

Management Board's report on activities of the Capital Group of PGE Polska Grupa Energetyczna S.A. for the 3-month and 9-month period

ended September 30, 2019



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KEY FINANCIAL RESULTS OF THE PGE CAPITAL GROUP

Key financial data	Unit	Q3 2019	Q3 2018	% change	Q1-Q3 2019	Q1-Q3 2018	% change
Sales revenues*	PLN million	9 696	6 091	59%	27 932	18 962	47%
EBIT	PLN million	621	507	22%	3 067	2 366	30%
EBITDA	PLN million	1 677	1 441	16%	6 072	5 144	18%
EBITDA margin*	%	17%	24%		22%	27%	
Recurring EBITDA	PLN million	1 634	1 440	13%	4 933	5 243	-6%
Recurring EBITDA margin*	%	17%	24%		18%	28%	
Net profit	PLN million	427	403	6%	2 192	1 699	29%
Capital expenditures	PLN million	1 911	1 515	26%	4 468	3 759	19%
Net cash from operating activities	PLN million	1 572	-15	-	4 765	2 668	79%
Net cash from investing activities	PLN million	-1 665	-1 434	16%	-4 851	-4 339	12%
Net cash from financial activities	PLN million	545	1 567	-65%	546	445	23%

Polska Grupa Energetyczna

PGE

Key financial data		As at September 30, 2019	As at December 31, 2018	% change
Working capital	PLN million	2 341	-3 395	-
Net debt/ LTM EBITDA**	х	1.60	1.51	

* With regard to introduction of 100% power exchange obligation (the obligation to publicly sell electricity), the lower share of trading was realised bilaterally within the Capital Group. This change significantly attributed to the growth of sales and purchase of electricity (see p. 3.2 of this report) and as a result - level of consolidated revenues and costs. It had limited impact on actual profitability of PGE Capital Group.

** LTM EBITDA - Last Twelve Months EBITDA.

One-offs affecting EBITDA	Unit	Q3 2019	Q3 2018	% change	Q1-Q3 2019	Q1-Q3 2018	% change
Additional CO ₂ emission rights	PLN million	42*	0	-	1 435	0	-
Change in reclamation provision	PLN million	0	0	-	-246	-17	1 347%
Change in actuarial provision	PLN million	0	0	-	-36	0	-
LTC compensations	PLN million	1	1	0%	-14	-82	-83%
Total	PLN million	43	1	4 200%	1 139	-99	-

* Change in market value of additional allocation of CO₂ emission rights (see p. 3.4 of this report).



1. PGE Capital Group

1.1. Characteristics of activities

Capital Group of PGE Polska Grupa Energetyczna S.A. ("PGE Capital Group", the "Capital Group", "PGE Group", the "Group") is the largest vertically integrated producer of electricity and heat in Poland. With a mix of own fuel sources, generation assets and distribution network, PGE Group provides a safe and reliable supply of electricity to more than five million households, businesses and institutions.

The parent company of PGE Capital Group is PGE Polska Grupa Energetyczna S.A. (also "PGE S.A.", "PGE", the "Company", the "Issuer"). PGE Group organizes its activities in six business segments:

CONVENTIONAL GENERATION



Core business of the segment includes extraction of lignite, production of electricity and heat from conventional sources.

Rybnik power plant, formally being part of PGE Energia Ciepła S.A. holding, due to character of its operations, has been included in Conventional Generation.

DISTRICT HEATING



Core business of the segment includes production of electricity and heat from conventional sources as well as transmission and distribution of heat.

RENEWABLES

Core business of the segment includes electricity generation from renewable sources and in pumped-storage power plants and provision of ancillary services.

SUPPLY



DISTRIBUTION



Core business of the segment includes supply of electricity to final off-takers through the grid and HV, MV and LV infrastructure.

OTHER OPERATIONS

Other operations include provision of services, through the subsidiaries, to PGE Group, which include organisation of capital raising in form of Eurobonds, provision of IT, payroll and HR services, transportation and car sharing services. Its activities also include subsidiaries formed to prepare and implement a project to build a nuclear power plant, to manage investment funds and to invest in start-ups.

The composition of the Capital Group is presented in note 1.3 to the consolidated financial statements.



2. Electricity market and regulatory and business environment

2.1. Macroeconomic environment

PGE Group's main operating area is Poland, and the domestic macroeconomic backdrop has a substantial impact on Group's results. At the same time, the condition of Poland's economy remains largely tied to the situation across the European Union and in global markets. The Group's financial results are affected by both the situation in specific segments of the economy and the financial markets, which affect the terms of PGE Group's debt financing.

As a rule of thumb, there is a historical correlation between change in electricity demand and change in the rate of economic growth in Poland. Considering PGE Group's position on the Polish power generation market, as well as its substantial share in the electricity sales and distribution market, changes in power and heat demand may have a significant impact on the Group's results.

In the third quarter of 2019, gross electricity consumption went down by 1.9% y/y. In the analogical period of previous year the electricity consumption increased by 2.3% y/y. The decrease was due to higher temperatures recorded in Poland in the third quarter of 2019. In the third quarter of 2019 the average daily temperature reached 18.2°C and was by 1°C lower than in the analogical period of the previous year.

Economic trends in the third quarter of 2019 remained positive in general. According to market consensus, the gross domestic product (seasonally adjusted) in the third quarter of 2019 grew by approx. 4.3% y/y (by 0.2 p.p. lower than in the second quarter of 2019) vs 5.7% in the analogical period of 2018.



Diagram: Seasonally adjusted GDP change vs. change in domestic gross electricity consumption.

Source: Market consensus based on data from Thomson Reuters, PSE S.A.

In the third quarter of 2019, the average Purchasing Managers' Index ("PMI") reading for the industry was 48.0 points (51.6 points in analogical period of 2018). A result below 50.0 points means that the questioned managers expect a deterioration in the sector's situation. In September 2019, PMI recorded a drop to 47.8 points after a temporary increase to 48.8 points in August 2019, signalling a slowdown of the Polish manufacturing sector. New orders fell at the fastest rate for over a decade (the second such poor result in the history of research) as a result of weaker demand on the domestic and Western European markets, mainly due to a decrease in export orders from France and Germany. Polish industry is doing better than the Eurozone one, where the PMI in the third quarter of 2019 reached 46.4 points on average while during the same period of the last year it was 54.3. Of the five sub-indicators making up the main index, volume of the new orders were the main source of decline. The number of new orders received by Polish manufacturers decreased in September for the eleventh month in a row. Production also dropped, and the number of inventories of finished products in third quarter of 2019 increased due to the reduced demand. In September 2019, production costs increased at the fastest pace in the last four months, and prices of finished products, compared to August 2019, remained unchanged. These results show that pressure on producers' margins is increasing and that competition in the outlet market is becoming stronger.



Diagram: Manufacturing PMI in Poland and Eurozone (in points).



Source: Markit Economics

Development in the Polish economy is reflected by inter alia dynamics in overall industrial production. In the third quarter of 2019 it went up by 1.9% y/y. Production in the whole energy sector increased by 1.8% y/y in the third quarter of 2019. The mining segment decreased by nearly 3.8% y/y in the analysed period. CPI reading in the third quarter of 2019 amounted to 2.8% y/y vs 2.4% in the previous quarter and 2% in previous year.

2.2. Market environment

SITUATION IN NPS

Table: Domestic electricity consumption (GWh).

	Q3 2019	Q3 2018	% change	Q1-Q3 2019	Q1-Q3 2018	% change
Domestic electricity consumption	40 757	41 504	-2%	125 785	126 614	-1%
Wind farms	2 520	2 153	17%	9 863	7 983	24%
Industrial thermal hard-coal fired power plants	19 497	20 537	-5%	58 607	60 494	-3%
Industrial thermal lignite fired power plants	10 279	12 818	-20%	31 710	37 012	-14%
Industrial gas-fired power plants	2 842	2 423	17%	8 515	7 212	18%
International trading balance	2 841	900	216%	7 433	4 739	57%
Other (industrial plants, hydro power plants, other RES)	2 778	2 673	4%	9 657	9 174	5%

Source: data from PSE S.A.

<u>Q3 2019</u>

Compared to the base period, in the third quarter of 2019 domestic energy consumption decreased by 0.7 TWh. At the same time, as a result of price spreads and increased capacity of parallel exchange¹, net energy imports increased by nearly 2 TWh y/y. As a result, the demand for energy generated by conventional coal and lignite fired power plants has decreased.

In our opinion, the fall in demand in the NPS (defined as gross consumption, including own needs of the electricity generation sector) was affected by a set of factors: weather, technical and economic.

- Cooler summer y/y and lower energy demand related to air conditioning.
- Changes on the supply side (i.e. in the production mix) a lower share of production in hard coal and lignite power plants with higher (than average) own needs. In particular, energy imports for national statistics have zero own needs.
- Change in the structure of industrial production reduction of exports due to the cooling of the German economy (in particular producers from the automotive industry) and possible relocation of production from Poland to countries with a lower electricity cost.

¹ Parallel exchange – between Poland and group encompassing Germany, Czech Republic and Slovakia.



Chart: Energy balance in the NPS in the third quarter of 2019 y/y (TWh).



Source: own work based on data from PSE S.A.

<u>Q1-Q3 2019</u>

Cumulatively, domestic energy demand has decreased by 0.8 TWh compared to the base year. Due to strong winds, wind generation increased by 1.9 TWh y/y. In addition, as a result of price differences on cross-border interconnections, net imports increased by 2.7 TWh compared to the same period last year. As a consequence, the balancing of the energy system required lower energy production in hard coal-fired power plants (-1.9 TWh) and lignite-fired power plants (-5.3 TWh).

Chart: Energy balance in the NPS in Q1-Q3 2019 y/y (TWh).



Source: own work based on data from PSE S.A.



ELECTRICITY PRICES – DOMESTIC MARKET

Day-ahead market (RDN)

Market/measure	Unit	Q3 2019	Q3 2018	% change	Q1-Q3 2019	Q1-Q3 2018	% change
RDN – average price	PLN/MWh	250	252	-1%	236	216	9%
RDN – trading volume	TWh	6.50	5.31	22%	20.83	16.80	24%

Analysis - selected price factors affecting RDN quotations

Factor	Unit	Q3 2019	Q3 2018	% change	Q1-Q3 2019	Q1-Q3 2018	% change
CO ₂ emission rights	EUR/t	26.88	19.70	36%	24.68	15.15	63%
Polish Steam Coal Market Index PSCMI1	PLN/GJ	11.97	11.26	6%	11.94	10.85	10%
Wind generation NPS	TWh	2.52	2.15	17%	9.86	7.98	24%
Ratio: wind generation/NPS consumption	%	6%	5%		8%	6%	
Ratio: international trading/ NPS consumption	%	7%	2%		6%	4%	

In the third quarter of 2019, the average electricity price on the day-ahead market was PLN 250/MWh and was similar to the average price (PLN 252/MWh) in same period in the preceding year. The electricity price on the RDN in third quarter of 2019 was shaped by a set of pricing factors acting both positively and negatively. On the one hand, the increase of the RDN price was supported by cost factors: prices of CO₂ emission rights in third quarter of 2019 was by 36% higher than in the analogous period of the base year and the price of coal according to the Polish Coal Market Index/Polish Steam Coal Market Index (PSCMI1) increased by 6%. On the other hand, the increase in net imports and the greater generation of wind power generally translate into a flattening of the supply curve. This had an impact, inter alia, on peak demand prices, and consequently on the average price for the whole quarter. The prices were also affected by a decrease in demand by 0.7 TWh y/y.

Chart: Average monthly prices at the day-ahead market in 2018–2019 (TGE).*



* Average monthly RDN prices calculated on the base of hourly quotations (fixing), weighted by the trading volume.



Forward market

Market/measure	Unit	Q3 2019	Q3 2018	% change	Q1-Q3 2019	Q1-Q3 2018	% change
BASE Y+1 – average price	PLN/MWh	276	258	7%	270.3	225.7	20%
BASE Y+1 – trading volume	TWh	34.34	39.80	-14%	83.71	87.11	-4%
PEAK5 Y+1 – average price	PLN/MWh	332	356	-7%	336.2	314.5	7%
PEAK5 Y+1 – trading volume	TWh	5.49	2.70	103%	11.15	4.72	136%

Electricity prices on forward market are shaped by the similar fundamental factors, as the prices on the Day-Ahead Market described in the previous paragraph. Observed forward market increase (y/y) for BASE_Y+1 are related to the y/y increases on the related markets: CO₂ emission rights and hard coal. At the same time, the drop in PEAK5_Y+1 contract price indicates a flattening of the supply curve and less optimistic demand forecasts (after taking imports into account). A key difference between the spot market (day-ahead market) and the forward market is the weather. Weather can only be forecast for short periods, which is reflected in the price volatility on the day-ahead market, but not in the contracts for electricity for the following year. Revenues from electricity sales are recognised at delivery (and not when contracted).

Chart: Average monthly prices on the forward market in 2018–2019 (TGE)*.



* Monthly average index level for forward contracts for the next year (Y+1), baseload and peak, weighted by the trading volume.



International market

Wholesale market (comparison of day-ahead markets)

Chart: Comparison of average electricity prices on Polish market and on selected European markets in the third quarter of 2019 (prices in PLN/MWh, average exchange rate EUR/PLN 4.32).



Source: TGE, EEX, Nordpool



Chart: Evolution of spot market prices.

