

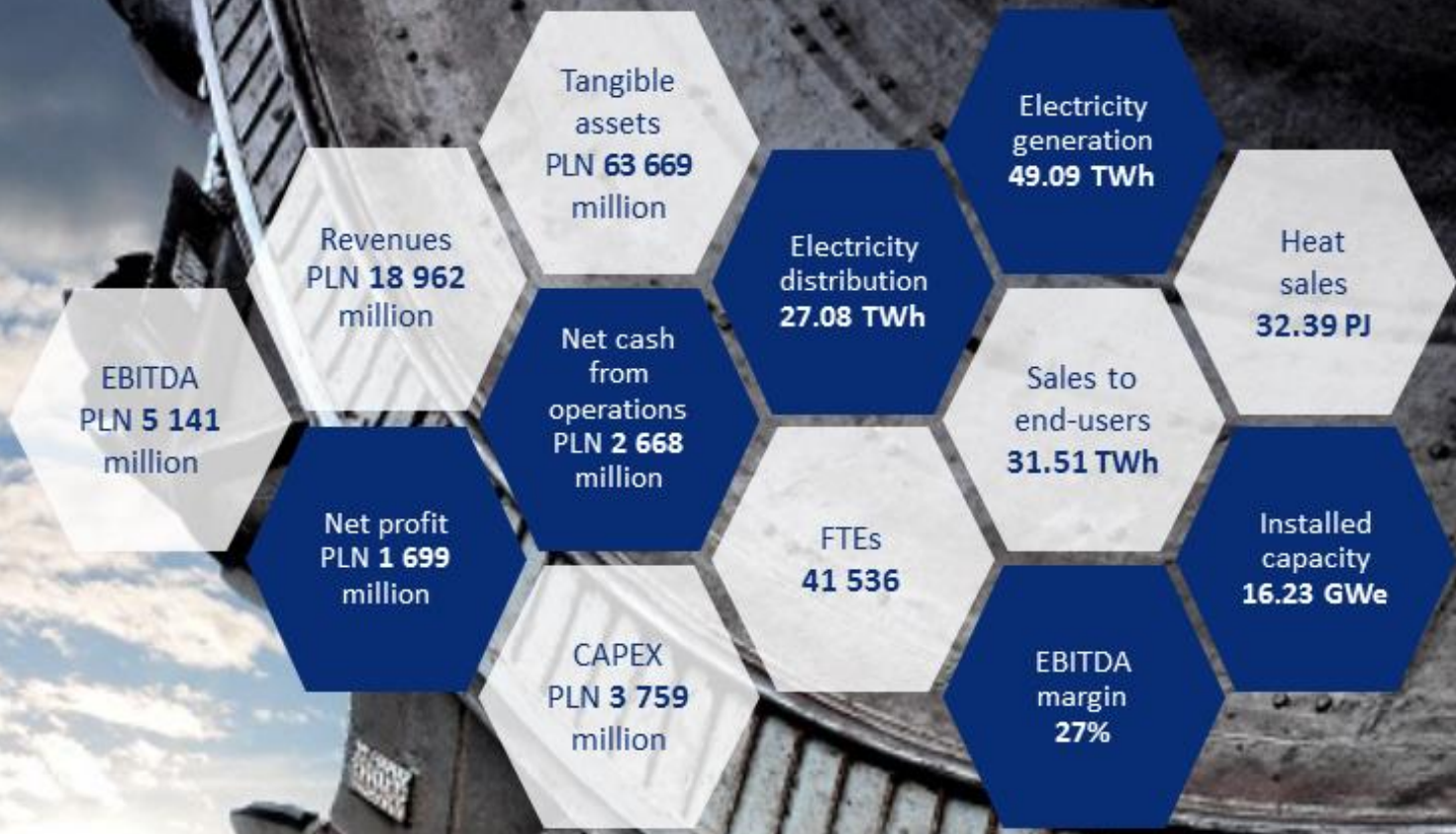


***Management Board's report on activities of
the Capital Group of
PGE Polska Grupa Energetyczna S.A.
for the 3-month and 9-month period***

ended September 30, 2018

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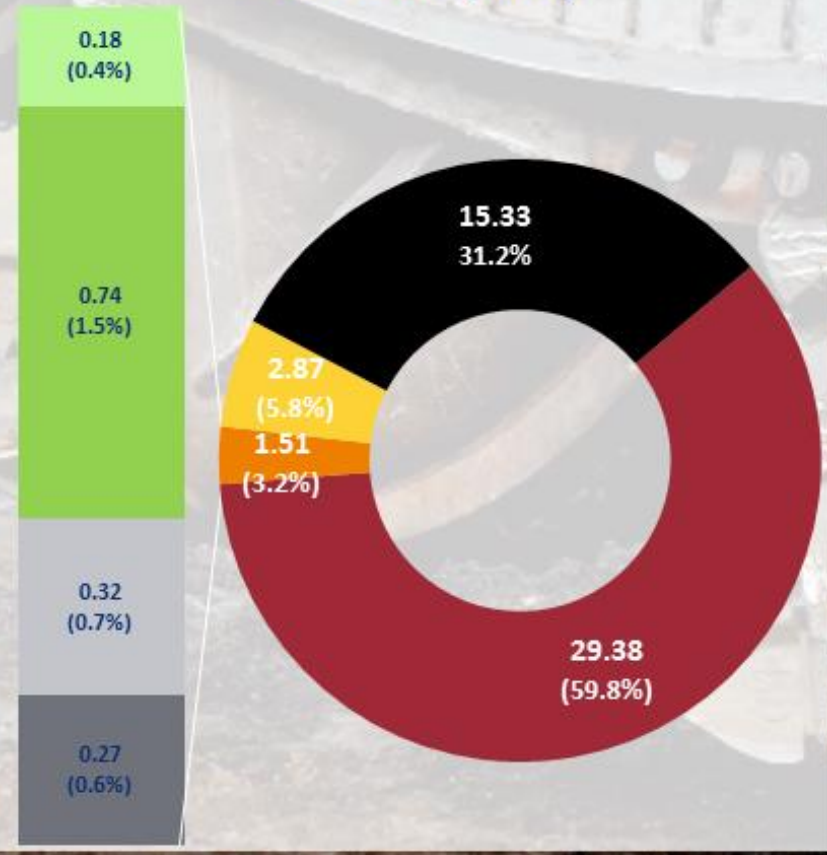
EBITDA [PLN BN] 9 MONTHS



