in the adjacent balancing zone in accordance with the merit order set forth in Article 10 of the BAL NC regulation, is a mechanism supplementing the balancing activities carried out by the transmission system operator. In 2017, no balancing actions were taken in the adjacent balancing zones. In addition, in 2017, balancing services were used at one entry point to the transmission system. The rules for the use of these services are included in Article 8 of the BAL NC regulation and a contract for the provision of these services, which is concluded by the transmission system operator after conducting a non-discriminatory bidding procedure.

Rules of balancing the distribution system

Distribution systems connected to the transmission network are an element of balancing areas managed by the TSO. Pursuant to the provisions of the regulation in force, the TSO is responsible for physical balancing of distribution systems. Thus, the unbalancing of market participants should be

³⁷⁾ Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing in Transmission Networks (EU OJ L 2014.91.15).

levelled by the TSO through the purchase or sale of short-term products (STSP). Pursuant to the BAL NC regulation, the TSO imposes a fee on individual network users resulting from their imbalance level. DSOs are involved in determining the level of imbalance of individual system users by allocating to them daily quantity input to the distribution system.

PSG Sp. z o.o., performing the function of the largest DSO in Poland, has been appointed, by the President of the ERO, entity responsible for preparation for system users of forecasts of quantities provided by them, measured less frequently than daily (mainly to households) in the area where it conducts distribution activities. Information on the forecasted quantity of gas off-taken in a given day is provided to the network users via the TSO.

Security, reliability and quality standards

The tasks of the President of the ERO include monitoring the functioning of the gas system, including in the field of security of gas supply. This task has been formulated in a general way – a statutory provision being the source of the obligation in question does not mention individual actions, unlike in Article 5 of Directive 2009/73/EC.

With respect to security and reliability of supplies, the President of the ERO reviews the manner of implementation by gas operators of their statutory obligations and assesses their activities in terms of ensuring the correct operation of the system in accordance with the criteria set out in the network code. The audit is also carried out as part of the analysis of reports on the implementation of Development Plans, including monitoring the implementation of investments, the aim of which was to ensure the continuity of transmission and distribution services while maintaining the required level of security and reliability, as well as creating conditions for market development. Criteria relevant to the security of supply taken into account in the analysis of investment tasks relate to:

- 1) adaptation of gas systems to new operating conditions resulting from connecting new sources of gas acquisition and new customers,
- 2) the possibilities of diversifying the directions and routes of gas supplies to Poland,
- 3) reconstruction or modernization of existing gas infrastructure facilities,
- 4) adaptation of systems to current standards, legal and technical regulations,
- 5) liquidation of the so-called bottlenecks in networks.

Monitoring of the implementation is based on annual reports on the implementation of development plans in terms of meeting the current and future demand for gaseous fuels, and comparing them with the agreed development plan, with respect to the list of investments and expenditures that the company planned to incur and consequently incurred, and quantitative data on, in particular, the number of customers and the volume of gas transmitted – planned and implemented. In addition, the network security status can be assessed on the basis of information on the age structure of the assets and the number of breaks and breakdowns included in the above-mentioned reports. The conclusions from the above monitoring are taken into account in further regulatory actions of the President of the ERO, in particular at the stage of agreeing development plans.

In addition, the control of safety standards includes the control of compliance by obligated entities with the obligation to maintain mandatory reserves of natural gas and reporting by operators of the introduced supply restrictions.

Controlling the quality standards of customer service and quality parameters of gaseous fuels is intended to protect consumers from lowering by gas companies operating on the market, both the quality of fuels supplied (including their heat of combustion), standards of services (interruptions in supply) and customer service standards.

Requirements regarding the quality parameters of the gas fuels supplied and the quality standards of customer service, including the manner in which the complaints were processed, were specified in the Ordinance of the Minister of Economy of 2 July 2010 on detailed conditions for the functioning of the gas system³⁸⁾. Pursuant to this ordinance, gaseous fuels supplied by gas companies should meet the appropriate quality parameters, while TSOs and DSOs were obliged to conduct tests of individual quality parameters. Controlling the quality of gaseous fuels can also be performed at the request of the customer.

³⁸⁾ Journal of Laws of 2014 item 1059, as amended.

In addition, in the event of objections regarding the volume of gaseous fuels to be supplied, the customer may request testing whether the measurement system operates properly, in an independent testing laboratory accredited by the certification body, obtained under the terms and in accordance with the Act of 30 August 2002 on the conformity assessment system³⁹⁾. In the case of irregularities, the energy company covers the costs of testing, and at its own cost, adjusts the fees for supplied gas fuel under the terms and in the dates specified in the tariff.

It is clear from the current practice that the reservations come mainly from household consumers, whereas the President of the ERO's intervention consists primarily in calling distribution system operators to submit gas quality reports (including average monthly heat of combustion) in the part of the gas network to which the installation of the customer voicing reservations was connected. In some cases, the results of analyses carried out by research institutes and science and research units were also used, as the regulator does not have either a laboratory or adequate apparatus to carry out independent tests for the quality of gaseous fuels.

Regulatory activities of the President of the ERO with regard to control of the quality standards of customer service and gas quality parameters are also reflected in the process of approving tariffs for gaseous fuels. The President of the ERO accepts the prices and fee rates contained in the tariffs only if they are calculated taking into account the quality parameters specified in the above-mentioned ordinance on detailed conditions for the functioning of the gas system. In the event when the operator fails to meet the quality parameters of gaseous fuels specified in the above ordinance, the customer is entitled to discounts, whose method of establishment is specified in the tariff. The tariff also sets discounts for failure to meet the quality standards of customer service. The manner of determining the discounts is specified by the provisions of the Ordinance of 15 March 2018 on detailed rules for setting and calculating tariffs and settlements in the trade of gaseous fuels⁴⁰⁾ (Gas Tariff Ordinance), and their amount is specified in tariffs approved by the President of the ERO.

Customers complaining to the regulator about the activities of gas companies usually do not know their rights. In such cases, they are provided with explanations and information about rights and obligations in accordance with the legal provisions currently in force. Extensive information for consumers is also posted on the website of the Energy Regulatory Office (www.ure.gov.pl), in particular in the Set of Electricity Consumer Rights and the Set of Gas Consumer Rights⁴¹⁾.

In the case of the transmission system operator, the control with respect to safety and reliability of supply and quality standards is also carried out by analysing information submitted by TSO quarterly about discounts for failing to meet the quality parameters of gaseous fuels and due to restrictions on supply for reasons attributable to the TSO.

Monitoring time to connect and repair

Information on interruptions and limitations of gas supplies in the transmission network in 2017 are presented in the Table below.

Table 10. Information on interruptions and limitations of gas supplies in the transmission network in 2017

	number	Interruptions and limitations			
		Duration [minutes]	Number of affected customers	Average time [minutes per customer]	Volume of unsupplied fuel [mcm]
Downtimes	39	1055	4	263.75	0.047/514.8
Ongoing scheduled works	103	1 594 955	No data	No data	No data
Limitations	-	-	-	-	-

Source: ERO.

In 2017 OGP Gaz-System S.A. recorded 39 breakdowns, out of which only 4 caused downtimes in gas supply. The downtimes lasted in total 1,055 minutes. The number of breakdowns increased by

³⁹⁾ Journal of Laws of 2017 item 1226, as amended.

⁴⁰⁾ Journal of Laws of 2018, item 640.

⁴¹⁾ <http://www.ure.gov.pl/pl/urzed/informacje-ogolne/aktualnosci/5768,Konsumencie-paliw-i-energii-Poznaj-swoje-prawa-przed-wakacjami.html?search=54599>

50% in comparison to 2016 (26 breakdowns), while total downtime in gas supply during breakdown increased from 516 minutes in 2016 to 1,055 minutes in 2017 (by 104.5%), which after recalculation gives and average downtime in gas supply of 263.75 minutes. The total volume of not supplied fuel in 2017 amounted to 0.047 million cubic meters (514.8 MWh).

In addition, in 2017, 103 scheduled works were carried out on the transmission network, which lasted a total of 1,594,955 min. However, none of these planned works caused interruptions in the transmission of gaseous fuels. In 2016, slightly less planned works were carried out (99 planned works), however, their total duration was longer by 63,437 min.

In addition to the breakdown and planned works in 2017, in the period from 21 to 23 June 2018, OGP Gaz-System S.A. withheld the off-take of gas transmitted via the Yamal gas pipeline at the Point of Interconnection. The reason for stopping gas off-take was that the gas did not meet the quality parameters specified in the network code. The duration of this break was 2,400 min. and concerned one entity at two off-take points.

In 2017 OGP Gaz System S.A. did not introduce limitation arising from the "Plan of introduction of limitations" within the meaning of Article 58 (17) of the Act on stocks.

Table 11. Interruptions in gaseous fuels supply to customers connected to the gas networks in 2005-2016

Year	Downtimes caused by					
	breakdowns			Scheduled works in progress		
	duration	Number of affected customers	Average time	duration	Number of affected customers	Average time
	[minutes]	[number]	[minutes per customer]	[minutes]	[number]	[minutes per customer]
2013	63 372 633.60	91 931	1 113.56	159 639 406.18	166 928	956.34
2014	19 894 108.80	105 730	599.38	65 364 360.60	156 603	417.39
2015	25 227 170.40	78 141	322.84	22 990 615.20	81 840	280.92
2016	22 442 721.00	62 809	357.32	38 921 618.40	102 398	380.10
2017	28 798 586.82	67 053	429.49	41 932 233.00	89 986	465.99

Source: ERO.

It follows from the data presented in the table above that in 2017, both the average downtime caused by breakdowns increased (by 20.2%) and so did the downtime caused by planned renovations (by 22.6%). As a result of the breakdown in 2017, the number of customers to whom the gas supply was stopped amounted to 67,053, which is nearly a 7% increase compared to the previous year. In the case of planned works, despite the average and general increase in the duration of gas supply interruptions compared to 2016, the number of customers affected by gas interruptions decreased.

In 2017, the President of the ERO also monitored the number of connections made to the network and the time needed for enterprises to implement them. Information on the number of connections completed by OGP Gaz-System S.A. and the distribution system operator subject to unbundling obligation is presented in the table below.

Table 12. Information on the connections to the gas network completed in 2017

	Number of completed network connections	Number of completed full-charge connections	Number of connections completed after initial refusal
OGP Gaz-System S.A.	13	10	0
Distribution System Operator subject to the legal unbundling obligation	54 922	0	43

Source: ERO.

In the case of the transmission system operator, the number of grid connections completed in 2017 was 13 (in 2016 – 15), of which 10 connections were made on full payment terms (distribution customers), and 3 under principles where fees were 1/4 of the expenditures incurred (final customers). As in 2016, OGP Gaz-System S.A. did not carry out connections preceded by a refusal to issue the terms of connection to the network in the reporting year. In turn, the DSO subject to unbundling obligation

in 2017 realized 54,922 gas connections to the network, which is a nearly 14% decrease compared to 2016.

In addition, the following information for 2017 was obtained from the DSO subject to the unbundling obligation:

- the average number of days for submitting the connection cost offer was 9.6 days,
- the maximum number of days for connection to the network and activation of gas supplies to the customer in the case of small works amounted to 152 days,
- the maximum number of days for disconnection from the network at the request of the customer was 5 days.

As in previous years, the main reasons for failing to meet the deadline for connection to the gas network were:

- difficulties in obtaining the necessary administrative and legal decisions (i.e. difficulties in obtaining approvals of property owners for the location and construction of a gas pipeline / connection and the related need to obtain a legal title to the real estate on which the gas network or installation was to be built, time-consuming administrative or judicial proceedings in terms of establishing transmission easement),
- delays on the part of customers in meeting the deadlines set in the contract for connection to the gas network,
- adverse weather conditions causing delays in field work.

The tasks imposed on the regulator were also carried out through monitoring the fulfilment by enterprises of the mandatory obligation to notify the President of the ERO of any refusal to connect to the gas network⁴².

In 2017, the President of the ERO received a total of 3,017 notifications of refusal of connection to the network, of which 7 related to the TSO and 3,010 to the DSO. In the case of the TSO, in 2017 there was an increase in the number of refusals compared to 2016 (in 2016 – 0), while in the case of DSOs there was a significant decrease, i.e. from 7,298 denials in 2016 to 3,010 denials in 2017 (reduction by nearly 60%). In 1,919 cases reported connection refusals were caused by the lack of economic conditions for connection to the grid, and in 1,091 cases the refusal was caused by the lack of technical conditions for connection.

Refusals for economic reasons were due to negative results of conducted economic analyses – non-profitability of an investment project due to the need to bear additional financial expenditures on construction of new sections of gas infrastructure necessary to connect new customers (investment projects were not included in current development plans of a given operator).

The reasons for refusal to connect to the network due to lack of technical conditions, indicated by distribution system operators, included, among others:

- lack of gas system,
- lack of existing gas network,
- lack of technical capacity of the gas network,
- considerable distance from the gas system,
- lack of possibility to develop the gas network due to formal and legal reasons.

Monitoring access to storage, linepack and other ancillary services

Gas Storage Poland Sp. z o.o. was designated operator of the storage system by the President of the Energy Regulatory Office. The company provides storage capacities in the following installations and installation groups:

- Group of Storage Facilities Kawerna (GSF Kawerna), including CUGS Kosakowo and CUGS Mogilno,
- Group of Storage Facilities Sanok (GSF Sanok), including UGS Husów, UGS Strachocina, UGS Swarzów and UGS Brzeźnica,
- UGS Wierzchowice Storage Facility.

According to the duration of the storage services, they are divided into long-term, short-term and intraday services. According to the type of services, firm storage services and interruptible storage services are distinguished.

⁴² Article 7 (1) of the Energy Law Act "... If an energy company refuses to conclude a grid connection agreement, it must immediately notify the President of the ERO in writing of the refusal to conclude it, stating the reasons for the refusal".

The party ordering the storage service can order storage services in the form of a bundled unit, a flexible unit or as unbundled storage service.

In 2017, SSO did not have the capacity of storage facilities exempt from third party access, in particular did not use the exemption under Article 4i of the Energy Law Act.

The Storage Services Rules were amended on 8 May 2017, after public consultation. It has been valid as of 1 June 2017 6:00 am. In the period from 1 to 21 December 2017, SSO carried out public consultation on a draft amendment to the Rules regarding the optimization of storage facilities utilization by introducing new types of storage services (90/40 storage service, reverse storage service and short-term storage services in reservoir storage installations) and establishing non-discriminatory rules for participation in the storage capacity allocation for entities applying for the conclusion of a storage service agreements for 4, 3 and 2 storage years. This amendment came into force at 6:00 am.