Source: TGE, EEX, Nordpool

In the third quarter of 2019 there was a decrease in wholesale energy prices in neighbouring countries. Prices in Germany, Sweden and the Czech Republic were decreased by PLN 68, 67 and 59/MWh y/y respectively (i.e. by about 25-30% compared to the third quarter of the base year). Prices in Poland remained at the nearly the same level compared to the corresponding period of the base year (y/y decrease by PLN 2/MWh). Consequently, the price differences on cross-border interconnections has been

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widened. In the third quarter of 2019, average prices in Sweden and Germany were lower by PLN 88/MWh than the average price in Poland. In the analogous period of the previous year, the spread was PLN 22-23/MWh. In the Czech Republic, in the third quarter of 2019 the average price was lower by PLN 75/MWh than in Poland, while in the analogous period of the previous year this spread amounted to PLN 18/MWh. The low correlation of energy prices in Poland and neighbouring countries is partly due to differences in the technological mix (share of RES), and additionally is due to the low correlation between coal prices on the domestic market and in ARA ports (Amsterdam–Antwerp). Prices of ARA coal (converted to PLN) in the third quarter of 2019 were lower by 38% y/y, while in the third quarter of 2019 the PSCMI1 was 6% higher than in the corresponding period of the previous year.

Chart: Hard coal indices - ARA vs PSCMI 1².



Source: ARP, Bloomberg (API21MON OECM Index), own work.

International trading

Chart: Monthly imports, exports and cross-border exchange balance in 2018-2019 (in GWh).



Source: own work based on PSE S.A. data.

² The comparison is illustrative only. Methodologies of counting the ARA and PSCMI1 indexes are different. Among other things, the ARA index includes insurance and delivery costs. The PSCMI1 is an ex-mine index without insurance and delivery costs. Standards for calculating the caloric values are also different (ARA – 25.12 GJ/t vs. PSCMI1 caloric value - range from 20 to 24 GJ/t). The aim is to compare the trend and not the absolute level. For illustration purposes ARA index is recalculated from USD/t to PLN/GJ.



Chart: Quarterly trading volumes – import, export and international trading balance in years 2009-2019.



Source: own work based on PSE S.A. data.

In the third quarter of 2019, Poland remained a net importer of electricity, and the trade balance (-2.7 TWh) was the highest in the current decade (import 2.8 TWh, export 0.1 TWh). In the third quarter of 2019, increasing of the maximum hourly interconnection capacity with the Czech Republic had been observed (according to the figures from the decade in progress), while the maximum interconnection capacity with Germany was the highest since December 2013. These two countries had the greatest impact on the total trade balance. In the third quarter of 2019, net imports from the Czech Republic amounted to 0.67 TWh and from Germany to 0.62 TWh.

During the first three quarters of 2019, net imports amounted to 7.0 TWh (import 7.7 TWh, export 0.7 TWh).

Diagram: Geographical structure of commercial exchange in the third quarter of 2019 (in GWh).



Source: own work based on PSE S.A. data.



Chart: Parallel exchange balance: average vs. maximum hourly flow in particular months.



Source: own work based on PSE S.A. data.

Retail market

The diversity of electricity prices for retail customers in the European Union depends both on the level of the wholesale prices of electricity and fiscal system, regulatory mechanism and support schemes in particular. In Poland in the first half of 2019* an additional burden (over sale price and cost of electricity distribution) for individual customers accounted for 34% of the electricity price and in comparison to EU average of 37%. In Denmark and Germany the proportion of additional charges in the price of electricity exceeded 50%.

Chart: Comparison of average prices for individual customers in selected EU countries in the first half of 2019 (prices in PLN/MWh, average exchange rate EUR/PLN 4.29).



Source: own work based on Eurostat data.

*Eurostat data on retail market are published in semi-annual intervals.

POIska Grupa Energetyczna

Diagram: The share of additional charges in electricity prices for the individual customers in selected EU countries in the first half of 2019 (prices in PLN/MWh, average exchange rate EUR/PLN 4.29).



Source: own work based on Eurostat data.

Prices of certificates

In the third quarter of 2019 the average price of green certificates (index OZEX_A) reached PLN 131 PLN/MWh and was higher by 14% compared to the analogical period of the previous year. An obligation to redeem green certificates increased from 17.5% in 2018 to 18.5% in 2019 – as a result the demand for the certificates increased. On the other hand, the wind generation in NPS in the third quarter of 2019 was by 17% higher y/y. Moreover, the prices of certificates were affected by the awareness of limited supply thereof in future connected with the closure of a certification system for new units and the upcoming end of a 15-year support period for first installations that had entered the system in 2005. The average price for green certificates in the third quarter of 2019 was at a level similar to the substitute fee, which is PLN 129.78/MWh in 2019.

Chart: Average quarterly prices of certificates (PLN/MWh).



Source: Own work based on TGE quotations.



2.3. Prices of CO2 emission rights

EUA (European Union Allowances) prices are one of the key factors determining wholesale energy prices and PGE Group's financial results. Installations emitting CO_2 in the process of electricity or heat production bear the expenses for purchasing EUA allowances to cover the deficit (i.e. the difference between CO_2 emissions at PGE Group's generating units and the free-of-charge allowances received under derogation in accordance with the National Investment Plan). Wherein, last allocations granted free of charge are planned for realisation of investment tasks for 2019. It means that the free allocations in accordance with the currently used method will end in 2020.

In the third quarter of 2019, the weighted average price of EUA DEC 19 reached EUR 26.88/t and was 36% y/y higher than the average price for EUA DEC 18 (EUR 19.70/t) in the similar period of the previous year. In the first three quarters of 2019 the weighted average price of EUA DEC 19 reached EUR 24.68/t and was by 63% y/y higher than the average price of EUR 15.15/t of EUA DEC 18 in the analogical period of the previous year. Lower y/y growth in the third quarter compared to the first three quarters indicates a stabilization of prices (at a relatively high level).

The increase in CO₂ emission prices, lasting from 2017, is a result of market perception of the EU ETS reform.



Chart: Prices of CO₂ emission rights.

Source: own work based on ICE quotations.

CO2 EMISSION RIGHTS GRANTED FREE OF CHARGE FOR YEARS 2013-2020

PGE Group's installations accounts were credited with free allowances for heat and energy for 2018, while free allowances for electricity for 2019 will be received by the Group by the end of April 2020, after verification of reports from investments submitted to the National Investment Plan.

At the same time, redemption of emission rights resulting from CO_2 emissions in 2018 was completed in April 2019.

Table: Emission of CO_2 broken down into electricity and heat production in relation to allocation of CO_2 emission rights for 2019 (in tonnes).

Product	CO ₂ emissions in Q3 2019*	CO ₂ emissions in Q1-Q3 2019*	Allocation of CO ₂ emission rights for 2019**
Electricity	13 942 563	42 136 928	10 623 187
Heat	409 399	3 157 008	1 265 990
TOTAL	14 351 962	45 293 936	11 889 177

* Estimates, emissions not verified - the data will be settled and certified by the authorised verifier of CO₂ emission on the ground of yearly reports of volume of CO₂ emissions.

** Amount of granted CO₂ emission rights were confirmed in the Regulation of the Council of Ministers in the first quarter of 2020.



2.4. Regulatory environment

DOMESTIC REGULATORY ENVIRONMENT

PGE Group operates in an environment with a significant impact of domestic and foreign regulations. Presented below is a summary of the most significant decisions, which took place in the first three quarters of 2019 and which could have an impact on PGE's operations in the coming years.

Segments	Regulation	Regulation objectives	Latest conclusions	Next stage	Impact on PGE
	Act on promoting of electricity produced in highly-efficient cogeneration.	 This act intends to support units producing electricity in highly-efficient cogeneration in as far as the costs of such production exceed the market price of energy: units <50MW - existing and modernised: guaranteed bonus, the level of which is set by the Minister of Energy; new and significantly modernised: bonus set in auctions, units >50MW - existing and modernised: guaranteed bonus, the level of which is set annually by the ERO President; new and significantly modernised: bonus set in selection. 	The law was voted through in December 2018. It entered into force on January 1, 2019. On April 15, 2019, the European Commission approved the support mechanism resulting from the Act . Three ordinances to the Act entered in force from October 15, 2019.	The President of the Energy Regulatory Office (URE) accepts applications for payment of individual guaranteed and cogeneration bonuses.	This will secure stable revenue (for up to 15 years) covering the costs of substantial modernisations of existing cogeneration units and the construction of new ones .
			Currently, all ordinances mentioned in the Act are in force.		
	Amendment to the act on renewable energy	 Indication of volumes for auctions in 2019 – allowing auction organisation in 2019. 	The draft amendment was adopted by the Council of		The designed solutions affect the PGE CG.
	sources.	 Change in the method of settling the support - limitation of positive balance reimbursement only to 	Ministers and submitted to Parliament on July 9, 2019.		 The organisation of auctions for large volumes will enable
ŢŢ		 the amount of repaid negative balance. Broadening of the category of prosumer entitled to make settlements with discounts on introduction into the grid of generated and unused energy also to entrepreneurs. 	The amended las was voted through by the parliament on July 19, 2019. It entered onto force on August 29, 2019.		participation of the PGE CG's projects, but also increase the RES capacity and can worsen the economics of operation of the PGE Group's conventional assets
		 Covering energy cooperatives with support in the form of discounts. form of premiums obtained outside of an auction to producers of energy from biomass and biogas in units with the capacity of up to 2.5 MW . Extension of the age of devices that can be installed in 	f discounts. for prost for prost prom of premiums obtained outside of an auction to roducers of energy from biomass and biogas in units with the capacity of up to 2.5 MW . (tension of the age of devices that can be installed in segment	 The broadening of using discounts for prosumers to entrepreneurs introducing into the grid the energy unused by them will increase the loss of the Supply segment of PGE Group's on 	
		 units applying for support and the time of first generation of energy and its introduction into the grid from the date of obtaining support. Extension of the validity of connection agreements until the end of May 2021 – generally for grid connection 			 providing service to those entities. Creation of conditions for development of PV installations will have an adverse impact on



		 agreements of RES installations, which did not bring electricity to the grid within the time limits provided In specific articles of the Energy Law Act. Determination of the value of the duty to redeem certificates of origin of energy from renewable energy sources for 2020 to 19.50% (PM OZE A) and 0.50% (PM OZE BIO). 			generation in conventional sources and on volume of distributed electricity.
<u></u>	Act regulating electricity prices in 2019. "Act on electricity prices".	 Reduction in excise duty rates for electricity. Reduction in transition fee rates. Introduction of maximum sale prices for electricity in 2019 (in both trade and distribution) and introduction of compensation for trading companies. The amendment introduced various conditions of using allowances for the lowered price in the first and second half of 2019. In the first half of 2019, end recipients were entitled for compensation, whereas in the second half – the selected end recipients are entitled to request price lowering i.e. households, hospitals, one-man businesses, micro- and small enterprises. Large and medium enterprises can apply for compensation as part of <i>de minimis</i> support. 	Voted through in November 2018, entered into force on January 1, 2019, significantly amended in February 2019 and in June 2019. The latest amendment entered into force on June 29, 2019. On August 14, 2019, the executive regulations to the aforementioned Act entered into force, i.e. ordinance of the Minister of Energy on the method of calculating the difference in price and financial compensation as well as the method of specifying the reference price.	-	The act has an impact on Supply segment companies due to the obligation to specify electricity sales prices in 2019 at the level from 2018 (specific method of determining the prices for particular cases is provided in the Act and ordinance). Enterprises were obliged to adapt to the Act's regulations no later than within 30 days from the date entry into force of the ordinance of the minister of Energy on compensations (i.e. by September 13, 2019), effective January 1, 2019. Supply segment companies are entitled to claim compensation.
奏	Regulation on the Low- Carbon Transport Fund.	The drafts set forth detailed rules for the functioning of the Low-Carbon Transport Fund established under the Act on Biocomponents and Liquid Biofuels. The draft regulation on the detailed conditions for the granting and settlement of support granted under the Fund determines, in particular, the maximum amount of support, the list of eligible costs and the intensity of support. The draft regulation on the detailed criteria for selection of projects to be granted support under the Fund , specifies the following key criteria: (i) significance of the project for purposes of market development, (ii) appropriateness and relevance of the activities planned and their implementation, (iii) assessment of the planned costs of the project in relation to the scope of works, (iv) organisational capacities of the applicant to complete the project and institutional arrangements for its implementation.	In February 2019, the public consultations on the draft regulations were ended.	The regulations are expected to enter into force in Q4 2019. The ME expects the first applications to be filed in Q4 2019.	The support granted under the Fund can be used, in particular, for the construction of the infrastructure for charging electrical vehicles and for the production of biomethane used in transport.





Amendment to the T Energy Law.

The updated energy law contains a number of changes, including:

- Comprehensive regulation for energy storage.
 - Introduction of mandatory remote readings at metering installations and designation of metering information operator.

Public consultations on the draft act ended in November 2018. According to the information provided by the representatives of the Ministry of Energy, the works on the project will be resumed in the fourth quarter of 2019.

Renewed public consultations are expected in the fourth quarter of 2019.

Contemplated introduction of mandatory intelligent metering installations and introduction of a central model for metering data management. This will make it possible to recover electricity introduced into the grid following the braking of a train, tram or trolley bus. Regulating the status of energy storage and introduction of administrative facilitations for their construction.

Introduction of closed-end distribution areas might have an impact on the development of micro-grids.



buying energy.

Impact on the Distribution segment through the need to integrate in the network increased generation from dispersed sources.