NET ELECTRICITY PRODUCTION [TWh] 9 MONTHS



ELECTRICITY GENERATION STRUCTURE [TWh]



	CONVENTIONAL GENERATION	RENEWABLE ENERGY	SUPPLY	DISTRIBUTION
Operations	Extraction of lignite and generation of electricity and heat from conventional sources and distribution of heat and supporting operations in this respect	Electricity generation from renewable sources and in pumped-storage power plants	Wholesale trading of electricity on domestic and international market and trading of related products, fuels and CO ₂ emission allowances	Supply of electricity to final off-takers through the grid and HV, MV and LV power infrastructure
Key assets of the segment	5 conventional power plants 16 CHPs 2 lignite mines	14 wind power plants 1 photovoltaic plant 29 run-of-river hydro power plants 4 pumped-storage power plants, including 2 with natural flow	-	289 261 kms. of distribution lines
Energy volumes	Generation 47.76 TWh	Generation 1.33 TWh	Sales to end-users 29.91 TWh	Electricity distributed 27.08 TWh
Market position	PGE is a leader in lignite mining in Poland (81%*) and domestic leader in electricity generation and the leading producer of heat	PGE is the leading producer of energy from renewable sources with market share of approx. 9%* (incl. biomass)	One of the leaders in wholesale trading and retail supply in Poland	Second energy distributor with regard to number of customers
Revenues [PLNm]	12 062	618	10 214	4 352
EBITDA [PLNm]	2 366	354	459	1 892
Share of Group EBITDA	46%	7%	9%	37%
CAPEX [PLNm]	2 615	64	9	1 069
Assets [PLNm]	44 837	3 171	5 217	18 150

* According to data at the end of 2017

1. Description of activity of the Capital Group

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 5 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 currently organizes its activities in five business segments:

- **Conventional Generation**

Core business of the segment includes extraction of lignite, production of electricity and heat from conventional sources as well as transmission and distribution of heat. The Conventional Generation segment includes PGE Energia Ciepła S.A. ("PGE EC"), which also trades in electricity.

- **Renewables**

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

- **Supply**

Core business of the segment includes trading of electricity across the country, wholesale trading of electricity on domestic and international market, provision of services to companies from the PGE Group related to commercial management of generation capacities of the Group and electricity produced, as well as trading of CO₂ allowances and energy certificates and fuels.

- **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 services, through the subsidiaries, to PGE Group, which includes organisation of capital raising projects and provision of IT, payroll & HR and transportation 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.

1.1. Description of organisation

Changes which occurred in the PGE Capital Group's structure in the period from January 1, 2018 until the publication date of this report, are presented in note 1.3 to condensed interim consolidated financial statements and described below.

Increase of the share capital of subsidiaries

Entity	Date of registration National Court Register (NCR)	(1) Share capital (2) Increase (3) Share capital after increase	Comment
Towarzystwo Inwestycyjnych Energia S.A.	Funduszy April 3, 2018	(1) PLN 6 250 000 (2) PLN 18 000 000 (3) PLN 24 250 000	On November 28, 2017 the Extraordinary General Meeting of the company adopted a resolution on an increase of the company's share capital. The increased capital was acquired by PGE S.A., in exchange for a cash contribution. PGE S.A. holds 100% of share capital.
PGE Inwest 5 sp. z o.o., PGE Inwest 8 sp. z o.o., PGE Inwest 9 sp. z o.o., PGE Inwest 10 sp. z o.o., PGE Inwest 11 sp. z o.o., PGE Inwest 12 sp. z o.o. and PGE Inwest 14 sp. z o.o.	PGE Inwest 5 sp. z o.o. – June 5, 2018, PGE Inwest 8 sp. z o.o. – May 22, 2018, PGE Inwest 9 sp. z o.o. – June 9, 2018, PGE Inwest 10 sp. z o.o. – May 28, 2018, PGE Inwest 11 sp. z o.o. – June 21, 2018, PGE Inwest 12 sp. z o.o. – May 21, 2018, PGE Inwest 14 sp. z o.o. – June 13, 2018	(1) PLN 20 000 (2) PLN 30 000 (3) PLN 50 000	On April 5, 2018 the Extraordinary Assemblies of Partners of the companies adopted resolutions on an increase of the company's share capital by PLN 30 000 in each case. The increased capital were acquired by PGE S.A. in exchange for cash contributions. PGE S.A. holds 100% of share capital of the companies.
PGE Inwest 17 sp. z o.o., PGE Inwest 18 sp. z o.o. and PGE Inwest 19 sp. z o.o.	PGE Inwest 17 sp. z o.o. – May 30, 2018, PGE Inwest 18 sp. z o.o. – May 30, 2018, PGE Inwest 19 sp. z o.o. – June 29 2018	(1) PLN 10 000 (2) PLN 30 000 (3) PLN 40 000	On April 5, 2018 the Extraordinary Assemblies of Partners of the companies adopted resolutions on an increase of the company's share capital by PLN 30 000 in each case. The increased capitals were acquired by PGE S.A. in exchange for cash contributions. PGE S.A. holds 100% of share capital of the companies.
PGE EJ 1 sp. z o.o.	September 11, 2018	(1) PLN 310 858 470 (2) PLN 59 999 730 (3) PLN 370 858 200	The Extraordinary Assembly of Partners of the company of August 9, 2018 adopted resolution on the increase of the share capital of company. The increase of the share capital was acquired and paid in cash by all partners, i.e. PGE S.A., KGHM Polska Miedz S.A., TAURON Polska Energia S.A. and ENEA S.A., proportionally to their stakes. PGE acquired 297 871 shares with a total nominal value of PLN41 999 811. PGE S.A. holds 70% in the share capital.
PGE Ventures sp. z o.o.	October 24, 2018	(1) PLN 21 400 000 (2) PLN 46 500 000 (3) PLN 67 900 000	On September 5, 2018 the Extraordinary Assembly of Partners of the company adopted resolution on the increase of the share capital of company. The increased capital was acquired by PGE S.A. in exchange for cash contributions. PGE S.A. holds 100% of share capital of the company.
PGE Centrum sp. z o.o.	Not yet registered in the NCR	(1) PLN 8 320 000 (2) PLN 5 300 000 (3) PLN 13 620 000	On September 26, 2018 the Extraordinary Assembly of Partners of the company adopted resolution on the increase of the share capital of company. The increased capital was acquired by PGE S.A. in exchange for cash contributions. PGE S.A. holds 100% of share capital of the company.