In order to fulfil the obligations indicated in Article 19 of Regulation 715/2009, SSO publishes information on the mechanisms for allocation of storage capacity, including the services and conditions it offers, along with technical information needed by storage system users to obtain effective access to storage facilities, numerical information about the contracted and available storage capacity, as well as information sharing and the frequency of information updates on the amount of gas stored in each storage facility or in a group of storage installations. This information is also available in English on the website of the storage system operator (<https://ipi.gastoragepoland.pl>). In addition, SSO sends to Gas Infrastructure Europe (Gas Storage Europe) information on the total filling levels of storage facilities, quantities of gaseous fuel injected into and withdrawn from storage facilities and the parameters of storage installations. Data regarding storage installations are published in the form of the AGSI+ database <https://agsi.gie.eu/>.

SSO implements the information obligation arising from Article 9 (7) and (9) of Regulation 1348/2014, which is the implementing regulation for Regulation 1227/2011.

The obligation arising under Article 22 of Regulation 715/2009 is implemented through the application of the provisions of the Storage Services Rules regarding the secondary trade of storage capacities. In 2017, SSO did not receive any application for the sale of storage capacities ordered by the customer of the storage service on the secondary market.

In 2017, the offered working capacity increased by 26.5 million m³ at CUGS Kosakowo (part of GSF Kawerna) and by 35 million m³ at UGS Brzeźnica (part of GSF Sanok).

Currently, storage capacities of gas pipelines are not offered for gas storage. The TSO does not offer a linepack flexibility service based on the provisions of the BAL NC regulation either.

Monitoring correct application of criteria that determine the model of access to storage

With respect to new and released storage capacities offered by the SSO within capacity allocation procedure at GSF Kawerna, GSF Sanok and UGS Wierzchowice Storage Facility, launched on 13 January 2017, market participants could submit applications for storage service agreements. Six applications for the conclusion of a long-term agreement were received. For the storage year 2017/2018, all of the services offered were allocated. Requests for the provision of firm storage services in GSF Sanok and UGS Wierzchowice Storage Facility were submitted in order to create and maintain mandatory reserves of natural gas. The provision of services in the field of new storage capacities has begun 1 June 2017, i.e. on the day of entry into force of the Tariff for Gas Storage Services No. 1/2017.

The President of the ERO carried out monitoring of the aforementioned procedures. As a result, the SSO was provided with comments on the Storage Services Rules, the majority of which were then accommodated.

Monitoring the implementation of safeguard measures

In 2017 the President of the ERO monitored the implementation of safeguard measures in the event of sudden crisis on the energy market, a threat to the physical security or safety of persons, equipment, installations or system integrity, by approving emergency plans for restrictions in natural gas consumption developed by the transmission, distribution and combined system operators. It was also

carried out within verification or determination of the level of obligatory reserves of natural gas, and analysis of information related to the aforesaid measures.

Restrictions in natural gas consumption

Detailed rules of introducing restrictions in natural gas consumption and of development of plans on introducing restrictions of natural gas consumption by transmission system operators, distribution system operators and combined gas system operators, or energy undertakings performing the function of operators (hereinafter "plans on restrictions"), were presented in the reports for previous years.

The obliged operators submitted 48 applications for the approval of plans on restrictions for the 2017/2018 season, out of which 44 applications were submitted in 2017 and 4 applications in 2018. In 2017, in this regard, the President of the ERO issued 2 decisions on plans on restrictions of fundamental importance for the gas system functioning, that is by means of a decision of 19 December 2017, regulator approved the plan developed by OGP Gaz-System S.A. and a decision of 21 December 2017 the plan on restrictions developed by Polska Spółka Gazownictwa Sp. z o.o.. Proceedings with respect to the plans on restrictions developed for the season of 2017/2018 submitted in 2017, were continued in 2018.

In 2017 restrictions in natural gas consumption were not introduced.

Mandatory reserves of natural gas

The purpose of maintaining mandatory reserves is protection against the negative effects of disruptions in natural gas supplies, an emergency situation in the gas network and an unforeseen increase in natural gas consumption by its consumers. Mandatory reserves allow quick intervention measures to be taken to compensate for shortages in the balance of gas supplies to the market.

The Act of 7 July 2017 amending the Act on Stocks, introduced significant changes in the Act on Stocks as well as Act of 22 July 2016, specifying, in particular, the manner in which the reserve obligations are implemented in the first period of the amendment implementation, generally falling in 2017. As a result of the above amendment, in accordance with the subjective scope defined in Article 24 (1), the obligation to maintain mandatory reserves of natural gas rests on:

- an energy undertaking conducting business in the area of foreign trading in natural gas,
 - an entity bringing in natural gas to Poland⁴³⁾,
- hereinafter referred to jointly as the "obliged entity".

The amendment to the Act on Stocks lifted, as of 1 October 2017, the possibility for energy companies to obtain an exemption from maintenance of natural gas reserves. Enterprises exempt from the obligation to maintain mandatory stocks as at 2 September 2016 – were obliged to keep these stocks as of 1 October 2017.

The volume of mandatory reserves that an obliged entity must maintain arises from the decision of the President of the ERO, which verifies the volume of stocks determined by the abovementioned entity or determines this volume.

Verification of stocks volume applies to enterprises and entities that have brought in natural gas from abroad, while their determination refers to those that plan to initiate the import of this gas.

As a general rule, obliged entities that have made imports set the level of mandatory stocks by 30 April each year, on the basis of import volumes, from 1 April of the previous year to 31 March of a given year, based on the data in their reports and submit it to the President of the ERO for verification by 15 May.

⁴³⁾ Entity bringing in natural gas – a natural person, a legal person or an organizational unit without legal personality, including an energy company owning a gas transmission system that makes natural gas imports to the Polish territory for own needs (Article 2 (14a) of the Act on Stocks); the obligation to maintain mandatory gas stocks for entities bringing in natural gas occurred for the first time as of 1 October 2017.

In the case of energy companies involved in foreign trading in natural gas⁴⁴⁾, the volume of natural gas brought in is determined as the difference between the volume of imports⁴⁵⁾ and exports⁴⁶⁾ in the abovementioned period.

The above mentioned amendment to the Act introduced a transition mode for establishing mandatory reserves of natural gas for obligated entities. The volume of mandatory reserves, for the period from 1 October 2017 to 30 September 2018, was determined by the President of the ERO on the basis of data on the volume of imports made from 1 January 2017 to 30 June 2017.

However, for obligated entities that start bringing in natural gas, the volume of mandatory reserves is determined by the President of the ERO:

- for the period from the date of commencement of imports to 30 September 2016 on the basis of the average daily import volume for the period from day of imports to 31 March of the following year,
- from 1 October following the date of commencement of imports to 30 September of the following year based on the average volume of gas brought in in the current period of operation.

As a result of the amendment to the Act on Stocks in 2017, 73 proceedings were conducted to establish or verify mandatory reserves of natural gas. Among the conducted proceedings:

- 58 were completed with the issuance of decisions verifying the volume of stocks,
- 6 ended with the issuance of decisions determining mandatory stocks,
- 9 were cancelled.

In addition, a new solution has been introduced to implement the stocks obligation, i.e. so-called ticket agreement, consisting in enabling entities obliged to maintain mandatory reserves of natural gas, without own or contracted storage capacities, to perform this obligation by ordering it, by way of a contract, to another energy company conducting business in natural gas trading with an energy company or an energy company conducting business in the field of trading in gaseous fuels.

In 2017 the President of the ERO monitored the implementation of safeguard measures also by the analyses of information received in connection with functioning of the above-mentioned measures, in particular:

- **information submitted to the President of the ERO pursuant to Article 27 (2) of the Act on Stocks and Article 4 of the Act of 7 July 2017 on amending the Act on Stocks, by the energy companies running business in the scope of foreign trade in natural gas and entities importing natural gas**

Pursuant to Article 27 (2) of the Act on Stocks, as applicable before 2 August 2017⁴⁷⁾, the information was forwarded to the President of the ERO by 65 enterprises and entities obliged to do this.

Pursuant to Article 27 (2) of the Act on Stocks, as applicable after 2 August 2017 (after the amendment to the Act made by the abovementioned Act of 7 July 2017)⁴⁸⁾, in September 2017, information was provided to the President of the ERO by 19 obliged entities.

Pursuant to Article 4 of the above Act of 7 July 2017⁴⁹⁾ information to the President of the ERO was submitted by 49 obliged entities;

⁴⁴⁾ This category covers both companies that have a licence for foreign trading in natural gas (OGZ licence) and those which carry out this activity without licence in connection with the statutory exclusion of this obligation under Article 32 (1) (4) of the Energy Law Act (i.e. the value of annual turnover does not exceed 100 thousand euros).

⁴⁵⁾ Imports – bringing crude oil, petroleum products or natural gas within the territory of the Republic of Poland as part of intra-Community acquisition or import (Article 2 (14) of the Act on Stocks).

⁴⁶⁾ Exports – export of crude oil, petroleum products or natural gas outside the territory of the Republic of Poland as part of an intra-community delivery or export (Article 2 (15) of the Act on Stocks).

⁴⁷⁾ Obligated entities were required to submit by 15 May 2017 to the minister competent for energy and the President of the ERO, information on measures taken from 1 April 2016 to 31 March 2017, in order to (1) ensure fuel safety of Poland with respect to foreign trading in natural gas and (2) fulfil the obligation to maintain mandatory reserves of natural gas.

⁴⁸⁾ The enterprises and entities referred to in paragraph 1, provide the minister in charge of energy and the President of the ERO with information on: (1) the actual volume of maintained mandatory reserves of natural gas and the place of storage, as at 15 September – 20 September each year; (2) measures taken in the period from 1 January to 31 December of the previous year to ensure the fuel security of the state with respect to foreign trading in natural gas or natural gas imports and the obligation to maintain mandatory natural gas reserves – by 15 May each year.

⁴⁹⁾ An energy company engaged in foreign trading in natural gas and an entity importing natural gas shall submit to the minister competent for energy and the President of the ERO information on the actual volume of mandatory natural gas reserves maintained from 1 October 2017 to 30 September 30 2018 and their storage location, as at 1 October 2017 – until 10 October 2017; this provision was transitional and provided for a special, one-off manner of implementing the information obligation.

- **information provided to the President of the ERO by the gas transmission system operator pursuant to Article 24 (4), Article 24 (3b) and Article 52 (7) and Article 52a (1) of the Act on Stocks and Article 6 (3) of the Act amending the Act on Stocks**

In 2017 there was a change in the rules regarding provision of information by the gas TSO to the President of the ERO with respect to the result of the verification of the technical possibilities of delivering mandatory natural gas reserves and the launch of mandatory stocks. The change resulted from the entry into effect on 2 August 2017 of Act of 7 July 2017 amending the Act on Stocks. Before the entry into force of the above act, pursuant to Article 24 (4) of the Act on Stocks, in the event of identifying that technical parameters of storage facilities did not ensure the possibility of delivering mandatory natural gas reserves to the gas system within a period of not more than 40 days, the gas transmission system operator or combined gas system operator was obliged to notify the President of the ERO of this fact within 7 days.

In 2017, instead of repealed Article 24 (4), Article 24 (3b) of the Act on Stocks was added, pursuant to which the gas transmission system operator or the combined gas system operator verifies the technical possibilities of delivering mandatory natural gas reserves to the gas system within a period of no longer than 30 days from the receipt of complete documents, and immediately provides the minister responsible for energy and the President of the ERO with information on the results of the verification. If it is identified that the parameters of storage facilities or gas networks to which these installations are connected do not ensure the possibility of delivering mandatory natural gas reserves to the gas system within a period of not more than 40 days, the transmission system operator or the combined gas system operator notifies the President of the ERO of this fact within 7 days. In addition, the above amendment took into account the activities of the storage system operator which was obliged to provide the transmission system operator with information for the process of technical verification about the possibility of delivering mandatory natural gas reserves.

In 2017, the verification by the gas transmission system operator or the operator of the combined gas system of technical possibilities to provide mandatory reserves maintained in the period from 1 October 2017 to 30 September 2018 took place on the basis of the one-off procedure specified in Article 6 (1) and (2) (respectively, stocks kept outside and on the territory of the Republic of Poland) of the Act amending the Act on Stocks. Under this provision, the verification was based on documents submitted to the operator by 10 September 2017. At the same time, pursuant to Article 6 (3) of the Act amending the Act on Stocks, the transmission system operator was obliged to provide the President of the ERO with information on transmission capacities reserved for the purposes of delivering the total volume of mandatory natural gas reserves maintained outside the territory of the Republic of Poland to the national transmission or distribution network by 10 October 2017. In 2017, the operator did not signal specific events in the area of mandatory reserves as part of information provided under the above provisions.

However, pursuant to Article 52 (7) of the Act on Stocks, the gas transmission system operator or the combined gas system operator was obliged to immediately inform the minister competent for energy and the President of the ERO on the date and quantity of launched mandatory gas reserves (information provided daily until 10:00 am, regarding the previous day). The Act amending the Act on Stocks changed the content of Article 52 of the Act on Stocks, simultaneously introducing to this Act Article 52a, in particular Article 52a (1), under which the gas transmission system operator or the combined gas system operator, after the end of each gas day in which mandatory natural gas reserves are launched, by 12:00, shall provide the minister responsible for energy and the President of the ERO with information on: 1) date and number of launched mandatory reserves of natural gas on this gas day and storage facilities from which they were released; 2) energy undertakings and entities referred to in Article 52 (7) (1), from which the mandatory stocks of natural gas on that gas day were acquired.

In 2017, the President of the ERO did not receive from the gas transmission system operator information provided under Article 52 (7) or Article 52a (1) of the Act on Stocks.

4.1.3. Network and LNG tariffs for connection and access

Gas enterprises with licences for the transmission, distribution, storage of gaseous fuels, natural gas liquefaction or regasification of liquefied natural gas conduct the above-mentioned activities based on tariffs set by themselves and approved by the President of the ERO.

A prerequisite for the approval of the tariff is its compliance with the provisions of the Energy Law Act and the executive acts to this Act, including in particular the Ordinance on detailed rules for setting and calculating tariffs and settlements in the trade in gaseous fuels⁵⁰).

In the tariff approval process, the President of the ERO thoroughly analyses the costs which form the basis for calculating the rates of fees, ensuring that there is no cross-subsidies between the licensed and non-licensed activities and between the various types of licensed activities. The basis for the assessment of costs accepted for the calculation of tariffs are the data included in the financial statements. Comparative analyses are used to a limited extent.