INTERNATIONAL REGULATORY ENVIRONMENT

Segments	Regulation	Regulation objectives	Latest conclusions	Next stage	Impact on PGE Group
	R	egulations determining with	in the power sector the methods to achieve greenhouse	e gas emission reduction targets	by 2030
	EU ETS directive and implementing and delegated acts, decision on MSR	Combating climate change and performance of obligations resulting from the Paris Agreement. Development of investment incentives through a CO ₂ price signal to develop low- emission sources.	On March 14, 2018, Directive (EU) 2018/410 of the European Parliament and of the Council amending Directive 2003/87/EC, and Decision (EU) 2015/1814, was adopted. EU ETS and MSR amendment entered into force on April 8, 2018. On December 19, 2018 a delegated act was adopted, on harmonised free allocation of emission allowances pursuant to Article 10a of the EU ETS Directive, including district heating. On February 26, 2019 a delegated act was adopted on the Innovation Fund. On August 28, 2019, a delegated act regarding the schedule, administrative issues and other aspects of auctioning of emission allowances has been adopted.	Adoption of the implementing act on the functioning of the Modernisation Fund expected at the end of 2019 or early 2020, , and the first draft of the implementing act should be discussed by the EU Climate Change Committee in the fourth quarter 2019.	Improvement in the competitiveness of renewable sources and – in short-term- gas units to the detriment of generation assets using high-emission fuels. Increase in operating costs for conventional generation of electricity. Option to obtain direct investment support from 2021 from the Modernisation Fund or Innovation Fund.
			"Clean energy for all Europeans"		
▲ 袰 兪 붲	RED II Directive	Promoting the development of renewable energy sources in the power, district heating and transport sectors, intended for the EU to reach the 32% renewables target in overall consumption by 2030.	The directive was published in the EU's Official Journal on December 21, 2018 and entered into force on December 24, 2018.	Mandatory transposition of the directive to national law - by June 30, 2021.	Increase in share of renewables with zero variable cost will cause a change in conventional units' operation profile. Impact on investment programme in generation segment (including renewables) and district heating by necessity to take into account development of renewables units. Impact on Supply segment through development of prosumer segment, constituting an alternative for end users to



Segments	Regulation	Regulation objectives	Latest conclusions	Next stage	Impact on PGE Group
	EED Directive	Promoting improvements in energy efficiency as regards both primary energy consumption and final energy consumption, intended for the EU to reach its target 32.5% improvement in energy efficiency by 2030.	The directive was published in the EU's Official Journal on December 21, 2018 and entered into force on December 24, 2018 .	Mandatory transposition of the directive to national law - by June 25, 2020.	Impact on all segments, i.e. reduction of growth in energy consumption by taking energy efficiency actions. Impact on Supply segment resulting from costs of white certificate system.
	Governance regulation	Introduction of framework for implementation of the EU's energy and climate targets by establishing a system for setting and monitoring targets by member states.	The regulation was published in the EU's Official Journal on December 21, 2018 , and provisions of importance to the electricity sector went into force on January 10 , 2019 .	On June 18, 2019 the European Commission expressed its concerns to the Integrated National Plan for Energy and Climate, submitted by Poland. The European Commission postulates, among others, an increase in the declared contribution to the Union's RES objective until 2030 from 21% to 25%. Deadline for final version of the plan - by December 31, 2019 .	Regulation's impact is the same as Directives RED II and EED. This results from the fact that the regulation's key provisions introduce mechanisms intended to achieve the EU's targets specified in these directives, collectively by EU member states. The most important duty resulting from the Ordinance is the duty of developing and submitting to the EC of a National Energy and Climate Plan – a document with the scope similar to the energy policy. The Plan must include declaration on the issues concerning, among others, emissivity limitation and national contributions to the EU objectives on energy effectiveness and RES resulting respectively from: the amended EE Directive and the new RED II Directive.
	EMR regulation	Establishment of legal framework for further integration of internal electricity market.	The regulation was officially adopted by the European Parliament on March 26, 2019. Then, on May 22, 2019, the Directive was formally adopted by the Council. The Directive was published in the EU Official Journal on June 14, 2019 and it entered into force on July 4, 2019.	The majority of the provisions of the regulation will be effective from January 1, 2020. By January 5, 2020, the European Union Agency for the Cooperation of Energy Regulators ("ACER") will publish an opinion containing technical guidance on the calculation of EPS 550/CB 350. A draft methodology is currently under consultation. By January 5, 2020, the European Network of Transmission System Operators for Electricity (ENTSO-	 Capacity contracts executed by PGE Group in auctions won on the capacity market in 2018 and 2019 will have vested rights protected throughout their entire term. In case of other capacity contracts: New units which exceed the emissions standard 550 g CO₂/kWh (EPS 550) will not be eligible to receive any payments from the capacity market from the entry into force of the regulation (July 4, 2019). Existing units that exceed the emissions standard 550 g CO₂/kWh (EPS 550 and 350 kg CO₂/kW/year (CB 350) will not be entitled to capacity payments from July 1,



Segments	Regulation	Regulation objectives	Latest conclusions	Next stage	Impact on PGE Group
				 E) will submit to the Electricity Coordination Group (ECG) and ACER a draft methodology for European Resource Adequacy Assessment (ERAA), and only to ACER a draft methodology for calculating the Value of Lost Load (VoLL), the Cost of New Entry (CONE) and the reliability standards. By July 5, 2020, ENTSO-E will submit to ACER a draft methodology for the calculation of the share of foreign power in the Capacity Remuneration Mechanism (CRM). By July 5, 2021, ENTSO-E will establish a register of foreign capacity providers. 	2025. Need to include lack of support for existing generating assets after 2025 in assesments of capacity sufficiency. A potential drop in volume of and price for electricity sold on the wholesale market by domestic units, gradual replacement of existing generation units by new, ones, which meet emission requirements. Further business consequences will also result from the way in which the solutions included in the Regulation are implemented wherever there is room to act by national authorities.
[Æ] ₽	EMD directive	 Key goals of EMD directive revision: Strengthen the consumer's role on the electricity market. Protect sensitive customers. New solutions in the scope of, among others, electrical car charging, energy storage and demand activation. 	The directive was officially adopted by the European Parliament on March 26, 2019. Then, May 22, 2019, the Directive was formally adopted by the Council. The Directive was published in the EU Official Journal on June 14, 2019 and it entered into force on July 4, 2019.	Mandatory transposition of the directive to national law - by December 31, 2020.	Impact on the Distribution segment, especially as regards restricting activity related to energy storage and operating EV charging stations and development of flexibility services as well as realisation of obligation to implement intelligent metering. Impact on Supply segment, mainly through imposition of additional information requirements for consumers, reduction of time to replace seller, no fees for switching sellers, development of contracts with dynamic pricing.



Segments	Regulation	Regulation objectives	Latest conclusions	Next stage	Impact on PGE Group
		The regulations concerning	the EU's Multiannual Financial Framework and financi	ng for sustainable economic grov	wth
POISka Grupa Energetyczna	EU's Multiannual Financial Framework	EU's financial framework (income and expenditures) established for 2021-2027.	 In March 2019, the European Parliament adopted its position on the regulation on the European Regional Development Fund and the Cohesion Fund, and in February 2019 it adopted its position on the regulation on common rules for European funds. At the same time, in February 2019, the Council adopted a general approach on the both aforementioned regulations. 	Trilogues regarding the regulation on the European Regional Development Fund and the Cohesion Fund and the regulation on common rules for European funds – H2 2019. Work at the Council on adoption	Impact of regulation on decrease in funding that can be secured by PGE Group companies for investments.
			 Some key issues that are included in the aforementioned positions and approach, respectively, of the European Parliament and the Council, are as follows: Exclude the following from this funding: investments in emission reductions at units subject to EU ETS, investments in generation, processing, transport, distribution, storage and combustion of fossil fuels, funding for the construction of nuclear power plants and scrapping costs. Funds are not available under these funds for any investments in renewables unless the national renewables target for 2020 has been achieved. Once 	of a general approach to financial issues of MFF and the related specific legislative acts – H2 2019/2020.	
Polska Grupa Energetyczna	EU package for funding sustainable economic growth	Implementation of regulations intended to facilitate funding for sustainable economic growth in EU.	the target is achieved, the funds are available. In February and March 2019, trialogues were concluded regarding the regulation on reporting duties and the regulation on benchmarks. In March 2019, the European Parliament adopted its position on the regulation on criteria for assessment of economic activities in terms of their environmental	Entry into force of the regulation on reporting duties and the regulation on benchmarks – Q4 2019.	Possible impact of regulation on availabilit and cost of funding obtained by PGE Group companies for investments.
			 sustainability. Key issues referred to the aforementioned position are as follows: Recognition as environmentally sustainable of activities aimed at minimising anthropogenic emissions of greenhouse gasses (without indicating their source). Exclusion from environmentally sustainable activities of any activities aimed at improving energy efficiency of electricity generation with the use of solid fossil fuels. Introduction of the obligation for the EC to determine 	Expected commencement of trilogues regarding the regulation for criteria based on which economic activities will be assessed to determine whether they are environmentally sustainable - Q4 2019 .	



Segments	Regulation	Regulation objectives	Latest conclusions	Next stage	Impact on PGE Group
			technical conditions for verification in what		
			circumstances a given activity can be recognised as		
			environmentally sustainable. These requirements are		
			to ensure that the following activities will not be		
			recognised as sustainable:		
			 Activities involving generation of electricity 		
			with the use of solid fossil fuels,		
			 Activities involving generation of electricity 		
			which leads to production of non-renewable		
			waste.		
			In June 2019, the Technical Expert Group, as part of support		
			for the EC's work, published the report concerning technical		
			screening criteria applied to the evaluation of economic		
			activity to determine whether the given activity is		
			conducted in an environmentally-sustainable manner.		
			According to the Group's proposal, an economic activity		
			related to gas- and nuclear energy-based generation		
			sources will not be deemed as environmentally-sustainable.		
			At the same time, investments in the transmission and		
			distribution grid to/from these sources will not be deemed		
			as environmentally-sustainable.		
			In September 2019, the Permanent Representatives		
			Committee (Coreper) adopted a negotiating position on a		
			regulation on the criteria for assessing economic activities		
			with a view to determining whether they are		
			environmentally sustainable. The key issues of this position		
			are:		
			 Recognise extinction of anthropogenic greenhouse gas 		
			emissions as environmentally sustainable.		
			Introduction of an obligation for the EC to establish		
			technical requirements in order to determine under		
			which conditions a given activity may be considered as		
			environmentally sustainable. These requirements are to		
			be introduced by a delegated act as regards the		
			indication of sectors, the criteria and the measures to be		
			applied. Quantitative or qualitative thresholds are to be		
			introduced by an implementing act.		
			Indicate December 31, 2022 as the date from which the		
			above criteria will be in force.		



ADDITIONAL INFORMATION WITH REGARD TO INTERNATIONAL REGULATORY ENVIRONMENT

ACTION BROUGHT AGAINST THE EUROPEAN COMMISSION'S DECISION NOT TO RAISE OBJECTIONS TO THE POLISH CAPACITY MARKET

Segments	ents Proceeding Objective of the action brought		Key events	Next stage	Impact on PGE Group
	Action brough	nt against the European C	ommission's decision not to raise objections to the Polish capacity	y market (SA. 46100), case file n	o. T-167/19
	Proceedings brought by Tempus Energy Germany and T Energy Sweden against the European Commission (case file no. T-167/19)	The objective of the action is to annul the European Commission's Decision not to raise objections to the Polish capacity market (SA. 46100).	 On February 7, 2018 the European Commission issued a decision not to raise objections to the Polish capacity market (case file no. VI 46100). The declassified text was published on the website of the European Commission on April 18, 2018 and the decision was published in the Official Journal only on December 21, 2018. On November 15, 2018 the General Court of the EU in its judgement on the case Tempus Energy and Tempus Energy Technology versus the European Commission (case T-793/14) annulled the decision C (2014) 5083 final of July 23, 2014 not to raise objections to the aid scheme for the capacity market proposed by the UK. On March 14, 2019 Tempus Energy Germany and T Energy Sweden brought an action against the EC decision concerning the Polish capacity market (case T-167/19). The summary of main reproaches and arguments brought up in the complaint was published in the EU Official Journal on May 6, 2019. From the published abstract it results, that in their action brought they argue that the EC failed, in particular, to initiate formal investigation proceedings (the second stage of the capacity evaluation mechanism) and that the demand side response (DSR) suffered alleged discriminatory treatment within the Polish capacity market. 	It is difficult to estimate the duration of the proceedings before the General Court of the EU, but the British experience shows that they may even take several years. The proceedings pending before the European Court of Justice concerning the appeal in the case Tempus Energy and Tempus Energy Technology versus the EC (case file no. C- 57/19 P) may have an impact on the action brought.	Depending on the outcome of the dispute, the case may have an impact on the conditions for the performance of capacity contracts.



3. Activities of PGE Capital Group







3.2. PGE Group's key financial results

The best way to measure the profitability of energy companies is EBITDA. This is a result before depreciation, amortization, income tax and financial operations, including interest from drawn debt. It approximately reflects cash flows from operating activities and makes it possible to compare the results of companies regardless of the value of their assets, level of debt and existing income tax rates.

PGE Group's consolidated results are composed of the financial results of each of its operating segments. The Conventional Generation segment and Distribution segment made the largest contribution to the Group's result for the third quarter of 2019, participating respectively in 39% and 36% of the Group's EBITDA. Renewables and District Heating segments accounts for 6% of EBITDA each, and Supply segment contributed 4% to the Group's EBITDA.



EBITDA of the Capital Group by segments (PLN million)



Chart: Key factors affecting recurring EBITDA in PGE Capital Group (in PLN million) – managerial perspective.



				to final customers	costs	redemption	Other	Q3 2019
	665	195	-347	-109	-82	-30	-98	
1 441								
1								
1 440	2 854	-15	487	133	1 187	202		
	3 519	180	834	24	1 269	232		1 634
								43
								1 677
		1 440 2 854	1 440 2 854 -15	1 440 2 854 -15 487	1 440 2 854 -15 487 133	1 440 2 854 -15 487 133 1 187	1 440 2 854 -15 487 133 1 187 202	1 440 2 854 -15 487 133 1 187 202

Reversal of impact of total one-offs reducing the reported result .

Reversal of impact of total one-offs increasing the reported result .

* Revenue from the sale of electricity reduced by the purchase cost of electricity.