Acquisition or disposal of shares by the companies

Shares of the entity	Date of transaction/ registration in the National Court Register (NRC)	Number of acquired shares	Comment
ElectroMobility Poland S.A. ("ElectroMobility") – acquisition by PGE S.A. of the share capital increase shares of ElectroMobility	January 3, 2018/ April 23, 2018 ElectroMobility's share capital increase registered	2 500 shares	On January 3, 2018 the Extraordinary General Meeting of ElectroMobility adopted resolution on a share capital increase by PLN 20 000 000 to PLN 30 000 000 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 2 500 000 to PLN 7 500 000. As a result of the share capital increase, PGE S.A.'s stake in ElectroMobility did not change (25% shareholding).
Polska Grupa Górnicza S.A. ("PGG") – acquisition by PGE Górnictwo i Energetyka Konwencjonalna S.A. ("PGE GiEK") of shares in the increased share capital of PGG	January 31, 2018 April 6, 2018 PGG's share capital increase registered	300 000 shares	On January 31, 2018 the Extraordinary Assembly of Partners of PGG adopted resolution in the increase of the share capital by PLN 300 000 000 to PLN 3 916 718 200, through issue of new inscribed shares. PGE GiEK S.A. took up 300 000 shares with a nominal value of PLN 30 000 000, representing 0.8% in the increased share capital of PGG. Currently PGE GiEK holds a total of 6 000 000 shares with a nominal value of PLN 600 000 000 representing 15.32% in the share capital of PGG.
PGE Energia Ciepła S.A. - acquisition of shares by PGE S.A. (reverse squeeze-out procedure and squeeze out procedure)	March 7, 2018 and May 7, 2018 (reverse squeeze out) May 18, 2018 (squeeze out)	342 728 shares	On March 7, 2018 and May 7, 2018 PGE S.A. acquired respectively 3 285 and 2 970 shares of PGE Energia Ciepła S.A., through reverse squeeze-out procedure, pursuant to art. 418 ¹ of the Polish Commercial Companies Code. On May 18, 2018 PGE S.A. acquired 336 473 shares of PGE Energia Ciepła S.A., through squeeze-out procedure, pursuant to art. 418 of the Polish Commercial Companies Code. As a result of the above transactions, currently PGE S.A. holds shares representing 100% in the share capital of PGE EC.
Zespół Elektrociepłowni Wrocławskich Kogeneracja S.A. ("Kogeneracja S.A.") - acquisition of shares by PGE EC (as a result of tender offer)	March 14, 2018	1 202 172 shares	PGE EC acquired 1 202 172 shares of Kogeneracja S.A. (acquisition was a consequence of the tender offer due to exceeding 33% of total votes, pursuant to art. 73 Act of July 29, 2005 on public offering, conditions governing the introduction of financial instruments to organised trading, and public companies). Currently PGE EC holds directly 3 845 041 shares of the company with a nominal value of PLN 19 225 205, representing 25.81% in the share capital of Kogeneracja S.A. In addition, PGE EC, through one-man subsidiary Investment III B.V., holds indirectly 4 807 132 shares with a nominal value of PLN 24 035 660, representing 32.26% in the share capital of Kogeneracja S.A.
Elektrownia Wiatrowa Baltica-1 sp. z o.o., Elektrownia Wiatrowa Baltica-2 sp. z o.o., Elektrownia Wiatrowa Baltica-3 sp. z o.o. – acquisition of shares by PGE S.A. (as a result of the share sale agreement)	September 3, 2018	31 600 shares 43 600 shares 31 600 shares	On September 3, 2018 PGE Energia Odnawialna S.A. ("PGE EO") (the "Seller") and PGE S.A. (the "Buyer") signed the share sale agreement concerning 100% shares of companies: Elektrownia Wiatrowa Baltica-1 sp. z o.o., Elektrownia Wiatrowa Baltica-2 sp. z o.o. and Elektrownia Wiatrowa Baltica-3 sp. z o.o. On September 3, 2018 the payment was made and shares were transferred to PGE S.A.
ElectroMobility Poland S.A. – acquisition by PGE S.A. of increased value of the shares held in ElectroMobility	October 4, 2018 Not yet registered in the NCR	2 500 shares	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. As a result of the share capital increase, PGE S.A.'s stake in ElectroMobility will not change (25% shareholding).