Tariffs approved by the President of the ERO are published in the ERO Bulletin within 14 days of the date of approval. Gas companies introduce tariffs for application not earlier than after 14 days and no later than 45 days of the date of their publication.

The decision of the President of the ERO approving or refusing to approve the company's tariff may be appealed from to the District Court in Warsaw – the Competition and Consumer Protection Court, via the President of the ERO, within two weeks of the date of its delivery. The previous tariff is applied during the appeal proceedings.

So far, the possibility of setting or approving by the President of the ERO of provisional tariffs for transmission or distribution services in the event of delays in their determination by enterprises rendering the indicated services, provided for in the provisions of the Directive, has not been implemented in the law.

Enterprises dealing with the transmission or distribution of gaseous fuels are required to conclude an agreement for connection to their network with entities applying for connection on a non-discrimination basis, if there are technical and economic conditions for connection and delivery of these fuels, and the contracting party meets the conditions of network connection and off-take, specified by these companies. For the connection to the high-pressure network, entities that do not perform activities in the field of transmission or distribution of gaseous fuels, their production or extraction, storage of gaseous fuels and liquefaction or regasification liquefied natural gas, pay a fee of 1/4 of actual expenditures incurred for the connection. For connection of entities performing activities indicated in the preceding sentence, a fee is charged in the amount corresponding to the actual expenses incurred for the connection. On the other hand, entities whose devices, installations and networks are connected to low, medium and higher pressure networks, pay a fee determined on the basis of rates calculated by the distribution system operators and contained in their tariffs approved by the President of the ERO. These rates are calculated on the basis of 1/4 of the average annual investment expenditure on the construction of sections of the network used to connect these entities, as defined in the development plan, developed by the distribution system operator.

The key infrastructure companies in the gas sector include OGP Gaz System S.A., PSG Sp. z o.o. and EuRoPol Gaz S.A. (companies dealing in gas transport), Gas Storage Poland Sp. z o.o. (a company providing gas storage services, until 3 October 2016 operating under the name: Operator Systemu Magazynowania Sp. z o.o.) and Polskie LNG S.A. (a company providing services in the area of regasification of liquefied natural gas).

In the case of OGP Gaz-System S.A., in the settlements for rendered gas transmission services in 2017, the tariff no. 9 approved by the decision of the President of the ERO of 17 December 2014, for the period until 31 December 2015, was applied in January and amended by:

- decision of 17 December 2015 extending the period of validity of the above mentioned tariff until 30 June 2016 and approving new, higher discounts due to failure to meet the quality standards of customer service, and amendments to its content arising from the new wording of the TNC,
- decision of 9 June 2016, extending the period of validity of the abovementioned tariff until 31 December 2016 and approving the update of discounts for failure to meet the quality standards of service for system users and provisions clarifying the wording of the item regarding the lack of fees at the connection point of the transmission system with the LNG terminal.

⁵⁰ In 2017 it was the ordinance of the Minister of Economy of 28 June 2013 (Journal of Laws of 2013 item 820).

In the remaining months of 2017, tariff no. 10, approved by the President of the ERO of 17 January 2017, was applied. As a result of this tariff, the transmission system users' fees were from 5.2% lower to 3.3% higher than the fees determined on the basis of tariff no 9.

The indicated tariff included rates for entry to and exit from transmission system of high-methane and nitrogen-rich natural gas. In addition, for high-methane gas, it included rates at the entrance to and exit from underground gas storage facilities. The share of revenues obtained from fixed fees was 90% for both high-methane gas and for nitrogen-rich gas, while the rates of entry and exit fees accounted for 20% of fixed fees on entry to and exit from the transmission network, respectively.

Subsequently, on 29 November 2017, the President of the ERO approved tariff No. 11 set by OGP Gaz-System S.A. for the period until 31 December 2018⁵¹⁾ The necessity to approve this tariff, no later than 30 days before the start of the tariff period, i.e. a minimum of 30 days before 1 January 2018, arose from the provisions of Article 30 (1) and Article 32 (b) of the NC TAR Regulation⁵²⁾, which introduced as of 1 October 2017 the obligation to publish the information referred to in Article 30, among others transmission fee rates in the period indicated above. In addition, by decision of 27 October 2017, the President of the ERO designated OGP Gaz-System S.A. as the entity responsible for publishing the information referred to in Article 30 of the NC TAR Regulation, with respect to its own transmission network and transmission network owned by the energy company – SGT EuRoPol GAZ S.A., on which OGP Gaz-System S.A. performs the function of a gas transmission system operator. On 1 December 2017, OGP Gaz-System S.A. fulfilled the above publication obligation⁵³⁾.

In 2017, the energy company PSG Sp. z o.o. conducted settlements for services it provided under tariff no. 3 for gas fuel distribution services and liquefied natural gas regasification services, approved by the decision of the President of the ERO of 17 December 2014 and valid as of 1 January 2015. This was due to the refusal of approval by the President of the ERO of:

- Tariff No. 4, determined for the period until 30 June 2017 (decision of the President of the ERO of 23 December 2016),
- Tariff No. 5, determined for the period until 31 December 2017 (decision of the President of the ERO of 31 July 2017).

The justification for the decision refusing to approve the tariffs No. 4 and 5 submitted by the company was the fact that costs accepted for their calculation did not meet the requirements applicable to eligible costs specified in the Energy Law Act and Gas Tariff Ordinance, and setting distribution fees, which did not ensure protection of customers' interests from their unjustified level.

On 18 April 2017, tariff no. 1/2017 for gaseous fuel storage services established by Gas Storage Poland Sp. z o. o. was approved. This tariff was introduced for application on 1 June 2017, and its validity period was set until 31 March 2018.

The types of storage services provided in relation to tariff no. 1/2016 remained essentially unchanged. However, the name of the daily service changed, which was replaced by an intraday service, provided both in reservoir storages and in cavern installations. In addition, a short-term service – daily, provided on continuous terms at GSF Kawerna was introduced.

A fundamental change in the storage tariff related to the size of the working storage capacity made available in the bundled unit, which – due to postulates of customers – has been reduced over five-fold (to 1,000 MWh) with respect to tariff No. 1/2016 (5,486 MWh).

The introduction of tariff no. 1/2017 for application resulted in a reduction in average payments for storage services for two out of three users that had previously used these services. However, the third user, which expanded its order to include services in installations, which it did not use during the validity period of tariff no. 1/2016, noted a 1% increase in payments.

As in 2016, the storage system operator provided storage services in grouped installations: GSF Sanok (including UGS Swarzędów, UGS Strachocina, UGS Husów and UGS Brzeźnica) and GSF Kawerna (including CUGS Mogilino and CUGS Kosakowo) and UGS Wierzchowice Storage Facility, offering storage services in the form of bundled units and separated services, on firm and interruptible basis, both long-term and short-term, divided into monthly, weekly and daily services.

⁵¹⁾ From the day the tariff was introduced for use by the enterprise, which took place on 1 January 2018.

⁵²⁾ Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonized transmission tariff structures for gas (EU OJ L 2017.72.29).

⁵³⁾ <http://en.gaz-system.pl/customer-zone/tariff/tar-nc-publication/>

The customer using the storage service was not obliged to order the capacity at the entry to and exit from the transmission system and was not accounted for it by the transmission system operator because in the calculation basis for the storage tariff – according to the gas tariff ordinance – the purchase costs of these capacity were included.

In 2017, Polskie LNG S.A. applied tariff no. 2 approved by the decision of the President of the ERO of 16 December 2016 for settlements of LNG regasification services. The average rate for regasification of liquefied natural gas resulting from tariff no. 2 was higher by 7.5% than the average rate resulting from tariff no 1.

On 14 December 2017, the President of the ERO approved tariff no. 3 established by this company for a period of 12 months from its application date, which, according to the company's information, took place on 1 January 2018.

The tariff sets fees for packages of LNG regasification services, including: unloading LNG from a tanker, process storage in reservoirs, regasification and supply of gaseous fuel to the transmission system, and fees for additional services in the field of reloading LNG to road tankers. In addition, the tariff contains fees for separated services, i.e. separated prolonged process storage and separated contracted capacity, which may be provided in addition to the package regasification services. The company intends to provide long-term regasification services – in a period longer than one year and short-term services – for a period of at least one gas day.

Approval of tariff no. 3 resulted in a decrease in the average rate for regasification services by 30.7% compared to the average rate calculated on the basis of the current tariff, while the rate for reloading LNG into road tankers decreased by 42.9%. This situation is due to the planned significant increase in the use of the terminal, i.e. the increase in ordered regasification capacity, the quantity of regasified LNG gas and the use of LNG reloading capacity for road tankers, compared to the amounts planned in tariff no. 2.

The key enterprises of the gas sector include also SGT EuRoPol Gaz S.A., which in 2017 conducted its activity based on the tariff approved on 16 December 2016. Settlements for services provided with EuRoPol Gaz S.A. networks were conducted based solely on fixed rates of transmission fees.

Initially, the tariff validity ended on 30 September 2017, but by the decision of 29 September 2017 it was extended until 31 December 2017. The rates of fees set in the above-mentioned tariff were by 20.9% lower than the rates applicable in 2016.

On 17 November 2017, the President of the ERO approved another tariff of this company for the period up to 31 December 2018. As a result of the appeal lodged against the above mentioned decision, the approved tariff has not yet been put into application.

4.1.4. Cross-border issues

Access to cross-border infrastructure, including capacity allocation and congestion management

The rules of access to the transmission system, including rules of allocation of cross-border capacity and system congestion management were regulated in the gas Transmission Network Code developed by the TSO and approved by the President of the ERO. As part of mechanisms of management of system congestion on cross-border interconnectors, oversubscription and buy-back (OS&BB), surrender and long-term use-it-or-lose-it (LT UIOLI) schemes are used.

Due to the lack of congestion at these points in 2017, the capacity for the oversubscription and buyback procedure was not offered. There was also no need to apply a long-term capacity allocation procedure based on the long-term "use-it-or-lose-it" principle (long-term UIOLI). On the other hand, the users of the network took advantage of the possibility of giving up the allocated capacity.

Cooperation with the regulatory authorities from other countries

In 2017, bilateral cooperation between the ERO and the German regulator BNetzA was continued in order to agree on the manner of implementing the provisions of the CAM Regulation. The subject of

the consultations was first of all choosing the platform for the allocation of bundled capacity at the Mallnow and GCP GAZ-SYSTEM / ONTRAS interconnection points on the Polish-German border. Lack of agreement on this issue between OGP Gaz-System S.A. and German TSOs: ONTRAS Gastransport GmbH (interconnection point GCP), and Gascade Gastransport GmbH (Mallnow interconnection point), resulted in amendments to the CAM NC regulation⁵⁴⁾ to foresee the possibility of formal involvement of regulators in this process. In the last months of 2017, proceedings were conducted regarding the choice of a platform for the allocation of related capacity at Mallnow and GCP GAZ-SYSTEM / ONTRAS interconnection points.

In addition, the President of the ERO, as part of cooperation with other regulators, participated in the preparation of proposals for amendments to network codes, in particular with regard to the BAL NC, CAM NC and CMP regulations. The joint position of regulators and ACER regarding proposals for changes in network codes was submitted to the EC.

Cooperation on infrastructure issues

In 2017, cooperation continued on the implementation of gas interconnection projects between Poland and other EU countries that were granted the status of projects of common interest (PCI).

These projects were placed on the third PCI list, published as an annex to the delegated regulation of the European Commission amending Regulation no. 347/2013. The relevant annex was published on 24 November 2017 and includes priority projects divided according to regional gas corridors. Following OGP Gaz-System S.A.'s projects were qualified for:

- 1) Priority Corridor "North-South gas interconnectors in Central and Eastern Europe and South-Eastern Europe (NSI East Gas)":
 - a) Poland-Slovakia interconnection;
 - b) Gas Corridor North – South in Eastern Poland;
 - c) The interconnection between Poland and the Czech Republic (Stork II);
 - d) Gas Corridor North – South in Western Poland,
- 2) Priority Corridor "Baltic Energy Market Interconnection Plan in gas (BEMIP Gas)":
 - a) Poland-Denmark interconnector (Baltic Pipe);
 - b) Poland-Lithuania interconnector (GIPL);
 - c) Increasing the capacity of the LNG terminal in Świnoujście.

It should be emphasized that in the reporting period the highest priority was given to the implementation of the Baltic Pipe Project and the expansion and increase of the regasification capacity of the LNG terminal in Świnoujście. Thus, the largest activity of the regulator focused on activities related to these projects, and especially to the Baltic Pipe project.

The gas interconnection project Poland – Denmark, which will be implemented by the Polish TSO – OGP Gaz-System S.A. and the Danish TSO – Energinet.dk, provides for the construction of a new gas pipeline that will connect the natural gas transmission systems of Poland and Denmark. The purpose of the Norwegian Corridor, which is the basic element of the Northern Gate concept, is to create technical possibilities for transferring gas from the Norwegian continental shelf via the Danish transmission system and subsea connection from Denmark to Poland (Baltic Pipe), and in the longer term also to other Central and Eastern European countries and the Baltic Sea region.

In December 2016, works on the feasibility study of the Baltic Pipe project were completed. Finally, all technical parameters of the project that enable transmission of gas at a level of up to 10 billion m³ per year on the entire route from Norway to Poland were defined. The subject of the Feasibility Study was a detailed technical, financial and socio-economic analysis of the project, also on a regional basis. In addition, as part of the feasibility study, a non-binding market study was carried out, aimed at pre-determining the project's interest in the market together with the level of capacity necessary to carry out project cost-effectiveness analyses. As a result of the work, a new project formula was developed that takes into account the current and forecast conditions for the development of the gas market in the Baltic region and Central and Eastern Europe. The conducted analyses allowed to properly define the role and scope of the project in the current market situation.

⁵⁴⁾ Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No. 984/2013 (OJ L 01. L 2017.72.1).

In the reporting year, for the Baltic Pipe project a binding Open Season procedure was carried out. Its purpose was to collect binding orders for capacity booking for the Baltic Pipe Project before the operators make the final Investment Decision.

Before starting the Open Season procedure, OGP Gaz-System S.A. was obliged to submit to the President of the ERO the transmission capacity allocation methods for the Baltic Pipe Entry / Exit Point, regulated in the "Baltic Pipe Project. Transmission Capacity Allocation Methods under the Open Season 2017" for their approval. The application for the decision was submitted to the ERO in January 2017. The decision on the approval of the allocation methods was taken on 24 March 2017.