**Increased result is a consequence of valuation and use of derivatives (hard coal and CO₂).



CONSOLIDATED STATEMENT OF FINANCIAL POSITION

Chart: Structure of assets and equity and liabilities (in PLN million).



CONSOLIDATED STATEMENT OF CASH FLOWS



Chart: Net change in cash (in PLN million).

equivalents



Chart: Net debt (in PLN million).



* See note 3 to the consolidated financial statements.

debt



KEY RESULTS IN BUSINESS SEGMENTS (IN PLN MILLION)



Conventional Generation



District heating

Sales revenues



Renewables

213

-1% y/y

216







Distribution

Supply

🔳 Q3 2018







Q3 2019



659 532

24% y/y

137

-5% y/y



EBITDA







22% y/y

16% y/y

130





-66% y/y







68



BALANCE OF ENERGY OF PGE CAPITAL GROUP

Volume	Q3	Q3	%	Q1-Q3	Q1-Q3	%
volume	2019	2018	change	2019	2018	change
A. Sales of electricity outside the PGE Capital Group:	26.36	18.80	40%	76.99	56.60	36%
Sales to end-users *	10.89	10.78	1%	32.78	31.51	4%
Sales on the wholesale and balancing market	15.47	8.02	93%	44.21	25.09	76%
B. Purchases of electricity from outside of PGE Group (wholesale and balancing market)	13.27	3.43	287%	36.67	10.55	248%
C. Net production of electricity in units of PGE Capital Group	13.94	16.17	-14%	43.44	49.09	-12%
D. Own consumption DSO, lignite mines, pumped-storage power plants (D=C+B-A)	0.85	0.80	6%	3.12	3.04	3%

Table: Sales, purchase, production and consumption of electricity in the PGE Capital Group (in TWh).

* Sale mainly by PGE Obrót S.A. and PGE Energia Ciepła S.A.

The total volume of purchased and generated electricity is higher than the volume of electricity sold. The difference presented in point D results from the necessity to cover grid losses in the distribution business (Distribution System Operator), consumption of energy at lignite mines and consumption of energy at pumped-storage power plants.

An increase in the volume of electricity sales and in the volume of electricity purchases result from the higher trading in electricity on the power exchange, which has been caused by the introduction of the 100% power exchange obligation.

Part of the increased volume of sales to end customers in the three quarters of 2019 compared to the analogical period of 2018 is a consequence of difficult situation on retail market in 2018 resulting in bankruptcy of some companies that sold electricity to end customers and fulfilling the reserve seller by PGE Group companies. In addition absence of an active sales market is reflected in a smaller migration of customers between the retail sale companies.

Production of electricity

Table: Electricity production (TWh).

Electricity generation volume	Q3	Q3	%	Q1-Q3	Q1-Q3	%
	2019	2018	change	2019	2018	change
Electricity production in TWh, including:	13.94	16.17	-14%	43.44	49.09	-12%
Lignite-fired power plants	7.75	10.07	-23%	24.76	29.32	-16%
including co-combustion of biomass	0.00	0.00	-	0.00	0.00	-
Coal-fired power plants	4.40	4.59	-4%	10.79	12.52	-14%
including co-combustion of biomass	0.01	0.02	-50%	0.03	0.07	-57%
Coal-fired CHP plants	0.45	0.51	-12%	2.86	2.95	-3%
including co-combustion of biomass	0.01	0.00	-	0.02	0.01	100%
Gas-fired CHP plants	0.86	0.63	37%	3.12	2.87	9%
Biomass-fired CHP plants	0.07	0.02	250%	0.20	0.10	100%
CHP plants communal waste	0.01	0.00	-	0.03	0.00	-
Pumped-storage power plants	0.12	0.07	71%	0.45	0.27	67%
Hydroelectric plants	0.05	0.07	-29%	0.32	0.32	0%
Wind power plants	0.23	0.21	10%	0.91	0.74	23%
including RES generation	0.38	0.32	19%	1.51	1.24	22%

The level of electricity generated in the three quarters of 2019, as compared to the three quarters of 2018, was affected mainly by lower generation at lignite-fired power plants (a decrease by 4.56 TWh) and at hard coal-fired power plants (a decrease by 1.73 TWh). This is primarily a result of lower load factors and longer downtime of reserve units, mostly due to higher electricity import, higher generation of wind energy and lower demand from the national power grid. In addition, lower production results from the modernisation of units in the Opole power plant and the Turów power plant (see p. 3.2 of this report).

Lower generation at lignite-fired power plants results from lower average load factors at the Bełchatów power plant (by 36 MW, i.e. by 10%) and at Turów power plant (by 37 MW, i.e. by 22%). Furthermore, lower generation results from the longer repairrelated downtime of units. Units no. 2-14 in Bełchatów power plant were in overhauls longer by 1 288 h (unit no. 2 has been in modernisation since February 28, 2019) while units in Turów power plant were in overhauls longer by 749 h (unit no. 1 has been in renovation since May 2018 and unit no. 3 since April 2019 and unit 3 has been in renovation since April 2019).

Lower generation at hard coal-fired power plants results mainly from lower generation at the Dolna Odra power plant which was caused by the longer (by 9 580 h) reserve downtime of units (including longer by 4 116 h reserve downtime of units 1 and 2 used by PSE S.A. as cold reserve). Lower generation at the Opole power plant is a result of longer (by 4 828 h) repair-related downtime of units 1-4 (unit no. 1 has been in renovation since December 29, 2018 till July 26, 2019), longer by 720 h reserve downtime and lower load factor of units 1-4 by 51 MW, i.e. by 19%. The above effect was partly compensated by electricity generation from unit no. 5 and no. 6 at the Opole power plant (1.94 TWh)³. Lower generation in the Rybnik power plant was caused by longer reserve downtime of units 3-8 (by 4 381 h) and lower load factor (by 3 MW), what was partly compensated by shorter by 749 h time of units 3-8 in overhauls.

Generation at hard coal-fired CHP plants, biomass-fired CHP plants and hydro power plants remained at similar level as in the base period.

Higher production at gas-fired CHP plants is a result of higher generation of electricity in cogeneration at Lublin Wrotków CHP due to increased heat production.

Higher generation at wind farms results from better wind conditions in the first half of 2019. Load factor at wind farms in the first three quarters of 2019 was higher by 4 p.p. on average.

Higher production in pumped-storage power plants results from the nature of these generation units which were used more extensively by PSE S.A. in the first three quarters of 2019.

Generation from municipal waste is a result of commissioning of thermal waste processing installation with energy recovery in Rzeszów on October 26, 2018.

Table: Production of heat (PJ).

Heat production volume	Q3	Q3	%	Q1-Q3	Q1-Q3	%
	2019	2018	change	2019	2018	change
Heat production in PJ, including:	4.13	3.52	17%	33.53	33.39	0%
Lignite-fired power plants	0.34	0.34	0%	1.85	1.84	1%
Coal-fired power plants	0.10	0.09	11%	0.60	0.51	18%
Coal-fired CHP plants	2.75	2.38	16%	23.97	24.07	-1%
Gas-fired CHP plants	0.80	0.63	27%	6.27	6.07	3%
Biomass-fired CHP plants	0.10	0.04	150%	0.63	0.75	-16%
CHP plants fuelled by municipal waste	0.04	0.01	300%	0.10	0.01	900%
Other CHP plants	0.00	0.03	-100%	0.11	0.14	-21%

External temperatures and increased contracted capacity contributed more than any other factors to lower generation of heat in 2019 (y/y). As compared to 2018, the average temperatures for three quarters were by 0.1°C higher, which translated into lower production of heat, what was more than offset by market development.

Sales of heat

In the third quarter of 2019 the heat sales volume in PGE Capital Group totalled 3.88 PJ and were higher by 0.48 PJ y/y. The above result was caused mainly by higher demand for heat due to the lower average outside temperatures in September 2019.

³ The above the list includes production of units no. 5 and 6 of the Opole power plant since the start of the test run, i.e. from May 1, 2019 for unit no. 5 and from September 1, 2019 for unit no. 6.



3.3. Operational segments CONVENTIONAL GENERATION

Segment description and its business model

This segment includes lignite mining and generation of electricity in conventional sources.

The data presented below relate to the third quarter of 2019.



* managerial perspective

The main source of revenue in the Conventional Generation segment is revenue from the **sale of electricity** on the wholesale market, based on electricity prices that are shaped by supply and demand mechanisms, taking into account the variable costs of generation. At the same time, the segment's key cost items, given their size and volatility, and thus their impact on operating results, are the **cost of production fuels**, mainly hard coal and natural gas, as well as **fees for CO₂ emissions**. Lignite-based production, which is of key significance for the Group, is based on own mines, therefore its cost is relatively stable and reflected mainly in fixed-cost items, i.e. personnel costs, third-party services and depreciation.

A significant item in the segment's revenue constitutes **revenues from the provision of regulatory system services** based on an agreement with the Polish transmission system operator, PSE S.A. This revenue is in parallel to revenue generated on the electricity market and is related to the need to ensure stable operations for the national power system. Regulatory system services are provided by power plants of PGE GiEK and by Rybnik power plant.

In addition, this segment generates **revenues from sales of heat** produced both at industrial plants and at the Szczecin CHP plant and Pomorzany CHP plant which form part of Zespół Elektrowni Dolna.



ASSETS

Conventional Generation segment consists of: 2 lignite mines, 5 conventional power plants and 2 CHP plants.

Conventional Generation is the leader of lignite mining (its share in the extraction market of this raw material accounting for 87%⁴ of domestic extraction), it is also the largest generator of electricity as it generates approx. 34%⁵ of domestic gross electricity production. The generation is based on lignite extracted from mines owned by the company as well as hard coal and biomass.

Diagram: Main assets of the Conventional Generation segment.



⁴ Own calculations based on data from Central Statistical Office

⁵ Own calculations based on data from PSE S.A.



KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key changes of recurring EBITDA in Conventional Generation (in PLN million) – managerial perspective.



	EBITDA Q3 2018	Electricity production difference in volume	Electricity production difference in price	Result on the optimization of the electricity trade	Revenues from agreement with TSO	Costs of fuel	Costs of CO ₂	Personnel costs	Other	EBITDA Q3 2019
Change		-445	869	113	3	-54	-339	-28	-2	
Reported EBITDA Q3 2018	532									
One-offs Q3 2018	0									
Recurring EBITDA Q3 2018	532	2	620	-43	81	578	441	645		
Recurring EBITDA Q3 2019		3	044	70	84	632	780	673		649
One-offs Q3 2019										10
Reported EBITDA Q3 2019										659
Reversal of the impact of th	e sum of one-of	ff events re	ducing the re	eported result						

Reversal of the impact of the sum of one-off events improving the reported result

Key factors affecting the recurring EBITDA result of Conventional Generation segment on y/y basis included:

- Lower electricity production volume in PGE GiEK by 6.2 TWh due to lower degree of use of units by PSE S.A. resulting from decreased demand in NPS and higher wind generation (see p. 3.2 of this report).
- Increase in electricity sales prices (see p. 2.2 of this report).
- Higher result on optimisation of electricity portfolio due to higher volume of electricity trading by 4.8 TWh, with higher margin realized on electricity trading.
- Higher fuel consumption costs, mainly hard coal, due to higher prices of hard coal on the domestic and international market, what directly translated into higher contractual prices. The above effect was limited due to lower production based on this fuel. Main changes on different types of fuel are presented on the chart below.
- Higher CO₂ costs as a result of higher price of allowances and lower allocation of allowances granted free of charge. The above effect was reduced as a result of lower emissions of CO₂ due to lower electricity production. Main changes are shown in the chart below.
- Higher personnel costs mainly due to ongoing process to optimise salaries.



Chart: Costs of production fuels consumption in Conventional Generation (in PLN million).



	Cost of fuels Q3 2018	Hard coal volume	Hard coal price	Biomass volume	Biomass price	Light and heavy oil volume	Light and heavy oil price	Cost of fuels Q3 2019
Change		-35	62	13	7	3	4	
Cost of fuels Q3 2018	578		560		6	-	12	
Cost of fuels Q3 2019			587		26	:	19	632

Table: Data on use of production fuels consumption in Conventional Generation.

	Q3 2	019	Q3	Q3 2018		
Fuel type	Volume Cost (tons ths) (PLN million)		Volume (tons ths)	Cost (PLN million)		
Hard coal	1 992	587	2 183	560		
Biomass	89	26	21	6		
Fuel oil – light and heavy	10	19	8	12		
TOTAL		632		578		


Chart: CO₂ costs in Conventional Generation segment(in PLN million).



CAPITAL ENPENDITURES

Change

Table: Capital expenditures incurred in Conventional Generation segment in the third quarter of 2019 and 2018.

PLN million	Q3 2019	Q3 2018	% change
Investments in generating capacities, including:	1 001	722	39%
 Development 	635	396	60%
 Modernisation and replacement 	366	326	12%
Other	25	15	67%
Rybnik power plant	52	13	300%
TOTAL	1 078	750	44%
Capitalised costs of overburden removal in mines	94	58	62%
TOTAL with capitalized costs of overburden removal	1 172	808	45%

KEY DEVELOPMENTS IN THE THIRD QUARTER OF 2019 IN THE CONVENTIONAL GENERATION SEGMENT

Key development investments:

- On August 6, 2019, PSE S.A. issued conditions for the connection of power units 9 and 10 of the Dolna Odra power plant to the transmission grid.
- On August 30, 2019, commenced 720 hours trial operation of power unit no. 6 of Opole Power Plant.
- On September 30, 2019, power unit no. 6 of Opole power plant was commissioned and the investment completed (power unit no. 5 of Opole power plant was commissioned on May 31, 2019).