Mergers

Acquiring company /acquired company	Date of transaction/ registration in the National Court Register	Comment
ELTUR - SERWIS sp. z o.o. - acquiring company TOP SERWIS sp. z o.o. - acquired company	February 26, 2018 April 12, 2018 merger registered in the National Court Register	On February 26, 2018 the Extraordinary Assembly of Partners of ELTUR - SERWIS sp. z o.o. (acquiring company) and TOP SERWIS sp. z o.o. (acquired company) adopted resolutions on merger of the companies in mode of art. 492 § 1 p. 1 of the Polish Commercial Companies Code (merger through acquisition), through transferring of all assets of the acquired company to the acquiring company in exchange for the shares, which the acquiring company allotted to PGE S.A. as a sole shareholder of the acquired company. The share capital of the acquiring company was increased by PLN 50 000, i.e. from PLN 34 824 500 to PLN 34 874 500.
PGE Energia Odnawialna S.A. - acquiring company PGE Energia Natury PEW sp. z o.o. - acquired company	March 27 and 29, 2018 May 2, 2018 merger registered in the National Court Register	The Extraordinary General Meeting of PGE Energia Odnawialna S.A. (acquiring company) and the Extraordinary Assembly of Partners of PGE Energia Natury PEW sp. z o.o. (acquired company) on – respectively – March 29, 2018 and March 27, 2018 adopted resolutions on merger of the companies in mode of art. 492 § 1 p. 1 of the Polish Commercial Companies Code (merger through acquisition), through transferring of all assets of the acquired company to the acquiring company without issue of new shares in exchange for the shares in the share capital of the acquired company, pursuant to art. 516 of the Polish Commercial Companies Code and dissolution of the acquired company without its liquidation. PGE Energia Odnawialna S.A. was the sole shareholder of PGE Energia Natury PEW sp. z o.o.
PGE Energia Ciepła S.A. - acquiring company Investment III B.V. - acquired company	July 9, 2018 September 4, 2018 merger registered in the National Court Register	On July 9, 2018 an Extraordinary General Meeting of PGE Energia Ciepła S.A. (acquiring company) and an Extraordinary General Meeting of Investment III B.V., based in Amsterdam (the Netherlands) (acquired company) adopted resolutions on a cross-border merger pursuant to art. 492 § 1 point 1 in connection with art. 516 ¹ of the Polish Commercial Companies Code (merger through acquisition), through the transfer onto the acquiring company of all of the acquired company's assets without issuing new shares of the acquiring company in exchange for the acquired company's shares, pursuant to art. 515 in connection with art. 516 ¹ of the Polish Commercial Companies Code, and on dissolution of the acquired company without liquidation proceedings. PGE EC was the sole shareholder of Investment III B.V.

Split of companies

Spun off company /acquiring company	Date of transaction/ registration in the National Court Register	Number of shares of the acquiring company	Comment
PGE Górnictwo i Energetyka Konwencjonalna S.A. - Spun off company PGE Energia Ciepła S.A. - acquiring company	October 18, 2018 Not yet registered	76 343 245 shares	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.

Additional equity contributions

Entity	Date of transaction	Comment
PGE KLASTER sp. z o.o.	March 29 and 30, 2018	On March 29, 2018 the Extraordinary Assembly of Partners of PGE KLASTER sp. z o.o. adopted resolution on obligation of the sole shareholder i.e. PGE EO S.A., to supplementary payment to the shares, in the meaning of art. 177 of the Polish Commercial Companies Code, in total amount of PLN 2 000 000, i.e. PLN 2 000 for each share of PGE KLASTER sp. z o.o. entitled to PGE Energia Odnawialna S.A., by March 30, 2018. In accordance with the above resolution, additional equity contributions were paid on March 30, 2018.
Elektrownia Wiatrowa Baltica-1 sp. z o.o., Elektrownia Wiatrowa Baltica-2 sp. z o.o., Elektrownia Wiatrowa Baltica-3 sp. z o.o. (return of equity contributions)	July 26, 2018	On July 26, 2018 the Extraordinary General Meetings of Elektrownia Wiatrowa Baltica-1 sp. z o.o., Elektrownia Wiatrowa Baltica-2 sp. z o.o. and Elektrownia Wiatrowa Baltica-3 sp. z o.o. adopted resolutions to return contributions made by PGE EO pursuant to resolutions passed by the companies' Extraordinary General Meetings regarding contributions dated November 30, 2012. Pursuant to a decision of the General Meeting, contributions of PLN 6 983 600, PLN 6 976 000 and PLN 6 983 600 respectively were returned by July 30, 2018.