The Open Season 2017 procedure was carried out between 6 June and 31 October 2017 in two phases:

- a) Phase 1: submission of binding Orders on ensuring the implementation of the investment (so-called Order to Proceed / OTP), from 6 June to 25 July 2017,
- b) Phase 2: The binding capacity allocation lasted from 5 September to 31 October 2017.

Phase 1 of the Open Season Procedure for the Baltic Pipe project confirmed the interest of the market in the implementation of this investment by reporting a sufficient demand for the transmission of natural gas. The positive result of Phase 1 allowed both operators to run Phase 2.

The condition precedent for the conclusion of transmission contracts was the Economic Test conducted by both operators, whose objective, as indicated in the CAM NC Regulation, is to assess the viability of incremental capacity projects. The rules for conducting the Economic Test for incremental capacity arise from the provisions of the CAM NC Regulation.

The economic test parameters are determined in the decision of the regulatory authorities. To this end, OGP Gaz-System S.A., by means of an application of 4 August 2017, requested a relevant decision. The President of the ERO, by decision of 25 August 2017, approved the parameters of the economic test for the Baltic Pipe Project, i.e.:

- a) information on transmission fees rates (reference prices) estimated for the time horizon from 1 October 2022 to 1 October 2037, for power levels of 12,069,900 kWh/h⁵⁵⁾ and 10,058,251 kWh/h⁵⁶⁾, in each gas year,
- b) information on the current value of the estimated increase in the allowed revenues of OGP Gaz-System S.A. in connection with the incremental capacity for the power levels indicated above, and determined the f-factor⁵⁷⁾ for the above power levels in the amount of 0.6.

The above parameters approved by the President of the ERO were necessary to conduct the economic test, the outcome of which conditioned the continuation of the Baltic Pipe Project. A positive test result meant that the current value of binding commitments of network users resulting from the contracted power and estimated reference rates (prices) will be at least equal to the product of the f-factor and the current value of the estimated increase in allowed revenues of OGP Gaz-System S.A. associated with incremental capacity.

After assessing the offers received under phase 2 of the Open Season Procedure 2017 and approving the final capacity allocation, both operators conducted economic tests based on criteria approved by the national regulatory authorities in Poland and Denmark, i.e. by the President of the ERO and DERA. As a result, both operators obtained a positive result, which means that transmission contracts under the Open Season Procedure 2017 could be concluded by the end of January 2018 at the latest.

On 12 October 2017, a joint application by OGP Gaz-System S.A. and Energinet.dk was submitted for co-financing of pre-investment works of the Baltic Pipe project under the Connecting Europe Facility (CEF).

On 27 October 2017, OGP Gaz-System S.A. together with Energinet.dk submitted to the President of the ERO an application regarding the issuance of a decision on cross-border allocation of Baltic Pipe project costs (CBCA). An equivalent application was submitted to the Danish regulator. The following documents were attached to the above application: (i) "Costs and Benefits Analysis for the Baltic Pipe project. Pre-investment phase of the project", (ii) "Business plan for the Baltic Pipe project. Pre-investment phase" and (iii) "Proposal for Cross-border Cost Allocation ("CBCA"), the Baltic Pipe project Pre-investment phase". In 2017, as part of ongoing activities in this case, in connection with the provisions

⁵⁵⁾ Quantity offered in the Open Season procedure (phase 1) at the Baltic Pipe Entry and Exit Point (DK -> PL).

⁵⁶⁾ The volume of demand reported by participants at the Entry and Exit Point in the Open Season procedure (phase 1).

⁵⁷⁾ Defined in Article (3) (24) of the CAM Regulation as "share of the present value of the estimated increase in the allowed or target revenue of the transmission system operator associated with the incremental capacity included in the respective offer level as set out in Article 22(1)(b) to be covered by the present value of binding commitments of network users for contracting capacity calculated as set out in Article 22(1)(a)". The f-factor can take the value from 0 to 1.

of Article 12 (3) of Regulation 347/2013, the President of the ERO provided a copy of the companies' investment application to ACER. Then, in order to coordinate the activities of the Polish and Danish regulatory authorities, pursuant to the provisions of Article 12 (4) of Regulation 347/2013 and guidelines No. 5 of 18 December 2015 issued by ACER regarding the procedures for investment applications, a method of coordinating proceedings conducted simultaneously in Poland and Denmark was agreed with the Danish regulatory authority. These arrangements in particular concerned: (i) the manner of proceeding (including compliance with the procedural requirements set by the national legislation of individual countries), (ii) the arrangements regarding the completeness of the application, (iii) arrangements regarding the need for possible calls to operators, i.e. OGP Gaz-System S.A. and Energinet.dk, in order to correct the application and ensure its compliance with Regulation 347/2013 and separate regulations. In addition, in order to ensure coordination of actions, a method of information exchange has been agreed on. Further cooperation with the Danish regulator in this matter and the analysis of the submitted application of the companies by the President of the ERO was continued in 2018.

The proceedings regarding the issue of the CBCA decision were continued in 2018.

With regard to other interconnection projects included in the third PCI list, the activities of the President of the ERO in 2017 were essentially related to monitoring their implementation.

In the case of the Poland – Czech Republic interconnection, in 2017 OGP Gaz-System S.A. continued the design work for this connection, the main purpose of which is to develop project documentation and obtain the necessary permits, including environmental, location and building permits. It seems that the deadline for project implementation will be extended due to delays.

As part of the implementation of the Poland-Slovakia interconnection project, in 2017 concerned transmission network operators (OGP Gaz-System S.A. and eustream.as) continued their activities in the field of design works. The main objective of the activities was to develop project documentation and obtain relevant permits, including conducting an Environmental Impact Assessment and obtaining an environmental, location and building permit.

On 13 December 2017, the "Agreement on a PL-SK project pre-FID cooperation" agreement was signed between OGP Gaz-System S.A. and eustream.as, which defines the principles of cooperation in the implementation of the Poland-Slovakia interconnector until the final investment decision (FID) is made – i.e. until 31 March 2018. The pre-FID agreement also regulates mutual obligations of the parties in the use of CEF financing for construction works until FID is taken.

On 18 December 2017, the EU Innovation and Networks Executive Agency (INEA), OGP Gaz-System S.A. and eustream.as signed an agreement on granting financing for construction works for the discussed interconnection. The agreement will allow the Polish and Slovak gas transmission system operators to receive financial support from the European Union under the CEF in the amount of approx. EUR 107.7 million (EUR 55.2 million for eustream.as and 52.5 million euros for OGP Gaz-System S.A.).

With regard to the GIPL project, in the reporting year the transmission system operator continued its activities with respect to project works, the main purpose of which was to develop project documentation and obtain relevant permits, including obtaining an environmental, location and building permit.

It should be noted that as a result of the above activities in the reporting year, the starting point of this interconnection (connecting to the Polish transmission system) was changed from the previously planned Rembelszczyzna to Hołowczyce, at the same time changing the initial section of the gas pipeline route on the Polish side.

The consequence of this was also the signing by OGP Gaz-System S.A. and Amber Grid of annexes to contracts for co-financing of studies (design and permitting works) and construction works from EU funds (CEF) from INEA, covering the implementation of the GIPL gas pipeline in a new variant of its route and a new date of its commissioning, i.e. the end of 2021. In addition, the issue of accepting a new variant of the GIPL route in Poland was agreed on at the level of TSO, state administration of Poland (Ministry of Energy), Lithuania, Latvia and Estonia and with the European Commission.

In 2017, both above mentioned operators also continued work on an agreement on decisions on cross-border cost allocation (CBCA / Inter- TSOs Agreement, a four-party agreement planned to be concluded between TSOs from Poland, Lithuania, Latvia and Estonia), and also on Connection Agreement (Agreement regarding technical arrangements for project implementation, including investment decision).

Another project category is the Poland-Ukraine interconnection project (not on the PCI list). As part of the interconnections implemented (excluding the LNG terminal), this is the only project that will connect Poland with third country.

The project of the Poland-Ukraine gas interconnection assumes the construction of a new cross-border gas pipeline that will connect the natural gas transmission systems of Poland and Ukraine. The parties to the project are OGP Gaz-System S.A. and the Ukrainian transmission system operator – PJSC Ukrtransgaz.

In the reporting year, the Polish TSO continued cooperation with PJSC Ukrtransgaz in the scope of assessing the real interest in gas transmission from Poland and the needs for the expansion / modernization of transmission systems of both operators.

Design works on the project were also continued. The main objective of the activities was to develop project documentation and obtain relevant permits, including conducting an Environmental Impact Assessment and obtaining an environmental, location and building permit.

In addition, in 2017, the application procedure was initiated to maintain the status of Project of Mutual Interest (PMI) granted in 2016 for the Poland – Ukraine project within the Energy Community. A joint application of OGP Gaz-System S.A. and PJSC Ukrtransgaz in this respect was submitted on 16 November 2017.

Monitoring investment plans and assessment of their consistency with the Community-wide development plan

Energy undertakings involved in the transmission or distribution of gaseous fuels, pursuant to Article 16 (1) of the Energy Law Act, are obliged to prepare, for the area of their activity, development plans for satisfying current and future demand for those fuels.

Agreeing of the draft development plans is aimed at ensuring compliance of these draft plans with the Energy Law Act and its implementing provisions. Development plans – due to a multiannual investment cycle and involvement of significant financial resources (high capital-intensity), which cause long-term financial consequences for the undertaking and its customers – have a direct impact on the level of the future tariffs of the undertaking. Therefore, agreeing the draft development plans is directly connected with issuing decisions on tariff approval.

Development plans are also a source of information on the investment plans of the undertaking in terms of planned investments aimed to connect new customers and projects necessary to maintain an appropriate level of reliability and quality of provided network services.

TSO

In 2017, the development plan of the TSO, OGP Gaz-System S.A., agreed for the period 2016-2025, was in force. In October 2017, the President of the ERO agreed on a further development plan of OGP Gaz-System S.A., "*The National Ten-Year Transmission System Development Plan. Development plan for satisfying the current and future demand for gaseous fuels for 2018 – 2027*" (hereinafter: NTYDP).

With regard to the NTYDP, the level of expenditures was agreed only for the years 2018-2019. This approach deviated from the standard one, providing for the reconciliation of expenditures for the 5-year time horizon. This was dictated by: (1) variability of the subsea part of the planned Baltic Pipe connection, which may have significant financial consequences, (2) low level of implementation by the TSO of the agreed outlays in the years preceding the agreement in the reporting year, and (3) the specificity of the agreed development plan project, resulting from the assumed significant increase in the level of investment outlays.

An excerpt from the agreed NTYDP is available on the TSO's website⁵⁸).

It is worth noting that in NTYDP for 2018-2027 TSO significantly changed the development strategy of the gas system, presented in previous development plans, considering the implementation of the interconnection Poland-Denmark as the foreground investment (Baltic Pipe), which is to diversify not only the directions (routes) of gas supplies but, which is fundamental to the security of the country, primarily supply sources.

⁵⁸ http://www.Gaz-System.pl/fileadmin/pliki/open-season/Krajowy_Dziesiecioletni_Plan_Rozwoju_2018-2027.pdf

In NTYDP for 2018-2027, OGP Gaz-System S.A. plans further development of the transmission network, in particular interconnectors, which apart from ensuring a high degree of diversification of sources and directions of gas transmission are to enable access to competitive markets.

Expansion and construction by the TSO of new two-way interconnections will allow to achieve a high level of energy security of the country, which is fully consistent with one of the basic directions of the Polish energy policy until 2030.

The development of the transmission network included in NTYDP and the construction of new cross-border connections are aimed at increasing the transmission capacity and achieving, by 2022, a complete substitutability of technical import capacities located on the eastern border, with EU import sources.

Technical possibilities of gas import in 2016 and planned for 2022 are presented in Table 13. It should be noted that current Eastern interconnections (Tietierowka, Wysokoje) are not included in it, as the TSO does not plan to invest in their development.

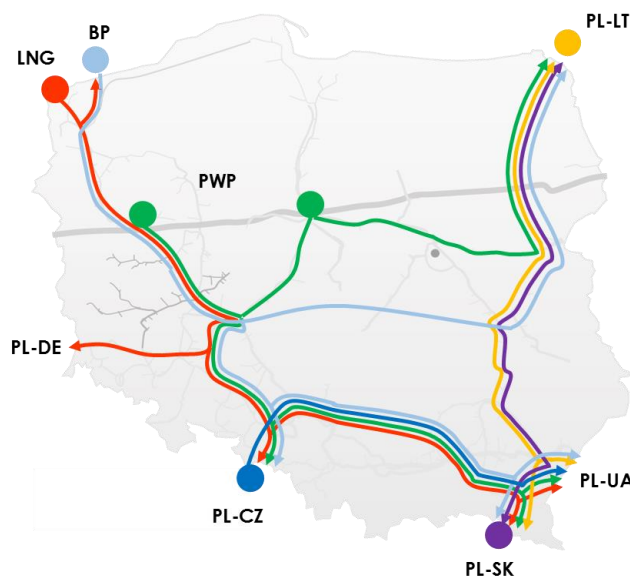
Table 13. Technical import capacities (excluding the Yamal contract) [billion m³]

	2016	2022
GCP Ontras/Gaz-System	1.5	1.5
Cieszyn	0.5	0.5
Mallnow/PWP	5.4	6.1
Terminal LNG	5.0	7.5
Baltic Pipe	-	10.0
Lithuania	-	1.7
Czech Hat	-	6.5
Slovakia	-	5.7

Source: OGP Gaz-System S.A., the "National Ten-Year Transmission System Development Plan. Development plan for satisfying the current and future demand for gaseous fuels for 2018 – 2027", p. 95.

The export potential, i.e. the surplus in the imbalance between the supply possibilities at the entry points to the transmission network and the national demand – in line with the results of analyzes carried out by the TSO – will increase significantly after the launch of subsequent cross-border connections.

Figure 17. Potential directions of gas transit through the transmission network



Source: OGP Gaz-System S.A., the "National Ten-Year Transmission System Development Plan. Development plan for satisfying the current and future demand for gaseous fuels for 2018 – 2027", p. 57.

The obtained technical export possibilities are presented in Table 14. It should be noted that the data presented in the table should not be added up, and the ability to transmit gas in the export direction will depend primarily on the physical place of gas supply to the transmission system.

Table 14. Technical export capacities [bn m³]

	2016	2022
GCP Gaz-System/Ontras	0.9	0.9
Lithuania	-	2.4
Cieszyn	0.5	0.5
Czech Hat	-	5.0
Slovakia	-	4.7
Ukraine	1.5	8.0
Baltic Pipe	-	3.0

Source: OGP Gaz-System S.A., the "National Ten-Year Transmission System Development Plan. Development plan for satisfying the current and future demand for gaseous fuels for 2018– 2027", p. 95.