Key modernisation investments related to emission reductions:

- On July 19, 2019, a final decision on the amendment of the Integrated Permit pursuant to Article 204 sec. 2 of the Environmental Protection Act (POŚ) with a derogation regarding NOx, dust and HCI emissions for Szczecin CHP Plant has been obtained.
- On September 15, 2019, the Regulatory Movement of the electrostatic precipitator of power unit no. 1 of the Opole Power Plant has been completed. Finished all assembly works requiring the shutdown of this unit.
- On September 16, 2019, power unit no. 8 of the Bełchatów Power Plant was put aside for repair, during which adjustment works to the BAT will be carried out.



KEY PROJECTS IN THE THIRD QUARTER OF 2019

Aim of the project	Budget (net, without costs of financing)	Capital expenditures incurred so far (net, without costs of financing)	Capital expenditures in H1 2019 (net, without costs of financing)	Fuel/ Net efficiency	Contractor	Expected date of completion	Status
				Construct	tion of new units in Opole power p	lant	
Construction of two power units of 900 MW each	PLN 10.94 billion	PLN 10.1 billion	PLN 429 million	Hard coal/ 45.5%	Syndicate of companies: Rafako, Polimex-Mostostal and Mostostal Warszawa with co-operation of GE as Project manager on behalf of the syndicate	unit 5 – June 15, 2019; unit 6 – September 30, 2019	On May 31, 2019 unit no. 5 was placed into commercial operations. Thus, the commissioning of unit no. 5 took place before scheduled date of June 15, 2019, which was set by the annex to the agreement. On September 30, 2019 unit no. 6 was placed into commercial operations, according to the schedule. Therefore, the implementation of the investment considering the construction of new power units in Opole Power Plant was completed.
				Construc	tion of new unit in Turów power p	lant	
Construction of power unit with a capacity of 490 MW	PLN 4.26 billion	PLN 2.91 billion	PLN 155 million	Lignite / 43.1%	Syndicate of companies: MHPSE, Budimex and Tecnicas Reunidas	October 2020	On the building site, construction and assembly works are in progress. Pipelines are being installed in the machine and boiler rooms, and finishing works are in progress in the boiler control room. In September 2019 the voltage from the 110kV line has been provided, which means that in the nearest future the start-up phase of individual installations will begin. Commenced training of employees on the operation of the DCS steering system. At the end of September 2019 the overall work progress on the project was approx. 93%.

Polska Grupa Energetyczna

DISTRICT HEATING

Segment description and its business model

Core business of the segment includes production of heat and electricity from conventional sources as well as transmission and distribution of heat.

The data presented below relate to the third quarter of 2019.



* managerial perspective.

As in the case of Conventional Generation, this segment's revenues are primarily revenues from electricity sales, however, they are usually directly related to generation of heat which in turn depends on demand that is highly seasonal and depends on external temperatures. This is why, in contrast to industrial power plants in Conventional Generation, as a rule, CHP plants do not have any considerable impact on the development of prices for electricity on the wholesale market.

Revenues from the sale and distribution of heat are regulated revenues. Energy companies independently set tariffs and present them to the President of the Energy Regulatory Office (URE President) for approval. Heat production at PGE Group takes place in cogeneration units, which tariffs for heat are calculated using a simplified approach (compared to tariffs based on a full cost structure), based on reference prices, which are mainly based on the average sales prices for heat generated in units with specific fuel other than cogeneration units. They are published each year by the ERO President. Tariffs for heat production for cogeneration units in a given tariff year thus reflect changes in the costs of heat-generation units (not co-generation units) in the previous calendar year. The cost approach is applied in the case of tariffs for heat distribution, which allows to cover justified costs (mainly the costs of heat losses and property tax) and a return on invested capital, in line with guidelines from the ERO President. Distribution tariffs for heat are in place at branches in Gorzów and Zgierz, as well as by Kogeneracja S.A., PGE Toruń and Zielona Góra CHP.

Generation of heat and electricity is directly related to key variable costs of the segment, i.e. **the cost of production fuel used** (in particular, hard coal and gas) and **the cost of fees for CO₂ emissions**.

Electricity production in high-efficiency cogeneration is additionally remunerated. Until 2018, CHPs generated revenue from the **sale of energy origin certificates**, i.e. cogeneration certificates (yellow and red). From 2019, due to a change in support model, they will receive support at a level covering increased operating costs related to production. For large units, this will be set on an individual basis. In the third quarter of 2019, the support concerned was not paid, as the process to announce implementing regulations to the Act on Promotion of Electricity from Highly Efficient Cogeneration was still ongoing. The support mechanism in the form of certificates is in place also for biomass-fired generating assets. This type of production is additionally remunerated by

Polska Grupa Energetyczna

awarding origin certificates, i.e. green certificates, the sale of which generates additional revenue, within the segment obtained in biomass unit in Kielce CHP.

ASSETS

District Heating within PGE Capital Group combines CHP plants separated from the EDF assets acquired on November 14, 2017 and CHP plants separated from PGE GIEK. Since January 2, 2019 the segment's composition has been as follows: PGE EC S.A., Kogeneracja S.A., PGE Toruń S.A. and Elektrociepłownia Zielona Góra S.A.

District Heating is the largest heat producer in Poland. Generation is based mainly on hard coal and gas.

Diagram: Main assets of the District Heating segment.



Polska Grupa Energetyczna

TARIFFS IN DISTRICT HEATING

Description of tariffs in the segment

Due to the fact that the income on heat sales for CHP plant are tariffed as part of the so-called simplified method, they are characterised by a relative delay in the transfer of costs (annual or two-year). They are based on the year-to-year dynamics of average costs (taking into consideration the fuels used) incurred by entities that are not co-generation entities for the year preceding the time of tariff establishment.

Charts: Changes in the reference price of heat for hard coal and natural gas (PLN/GJ).





Source: ERO.

Charts: Changes in costs of fuels - hard coal (PLN/GJ) and gas (PLN/MWh).



Source: ARP, TGE.

* Weighted average from forward contracts, RDN and RDB contracted on TGE for a given period.



Chart: Changes in price of CO_2 emission rights (PLN/t).



Source: ICE.

Despite the fact that the reference price of heat produced from hard coal increased in 2018 by 6% (contributing to the increase in heat prices for co-generation entities establishing the tariff also for 2019), the average market prices of hard coal increased by 22%, while the prices of CO₂ emission rights - by 177%. In the conditions of increasing prices, the real costs for the CHP plant can be even higher – in the third quarter of 2019, the prices of hard coal were higher by another 5% and the prices of CO₂ emissions - by another 65%. Aside from the time delay in costs transfer, it is also important that the CO₂ cost is only partially transferred in the reference unit price. This is related to the fact that only approx. 45% of heating entities in Poland is part of the ETS system (capacity above 20 MW), i.e. is obliged to redeem the carbon dioxide emission allowances. The reference price also transfers only approx. 45% of the real CO₂ consumption costs at the average heat sales price.

In addition, in 2018 and in the first half of 2019, an increase in natural gas prices was observed, while the relatively high average price for the third quarter of 2019 was primarily related to the collection of gas contracted in earlier periods. The average spot market price was at PLN 51.50/MWh.

Weather also substantially affects the segment's results. Temperatures directly shape the level of heat demand. Simultaneously, the level of heat production determines the level of electricity production in co-generation, which is an additional source of revenues that decisively affects the CHP plant's profitability.



KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key changes of recurring EBITDA in District Heating (in PLN million) – managerial perspective.



	EBITDA Q3 2018	Heat production - volume	Heat production - price	Electricity production - volume	Electricity production - price	Revenues from certificates	Costs of fuel	Costs of CO ₂	Personnel costs	Other	EBITDA Q3 2019
Change		27	-4	-1	121	-20	-37	-31	-11	73	
Reported EBITDA Q3 2018	-26										
One-offs Q3 2018	1										
Recurring EBITDA Q3 2018	-27	20	05	2	19	25	223	24	114		
Recurring EBITDA Q3 2019		2	28	3	39	5	260	55	125		90
One-offs Q3 2019											3
Reported EBITDA Q3 2019											93

Reversal of the impact of the one-off event improving the reported result.

* Includes sales of heat, of contracted capacity and distribution of heat.

Key factors affecting the recurring EBITDA result of District Heating segment on y/y basis included:

- Higher volume of heat production is a result of higher outside temperatures in September 2019.
- Decrease of heat sale price is connected with lower share of invariable part of heat tariff due to higher generation in September 2019.
- Increase in electricity sale prices (see p. 3.2 of this report).
- Lower revenues from sale of certificates as a result of ceasing the support for production of electricity in highly efficient cogeneration in 2018.
- Higher costs of fuels caused by increasing prices of main fuels: gas and hard coal.
- Higher CO₂ costs are mainly a result of higher price of allowances. The details are shown in the chart below.
- Higher personnel cost result mainly from increased employment y/y.



Chart: Consumption costs of production fuels in District Heating (in PLN million).



Table: Data on use of production fuels consumption in District Heating.

	Q3 :	2019	Q3 2018		
Fuel type	Volume	Cost	Volume	Cost	
	(tons ths)	(PLN million)	(tons ths)	(PLN million)	
Hard coal	324	109	367	102	
Gas (cubic metres ths)	239 037	141	191 961	111	
Biomass	16	4	16	З	
Fuel oil – light and heavy	24	6	29	7	
TOTAL		260		223	





Chart: CO₂ costs in District Heating segment(in PLN million).



	CO ₂ costs Q3 2018	allowances for CO ₂ emissions	CO ₂ emission	Average CO ₂ costs	CO ₂ costs Q3 2019
Change		1	0	30	
CO ₂ costs Q3 2018	24				
CO ₂ costs Q3 2019					55

CAPITAL EXPENDITURES

Table: Capital expenditures incurred in District Heating segment in the third quarter of 2019 and 2018.

PLN million	Q3 2019	Q3 2018	% change
Investments in generating capacities, including:	146	223	-35%
 Development 	24	63	-62%
 Modernisation and replacement 	122	160	-24%
Other	7	4	75%
TOTAL	153	227	-33%

Presented data were restated for the sake of data comparability, because District Heating segment was not separated for the third quarter of 2018.



RENEWABLES

Segment description and its business model

This segment is involved in the generation of electricity from renewable sources and in pumped storage plants.

The data presented below relate to the third quarter of 2019.



* Managerial perspective.

The Renewables segment generates revenue mainly from the **sale of electricity**, however contrary to production at industrial plants within the Conventional Generation segment, this revenue is subject to a larger degree to changes in weather conditions and prices on the spot market due to the renewables sales model in place. Electricity output volume translates into property rights (green) and revenue from the sale of energy origin certificates obtained by the segment's assets, excluding hydropower plants over 5 MWe.

A stable part of the segment's results is related to the **provision of ancillary services** using pumped-storage plants, which is performed on the basis of an agreement with the transmission system operator, PSE S.A.

On the cost side, the most important items include: depreciation of segment assets, use of energy to pump water at pumpedstorage plants and third-party services, mainly in the form of repair services. Property tax and employee wages also constitute a significant cost item in this segment.

<u>Assets</u>

The PGE Capital Group's operations in renewable energy are managed by the PGE Energia Odnawialna S.A. Due to the profile of operations, the segment includes PGE Baltica sp. z o.o., which is recognized in presentation of Renewables segment. This company is responsible for all activities related to off-shore wind farms.

Assets in the segment include:

- 14 wind farms,
- 1 photovoltaic power plant,
- 29 run-of-river hydro power plants,
- 4 pumped-storage power plants, including 2 with natural flow.



Diagram: Main assets of the Renewables segment.



KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key changes of EBITDA in Renewables (in PLN million) - managerial perspective.



*The sum of electricity revenues includes revenues from main generation technologies wind, (water, PV) and result on sale from balancing group,

67

53

19

25

100

as well as FIT/FIP-related revenues and from sales of certificates.

132

Change

EBITDA Q3 2018

EBITDA Q3 2019

** Excluding revenues and costs relating to Balancing market not affecting EBITDA result.

69

68

46

41



Key factors affecting the y/y results of Renewables included:

- Decrease in revenues from electricity sales results mainly from higher costs of balancing of generation units.
- Lower revenues from sales of certificates mainly results from lower impact of inventories valuation, which in 2018 was of key significance due to high market price volatility.
- Lower sales revenues from ancillary control services result mainly from: lower volume caused by planned overhaul in Porąbka-Żar pumped-storage power plant, which resulted in a decrease in revenues by approx. PLN 11 million ; lower rate by PLN 1.0/MW determined in accordance with the terms of the current contract , what translated into lower revenues by approx. PLN 3 million.
- Increase of personnel costs resulting from increased employment level (switching to proprietary maintenance of wind farms) and establishing of new company - PGE Baltica sp. z o.o., which deals with the development of the offshore project.

CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Renewables segment in the third quarter of 2019 and 2018.

PLN million	Q3 2019	Q3 2018	% change
Investments in generating capacities, including:	25	14	79%
 Development 	4	1	300%
 Modernisation and replacement 	21	13	62%
Other	2	2	-
TOTAL	27	16	69%



DISTRIBUTION

Segment description and its business model

Core business of the segment includes supply of electricity to final off-takers through the grid and HV, MV and LV infrastructure. The data presented below relate to the third quarter of 2019. Number of customers as at the end of the third quarter of 2019.



*Managerial perspective.

Segment revenue is based on a tariff for electricity distribution services, which is approved by the ERO President every year at company request and is regulated. The tariff allows costs related to the distribution system operator's on-going activities to be transferred, that were considered justified by the ERO President. These are both operating costs, depreciation as well as costs related to the necessity to cover grid losses on electricity distribution or the purchase of transmission services from the transmission system operator. At the same time, the tariff reflects the transferred costs in fees such as the RES fee, transition fee or - starting from 2019 - cogeneration fee.