2. Implementation of key projects

Key projects in Q3 2018

Development investments	<p>Construction of new units in Opole power plant</p> <ul style="list-style-type: none">● aim of the project: construction of two power units of 900 MW each● budget: approx. PLN 11 billion (net, without costs of financing)● capital expenditures incurred so far: approx. PLN 8.8 billion● fuel: hard coal● net efficiency: 45.5%● contractor: syndicate of companies: Rafako, Polimex-Mostostal and Mostostal Warszawa with co-operation of GE as Project manager on behalf of the syndicate● commissioning according to the amended agreement with the General Contractor: unit 5 – June 15, 2019, unit 6 – September 30, 2019.● status: as far as unit 5 is concerned, a chemical treatment process for the boiler's pressure part was completed and work on the startup of particular installations is in progress, while the assembly of installations and ancillary equipment is underway at unit 6; overall project progress at the end of September 2018 was approx. 94%.
	<p>Construction of new unit in Turów power plant</p> <ul style="list-style-type: none">● aim of the project: construction of power unit with a capacity of 490 MW● budget: approx. PLN 4 billion (net, without costs of financing)● capital expenditures incurred so far: approx. PLN 1.9 billion● fuel: lignite● net efficiency: 43.1%● contractor: syndicate of companies: MHPSE, Budimex and Tecnicas Reunidas● commissioning: H1 2020● status: air and flue gas channels are being integrated in the boiler room. Assembly of turboset was completed at the machine room and assembly of steam pipelines was continued. Paint work on the internal surface of the cooling tower was initiated. Work on the construction of a lignite-feed installation and ancillary systems, i.e. flue gas desulphurisation system and slag and ash containers, is in progress. Assembly of DCS (Distributed control system) system cabinets at the control room building and cable laying was started in the third quarter of 2018.
	<p>Construction of a Thermal Processing Installation with Energy Recovery at Rzeszów CHP</p> <ul style="list-style-type: none">● aim of the project: construction of a thermal processing installation with energy recovery at Rzeszów CHP with capacity of approx. 8 MWe in condensation (approx. 4.6 MWe + 16.5 MWt in co-generation)● budget: approx. PLN 293 million (net, without costs of financing)● capital expenditures incurred so far: approx. PLN 255 million● fuel: municipal waste● boiler's efficiency: 86%● contractor: syndicate of TM.E. S.p.A. Termomeccanica Ecologia and Astaldi S.p.A.● status: the investment was commissioned on October 26, 2018.
Modernisation and replacement projects	<p>Comprehensive reconstruction and modernisation of units no. 1-3 at Turów power plant</p> <ul style="list-style-type: none">● aim of the project: Adaptation to future BAT conclusions requirements regarding permissible emissions of SO₂, NO_x and particulate, increase of availability and efficiency, as well as expansion of each turboset's nominal capacity by approx. 15 MWe● status: unit 2 was synchronised with the National Power System on June 16, 2018. The unit is currently in regulatory operation. Commissioning is planned for the fourth quarter of 2018. Unit 1 – disassembly of brick lining at the combustion chamber was finished, collection and discharge electrodes were assembled at the electrostatic precipitator, power was supplied to the DCS system, work was continuing on assembly of cyclones and discharge windows, RHI reheater, modernisation of HV, MV and LV modules and condenser, work on reclamation of generator was in progress.● budget: PLN 0.8 billion (net, without costs of financing)● fuel: lignite● completion: 2020

Change in technology of furnace waste storage for units 1-12 – Bełchatów power plant and construction of installation to transport ash; production and transport of sludge from unit 14 in Bełchatów power plant

- **aim of the project:** to provide the capability for storage of furnace waste produced during the operation of units 1-12 of Bełchatów power plant until exhaustion of lignite resources. In the course of the project, the requirement to fit out unit 14 with new technology for the transport and storage of combustion waste was identified.
- **status:** Work related to securing the Lubień landfill and work on construction of installation for unit 14 was completed. The installation was put into service.
- **budget for units 1-12:** ca. PLN 450 million (net, without costs of financing)
- **budget for unit 14:** ca. PLN 90 million (net, without costs of financing)
- **completion:** 2018

Modernisation of the Pomorzany power plant

- **aim of the project:** Reduction of NO_x and SO₂ emissions from Benson OP-206 boilers to a level allowing to meet the requirements of future BAT conclusions as well as to ensure that the plant remains in operation until about 2040
- **status:** SCR installation for unit A was handed over for use. On October 30, 2018 the Management Board of the company agreed to sign the Annex no. 2 to the contract with Erbud, that changes the commissioning date of SCR installation on Unit B from November 7, 2018 to January 31, 2019. As regards flue gas desulphurisation system: Assembly of absorber and bag filter for unit B's boiler is nearing completion. Completion of work on assembly of absorber and bag filter for unit A's boiler as well as entry into service of ash distribution station are planned for November 2018. Completion at approx. 50% for FGD and 90% for SCR.
- **budget:** ca. PLN 213 million (net, without costs of financing)
- **fuel:** hard coal
- **completion:** SCR – 2018 (unit A/B), FGD – 2019

Construction of flue gas denitrification installation and flue-gas desulphurisation for OP-230 boilers no. 3 and 4 in Bydgoszcz CHPs

- **aim of the project:** Reduction of NO_x and SO₂ emissions from boilers no. 3 and 4 to a level allowing for further use
- **status:** As regards flue gas desulphurisation system - All installation equipment was delivered to the construction site. Work on assembly of installation elements is continuing, as are works on electricity systems, control, measurement and automation systems, DCS control and visualisation systems and emission monitoring system. Assembly of channels and support structures for flue gas channels was completed. Construction of reactor shell and bag filter was started. Assembly of sorbent management installation was completed.
As regards deNO_x - Trial operation of K4 boiler installation ended with a positive result. All assembly work intended to close the flue gas path from boiler K3 was completed and approval was granted to conduct cold start-up of K3 boiler installation. Finishing works on K3 and K4 installations were continued (including insulation, platforms, barriers, repairs of corrosion protection coating). Work on land management (yard and road construction) was commenced.
- **budget:** for deNO_x project: PLN 48 million (net, without costs of financing); for FGD project: PLN 45 million (net, without costs of financing)
- **fuel:** hard coal
- **completion:** 2018

Construction of SCR installation for units 5-8 and modernisation of flue gas desulphurisation system at units 7,8 at Dolna Odra power plant

- **aim of the project:** adaptation of units 5-8 to BAT requirements
 - **status:** on August 29, 2018 PGE Group's Investment Committee recommended to proceed to implementation phase, covering execution of contracts to construct SCR and flue gas desulphurisation systems and other relevant contracts; on September 25, 2018 a contract with the General Contractor for the SCR installation was signed (consortium of companies SBB Energy + Polimex).
 - **budget:** PLN 233 million (net, without costs of financing)
 - **fuel:** hard coal
 - **completion:** 2021
-

Construction of flue gas denitrification system for six OP-650 boilers at Rybnik power plant

- **project objective:** construction of flue gas denitrification unit to ensure compliance with IED Directive requirements
- budget: PLN 259 million (net, without financing costs)
- expenditures so far: PLN 216 million (net, without financing costs)
- contractors: SCR – Consortium Strabag sp. z o.o. and Strabag Energy Technologies GmbH, SNCR – Energotechnika – Energorozruch S.A., PM – Energotechnika – Energorozruch S.A.
- completion: December 2018
- status: completion at approx. 95%.