Apart from the above effects and challenges, TSO plans to build over 2.2 thousand km of gas pipelines and a number of other system facilities related to the gas pipeline infrastructure in the period 2017-2027.

In addition to the new gas pipeline tasks of a strategic nature, TSO plans to build new gas pipelines and modernize existing ones as part of other tasks.

4.1.5. Compliance

The Act of 30 November 2016 amending the Energy Law Act and certain other acts fulfils the obligations of the Republic of Poland to abolish the obligation to submit tariffs for approval to the President of the ERO by the companies trading in gaseous fuels, in accordance with the ruling of the European Court of Justice of 10 September 2015, ref.no.: C-36/14, concerning breach of the provisions of Directive 2009/73/EC.

According to this Act, as of 1 January 2017, the obligation to submit tariffs for approval does not apply to the sale of gaseous fuels to wholesale customers and final customers that purchase them: 1) at a virtual point, 2) in the form of liquefied natural gas (LNG) or compressed gas natural gas (CNG) and 3) in the mode of tenders, auctions or orders. As of 1 October 2017, the prices of gaseous fuels sold to other groups of final customers were released, except for household consumers. Tariffs for the sale of gaseous fuels to consumers in households will remain regulated until the end of 2023.

Compliance of transmission and distribution system operators, system owners and gas undertakings with the relevant Community legislation, including cross-border issues

Pursuant to the provisions of Regulation 715/2009, the TSO shall publish on its website data on the functioning of the transmission system, including on the balancing activity.

In addition, the TSO provides information concerning the basis and methodology for tariffs calculation on its website, along with a calculator of charges for transmission service and gas odourisation.

The rules of transmission capacity allocation are in principle consistent with the CAM NC Regulation, whereas with regard to congestion management, the CMP guidelines are applied. With respect to allocation of transmission capacity on interconnectors with the EU states and on points between internal entry-exit areas, bundled products are offered via allocation platform. Interconnectors on the border with Germany are an exception, as the operators have not yet decided on the selection of a common allocation platform. The procedure for choosing the platform in 2018 has been transferred to ACER.

By decision of 24 March 2017, the President of the ERO approved the transmission capacity allocation methods specified in the document submitted by the TSO "Baltic Pipe Project. Transmission Capacity Allocation Methods under the Open Season 2017" attached to the decision. Pursuant to Article 8 (8) of the then applicable CAM Regulation, it was decided that 10% of technical transmission capacity at the planned Baltic Pipe interconnection point will be set aside and offered no earlier than during the annual quarterly capacity auction, conducted in accordance with the auction calendar during the gas year preceding the start of the relevant gas year. This size was agreed by the TSO with

Energinet.dk and by the President of the ERO with the Danish regulator, and was approved in the aforementioned decision of the President of the ERO.

It should be emphasized that on 6 April 2017, the new CAM NC Regulation came into force. In relation to the previous Regulation 984/2013, the new regulation contains a detailed specification concerning the procedure of creating incremental capacity, i.e. construction of new gas pipelines or extension of existing ones. Since the new regulation entered into force during the implementation of the Baltic Pipe project, in the case of new administrative proceedings concerning the Baltic Pipe, the provisions of Regulation No. 2017/459 were applied.

The provisions on the economic test apply to this project (Articles 22-25 of the CAM NC Regulation). Pursuant to them, by the decision of 25 August 2017, the President of ERO approved for the Baltic Pipe project reference prices (rates) of transmission fees estimated for the time horizon from 1 October 2022 to 1 October 2037 for the power levels indicated by the TSO, and information on the current value of the estimated increase of allowed revenues of the TSO associated with the incremental capacity, as well as the level of the f-factor. Regulation 2017/459 also obliged the regulatory body to indicate the entity that should carry out the economic test. By decision of 6 November 2017, the President of the ERO obliged the TSO to conduct an economic test for the Baltic Pipe incremental capacity project in its part, after obtaining binding commitments of network users with respect to contracting incremental capacity in the Open Season procedure.

The implementation of the provisions of the CAM NC Regulation made it possible to create uniform and transparent mechanisms of capacity allocation. The application of the provisions of this regulation regulating the process of acquiring incremental capacity ensures that market participants may request incremental capacity, reduce the risk of unjustified investment expenditures by the TSOs due to the establishment of a new assessment tool for investment projects (i.e. economic test) and the need for TSOs to decide on approval of the project proposal by the regulatory authority, and is beneficial for the development of the gas market due to the adoption of a two-year cycle of assessing market demand for incremental capacity.

Regarding Commission Regulation (EU) 2015/703 of 30 April 2015 establishing a network code on interoperability and data exchange rules (IO Regulation)⁵⁹⁾, the manner of implementing the IO Regulation was verified by the President of the ERO and by ACER, and was assessed as correct.

The implementation of the provisions on interoperability and data exchange has made it possible to unify the rules of cooperation between operators of adjacent transmission systems and to develop by ENTSO-G an interconnection agreement template. These provisions establish a common set of units and conversion factors between reference conditions. Defining uniform rules regarding gas quality and odourization significantly facilitates gas trade between EU Member States.

Planned implementation of network codes

In the area of nitrogen gas balancing, the President of the ERO, together with TSO and TGE S.A., made efforts to offer trade in nitrogen-rich gas on the trading platform operated by TGE S.A. The provisions of the BAL NC Regulation assume that the TSO will undertake balancing activities in the first place through purchase or the sale of short-term products on the (commercial) trading platform.

Information on other cases of testing compliance with network codes and a description of the existing and applied monitoring method

The President of the ERO monitors the activity of energy enterprises in accordance with network codes, primarily through inquiries addressed to these enterprises. Pursuant to the applicable regulations, the President of the ERO has the right to access the company's accounts and may request information on its business activities, including information about its investment projects. Failure to provide information or misleading the President of the ERO, even if unintentionally, may result in an administrative fine being imposed.

⁵⁹⁾ EU OJ L 2015.113.13.

In addition, compliance of activities undertaken by energy companies with network codes is assessed in the course of administrative proceedings conducted under these codes. For example, the President of the ERO approves the report on the application of interim measures, and in the course of this proceeding the state of development of the wholesale gas market for short-term transactions described in this report is analysed.

Independence criteria

Pursuant to the statutory provisions, the President of the ERO shall be empowered to efficiently control the fulfilment by system operators and the transmission system owner of their statutory obligations arising under the Energy Law Act, including in particular control whether the TSO meets the independence criteria specified in Article 9d (1a) of the Energy Law Act and the criteria specified in Article 9h¹ (7) of this Act. The competences of the President of the ERO with respect to controlling compliance with the independence criteria have been described in last year's report.

Meeting the independence criteria by the TSO was analysed by the President of the ERO in the course of certification proceedings. The results of these analyses have been presented in decisions of the President of the ERO issued after the completion of the above mentioned proceedings and published in the ERO Bulletin.

In addition, in 2017, the activities undertaken by the President of the ERO with respect to the TSO certification focused on monitoring activities of the TSO aimed at fulfilment of the recommendation included in the certification decision of 19 May 2015, and on monitoring whether OGP Gaz-System S.A. continues to meet the independence criteria specified in Article 9d (1a), in connection with Article 9d (1b) and (1c) of the Energy Law Act. The President of the ERO also monitored the issue of the scope and type of data provided by the TSO to the network owner.

4.2. Promoting competition

4.2.1. Wholesale market

4.2.1.1. Monitoring the level of prices, the level of transparency, the level of effectiveness of market opening and competition

As at the end of 2017, 200 entities held a licence for trade in gaseous fuels, as compared to 196 entities as at the end of 2016, while 108 undertakings actively participated in the trade in natural gas. Gas trading undertakings from outside the PGNiG S.A. Group group acquired 86.1 TWh of natural gas. The data on purchase and sale of gas by trading companies are presented in the table below. This value does not incorporate acquisition for own needs by trading companies under monitoring and gas acquisition by large final customers.

Table 15. Volumes of gas acquired and sold under wholesale trading by the trading companies in 2017 [TWh]

	Total	GK PGNiG S.A.	Other trading companies
Gas acquisition (purchase and extraction)	378.3	292.2	86.1
Wholesale sales of gas	145.2	103.5	41.7

Source: ERO, on the basis of data provided by gas trading companies.

Natural gas exchange

The sale and purchase of gaseous fuels on the Polish wholesale market takes place primarily on the commodity exchange operated by TGE S.A.. Exchange market participants are mainly gas fuel trading companies and the largest final customers which can act independently after concluding an appropriate agreement with TGE S.A., becoming exchange members, or through brokerage houses.

Stock exchange trading takes place by concluding sales agreements (transactions) between gas exchange members.

In 2017 TGE S.A. carried out the following gas sales markets: Intraday Market, Day-Ahead Market and Commodity Forward Instruments Market with Physical Delivery. Sales of natural gas were also conducted in the auction system.

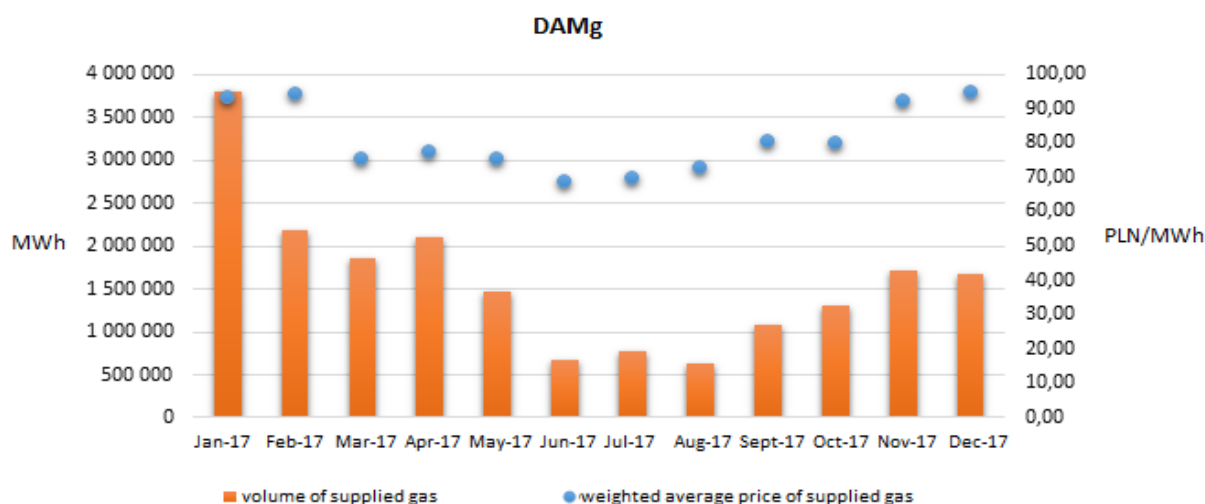
Subject of trade on the Commodity Forward Instruments Market with Physical Delivery for gas (CFMg) is the supply of gas in equal volumes at all hours of the delivery period (weekly, monthly, quarterly and yearly).

Subject of trade on the Day-Ahead Market (DAMg) is the supply of gas in equal volumes at all hours of the delivery day (a single contract corresponds to the delivery of 1 MWh of gas in every hour of the delivery day). Trading is conducted during one day preceding the date of delivery in the fixing and continuous trading system.

Trading on the intraday market (IDMg) is conducted in the continuous trading mode.

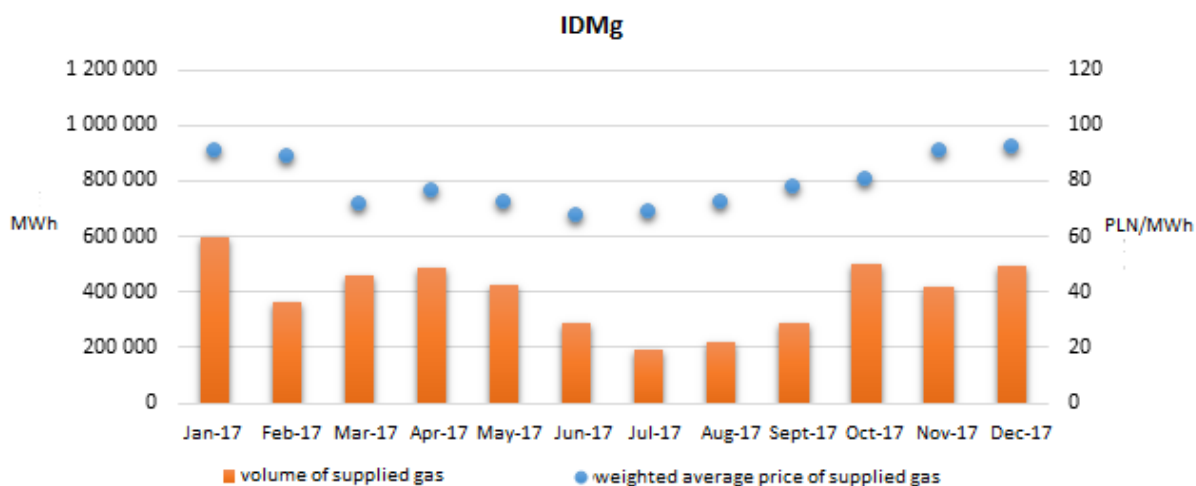
The figures below show the volume and price of gas delivered under contracts concluded on the Intraday Market, Day-Ahead Market and Forward Instruments Market with Physical Delivery for gas products.

Figure 18. Volume and price of gas supplied as a result of the execution of contracts concluded on the Day-Ahead Market (DAMg), which were performed in 2017



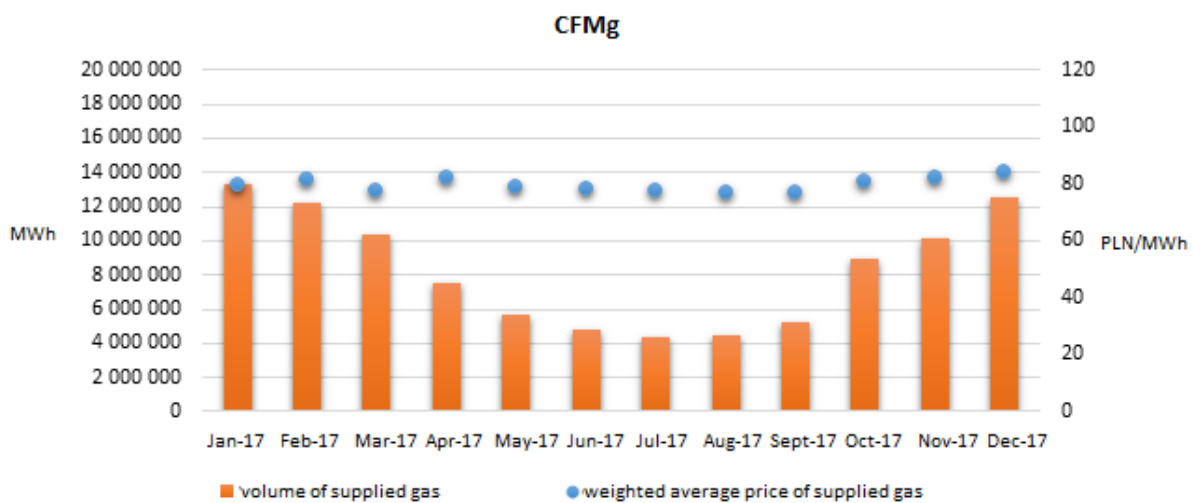
Source: Own analysis on the basis of data provided by TGE S.A.