The key element shaping the Distribution segment's result is **return on company's invested capital**. This is based on the Regulatory Asset Base ("RAB"), which is established on the basis of completed investments and taking into account asset depreciation. The Regulatory Asset Base serves as the basis for calculating return on capital, using weighted average cost of capital, which is published by the ERO President in accordance with a set formula and using as the risk free rate the average yield on 10-year State Treasury bonds with the longest maturity during the 18-month period preceding the tariff application submission. Moreover, in the quality regulation for years 2018-2025 the ERO President obliged the company to reach until the end of 2025 the efficiency ratios including: efficiency indicators that cover: interruption time, interruption frequency, connection time and time to provide metering and settlement data.

The act regulating electricity prices in 2019 kept the DSO tariffs unchanged at the level from December 31, 2018 and decreased the transition fee. The amended act eliminated the necessity to apply 2018 rates, but reduced transition fee was upheld. DSO tariff rates for 2019 was approved by the ERO President on March 22, 2019 and are used by PGE Dystrybucja S.A. from April 6, 2019.



VOLUME, CUSTOMERS AND OPERATING DATA

PGE Dystrybucja S.A. operates in the area of 123 425 sq. km and delivers electricity to approximately 5.5 million customers.

Diagram: Area of PGE distribution grid.



Table: Volume of distributed energy and number of customers in the third quarter of 2019 and 2018.

Tariff	Volume	(TWh)*	Number of customers according to power take-off points (at the end of the quarter)		
	Q3 2019	Q3 2018	Q3 2019	Q3 2018	
A tariff group	1.42	1.46	109	109	
B tariff group	3.62	3.65	12 064	11 598	
C+R tariff groups	1.63	1.66	485 480	481 743	
G tariff group	2.32	2.32	4 955 184	4 894 634	
TOTAL	8.99	9.09	5 452 837	5 388 084	

* with additional estimation of sales.



KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key changes of EBITDA in Distribution (in PLN million) – managerial perspective.



		volume	tariff*					
Change		-12	58	-39	-5	-25	0	
EBITDA Q3 2018	622	1 02	21	75	96	264		
EBITDA Q3 2019		1 06	57	114	101	289		599

* Excluding cost of transmission services from PSE S.A.

** Adjusted for revenues from the Balancing market.

Key factors affecting recurring EBITDA of Distribution segment y/y included:

- Decreased volume of distributed energy by 101 GWh resulting mainly from lower demand in A and C+R tariff groups.
- Increase of fixed charge in tariff for 2019 compared to the previous year, that translated into an increase in revenues from the sale of distribution services.
- Higher costs of energy to cover balancing difference as a result of higher prices on the wholesale market.
- Increase of costs of tax on real estate in connection with an increase of grid assets value as a result of investments; tax rates on land and buildings.
- Increase in personnel costs, related to higher employment level, an increase in wages as a result of signed agreements with the social partners and impact of actuarial provisions.

CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Distribution segment in the third quarter of 2019 and 2018.

PLN million	Q3 2019	Q3 2018	% change
Development investments	208	190	9%
Modernisation and replacement	293	259	13%
Other	39	24	63%
TOTAL	540	473	14%

In the third quarter of 2019 the largest expenditures in amount of PLN 193 million were incurred for connection of new off-takers.



SUPPLY

Segment description and its business model

Supply segment activities include Group's wholesale and retail trading of electricity. Wholesale trading include mainly electricity trading on behalf of and for Conventional Generation segment, District Heating segment and Renewables segment.

The data presented below relate to the third quarter of 2019. Number of customers as at the end of the third quarter of 2019.



As part of retail-market activities, the key source of segment's revenue is **sale of electricity** to final customers. This is sale to business and institutional clients, which constitutes approx. 3/4 of the sales volume, and to retail clients. The segment's revenue also includes the sale of fuels, mainly: pulverised coal and fat coal, which is sold by PGE Paliwa sp. z o.o., and **sale of gas.**

Electricity sales are matched by the **costs to purchase electricity** on the wholesale market and costs to redeem certificates as part of the support system for renewable sources and energy efficiency.

The Supply segment also covers costs related to the Group's corporate centre.

VOLUME, CUSTOMERS AND OPERATING DATA

Table: Volume of electricity sales to final off-takers and number of customers in the third quarter of 2019 and 2018.

Tariff	Volume (T	₩h)*	Number of customers according to power take-off poin (at the end of the quarter)*		
	Q3 2019	Q3 2018	Q3 2019	Q3 2018	
A tariff group	2.55	2.64	164	151	
B tariff group	3.96	3.59	12 747	11 515	
C+R tariff groups	1.81	1.63	452 222	445 145	
G tariff group	2.30	2.39	4 853 278	4 774 300	
TOTAL	10.62	10.25	5 318 411	5 231 111	

*PGE Obrót S.A.



KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key changes of recurring EBITDA in Supply (in PLN million) – managerial perspective.



	EBITDA Q3 2018	Result on electricity - volume	Result on electricity - margin	from services provided to other segments of the PGE Group	Result on sale of coal	Valuation of financial instruments	Personnel costs	Balance of provisions for onerous contracts	Other	EBITDA Q3 2019
Change		4	-113	47	18	-84	-7	29	-17	
Reported EBITDA Q3 2018	152									
One-offs Q3 2018	0									
Recurring EBITDA Q3 2018	152	13	33	160	1	-6	77	0		
Recurring EBITDA Q3 2019		2	4	207	19	-90	84	29		29
One-offs Q3 2019										30
Reported EBITDA Q3 2019										59

Reversal of the impact of the sum of one-off events improving the reported result.

Key factors affecting recurring EBITDA of Supply segment y/y included:

- Lower result from electricity by PLN 109 million resulting mainly from lowering prices for final off-takers billing pursuant to the act on electricity prices in 2019, partly compensated by recognition of expected return of lost revenues in form of compensation pursuant to the act on electricity prices in 2019; additionally lower realized unit margin on sale of electricity was due to increase of prices on the wholesale market.
- Increase of revenues from services performed within the Group resulting mainly from increased revenues from the Agreement for Commercial Management of Generation Capacities ("ZHZW") (PLN (+) 46 million) as a consequence of higher sale and purchase prices of electricity under management and covering new assets under ZHZW agreement.
- Higher result on sale of hard coal mainly a result of revaluation of inventories.
- Valuation of financial instruments i.e. forward contracts connected with trading of CO₂ emission rights.
- Increased personnel expenses in connection with ongoing process to optimise salaries and determination of FTEs, mainly as a
 result of organizational changes within PGE Capital Group.
- Balance of provisions for onerous contracts mainly in relation to the act on electricity prices in 2019. The provision in retail sale companies was recalculated at the end of the third quarter of 2019 and its impact on the result was PLN 29 million in the third quarter of 2019.



3.4. Significant events of the reporting period and subsequent events

BEGINNING OF TALKS REGARDING POTENTIAL COOPERATION ON CONSTRUCTION PROJECT OF 1 000 MW UNIT IN OSTROŁĘKA

In response to the invitation from Energa S.A. and Enea S.A., on January 7, 2019 the companies started talks that may potentially result in involvement of PGE in the construction project of 1 000 MW unit in Ostrołęka, which is currently pursued by Energa S.A. and Enea S.A.

Current report of PGE S.A.:

Beginning of talks regarding potential cooperation on construction project of 1 000 MW unit in Ostrołęka>>

SIGNING OF AN ANNEX TO THE AGREEMENT FOR DESIGNING AND CONSTRUCTION OF POWER UNIT IN TURÓW POWER PLANT

On March 29, 2019 PGE GIEK S.A. signed the annex to the agreement for designing and turn-key construction of power unit in Turów power plant, that is being pursued by the consortium formed by companies: Mitsubishi Hitachi Power Systems Europe GmbH, Budimex S.A. and Tecnicas Reunidas SA. Due to need of technological adaptations and broader scope of works, the value of the Agreement was increased by PLN 108.5 million net to PLN 3 647 million net, and date of completion of works was prolonged by 6 months, i.e. till October 30, 2020.

Current report of PGE S.A.:

Signing of an annex to the agreement for designing and construction of power unit in Turów power plant>>

GRANTING OF ADDITIONAL CO2 ALLOWANCES FOR PGE GROUP'S INSTALLATIONS

On the ground of the announcement of the Minister of Environment of April 16, 2019, the Company had taken information about the number of CO₂ emission rights, which had been granted to installations generating electricity, belonging to PGE Group in 2019.

As a result of settlement of capital expenditures in PGE Group, generation assets acquired from EDF group in 2017 received in April 2019 an additional allocation of CO_2 emission allowances for the years 2013-2017 in amount of approx. 11 million emission rights. (see Note 24.2 to the consolidated financial statements). Results of valuation of additional CO_2 emission rights are recognised in the operational result.

Current report of PGE S.A.:

Granting of additional CO2 allowances for PGE's installations >>

WITHDRAWAL FROM THE PROCESS OF ACQUISITION OF ALL SHARES IN PGE EJ1

On April 17, 2019 PGE decided to withdraw from the process of acquisition of shares of PGE EJ1 sp. z o.o. ("PGE EJ1") held by other partners, that was initiated in the fourth quarter of 2018. Thus, PGE's share in PGE EJ1 will remain at 70%.

Current report of PGE S.A.:

- Initial interest in buying all shares in the company PGE EJ1>>
- Withdrawal from the process of acquisition of all shares in PGE EJ1 >>

ACQUISITION OF SHARES OF 4MOBILITY BY PGE NOWA ENERGIA

On April 24, 2019 PGE Nowa Energia sp. z o.o. ("Nowa Energia") concluded an agreement for the purchase of 51.47% of shares in 4Mobility S.A. 4Mobility provides car-sharing services and is the third company in Poland in terms of the number of cars available to customers. It provides services in Warsaw and in Poznań. Information regarding the acquisition of shares in 4Mobility have been provided in section 4.1 of this report and in note 1.3 to the consolidated financial statements.

ISSUE OF BONDS WITH TOTAL VALUE OF PLN 1.4 BILLION

Bonds amounting to total value of PLN 1.4 billion were issued in two series: PLN 1 billion with 10-year maturity (series PGE003210529) and PLN 400 million with 7-year maturity (series PGE002210526). On May 21, 2019, both series of issues were settled, and on May 23, 2019, Fitch Ratings assigned the final national rating of the issue at AA (pol). Information regarding the issue and terms of the bonds were published in the following current reports:

- Potential issue of bonds on Polish market>>
- Fitch Ratings assigns upcoming domestic bonds an expected senior unsecured National Rating>>



Terms of domestic bonds issue by PGE Polska Grupa Energetyczna S.A.>>

COMMISSIONING OF UNIT 5 AND 6 IN OPOLE POWER PLANT

On May 30, 2019 PGE GIEK S.A. obtained the concession to produce electricity in the unit 5 in Opole Power Plant and on May 31, 2019 issued the certificate of completion of the investment and the above mentioned unit was handed over and placed into service.

Unit no. 5 is a part of the agreement for construction of units 5 and 6 in Opole Power Plant being realized by the General Contractor (consortium formed by companies: Polimex-Mostostal S.A., Mostostal Warszawa S.A. and Rafako S.A.) and GE Power, which is the general designer and consortium leader managing the contract execution.

On September 30, 2019 unit no. 6 was placed into commercial operations, according to the schedule. Therefore, the implementation of the investment considering the construction of new power units in Opole Power Plant was completed.

SIGNING OF THE AGREEMENT REGARDING THE FIZAN EKO-INWESTYCJE FUND

On July 30, 2019 PGE, PGE Energia Ciepła S.A., PGE Górnictwo i Energetyka Konwencjonalna S.A. and PGE Energia Odnawialna S.A. signed the investment agreement with Towarzystwo Funduszy Inwestycyjnych Energia S.A. ("TFI Energia" – investment fund company), which plans to establish a closed-end investment fund under the name "Closed-end Investment Fund of Non-public Assets Eco-Investments". The details are presented in Note 24.3 to the consolidated financial statements.

ACT ON THE AMENDMENT OF THE ACT ON THE EXCISE TAX AND CERTAIN OTHER ACTS

On December 28, 2018, the Act on the amendment of the act on the excise tax and certain other acts (the "Act on electricity prices") was adopted. The aim of this act is to stabilise the prices of electricity sale to the end recipient in 2019. The act was amended twice: with the Act of February 21, 2019 and Act of June 13, 2019. Furthermore, on July 19, 2019, the act on the system of compensation for energy-intensive sectors and subsectors, which affects the Act on electricity, was adopted. Specific information and the effects of the Act on electricity prices were discussed in note 24.1 to the consolidated financial statement.

INFORMATION ON SALE PROCESS OF STAKES IN COMPANIES DEVELOPING OFFSHORE WIND FARMS ON THE BALTIC SEA

On October 22, 2019 PGE Polska Grupa Energetyczna S.A. decided to commence talks with Ørsted regarding the sale of a 50% stake in two off-shore wind farm projects with a total capacity of up to 2.5 GW and agreeing co-operation terms for their development.

The subject of talks will be a sale of 50% of the shares in each of Elektrownia Wiatrowa Baltica-3 sp. z o.o., which is developing a project with a planned capacity of approximately 1 GW by 2026, and Elektrownia Wiatrowa Baltica-2 sp z o.o., which is developing a project with a planned capacity of approximately 1.5 GW by 2030.