Construction of flue gas denitrification units at CHP plants in: Kraków, Gdańsk, Gdynia

- **project objective:** construct flue gas **denitrification** unit to ensure compliance with IED Directive requirements
 - budget: PLN 545 million (net, without financing costs)
 - expenditures so far: PLN 488 million (net, without financing costs)
 - contractors: General Electric; Fortum-ZRE; Fortum Mehltau; SBB Energy; Fortum-Instal
 - completion: December 2018
 - status: progress at approx. 95%. Gdańsk is completed, Gdynia – optimisation processes in progress. Kraków – primary measures for K1 and K2 were completed, handover operation for secondary measures is in progress.
-

3. Electricity market and regulatory and business environment

3.1. Macroeconomic environment

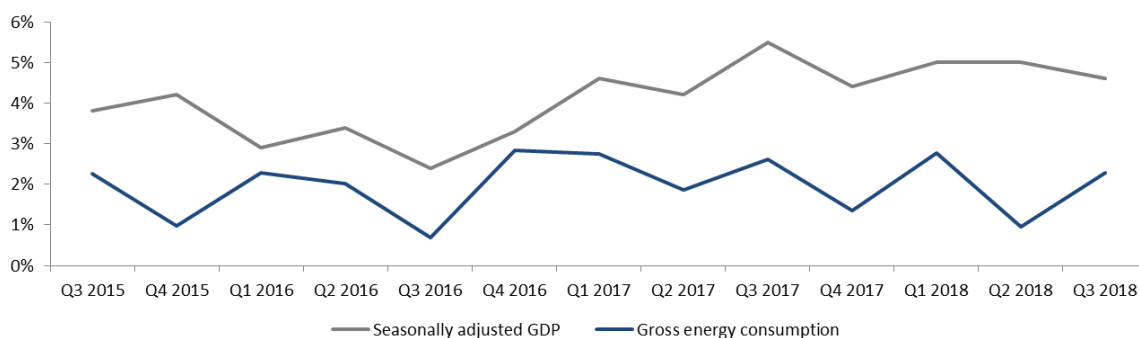
PGE Group's main operating area is Poland, and the domestic macroeconomic backdrop has a substantial impact on Group's results. At the same time, the condition of Poland's economy remains largely tied to the situation across the European Union and in global markets. The Group's financial results are 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 rising electricity demand and 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 2018, gross electricity consumption went up 2.3% compared to analogical period of 2017. The increase was lower than in the third quarter of 2017, when consumption went up 2.6% compared to analogical period of 2016.

Economic trends in the first half of 2018 remained positive in general, although GDP growth remains at lower level than expected at the beginning of the year. Estimates by mBank show that just in the third quarter of 2018 GDP grew by 4.6% y/y, comparing to 5.5% y/y in the third quarter of 2017.

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



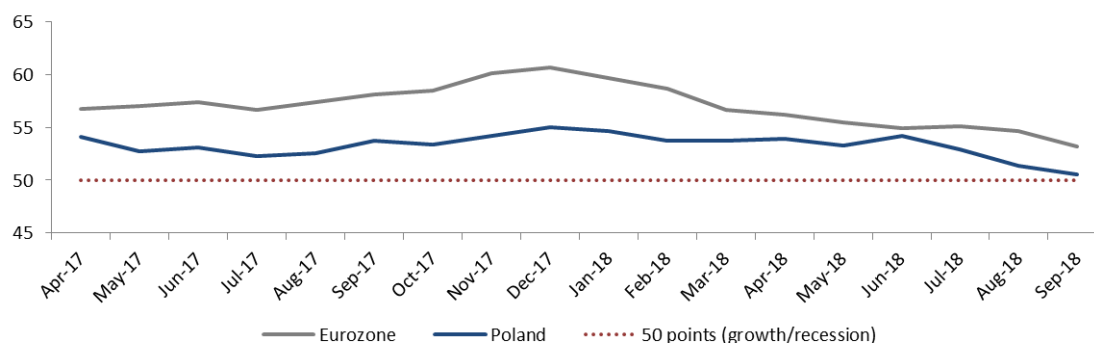
Source: Central Statistical Office of Poland, PSE S.A., GDP Q3 2018 – estimate by mBank

The Purchasing Managers' Index (PMI) for industry reached an average of 51.6 points in the third quarter of 2018, compared to 52.8 points in the third quarter of 2017. This is still a level above 50 points, denoting managers' expectations of an improvement in the sector.

The September PMI reading for industry declined to 50.5 points, compared to 51.4 points in August 2018, signalling the slowest pace of improvement in economic conditions in the Polish industry sector since October 2016. Production and employment both grew at a slower pace, while companies reduced their purchasing activity.

The Polish industry sector's results reflect a down trend in the Eurozone, where the PMI for the third quarter of 2018 reached an average of 54.3 points, compared to 57.4 points in the same period of 2017.

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



Source: Markit Economics

In the third quarter of 2018, industrial production increased by 5.4% y/y, compared to 6.4% in the same period of 2017. The change was caused by an increase in industrial processing production by 5.2% y/y and growth in the value of production in the entire energy sector by 6.9% y/y. The value of industrial production depends on the quantity of goods produced and the level of prices. The PPI in the first three quarters of 2018 reached 1.9% y/y. The CPI in the third quarter of 2018 reached 2.0% y/y.

Table: Key economic indicators for Poland.