Figure 19. Volume and price of gas supplied as a result of the execution of contracts concluded on the Intra-Day Market (IDMg), which were performed in 2017



Source: Own analysis on the basis of data provided by TGE S.A.

Figure 20. Volume and price of gas supplied as a result of the execution of contracts concluded on the Commodity Forward Instruments Market (CFMg), which were performed in 2017



Source: Own analysis on the basis of data provided by TGE S.A.

In 2017, as a result of contracts concluded on TGE S.A., 123,704,647 MWh of natural gas were delivered at an average price of 81.00 PLN/MWh. During this period, 19,255,296 MWh were delivered on the DAMg market, 4,727,137 MWh on the IDMg market and 99,722,214 MWh on the CFMg market. The average price of gas delivered as a result of the contracts concluded on the DAMg market in 2017 was 84.40 PLN/MWh, on the IDMg market 80.86 PLN/MWh, on the CFMg market 80.36 PLN/MWh.

Trading in high-methane natural gas in the virtual point on the Over-the-Counter (OTC) market

In 2017, the President of the ERO also monitored transactions concluded at the virtual point on the over-the-counter market. As a result of performance of contracts executed in the virtual point on the OTC market, a total of 23.8 TWh of natural gas was delivered at an average price of 80.07 PLN/MWh. The prices in particular quarters in comparison to prices on gas exchange and prices of gas imports from the EU are presented in the Table below.

Table 16. Comparison of average prices from sales contracts in the virtual point on OTC and purchase from abroad, in particular quarters of 2017 (data in PLN/MWh)

	QI	QII	QIII	QIV
Average prices from contracts on sales in the OTC virtual point	83.27	73.14	73.11	85.25
Average prices from contracts on sales via TGE S.A.	81.57	80.56	76.70	83.78
Average prices of natural gas purchase from EU Member States or EFTA Member States – parties to the EEC Agreement	83.00	68.74	68.47	73.89

Source: ERO own analysis.

Efficiency of competition on wholesale market of natural gas

Wholesale trade on the Polish gas market focuses on the commodity exchange, mainly due to the obligation of public sale of gas by the largest entities (currently PGNiG S.A.), arising from the legal provisions. The level of liquidity of this market is high in comparison to final consumption. However, a large part of transactions is executed between entities from the PGNiG S.A. Group, which may impact the transparency of price terms.

4.2.2. Retail market

4.2.2.1. Monitoring the level of prices, the level of transparency, the level of effectiveness of market opening and competition

The analysis of the retail market for gaseous fuels, made on the basis of monitoring for 2017, covering more than one hundred trading companies, showed that total sales of natural gas (i.e. high-methane and nitrogen gas supplied from gas networks) to final customers amounted to 201,881,827 MWh. In comparison to 2016, gas consumption increased by approx. 11.6%. This increase was generated by a group of industrial consumers. The total number of gas consumers in 2017 exceeded 7 million.

In 2017, the sale of natural gas to final customers was dominated by entities from the PGNiG S.A. Group. The share of these entities increased in comparison to the previous year to the level of 80.74%, while a year earlier this share amounted to 73.69%. This change resulted from a significant drop in gas purchase from abroad directly by final customers for their own needs. This was mainly due to changes in legal regulations regarding mandatory stocks.

The table below presents information on the structure of natural gas sales to end users.

Table 17. Structure of sales of natural gas to final consumers in 2017 (in MWh)

Sales of high-methane and nitrogen gas to final consumers via gas networks

	Alternative sellers	PGNiG S.A. Group	Total
Sales of gas to final consumers	38 795 553	160 812 771	199 608 324
Out of which: industry	30 991 097	102 545 988	133 537 085
agriculture	98 002	369 187	467 189
services and public utility	5 416 122	13 298 329	18 714 451
households	2 290 332	44 599 267	46 889 599
Consumption for own needs	79 005	2 194 498	2 273 503
Total	38 874 558	163 007 269	201 881 827

Source: ERO, on the basis of survey among selected trading companies.

The President of the ERO also monitored the sale of gas in liquefied form (LNG) in 2017. The monitoring covered 12 energy companies purchasing this gas for domestic needs. The LNG acquisition by these companies was 20,483,903 MWh, the majority of which was obtained through the LNG terminal in Świnoujście. A large part of the LNG gas obtained was sold to final customers after regasification and the introduction of high-methane gas to the gas network. As indicated in the table below, the volume of LNG gas sales in liquefied form to final consumers amounted to approx. 471,158 MWh. In this volume, the sale of gas carried out by entities from outside the PGNiG S.A. Group was dominant (ca. 72%).

Table 18. Structure of LNG sales to final consumers in 2017 (in MWh)

	Alternative sellers	PGNiG S.A. Group	Total
Sales of gas to final consumers by trading companies operating in Poland	306 747	79 408	386 155
Out of which: industry	288 136	16 024	304 160
agriculture	-	7	7
services and public utility	18 611	24 553	43 164
households	-	38 824	38 824
Sales for the needs of operators within balancing (other sales)	31 884	53 119	85 003
Total	338 631	132 527	471 158

NB. Data in the table refer only to sales of gas in the LNG form. Data on the sales of high-methane gas acquired as a result of LNG regasification are included in the previous table. The table does not include data on LNG own consumption for the needs of operation of trading companies covered by monitoring.

Source: ERO, on the basis of survey of selected trading companies.

Monitoring supplier switching

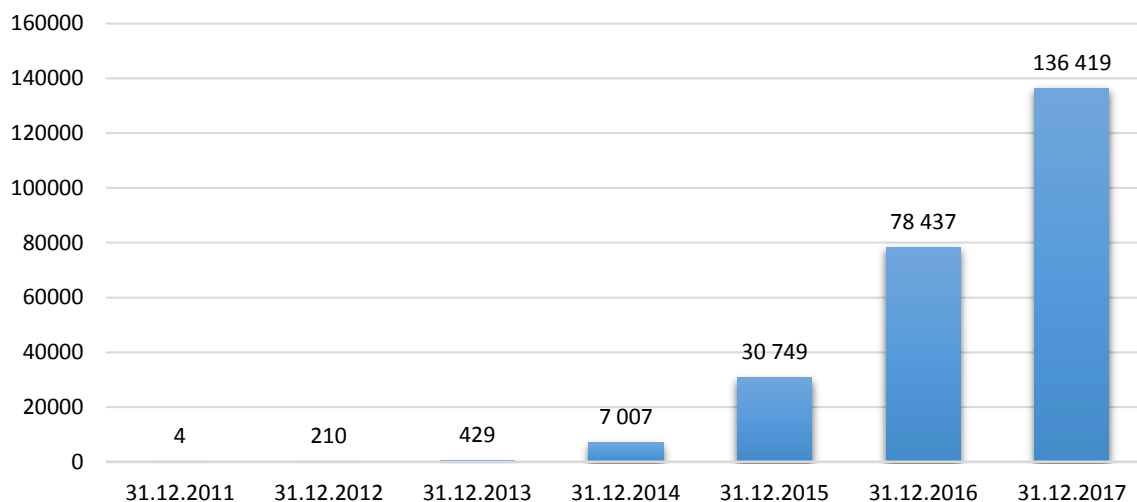
The TPA principle, regulated in Article 4 (2) of the Energy Law Act, means that the customer can use the local distributor's network to supply gas or energy purchased by it from any supplier. As of 1 July 2007, all gas customers obtained the right to freely choose and change the supplier. The number of supplier changes is a simple but authoritative measure of the development of a competitive gas market. Therefore, the President of the ERO systematically monitors the degree of effective use of the right to choose a supplier by eligible customers. Systematic monitoring of the degree of real use of the right to choose a supplier was undertaken due to the gradually progressing liberalization of the gas market.

In accordance with the applicable TPA rule, final customers can individually use the local distributor's network to deliver gas or energy purchased from any supplier.

The freedom to choose the supplier is influenced by several important factors, including the level of consumer awareness and motivation to change the supplier, as well as the ease of switching or the number of competitive offers available on the market.

The analysis of data from completed surveys shows a clear increase in the number of consumers switching supplier in 2011-2017, in particular in 2017 alone. In 2011, only a few cases of switching were noted, while the number of changes from the beginning of monitoring until the end of 2017 it was already 136,419. The chart below shows the dynamics of the supplier switching.

Figure 21. Number of switching of natural gas supplier (according to the number of switches)



Source: ERO.

It is worth noting that for 136,419 supplier switching made by the end of 2017, the vast majority, up to 129,139, concerned consumers from tariff groups W 1-4, i.e. mainly households. This state of affairs can be caused by recent intensification of sales campaigns by some suppliers, including direct sales addressed to this group of consumers.

An important factor supporting the increase in the number of supplier switching on the gas market is that the DSO holds as many as possible signed contracts for the provision of gas fuel distribution services (Framework Agreements). Framework Agreements, concluded between the Operator and the Supplier, sets conditions for conducting business by the gas supplier on the operational area of a given DSO. This contract defines the terms of the supplier's operation at the operator's operational area and its cooperation with this operator. At the end of the fourth quarter of 2017, 141 suppliers had valid contracts with the TSO, out of which 87 suppliers also had agreements with DSO – PSG Sp. z o.o.

A potential barrier to supplier switching, in particular for household consumers, may be lack of legal regulations on the obligation to supply gaseous fuels in a situation when the selected supplier ceases to supply – so called "supply of last resort". Such a situation may be perceived by consumers as an additional risk in the case of discontinuation of activity by a given supplier. With respect to this, the President of the ERO, out of its own initiative, developed draft legal regulations concerning supply of last resort, which was provided to the Minister of Energy.

Tariffs for gaseous fuels

As of 1 January 2017, the obligation to submit tariffs for approval expired with respect to the sale of gaseous fuels to wholesale customers and final customers that purchase them:

- 1) at the virtual point,
- 2) in liquefied natural gas (LNG) or compressed natural gas (CNG),
- 3) in tenders, auctions or public procurement.

As of 1 October 2017, prices of gaseous fuels sold to other final customers groups were released, except for household consumers, for whom the tariffs approved by the President of the ERO will exist until the end of 2023.

However, it should be emphasized that according to Article 29 (4) of the Gas Tariff Ordinance, the prices of gaseous fuels set in the tariff have the character of maximum prices⁶⁰. The gas supplier may use in its settlements with customers lower prices of gaseous fuels than set in the tariff approved by the President of the ERO, provided that the consumers are treated equally in individual tariff groups⁶¹.

Pursuant to the provisions of Article 47 of the Energy Law Act, energy companies develop a tariff according to the scope of their activity (licenses held) and submit it for approval to the President of the ERO, which approves or refuses to approve the tariff, if it finds that it has been established contrary to the provisions of Articles 44-46 of the Act. Whereas the provision of Article 45 (1) of the above Act requires energy companies to calculate tariffs in a manner that ensures: covering the justified costs of their operations, a justified return on equity engaged in this activity, and protecting the interests of consumers from unjustified levels of prices and rates.

The rules for tariff calculation in 2017 have not changed in relation to the rules in 2016.

In 2017 companies from the PGNiG S.A. Group maintained their leading position in gas sales to final customers. The share of these entities increased in comparison to the previous year, to the level of 80.74%, while a year earlier this share amounted to 73.69%. As part of this group, in 2017 wholesale customers and final customers with annual consumption of natural gas above 25 million m³ were supplied by PGNiG S.A., while other final customers by PGNiG Obrót Detaliczny Sp. z o.o.

In 2017, 15 proceedings were conducted regarding the approval or change of tariffs set by key enterprises of the gas sector, including 4 proceedings regarding tariffs of PGNiG S.A. (one of them concerned the provision of services related to the regasification of liquefied natural gas), and three proceedings related to the tariff of PGNiG Obrót Detaliczny Sp. z o.o.

In 2017, the President of the ERO conducted three administrative proceedings regarding the PGNiG S.A. tariff as regards the supply of gaseous fuels: 2 in the scope of approval of the tariff set by this company, 1 in the scope of changing the term of its validity.

On 17 March 2017, the President of the ERO approved for the period until 30 June 2017 tariff no. 14/2017 of PGNiG S.A. concerning gas supply. The said tariff, according to the information submitted by the company, was put into application on 1 April 2017. As a result of its introduction, there was an increase in payments by 8.0% for high-methane gas consumers and by 7.9% for consumers of nitrogen-rich gas.

Then, on 19 June 2017, the President of the ERO decided to discontinue the administrative proceedings regarding the change of tariff no. 14/2017, consisting in extending the existing tariff until 30 September 2017. PGNiG S.A. withdrew the application for extending the tariff validity, at the same time submitting the application for approval of the new tariff.

The PGNiG S.A. gas supply tariff No. 15/2017 was approved by the President of the ERO on 12 July 2017 for the period until 30 September 2017. The tariff in question was put into application on 1 August 2017. Due to its introduction to application, there was a decrease in payments by 6.7% for high-methane gas consumers and 6.8% for nitrogen-rich gas consumers.

As already mentioned, as at the end of 30 September 2017 the obligation for the President of the ERO to approve the tariffs set for final customers of gaseous fuels that are not customers in households expired. Therefore as of 1 October 2017 PGNiG S.A., which does not serve consumers in households, is not obliged to submit a tariff for approval to the President of the ERO.

⁶⁰ In 2018 the Ordinance of the Minister of Energy of 15 March 2018 entered into force (Journal of Laws of 2018 item 640), which additionally (in Article 29 (4)) recognizes the rates of subscription fees set in the tariffs as maximum rates. This ordinance allows the use of lower gas fuel prices and subscription fee rates than those approved under the condition of equal treatment of consumers in tariff groups, consisting in ensuring each consumer in a given tariff group the opportunity to benefit from lower prices and rates under the same rules.