CHANGES IN THE MANAGEMENT BOARD AND SUPERVISORY BOARD

Management Board members

As at September 30, 2019 and as at the publication date of this report, the Management Board worked in following composition:

Name and surname of the Management Board	Position
Henryk Baranowski	President of the Management Board
Wojciech Kowalczyk	Vice-President for Capital Investments
Marek Pastuszko	Vice-President for Corporate Affairs
Paweł Śliwa	Vice-President for Innovations
Ryszard Wasiłek	Vice-President for Operations
Emil Wojtowicz	Vice-President for Finance

Supervisory Board members

As at September 30, 2019 and as at the publication date of this report, the Supervisory Board worked in following composition:

Name and surname	Position
Anna Kowalik	Chairman of the Supervisory Board
Artur Składanek	Vice-Chairman of the Supervisory Board – independent
Grzegorz Kuczyński	Secretary of the Supervisory Board - independent
Janina Goss	Supervisory Board Member - independent
Tomasz Hapunowicz	Supervisory Board Member - independent
Mieczysław Sawaryn	Supervisory Board Member - independent
Jerzy Sawicki	Supervisory Board Member - independent
Radosław Winiarski	Supervisory Board Member

As at September 30, 2019 and as at the publication date of this report, the committees worked in following compositions:

Name and surname of the member of the Supervisory Board	Audit Committee	Corporate Governance Committee	Strategy and Development Committee	Appointment and Remuneration Committee
Janina Goss	Member			Member
Tomasz Hapunowicz		Member Chairman	Member	
Anna Kowalik	Member		Member	Member
Grzegorz Kuczyński	Member Chairman	Member		
Mieczysław Sawaryn			Member	Member Chairman
Jerzy Sawicki		Member	Member	Member
Artur Składanek	Member		Member Chairman	
Radosław Winiarski	Member		Member	



ACTIVITIES RELATED TO NUCLEAR ENERGY

Business partnership

PGE EJ1 is PGE Group's entity directly responsible for preparing the investment process, consisting of conducting environmental and location surveys and obtaining all of the necessary decisions for the construction of the first Polish nuclear power plant, and implementing the investment. PGE EJ1 was established in 2010. In 2014, a shareholder agreement was signed, pursuant to which Enea S.A., KGHM Polska Miedź S.A. and TAURON Polska Energia S.A. (the "Shareholders") each purchased from PGE a 10% stake in PGE EJ1 (30% in total). The Shareholders agreement requires the parties to jointly finance, proportionately to the stakes held, activities related to implementing the investment.

Site characterisation and environmental surveys

Current scope of Program conducted by PGE EJ 1 assumes location and environmental surveys at two potential Lubiatowo-Kopalino, Żarnowiec and preparing an Environmental Impact Assessment Report and Site Report.

Selecting an appropriate location is one of the key aspects in ensuring nuclear safety and the efficient and reliable operation of a nuclear power plant. The results of these works are necessary in order to develop solutions that ensure the power plant's safe operation and minimise its impact on the natural environment and the everyday life of local residents.

Social acceptance

With a view toward ensuring social acceptance for the project to build the first Polish nuclear power plant, PGE Group is conducting activities aiming to maintain a high level of community support at the planned nuclear plant sites and to deliver knowledge about nuclear power. In the first three quarters of 2019, works were continued within the Site Municipality Development Support Programme intended to reinforce partner relations with the local communities and authorities of the municipalities by providing support to initiatives that are of significance to the residents and development of the region.

Prospects for the project implementation and financing capabilities

Decisions with regard to the continuation of the Programme will be made based on decisions by the government administration concerning a role of nuclear energy in Polish fuel mix, mode for the procurement of nuclear power plant technology, investment financing model and an updated Programme for Poland's Nuclear Power.

Compensations from WorleyParsons

WorleyParsons initiated a lawsuit for payment of PLN 59 million for due remuneration, according to the claimant, and return of an amount unduly collected, according to the claimant, by PGE EJ1 from a bank guarantee, and subsequently expanded its claim to PLN 104 million (i.e. by PLN 45 million). On March 31, 2018, the company filed a response to WorleyParsons' expanded claim. On September 2, 2019, PGE EJ 1 Sp. z o.o. received a pleading containing an extension of the WorleyParsons claim by PLN 24 million due to capitalized interest. On September 18, 2019, PGE EJ 1 Sp. z o.o. filed a pleading extending the claim by PLN 52 million as unjust enrichment in connection with non-performance by WorleyParsons of tasks specified in the Agreement. PGE Group does not accept the claim and regards its possible admission by the court as unlikely.

LEGAL ASPECTS

Claims for annulment of the resolutions of the General Meetings of PGE S.A.

Information on claims for annulment of the resolutions of the General Meetings of PGE S.A. are described in note 21.4 to the consolidated financial statements.

The issue of compensation regarding the conversion of shares

Information on the issue of compensation regarding the conversion of shares are described in note 21.4 to the consolidated financial statements.



INFORMATION CONCERNING PROCEEDINGS IN FRONT OF COURT, BODY APPROPRIATE FOR ARBITRATION PROCEEDINGS OR IN FRONT OF PUBLIC ADMINISTRATION AUTHORITIES

Significant proceedings pending in front of courts, competent arbitration authority or public administration authority are described in note 21.4 to the consolidated financial statements.

Claims related to agreements for sale of certificates signed with Energa-Obrót S.A.

Information on claims related to agreements for sale of certificates signed with Energa-Obrót S.A. are described in note 21.1 to the consolidated financial statements.

Termination by Enea S.A. of agreements for sale of certificates

Information on termination by Enea S.A. of agreements for sale of certificates are described in note 21.4 to the consolidated financial statements.

INFORMATION CONCERNING THE GUARANTEES FOR LOANS GRANTED BY THE COMPANY OR A SUBSIDIARY

Within the Group, as at September 30, 2019 PGE S.A. and subsidiaries did not grant guarantees to other entities or to a subsidiary, where a value of guarantees constitutes at least 10% of the Company's equity.

INFORMATION ON ISSUE, REDEMPTION AND REPAYMENT OF DEBT SECURITIES AND OTHER SECURITIES

Information on issue, redemption and repayment of debt securities and other securities is described in p. 3.4 of the foregoing report and in note 19.1 to the consolidated financial statements.

TRANSACTIONS WITH RELATED ENTITIES

Information about transactions with related entities is presented in note 23 to the consolidated financial statements.



4. Other elements of the report

4.1. Significant changes in organisation of the Capital Group

Changes which occurred in the PGE Capital Group's structure in the period from January 1, 2019 until the publication date of this report, are presented in note 1.3 to condensed interim consolidated financial statements and described below.

ACQUSITION OR DISPOSAL OF SHARES BY THE COMPANIES

Segment	Shares of the company	Date of transaction/ registration in the National Court Register	Comment
Other Operations	ElectroMobility Poland S.A. ("ElectroMobility") - acquisition by PGE S.A. of increased value of the shares held in ElectroMobility	October 4, 2018/ January 7, 2019	On October 4, 2018 the Extraordinary General Meeting of ElectroMobility adopted resolution on a share capital increase by PLN 40 000 000 to PLN 70 000 000 by increasing the nominal value of existing shares. In exchange for a cash contribution, PGE S.A. took up increased nominal value of 2 500 shares, the total nominal value of which increased from PLN 7 500 000 to PLN 17 500 000, i.e. by PLN 10 000 000. As a result of the share capital increase, PGE S.A.'s stake in ElectroMobility did not change (25% shareholding).
Conventional Generation	Pracownicze Towarzystwo Emerytalne "Nowy Świat" S.A. with its seat in Warsaw ("PTE Nowy Świat") - acquisition of shares by PGE GIEK S.A. (as a result of conditional share sale agreement)	December 28, 2018/ June 14, 2019 (transfer of ownership of shares)	On December 28, 2018 PGE GiEK as the buyer and Centralny Dom Maklerski Pekao S.A. with its seat in Warsaw as the seller entered into the agreement for the sale of 9 890 registered shares in PTE Nowy Świat, with the total nominal value of PLN 98 900, representing 19.78% of the share capital. On June 14, 2019 transfer of ownership of shares to PGE GiEK took place (the Financial Supervision Authority granted approval for the acquisition of shares of PTE Nowy Świat, The acquisition of the shares resulted in increased share of PGE GiEK in the sahre capital of PTE Nowy Świat from 75.20% to 94.98%.
District Heating	Pracownicze Towarzystwo Emerytalne "Nowy Świat" S.A. with its seat in Warsaw ("PTE Nowy Świat") – acquisition of shares by PGE EC (as a result of conditional share sale agreement)	February 18, 2019 June 25, 2019 (transfer of ownership of shares)	On February 18, 2019 PGE EC as the buyer and PGE S.A. as the seller entered into the agreement for the sale of one registered share in PTE Nowy Świat with the total nominal value of PLN 10 which is 0.002% of the share capital. On June 25, 2019 transfer of ownership of shares to PGE EC took place (the Financial Supervision Authority granted approval for the acquisition of shares of PTE Nowy Świat). The acquisition of the share resulted in PGE EC becoming a shareholder in PTE Nowy Świat and PGE S.A. ceasing to be a shareholder in that company.
Other Operations	4Mobility S.A. seated in Warsaw ("4Mobility") – acquisition by PGE Nowa Energia sp. z o.o. of shares in the increased share capital of 4Mobility	April 24, 2019/ May 8, 2019	On April 24, 2019 the Extraordinary Assembly of Partners of 4Mobility adopted resolution on a share capital increase by PLN 187 500 to PLN 364 316, through issue of new bearer shares. On April 24, 2019 PGE Nowa Energia sp. z o.o. signed an agreement to acquire all newly issued bearer shares, i.e. total of 1 875 000 shares in the increased share capital of 4Mobility with a total nominal value of PLN 187 500 in exchange for a cash contribution. The acquired shares constitute 51.47% in the share capital of the company.
District Heating	PGE Gaz Toruń sp. z o.o. ("PGE Gaz Toruń") – acquisition of shares by PGE Nowa Energia sp. z o.o. (as a result of accepting the share purchase offer)	June 14, 2019	On May 15, 2019, Fundusz Inwestycji Infrastrukturalnych – Kapitałowy Fundusz Inwestycyjny Zamknięty Aktywów Niepublicznych (Infrastructure Investment Fund - Private Assets Closed-end Capital Investment Fund) with its registered office in Warsaw (partner of PGE Gaz Toruń), represented by Polski Fundusz Rozwoju S.A. with its registered office in Warsaw, submitted a statement of acceptance of the offer submitted by PGE EC to acquire 662 shares in PGE Gaz Toruń, constituting 49.96% of the share capital. On June 14, 2019 – the day of payment of the purchase price for the shares – the ownership right to the above mentioned shares in PGE Gaz Toruń was transferred to PGE EC, which resulted in PGE EC becoming the sole



Segment	Shares of the company	Date of transaction/ registration in the National Court Register	Comment
			shareholder in PGE Gaz Toruń, holding 100% of shares in its share capital.
District Heating	Przedsiębiorstwo Energetyki Cieplnej sp. z o.o. with its seat in Zgierz ("PEC Zgierz") - acquisition of shares by PGE EC (as a result of share sale agreement)	October 18, 2019	On October 18, 2019 PGE EC as the buyer and PGE GIEK as the seller entered into the agreement for the sale of all shares possessed by PGE GIEK in PEC Zgierz, i.e. total of 7 630 shares of that company with a total nominal value of PLN 7 630 000, representing 50.98% in the share capital. transfer of ownership of shares to PGE EC took place on October 18, 2019.

DE-MERGERS

Segment	Spun off company /acquiring company	Date of transaction/ registration in the National Court Register	Comment
Conventional Generation	PGE GIEK/ PGE EC	October 18, 2018 On January 2, 2019 de- merger was registered in the National Court Register	The Extraordinary General Meetings of PGE GiEK and PGE EC adopted resolutions on the division of PGE GiEK (divided company) through a carve out, pursuant to art. 529 § 1 point 4 of the Polish Commercial Companies Code, by way of transfer to PGE EC (acquiring company) of selected PGE GiEK assets in the form of six PGE GiEK branches (Branches), i.e.: (1) Zespół Elektrociepłowni Bydgoszcz, (2) Elektrociepłownia Gorzów, (3) Elektrociepłownia Zgierz, (4) Elektrociepłownia Lublin Wrotków, (5) Elektrociepłownia Kielce and (6) Elektrociepłownia Rzeszów. The Branches constitute an organised part of enterprise and are functionally related to the generation of electricity, generation of electricity and heat in cogeneration and distribution of heat and electricity. The transfer of the Branches to PGE EC was carried out by lowering PGE GiEK's share capital by PLN 406 847 180 and increasing PGE EC's share capital by PLN 763 432 450 through cancelling 40 684 718 shares of PGE GiEK, with nominal value of PLN 10 each, and issue of 76 343 245 new shares of PGE EC, with nominal value of PLN 10 each. As the sole shareholder of PGE GiEK, PGE S.A. acquired all new shares in PGE EC's increased share capital in exchange for the cancelled PGE GiEK shares.



4.2. Publication of financial forecasts

PGE S.A. did not publish financial forecasts.

4.3. Information about shares and other securities

SHAREHOLDERS WITH A SIGNIFICANT STAKE

According to the best knowledge, on the ground of the letter from the Ministry of the State Treasury of April 27, 2016, the State Treasury holds 1 072 984 098 ordinary shares of the Company, representing 57.39% of the Company's share capital and entitling to 1 072 984 098 votes on the General Meeting of the Company, constituting 57.39% of total votes.

Table: Shareholders holding directly or indirectly by subsidiaries at least 5% of the total votes at the General Meeting of PGE S.A.

Shareholder	Number of shares	Number of votes	% in total votes on General Meeting
State Treasury	1 072 984 098	1 072 984 098	57.39%
Others	796 776 731	796 776 731	42.61%
Total	1 869 760 829	1 869 760 829	100.00%

Shares of the parent company owned by the members of management and supervisory authorities

According to the best knowledge of the Management Board of the Company, members of management and supervisory authorities of the Company as of the date of submission of this report and as of the date of publishing of the report for the first half of 2019 did not hold shares of PGE S.A.

5. Statements of the Management Board

STATEMENT ON THE RELIABLE PREPARATION OF THE FINANCIAL STATEMENTS

To the best knowledge of the Management Board of PGE S.A., the quarterly financial report including condensed interim consolidated financial statements of the Capital Group of PGE Polska Grupa Energetyczna S.A., quarterly financial information for PGE Polska Grupa Energetyczna S.A. and comparative data, was prepared in accordance with the governing accounting principles, presents a fair, true and reliable view of the material and financial situation of PGE Capital Group and its financial result.