Key economic indicators (% change y/y)	Q3 2018	Q3 2017
GDP ¹	4.6	5.5
CPI ²	2.0	1.9
PPI ³	1.9	3.3
Sold industrial production ⁴	5.4	6.4
Sold production – manufacturing ⁴	5.2	7.1
Sold production – energy ⁴	6.9	8.8
Dynamics of domestic electricity consumption ⁵	2.3	2.6
Gross domestic electricity consumption (TWh) ⁵	41.5	40.6
EUR/PLN ⁶	4.31	4.26

Source: ¹ for Q3 2018 – forecast by mBank, for Q3 2017 Central Statistical Office of Poland, ² National Bank of Poland, ³ Central Statistical Office of Poland – data for three quarters, ⁴ Central Statistical Office of Poland, ⁵ PSE S.A., ⁶ National Bank of Poland.

3.2. Regulatory environment

Regulatory environment

Domestic

- works on new Energy Policy of Poland until 2050
- implementation of a capacity market, including implementing provisions for the Act on Capacity Market
- contemplated changes in system services in connection with the introduction of the capacity market
- on-going work on a new support mechanism for high-efficiency cogeneration. A draft bill on promoting electricity from high-efficiency cogeneration was referred for public consultations. The existing system, based on cogeneration certificates of origin, expires at the end of 2018.
- matter of implementation of quality tariff in distribution, that will make regulated income dependant on SAIDI and SAIFI ratios and time of connection the off-takers to the grid, among others
- update of the Act on Renewable Energy Sources (act of June 7, 2018), which designates a system for supporting the production of energy from renewable sources. This update includes, among other things, a change in which public aid is calculated and a change in auctions for support of new technology baskets and sets auction parameters for renewables installations, including reference prices and quantities of energy from renewable sources that may be sold through auctions in 2018.
- change in the level of the so called green obligation, i.e. the obligation to redeem certificates of origin confirming the origin of electricity produced from renewable energy sources. The Ordinance of the Minister of Energy of August 11, 2017 defines this requirement for 2018 and 2019. Draft Ordinance of the Energy Minister of August 22, 2018 defines the level of this requirement for 2019-2020, where level is unchanged for 2019 compared to the previous ordinance.
- entry into force of an update of the act on investment in wind farms. The bill includes a change in property tax rules for wind farms (only a part of an installation constituted the tax base) retroactively from January 1, 2018 and prolongation of time for obtaining use permits to 5 years.
- a proposal to introduce the requirement to sell all produced electricity on a commodity market/OTF/regulated market (exchange requirement). A draft amendment of the Act of April 10, 1997 – the Energy Law (Draft) was adopted by the Council of Ministers on October 9, 2018. The draft includes the existing exemptions from the exchange requirement (e.g.: energy from renewable sources, cogeneration) and application of the transitional regulations to electricity being the subject of contracts executed prior to entry into force of the amending act, the physical delivery of which will take place after December 31, 2018.
- the aforementioned Draft also includes a proposal to regulate the reserve sale of electricity and gas
- work on implementation of a legislative package that is intended to transform linear economy towards a circular economy
- entry into force of an update of the Act on waste of December 14, 2012. Amended act includes numerous changes in waste management, including the obligation to establish collateral for each tonne of waste stored, reduction in waste storage time from three years to one year, on-site monitoring of landfills, as well as significant changes in procedure of obtaining the by-product status.
- work on the National Ecology Policy and National Commodity Policy
- works on amendments to the Ordinance of the Minister of Energy of December 29, 2017 on detailed rules for shape and calculating the tariffs and settlements in electricity trading, draft of which was submitted for public consultations. Changes are to concern:
 - mechanism that includes - within so called regulating account in the tariff of energy system operators - differences in actual revenues achieved in previous years, in relation to revenues resulting from tariffs approved for these years,
 - use of quality regulation in tariff process of the energy system operators,
 - charging penalties for non-compliance with the quality parameters of the electricity and quality parameters of the customer service.

International

- International environment is determined by climate-energy package regulations, setting out greenhouse gas emission reduction targets by 2030 and the package "Clean energy for all Europeans," which aims to implement on the legal side the concept of energy union. The following regulations will have a significant impact on the Polish energy sector, including PGE Group, after 2020:
 - Directive of the European Parliament and of the Council no. 2018/410 amending Directive 2003/87/EC (to enhance cost-effective emission reductions and low- carbon investments) and decision (EU)

2015/1814, setting up in particular:

- the level of the linear reduction factor set at 2.2% annually from 2021;
- double increase in volume of allowances to be directed to the market stability reserve ("MSR") in 2019-2023 from 12% to 24% of allowances being traded and the introduction of cyclical removal of allowances from 2023 in a volume that will exceed the volume of allowances being the subject of auctions in the preceding year;
- Modernisation Fund, the size of which has been set at 2% of the total number of allowances after 2021, with a conditional possibility to increase its size to 2.5%;
- way of redistributing the Modernisation Fund's investment funds, with a simple decision path for select project categories (including renewables and grids) and receipt of a recommendation from the investment committee if support of coal investments is not possible;
- way of redistributing free allowances that does not interfere with obtaining support for pro-environment modernisations;
- option to divert proceeds from auctions in so called solidarity pool to energy sector modernisation.

After formal adoption of the act in the first quarter of 2018, on March 19, 2018 the text of Directive was published in the EU Official Journal. Currently, the European Commission works on implementing acts that will set detailed rules for the Modernisation Fund and the Innovation Fund as well as on a delegated act concerning free allocation of allowances for industry and district heat producers. A potential decision by the European Commission on whether to issue guidelines for the application of art. 10c (derogations) will depend on the number of member states interested in using free-of-charge allocation of allowances for producers of electricity.