⁶¹ It should be emphasized that this rule does not apply to tariffs of infrastructural enterprises.

In 2017 three tariffs of PGNiG Obrót Detaliczny Sp. z o.o. were valid, approved with decisions of: 16 June 2016, 4 January 2017, 17 March 2017, which came into force on 1 July 2016, 18 February 2017 and 1 April 2017, respectively.

On 16 June 2016, tariff no. 4 of the indicated company was approved, which entered into force on 1 July 2016 and was to apply until 31 December 2016. However, because the administrative procedure for the approval of tariff no. 5, initiated by the application of 21 October 2016, was completed by decision of 4 January 2017, the period of application of tariff no. 4 was extended. Tariff no. 5 was approved for the period until 31 March 2017, while PGNiG Obrót Detaliczny Sp. Z o.o. made it applicable only on 18 February 2017⁶²).

Gas prices set in tariff no. 5 for household consumers were lower by 6% than prices set in tariff 4. For other consumers, the drop in prices ranged from 6% to 8.7%. This price reduction resulted from lower costs of high-methane gas purchases at TGE S.A. (where PGNiG Obrót Detaliczny Sp. z o.o. acquires over 99.6% of this gas)⁶³) in relation to the costs accepted for the calculation of tariff no. 4 and this was the sixth reduction in gas prices since January 2015.

A lower decline in gas prices for households than for the consumers of other groups has resulted in an improvement in the existing price relationships applied to the above-mentioned consumers groups (prices for groups of consumers with index 5, 6A, 7A and 8A set in tariff no. 5, for the first time since January 2013, were set at a lower level than prices for low-consumption consumers, settled in groups with index from 1 to 4).

In tariff no. 5, the rates of subscription fees remained unchanged as compared to tariff no. 4, which meant that average payments in supply fell by 6.6%. The higher the consumption of gas by the consumers, the bigger the decrease. For households, it ranged from 4.5% to 5.8%, and for other customers from 5.9% to 8.7%.

On 17 March 2017, the amendment to tariff no. 5 of PGNiG Obrót Detaliczny Sp. z o.o. was approved for the period until 31 December 2017 which came into force on 1 April 2017. The prices of gaseous fuels increased on average by 1.6%. Due to the fact that neither the rates of subscription fees nor the rate of transport (transmission and distribution) fees changed, the average combined payments (supply and distribution) were lower. For household consumers, the increase in average payments ranged from 0.7% to 1.0%.

It is important that due to the wording of Article 62b (1) of the Energy Law Act, tariff no. 5 of PGNiG Obrót Detaliczny Sp. z o.o. applied only to households as of 1 October 2017.

On 14 December 2017 tariff no. 6 of PGNiG Obrót Detaliczny Sp. z o.o. was approved for the period until 31 March 2018. The tariff entered into force on 1 January 2018. It concerned only household consumers. Both the prices set in it and the rates of subscription fees have not changed in relation to the prices and rates set in tariff no. 5.

4.2.3. Recommendations on supply prices, investigations and measures to promote effective competition

Pursuant to the provisions of Article 45 (1) of the Energy Law Act and executive regulations issued under Article 46 of the above referenced Act, energy companies calculate tariffs for gaseous fuels or energy, which allow for the coverage of planned, justified costs of business operations, along with a justified return on equity engaged in this activity. Deviations from the planned costs of actual costs (both up and downwards) are not included in the tariffs of these enterprises determined in subsequent years.

However, in the event of a significant change in the conditions of conducting business by the above mentioned enterprise during the tariff period, the company may ask the President of the ERO for approval of the adjustment of the tariff applied. In justified cases (both in a situation where external conditions threaten the financial condition of the company, as also when they generate excessive profits) the President of the ERO, following administrative proceedings (initiated only at the request of the energy company), may issue a decision adjusting the applied tariff. However, it should be borne

⁶²) Pursuant to Article 47 (4) of the Energy Law Act, the company introduces the tariff for application not earlier than after 14 days and not later than on the 45th day of its publication.

⁶³) Prices of 1 kWh of nitrogen-rich gas (type Lw and Ls) for the same type of customers are identical to price of 1 kWh of high-methane gas.

in mind that any appeal proceedings may significantly delay the entry into force of such a decision or even make it impossible, and therefore the possible benefit of consumers may be limited.

4.3. Security of supply

Pursuant to the Energy Law Act, the government authority in charge of energy policy, including issues related to energy security, in particular supervision over security of natural gas supplies, is the Minister of Energy. At the same time, this minister is also the competent authority within the meaning of Regulation 994/2010, that is it acts as an authority responsible for the implementation of measures specified in the above mentioned Regulation, with the purpose to ensure security of gas supplies.

In 2017 the regulator cooperated with the Minister of Energy with respect to ensuring the security of gas supplies in relation to the tasks resulting from the aforementioned regulation and Directive 2009/73/EC in connection with the competences of the President of the ERO determined by national legislation.

In consequence, the security of natural gas supply understood as ensuring customer access to the energy of specified quality and at transparent prices, is the area of energy security monitored by the President of the ERO with the use of instruments assigned to it.

4.3.1. Monitoring balance of supply and demand

Purchases of gas from abroad, in the amount of 167 TWh, were supplemented with gas originating from domestic sources in the amount of 42.1 TWh. The total gas supplies from abroad in 2017 included import and intra-Community acquisition. In 2017 the import from the East, carried out as part of a long-term contract concluded between PGNiG S.A. and Gazprom, continued to be important.

Information on the structure of gas supplies in 2017 is presented in the table below.

Table 19. Structure of gas supply in 2017

Specification	Quantity [TWh]
1. Supplies from abroad	167,0
2. Extraction from domestic sources	42,1
3. Stock status change	-1,2

Source: ERO, based on data provided by OGP Gaz-System S.A. and gas trading companies.

In 2017, 560.6 TWh high-methane gas and 8.5 TWh of nitrogen-rich gas flowed through the Polish transmission system. Most of the high-methane gas was transported via the Yamal gas pipeline. The table below presents the most important directions of gas flow in the transmission system.

Table 20. Balance of trade flows* of high-methane and nitrogen-rich gas in the transmission network (including the Transit Gas Pipeline System) in 2017 [TWh]

2017		
Gas type	High-methane gas	Nitrogen-rich gas
System entry – total	560.6	8.5
Out of which:		
mines and nitrogen removal plants	23.7	4.6
storages	23.7	0.0
supplies from outside EU	450.8	0.0
supplies from EU	42.5	0.0
LNG terminal	18.4	0.0
other (entry from distribution)	1.5	3.9
System exit – total	560.6	8.5
Out of which:		
blending facilities and nitrogen removal plants	0.0	2.4
storages	24.9	0.0
to distribution network	132.0	5.9

2017			
Gas type		High-methane gas	Nitrogen-rich gas
	to final customers on distribution network	44.9	0.2
	supplies to EU	340.8	0.0
	supplies outside EU	13.8	0.0
	operator's own needs (including change of operator's account status)	4.2	0.0

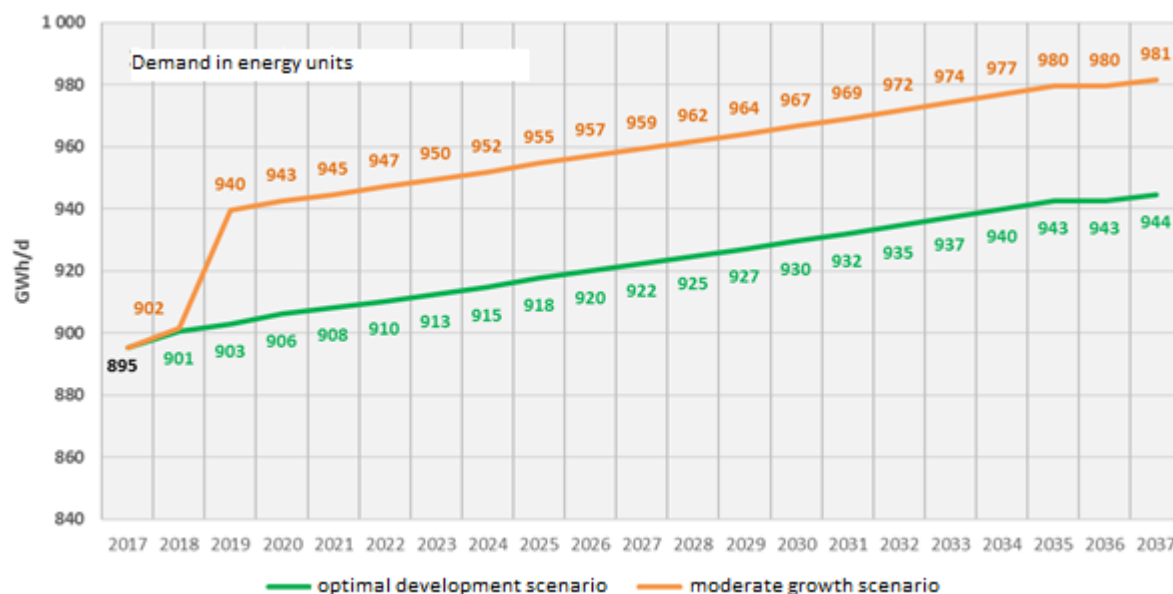
Data refer to the amount of gas fed into the network and off-taken from the transmission network as a result of the implementation of transmission contracts concluded by the TSO with system users (energy companies and final customers). These data may differ from physical flows in the system.

Source: ERO, based on data provided by OGP Gaz-System S.A. and EuRoPol GAZ S.A.

4.3.2. Expected future demand and supplies

Expected future demand for transmission services has been specified by OGP Gaz-System S.A. in the NTYDP for 2018–2027. The TSO presented two boundary scenarios, that is Moderate Growth (MG) and Optimal Development (OD), assuming that the actual demand will most likely be in between the two boundary scenarios. The projected scenarios are presented in the figure below.

Figure 22. Comparison of forecasts for demand for transmission service



Source: OGP Gaz-System S.A., "National Ten-Year Development Plan for the Transmission System. Development plan with regard to satisfying the current and future demand for gaseous fuels in 2018–2027", p. 44.

When developing the forecasts indicated above, the TSO took into account (i) statistical data of the Central Statistical Office on gas consumption broken down by administrative units and groups of customers for the years 2009-2015, (ii) own reporting data, including settlement data, for the years 2010-2016 and own analyses of the operation of the transmission system in the same period, and (iii) own analysis of investment plans on the electricity market based on signed connection agreements and connection terms and conditions issued to potential consumers from this sector of economy.

The basic factors with the strongest impact on demand for gas transmission in the years 2017-2037 will include:

- electricity and heat production on the basis of gaseous fuels,
- GDP growth,
- gas price.

Compared with the forecast presented in the previous NTYDP for the years 2016-2025 OGP Gaz-System S.A. has made minor adjustments to forecasts of gas demand. And so, in the MG option of the NTYDP for the years 2018-2027 for 2022, the demand was estimated at 16.6 billion m³ of gas, and in the previous NTYDP (for 2016-2025) – at 16.0 billion m³ (increase by 3.75%). For the OD option, these figures are 17.9 billion m³ and 18.7 billion m³, respectively (decrease by 4.28%). Therefore, the TSO's forecasts of demand growth for the OD option have decreased in the last two years, while for the MG option they have slightly improved. Therefore, the effect of these changes in the expected real demand for a gas transmission service between the options indicated, should be assessed as neutral in relation to the previous NTYDP.

4.3.3. Measures to cover peak demand and shortfalls of one or more suppliers

Monitoring of the security of gaseous fuels supply, carried out in 2017, was focused on the areas of the market functioning which related in particular to the issues referring to:

- licences⁶⁴⁾,
- tariffs,
- approving the plans of introducing restrictions to the natural gas consumption, developed by the operators,
- analysis of information provided to the President of the ERO pursuant to Article 27 (2) of the Act on Stocks by energy undertakings conducting business in the scope of natural gas imports for the purpose of its further resale to customers,
- agreeing draft development plans of gas network undertakings and monitoring their implementation,
- determining the level of obligatory reserves of natural gas and monitoring the maintenance of these reserves,
- giving consents for the conclusion of the so-called ticket agreements⁶⁵⁾,

⁶⁴⁾ In the case of a licence for foreign trading in natural gas, the President of the ERO verifies whether the applicant has met the requirement specified in Article 33 (1a) of the Energy Law Act, that is whether it has enclosed documents to the application, which confirm that:

- a) it has its own storing capacity, or
- b) it has concluded a preliminary agreement on provision of a service of storing mandatory stocks of natural gas in the quantity agreed pursuant to Article 25 (2) or (5) of the Act on Stocks, or
- c) it has concluded a preliminary agreement on performance of tasks consisting in maintenance of mandatory stocks of natural gas (ticketing agreement).

On 2 August the amendments concerning procedure on granting licenses for foreign trade in natural gas entered into force, consisting in repeal of Article 33(1a) of the Energy Law Act. The obligation to maintain obligatory gas reserves is regulated in comprehensive manner in the Act on Stocks, which also was amended in 2017.

Moreover, pursuant to Article 35 (1a) of the Energy Law Act, a request for granting a licence for foreign trading in natural gas – in addition to documents proving fulfilment of legal obligations – should also specify projected daily average volume of natural gas imports in the period from import starting to 30 September of the year following the year of import starting, according to the Act on Stocks. In the case of the applicant's failure to provide the above mentioned documents and information, the President of the ERO, acting pursuant to Article 35 (2b) of the Energy Law Act, does not process such a request for granting a licence.

In addition, considering the importance of the obligation of maintenance of mandatory stocks to ensure the energy security of the state, the President of the ERO includes a condition referring to this obligation in licences granted for the foreign trading in natural gas.

Furthermore, the attention should also be paid to the fact that the Article 32 (2) of the Energy Law Act, amended in 2016, introduced legal obligation to diversify natural gas supply from abroad – prior to novelization this obligation resulted from terms and conditions of licence for foreign trade in natural gas. According to the above mentioned regulations, licences for conducting business referred to in Article 32 (1) (4) of the above Act, in terms of foreign trading in natural gas, are issued taking into account diversification of gas supply and energy security. Energy enterprise involved in foreign trade in natural gas is obliged to diversify natural gas supply form abroad. In 2017 the condition concerning the obligation to diversify gas supply was included in the licences for foreign trade in natural gas.

It should also be noted that pursuant to Article 41 (2a) of the Energy Law Act, the President of the ERO revokes a licence for foreign trading in natural gas if the energy undertaking fails to maintain mandatory stocks of natural gas or to ensure their availability pursuant to Article 24 (1) and (2), Article 24a and Article 25 (2) or (5) of the Act on Stocks. The President of ERO is also empowered to revoke licence for foreign trade in natural gas in other cases, listed in Article 41 of the above Act.