The report of the Management Board on the activities of PGE Capital Group presents a true view of the development, achievements and situation of the Capital Group.



6. Approval of the Management Board's Report

The foregoing Management Board's Report on activities of the Capital Group of PGE Polska Grupa Energetyczna S.A. was approved for publication by the Management Board of the parent company on November 12, 2019.

Warsaw, November 12, 2019

Signatures of Members of the Management Board of PGE Polska Grupa Energetyczna S.A.

President of the Management Board	Henryk Baranowski
Vice- President of the Management Board	Wojciech Kowalczyk
Vice- President of the Management Board	Marek Pastuszko
Vice- President of the Management Board	Paweł Śliwa
Vice- President of the Management Board	Ryszard Wasiłek
Vice- President of the Management Board	Emil Wojtowicz



Glossary

Glossary	
AKPiA	Control, measurement and automation apparatus area
Ancillary control	services provided to the transmission system operator, which are indispensable for the proper
services (ACS)	functioning of the National Power System and ensure the keeping of required reliability and quality standards.
Achievable capacity	the maximum sustained capacity of a generating unit or generator, maintained continuously by a thermal generator for at least 15 hours or by a hydroelectric generator for at least five hours, at
	standardized operating conditions, as confirmed by tests.
ARA	USD hard coal price index in EU. Loco in harbours Amsterdam-Rotterdam-Antwerp
Balancing market	a technical platform for balancing electricity supply and demand on the market. The differences between the planned (announced supply schedules) and the actually delivered/off-taken volumes of electricity are settled here. The purpose of the balancing market is to balance transactions concluded between individual market participants and actual electricity demand. The participants of the balancing market can be the generators, customers for electricity understood as entities connected to a network located in the balancing market area (including off-takers and network customers), trading companies, electricity exchanges and the TSO as the balancing company.
Base, baseload	standard product on the electricity market: a constant hourly power supply per day in a given period, for example week, month, quarter or year.
BAT	Best Available Technology
Best Practices	Document "Best Practice for GPW Listed Companies 2016" adopted by the resolution of the GPW Supervisory Board of October 13, 2015 and effective from January 1, 2016.
Biomass	solid or liquid substances of plant or animal origin, subject to biodegradation, obtained from agricultural or forestry products, waste and remains or industries processing their products as well as certain other biodegradable waste in particular agricultural raw materials.
Black energy	popular name for energy generated as a result of combustion of black coal or lignite.
Circular economy	system that minimises the consumption of resources and the level of waste as well as emissions and energy losses by creating a closed loop of processes in which waste from one process is used as resources in other processes so as to maximally reduce the quantity of production waste
Co-combustion	the generation of electricity or heat based on a process of combined, simultaneous combustion in one device of biomass or biogas together with other fuels; part of the energy thus generated can be deemed to be energy generated with the use of renewable sources.
Co-generation	the simultaneous generation of heat and electricity or mechanical energy in the course of one and the same technological process.
Constrained generation	the generation of electricity to ensure the quality and reliability of the national power system; this applies to generating units in which generation must continue due to the technical limitations of the operation of the power system and the necessity of ensuring its adequate reliability.
CVC fund	Corporate Venture Capital; in the CVC model, portfolio companies, aside from financial support, receive the opportunity to verify their ideas in a corporate setting
Distribution	transport of energy through distribution grid of high (110 kV), medium (15kV) and low (400V) voltage in order to supply the customers.
Distribution System Operator (DSO)	a power company engaging in the distribution of gaseous fuels or electricity, responsible for traffic in the gas or electricity distribution systems, current and long-term security of operation of the system, the operation, maintenance, repairs and indispensable expansion of the distribution network, including connections to other gas or power systems.
Energy cluster	civil-law arrangement that may include natural persons, legal entities, scientific units, research institutes or local government units, concerning the generation, distribution or trade in energy and energy demand balancing, with this energy being from renewable sources or other sources or fuels, within a distribution grid with nominal voltage below 110 kV, within the operational area of the given cluster, not exceeding the area of one district (powiat) in the meaning of the act on district authorities) or 5 municipalities (gmina) in the meaning of the act on municipal authorities; an energy cluster is represented by a coordinator, which is a cooperative, association, foundation appointed for this purpose or any member of the energy cluster indicated in the civil-law arrangement
ERO	Energy Regulatory Office (pol. URE).
EUA	European Union Allowances: transferable CO_2 emission allowances; one EUA allows an operator to release one tonne of CO_2 .
EU ETS	European Union Greenhouse Gas Emission Trading Scheme) EU emission trading scheme. Its operating rules are set out in the ETS Directive, amended by the Directive 2009/29/EC of the European Parliament and of the Council of April 23, 2009 (OJ EU L. of 2009, No. 140, p. 63–87).



FIT/FIP	Feed-in-Tariff (FIT) and Feed-in-Premium (FIP): system of subsidies to the market price of electricity performed by Zarządca Rozliczeń S.A.
Generating unit	a technically and commercially defined set of equipment belonging to a power company and used to generate electricity or heat and to transmit power.
GJ	
	Gigajoule, a unit of work/heat in the SI system, 1 GJ = 1000/3.6 kWh = approximately 278 kWh.
GPZ	main power supply point, a type of transformer station used for the processing or distribution of electricity or solely for the distribution of electricity.
Green certificate	popular name for energy generated from renewable energy sources.
GW	gigawatt, a unit of capacity in the SI system, 1 GW = 10^9 W.
GWe	one gigawatt of electric capacity.
GWt	one gigawatt of heat capacity.
НІСР	Harmonised Index of Consumer Prices
High Voltage Network (HV)	a network with a nominal voltage of 110 kV.
IED	Industrial Emissions Directive
IGCC	Integrated Gasification Combined Cycle.
Installed capacity	the formal value of active power recorded in the design documentation of a generating system as being the maximum achievable capacity of that system, confirmed by the acceptance protocols of that system (a historical value, it does not change over time.
IRIESP	the Transmission Network Operation and Maintenance Manual required to be prepared by a transmission system operator pursuant to the Energy Law; instructions prepared for power networks that specify in detail the terms and conditions of using these networks by system users as well as terms and conditions for traffic handling, operation and planning the development of these networks; sections on transmission system balancing and system limitation management, including information on comments received from system users and their consideration, are submitted to the ERO President for approval by way of a decision.
IRZ	Cold Intervention Reserve Service – service consisting of maintaining power units ready for energy production. Energy is produced on request of PSE S.A.
KRI	Key Risk Indicator
KSE	the National Power System, a set of equipment for the distribution, transmission and generation of electricity, forming a system to allow the supply of electricity in the territory of Poland.
KSP	the National Transmission System, a set of equipment for the transmission of electricity in the territory of Poland.
kV	kilo volt, an SI unit of electric potential difference, current and electromotive force; 1kV= 103 V.
kWh	kilowatt-hour, a unit of electric energy in the SI system defined as the volume of electricity used by the 1 kW equipment over one hour. 1 kWh = 3,600,000 J = 3.6 MJ.
Low Voltage Network (LV)	a network with a nominal voltage not exceeding 1 kV.
LTC	long-term contracts on the purchase of capacity and electricity entered into between Polskie Sieci Elektroenergetyczne S.A. and electricity generators in the years 1994-2001.
Medium-voltage network (MV)	an energy network with a nominal voltage higher than 1 kV but lower than 110 kV.
MEV	Minimum Energy Volumes.
MSR	Market Stability Reserve (relating to CO ₂)
MW	a unit of capacity in the SI system, 1 MW = 10^6 W.
Mwe	one megawatt of electric power.
MWt	one megawatt of heat power.
NAP	National emissions Allocation Plan, prepared separately for the national emission trading system and for the ELL emission trading system by the National Administrator of the Emission Trading System
NAP II	the EU emission trading system by the National Administrator of the Emission Trading System. National CO ₂ emissions Allocation Plan for the years 2008-2012 prepared for the EU emission trading system adopted by the Ordinance of the Council of Ministers of July 1, 2008 (Dz. U. of 2008, No. 202, item 1248).
Nm ³	normal cubic meter; a unit of volume from outside the SI system signifying the quantity of dry gas in 1 m3 of space at a pressure of 101.325 Pa and a temperature of 0°C.
NO _x	nitrogen oxides.
N:W ratio	Ration of volume of overburden removed in m ³ to the mass of extracted coal in tons



OTF	Organized Trading Facilities
Operational Capacity Reserve (ORM)	ORM constitutes of generation capacities of active Production Schedular Units (JGWa) in operation or layover, representing excess capacity over electricity demand available to the TSO under the Energy Sale Agreements and on the Balancing Market in unforced generation
Peak, peakload	a standard product on the electricity market; a constant power supply from Monday to Friday, each hour between 7:00 a.m. and 10:00 p.m. (15-hour standard for the Polish market) or between 8:00 a.m. and 8:00 p.m. (12-hour standard for the German market) in a given period, for example week, month, quarter or year.
Peak power pumped storage plants	special type of hydro-power plant allowing for electricity storage. It uses the upper reservoir, to which water is pumped from the lower reservoir using electricity (usually excessive in system). The pumped storage facilities provide ancillary control services for the national power system. In periods of increased demand for electricity, water from the upper reservoir is released through the turbine. This way, electricity is produced.
PJ	Petajoule, a unit of work/heat in the SI system, 1 PJ = approx. 278 GWh
Property rights	negotiable exchange-traded rights under green and co-generation certificates
Prosumer	end customer who purchases electricity under a comprehensive agreement and generates electricity only from renewable sources at a micro-installations for own purposes, unrelated to economic activities
PSCMI1	Polish Steam Coal Market Index 1 - average level of prices of coal dust sold to industrial-scale power plants in Poland
RAB Rod cortificato	Regulatory Asset Base.
Red certificate	a certificate confirming generation of electricity in co-generation with heat.
Red energy	popular name for electricity co-generated with heat.
Regulator	the President of ERO, fulfilling the tasks assigned to him in the energy law. The regulator is responsible for, among others, giving out licenses for energy companies, approval of energy tariffs, appointing Transmission System Operators and Distribution System Operators.
Renewable Energy Source (RES)	a source of generation using wind power, solar radiation, geothermal energy, waves, sea currents and tides, flow of rivers and energy obtained from biomass, landfill biogas as well as biogas generated in sewage collection or treatment processes or the disintegration of stored plant or animal remains.
SAIDI	System Average Interruption Duration Index - index of average system interruption time (long, very long and disastrous), expressed in minutes per customer per year, which is the sum of the interruption duration multiplied by the number of consumers exposed to the effects of this interruption during the year, divided by the total number of off-takers. SAIDI does not include interruptions lasting less than three minutes and is determined separately for planned and unplanned interruptions. It applies to breakdowns in the low (LV), medium (MV) and high voltage (HV), wherein SAIDI in quality tariff does not include interruptions on low voltage.
SAIFI	System Average Interruption Frequency Index - index of average system amount of interruptions (long, very long and disastrous), determined as number of off-takers exposed to the effects of all such interruptions during the year divided by the total number of off-takers. SAIFI does not include interruptions lasting less than three minutes and is determined separately for planned and unplanned interruptions. It applies to breakdowns in the low (LV), medium (MV) and high voltage (HV), wherein SAIFI in quality tariff does not include interruptions on low voltage.
SCR	Selective catalytic reduction
SNCR	Selective non-catalytic reduction
Start-up	early-stage company established in order to build new products or services and characterised by a high level of uncertainty. The most common features of start-ups are: short operational history (up to 10 years), innovativeness, scalability, higher risk than in the case of traditional businesses but also potential higher returns on investment
Tariff	the list of prices and rates and terms of application of the same, devised by an energy enterprise and introduced as binding on the customers specified therein in the manner defined by an act of parliament.
Tariff group	a group of customers off-taking electricity or heat or using services related to electricity or heat supply to whom a single set of prices or charges and terms are applied.
TGE	Towarowa Giełda Energii S.A. (Polish Power Exchange), a commodity exchange on which trading can take place in electricity, liquid or gas fuels, extraction gas, emission allowances and property rights whose price depends directly or indirectly on electric energy, liquid or gas fuels and emission allowances, admitted to commodity exchange trading.
TPA, TPA rule	Third Party Access, the owner or operator of the network infrastructure to third parties in order to supply goods/services to third party customers.



Transmission	transport of electricity through high voltage (220 and 400 kV) transmission network from generators to distributors.
Transmission System Operator (TSO)	a power company engaging in the transmission of gaseous fuels or electric energy, responsible for traffic in a gas or power transmission system, current and long-term security of operation of that system, the operation, maintenance, repair and indispensable expansion of the transmission system, including connections with other gas or power systems. In Poland, for the period from July 2, 2014 till December 31, 2030 Polskie Sieci Elektroenergetyczne S.A. was chosen as a TSO in the field of electricity transmission.
TWh	terawatt hour, a multiple unit for measuring of electricity unit in the system SI. 1 TWh is 10 ⁹ kWh.
Ultra-high-voltage network (UHV)	an energy network with a voltage equal to 220 kV or higher.
V (volt)	electrical potential unit, electric voltage and electromotive force in the International System of Units (SI), $1 \text{ V}= 1 \text{ J}/1\text{ C} = (1 \text{ kg x m}^2) / (\text{A x s}^3)$.
W (watt)	a unit of power in the International Systems of Units (SI), $1 \text{ W} = 1 \text{ J/1s} = 1 \text{ kg x m}^2 \text{ x s}^{-3}$.
Yellow certificate	a certificate confirming generation of energy in gas-fired power plants and CCGT power plants.
Yellow energy	popular name for energy generated in gas-fired power plants and CCGT power plants.