⁶⁵⁾ Pursuant to Article 24b (1) of the Act on Stocks, an energy company conducting business consisting in foreign trading in natural gas and an entity importing natural gas may commission, under a contract, performance of tasks related to maintaining mandatory natural gas reserves to another energy company engaged in foreign trading in natural gas or energy company conducting business in the area of trade in gaseous fuels. Prior to concluding such an agreement, the company or entity is obliged to submit the draft agreement to the President of the ERO and obtain consent to its conclusion. In 2017, the President of the ERO, by way of a decision, gave consent to the conclusion of ticket agreements to 11 obligated entities.

- monitoring of congestion management,
- trade restrictions in the supply of gaseous fuel introduced in 2017,
- monitoring conditions for network connection and their implementation,
- diversification of natural gas supply from abroad,

An important element of ensuring Poland's energy security is the diversification of natural gas supplies from abroad. In the years 2016 – 2017 a number of very important changes regarding the shape of the rules on the obligation to diversify natural gas supplies from abroad were introduced.

The list of all changes related to the diversification of natural gas supplies introduced during this period is as follows:

- on 3 August 2016 a regulation was introduced, according to which the previous ordinance of the Council of Ministers of 24 October 2000 on the minimum level of diversification of gas supplies from abroad remains valid until the entry into force of the secondary legislation issued under Article 32 (3) of the Energy Law Act, as amended by the Act of 22 July 2016, but not longer than 6 months from the date of entry into force of the Act of 22 July 2016, i.e. no longer than until 3 March 2017 (Article 15 of the Act of 22 July 2016),
- on 2 September 2016 diversification of natural gas supplies became a statutory duty of all energy companies involved in foreign trading in natural gas (amended by Article 32 (2) of the Energy Law Act),
- on 9 December 2016, an abolition provision entered into force, pursuant to which proceedings are not commenced, and the initiated proceedings are discontinued, in cases concerning non-compliance with the obligations arising from the licence for foreign trade in natural gas with respect to the diversification of natural gas supplies and proceedings under Article 32 (2) of the Energy Law Act, as amended by the Act of 22 July 2016, relating to the period prior to the entry into force of the implementing rules issued on the basis of Article 32 (3) of the Energy Law Act, as amended by the Act of 22 July 2016 (Article 4 (2) of the Act of 30 November 2016)
- on 10 May 2017, the ordinance of the Council of Ministers of 24 April 2017 came into force on the minimum level of diversification of gas supplies from abroad, which defined the minimum level of diversification of natural gas supplies from abroad for a period of 10 years, and a detailed method of setting this level and exclusion from the obligation to diversify natural gas supplies from abroad. The above ordinance regulates the area which has been regulated so far by the Ordinance of the Council of Ministers of 24 October 2000 regarding the minimum level of diversification of gas supplies from abroad, in force until 3 March 2017.

In the light of the provisions of the above mentioned ordinance of 24 October 2000 which no longer applies, in 2016 the maximum share of gas imported from one country of origin in relation to the total volume of gas imported in a given year could not be higher than 59%. However, in 2017 – in accordance with the provisions of the currently applicable ordinance of 24 April 2017 – the maximum share of natural gas imported by a power company from a single source could not be higher than 70%.

Considering the content of the above mentioned abolition provision (Article 4 (2) of the Act of 30 November 2016), in 2017 the President of the ERO did not monitor compliance with the provisions of the diversification ordinance of 24 October 2000 by energy companies having in 2016 a license for foreign trading in natural gas. The above provision stipulates that no proceedings are launched and that the proceedings initiated are discontinued in cases concerning non-compliance with obligations resulting from a license for foreign trading in natural gas with respect to diversification of natural gas supplies and proceedings pursuant to Article 32 (2) of the Energy Law Act, as amended by the Act of 22 July 2016 relating to the period prior to the entry into force of the implementing rules issued on under Article 32 (3) of the Energy Law Act, as amended by the Act of 22 July 2016. The implementing legislation referred to in this provision entered into force only on 10 May 2017 (the above-mentioned diversification ordinance of 24 April 2017), which means that the President of the ERO should not initiate proceedings regarding the correct implementation of the diversification obligation regarding the period before 10 May 2017.

The issue of correct fulfilment of the diversification obligation regarding the period from 10 May to 31 December 2017 by energy companies with a license to foreign trading in natural gas will be subject to monitoring by the President of the ERO in 2018.

The above abolition provision also obliged the President of the ERO to cancel many administrative proceedings initiated with respect to imposing a financial penalty due to non-compliance with the diversification obligation specified in the licence.

Considering the provisions of Article 32 (1) (4) and Article 32 (2) of the Energy Law Act, the President of the ERO each time includes a condition concerning an obligation to diversify supplies of natural gas from abroad in licences granted for foreign trading in natural gas. As it arises from the above referenced provisions, conducting business consisting in foreign trading in natural gas requires a licence, while such licences are granted considering diversification of supplies of natural gas and energy security. An energy undertaking involved in foreign trading in natural gas shall diversify natural gas supplies from abroad. In addition, in the course of proceedings concerning granting a licence for foreign trading in natural gas, the President of the ERO verifies whether the applicant has submitted a statement in which it commit itself to fulfil the diversification obligation.

5. CONSUMER PROTECTION AND DISPUTE SETTLEMENT IN ELECTRICITY AND GAS SECTORS

5.1. Consumer protection

Consumer right to benefit from transparent, simple and inexpensive procedures for investigating complaints and settling disputes with the use of out of court system. Institution of consumer ombudsman as a support for customers and an alternative mechanism to resolve disputes

In 2016 works were completed on the Act on Alternative Dispute Resolution, which implements Directive 2013/11/EU of the European Parliament and of the Council of 21 May 2013 on alternative dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC (Directive on consumer ADR), and Regulation (EU) No 524/2013 of the European Parliament and of the Council of 21 May 2013 on online dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC (Regulation on consumer ODR).

The Act on Alternative Dispute Resolution introduced a tool allowing consumers to file a request for resolution of disputes with undertakings to entities offering independent, impartial, transparent, efficient and fast methods of their alternative resolution. The above reference Act also amended the Energy Law Act, by establishing at the President of the ERO an institution of Coordinator for Negotiations whose tasks include conducting proceedings on out of court resolution of disputes between consumers of gaseous fuels, electricity or heat in households and energy undertakings, or between prosumers that are consumers and energy undertakings, arisen under agreements:

- 1) on connection to the electricity, gas or heat grid, including connection of a microinstallation,
- 2) on provision of services of transmission or distribution of electricity or natural gas,
- 3) on provision of services of transmission and distribution of heat,
- 4) on sales,
- 5) common service agreements.

The Act on Alternative Dispute Resolution entered into force on 10 January 2017, until then household consumers had had an option to apply for amicable settlement of a dispute to amicable settlement consumer courts operating at the Commercial Inspection. Until 9 January 2017 permanent amicable settlement consumer courts operating at the Commercial Inspection reviewed disputes arisen from sales agreements, agreements on provision of transmission or distribution services and agreements on connection to the grid, concluded between an energy undertaking and a household consumer of gaseous fuels or electricity.

There are Municipal and District Consumer Ombudsmen in Poland, to whom customers can complain in individual cases, including the energy-related cases. The competences of Customer Ombudsmen comprise, among others, providing free of charge customer advice and legal advice on the protection of consumer interests, bringing proceedings for the consumers and joining the ongoing proceedings on the protection of consumer interests upon the consumer consent.

Sales agreement or common service agreement should comprise, among others, information about the way of filing complaints and settling disputes. At the same time, the supplier of gaseous fuels or electricity has been obliged to inform household consumer about his rights, including the way of filing complaints and settling disputes.

Competences of the President of the ERO in respect of settling disputes were described in detail under item 5.2. However, it should be noted that the regulator settles disputes under administrative regime, which does not fully correspond to the alternative dispute settlement mechanisms.

Notwithstanding the above, it should be noted that the tasks of the President of the ERO include also carrying out information activities addressed to the electricity and gas consumers, in particular, publishing on the ERO website information on recurring or significant problems leading to disputes between energy enterprises and customers of gaseous fuels or electricity in the household, as well as energy companies about which complaints from those customer have been submitted regarding these problems. As part of information actions, information is provided to energy and gaseous fuels customers via comprehensive information point comprising an info-line to inform and promote the right to switch supplier. In order to fulfil this tasks, there is the Information Point for Fuel and Energy Customers within the structure of the ERO, where customers can obtain information and advice regarding their rights (by phone, in writing, as well as electronically). Detailed information on the activity of the Point as well as contact data are posted on the ERO website.

In addition, the President of the ERO in cooperation with the President of UOKiK drafted a set of energy consumer rights based on the guidelines of the European Commission. The document contains practical information on the rights of electricity and gaseous fuels consumer. Pursuant to the obligation imposed by the Energy Law Act, suppliers of gaseous fuels or electricity shall provide household consumers with copies of the Set of Energy Consumer Rights and ensure public access to this document.

Vulnerable consumer protection

Amendment to the Energy Law Act which came into force in September 2013 introduced the definition of vulnerable consumer of electricity and vulnerable consumer of gaseous fuels, and established a system of financial support for these customers. Definitions of vulnerable consumers refer to the law on housing allowances. The financial support system provides for payment of energy allowances by municipalities to vulnerable consumers who were granted housing allowance (electricity consumers) or a lump sum for the purchase of fuel (gaseous fuels consumers) and who are, respectively, a party to the common service agreement or supply agreement of electricity or gas, and reside in the place of supplying this energy or fuels. Furthermore, a fixed annual limit of electricity consumption has been set. It amounts to 900 kWh for a single-person household, 1 250 kWh for a household consisting of 2 to 4 persons and 1 500 kWh for household comprising at least 5 people. At the same time municipalities have been provided with funds for payment of the aforesaid allowances. These funds will come from the designated subsidy of the state budget. Minister responsible for energy announces, by 30 April each year, the amount of the energy allowance for the next 12 months. At the end of 2017, the amount of the energy allowance for household amounted to PLN 11.22, PLN 15.58 or PLN 18.70 PLN per month, depending on the number of persons in the household.

Consumers can also turn to energy undertakings for help in order to take advantage of the programs implemented within the framework of corporate social responsibility (CSR).

Notwithstanding the above, it should be pointed out that the President of the ERO, acting to strengthen the position of consumers, especially vulnerable customers, took part in the work of the Team established by the Minister of Energy's order of 26 June 2017 on reducing energy poverty to develop proposals for assumptions for a comprehensive public policy that ensures protection of vulnerable consumers against energy poverty. The President of the ERO participated in the meetings of the Team, which presented the main objectives of the work, in particular the elaboration of a description of the problem of energy poverty, establishing working groups to analyse the existing support system, the definition of legal energy poverty as well as the assumptions of comprehensive public policy in this area and setting a schedule for working groups. Further work of the Team, as part of the working groups, was scheduled for 2018.

Ensuring access to consumption data

Pursuant to the provisions of the Energy Law Act, electricity suppliers are obliged to inform their customers about the volume of electricity consumed by these customers in the previous calendar year, about the place where information on average electricity consumption for a given energy group of connected customers is provided, as well as on the measures to improve energy efficiency and technical characteristics of energy efficient devices.

In addition, an undertaking providing energy distribution service or an energy supplier who provides the complex service shall, when issuing an invoice for the consumer, in a settlement attached to the invoice provide information on, inter alia:

- the volume of electricity consumption in the settlement period, which was a basis for the calculation of due amount,
- the manner of conducting the metering and billing system reading – whether it was a physical or remote reading made by an authorised representative of the energy undertaking, or a reading made and reported by the consumer,
- the method of determining the value of electricity consumption in a situation when the settlement period is longer than one month and the first or the last day of the settlement period does not coincide with the dates of the metering and billing system readings, or if during the course of the settlement period there was a change in prices or fees, or about the place where such information is available.

In the case of gaseous fuels, undertakings conducting settlements of the off-taken gaseous fuels or services related to their supply provide customers with the following information, depending on the type of settlements:

- readings of the metering and billing system at the beginning and the end of the settlement period, expressed in [cubic metres],
- value of the conversion factor (for converting from [cubic metres] to [kWh]),
- consumption of gaseous fuels in the settlement period, expressed in [kWh],
- whether the indicated consumption is the actual or forecasted consumption.

5.2. Dispute resolution

Pursuant to Article 8 (1) of the Energy Law Act, the President of the ERO, upon a request of a party, shall settle disputes concerning the refusal to conclude network connection agreement, sales agreement, contract for the provision of transmission or distribution services of fuels or energy, agreement for the provision of transport services of natural gas, agreement for the provision of natural gas storage services, agreement for the provision of liquefaction services of natural gas, agreement for making available of a part of gas storage installation to the gas transmission operator for remuneration, common service agreement, as well as unjustified stoppage in the supply of gaseous fuels or electricity.

The President of the ERO carries out his tasks in the scope of dispute settlement provided for in Article 37 (1) of Directive 2009/72/EC and Article 41 (11) of Directive 2009/73/EC pursuant to Article 8 (1) of the Energy Law Act.

The most important disputed issues in 2017 included issues related to connecting RES to the power grid and sources of agricultural biogas to the gas system (excluding disputes concerning microinstallations), refusals to connect RES installations in the first order (excluding disputes concerning microinstallations), agreements on connection of distribution installations to transmission network and distribution installations to distribution network, excluding closed distribution systems referred to in Regulation of the Commission (EU) no 2016/1388 of 17 August 2016 establishing a network code on demand connection⁶⁶.

In 2017, dispute settlement proceedings in this respect concerned mainly refusals to conclude an agreement on connecting RES to the grid, mainly wind power plants, due to lack of technical or economic conditions.

⁶⁶ EU OJ L 223/10 of 18 August 2016.

Table 21. Disputes concerning refusals to connect renewable energy sources to the electricity grid in 2017

Number of requests for dispute settlement	Number of settled cases	Number of decisions stating that there is no legal obligation to conclude network connection agreement	Number of decisions stating that there is legal obligation to conclude network connection agreement	Number of decisions to discontinue the proceeding	Number of administrative settlements
10	8	3	1	4	10

Source: ERO.

It should also be reminded that the President of the ERO lacks competence to settle disputes concerning the already concluded agreements. Nevertheless, a significant number of disputes between customers or producers and energy undertakings arise with regard to the agreements concluded between these entities. In such a situation a general court is the competent authority to resolve a dispute.