- COM (2016) 767 final - proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources ("RED II"), trilogues ended in mid-June 2018 – the wording of the Directive was thus established, although it is expected to be published in the EU's Official Journal at the beginning of 2019. The agreed text of the directive is awaiting a formal vote at the European Parliament and the Council. According to the key conclusions, EU's binding target will be a 32% share of renewables in final gross energy consumption in 2030, although no country targets were introduced. Member state contributions to the EU target will be specified based on declarations made as part of the first integrated national plans for energy and climate, drafts of which should be presented to the European Commission by the end of 2018.
- COM (2016) 861 final - proposal for a Regulation of the European Parliament and of the Council on the internal market for electricity ("EMR"), which provides inter alia, regulation of capacity mechanisms (detailed proposal to introduce European assessment of capacity sufficiency and a standard for CO₂ emissions for units participating in the capacity market at 550 g/kWh). Moreover, the European Parliament is proposing stricter requirements for the introduction and maintenance of capacity markets and detailed provisions dedicated to the strategic reserve. The Council is proposing to introduce a 10-year transition period for existing installations for the required emission standard, with an option to extend it by another five years. The first trilogue, mainly organisational in nature, took place on June 27, 2018. The second trilogue took place on September 11, 2018, where no key conclusions were made. These trilogues will be continued in the fourth quarter of 2018. The Austrian presidency plans to agree the text of the regulation by the end of December 2018.
- COM (2016) 864 final – Proposal for a Directive of the European Parliament and of the Council on common rules for the internal market in electricity ("EMD"), intended to create a new structure for the single energy market, including through introducing many prosumer solutions and making the market more flexible. The first trilogue, mainly organisational in nature, took place on June 27, 2018. The second trilogue took place on September 11, 2018, where no key conclusions were made. These trilogues will be continued in the fourth quarter of 2018. The Austrian presidency plans to agree the text of the directive by the end of December 2018.
- COM (2016) 759 final/2 - proposal for a Regulation of the European Parliament and of the Council on the Governance of the Energy Union ("EU Governance"), which is intended to create a system for monitoring progress in energy union targets in cooperation with other member states and based on arrangements with the European Commission. Trilogues concerning EU Governance were finalised at the end of June 2018 – the wording of the Regulation was thus agreed, although the act has not been formally adopted. The agreed text of the regulation is awaiting a formal vote at the European Parliament and the Council. According to the key conclusions, an obligation will be imposed for each member state to notify by the end of 2018 the first integrated national plan for energy and climate, containing the declared national share of renewables in final energy consumption in 2030, which constitutes a contribution to the EU

target. The European Commission will evaluate the projects, exercising in appropriate cases its right to issue non-binding recommendations, and will subsequently monitor their implementation. A line trajectory for the development of renewables over the next decade was forecast assuming that it will be necessary to achieve reference points, i.e. 18% of the required growth will be achieved in 2022, 43% in 2025 and 65% in 2027. If the voluntarily declared national contributions are not sufficient to achieve the EU target, a formula to calculate a fair national contribution, expressed as a percentage, will be used.

- COM (2016) 761 final - proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU on energy efficiency ("EED"), including the way in which Poland may contribute to EU's energy efficiency improvement targets by 2030. Trilogues concerning the EED directive were finalised at the end of June 2018 – the wording of the Directive was thus determined, although its publication in the EU's Official Journal is expected to take place at the beginning of 2019. According to the key assumptions, a non-binding European target for energy efficiency increase by 32.5% from consumption forecasts created in 2007 will be introduced. Member states will separately declare possible energy consumption reductions and present their national contributions to the EU target. The annual savings in energy used in relations to the average form years 2016-2018 will amount to 0.8%.
 - regulations related to the EU multiannual financial framework ("MFF"): the European Commission presented in May and June 2018 the key assumptions for the EU multiannual financial framework for 2021-2027 and legislative act proposals. The Commission proposed an increase in funding for climate objectives from 20% as part of MFF for 2014-2020 to 25% of the EU's overall budget in 2021-2027, which in absolute terms means an increase in expenditures on this objective from EUR 206 billion to EUR 320 billion. The catalogue of criteria based on which regional development and cohesion funds will be awarded was expanded. Furthermore, these funds will not be available for investments in reducing emissions of units that fall under the EU ETS directive and investments in the generation, storage and combustion of fossil fuels and the option to finance the construction of liquidation costs for nuclear power plants. The Commission did not propose to support transformation for countries and regions that are dependent on coal. However, it proposed a new source of the EU's own resources: member states are to contribute to the EU's new budget up to 30% of revenue from the sale of emission allowances allocated pursuant to art. 10 sec. 2 letter A of EU ETS and up to 30% of the market equivalent of allowances that may not be allocated for free to electricity producers under art. 10c of EU ETS. Entitlements under the Modernisation Fund and the Innovation Fund as well as entitles from the solidarity pool for less wealthy countries will be excluded from having to contribute to this new source. Work at the European Parliament began in the third quarter of 2018 on positions regarding particular proposals for European Commission legislative acts.
 - Regulations concerning funding for sustainable economic growth: the European Commission presented in March 2018 a plan of action of the financing of sustainable economic growth and in May 2018 proposals for the first legislative acts concerning this issue. The Commission estimates that in order to reach the energy and climate targets by 2030, EUR 180 billion in investment across the entire European Union is needed annually. The Commission proposed to involve the private sector to reach the aforementioned targets by providing funding for sustainable investments. The presented legislative act proposals contain criteria based on which economic activity will be evaluated in order to check whether it is sustainable in terms of the environment. This will include activities aimed at eliminating anthropogenic greenhouse gas emissions, including from sources based on fossil fuels. Information obligations for institutional participants in financial markets is also proposed, as it related to the way in which risk concerning sustainable development is taken into account in investment decision-making processes or in the process of financial advisory as well as reference indicators that take into account CO2 emissions. Work at the European Parliament began in the third quarter of 2018 on positions regarding particular proposals for European Commission legislative acts.
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3.3. Market environment

3.3.1. Electricity prices

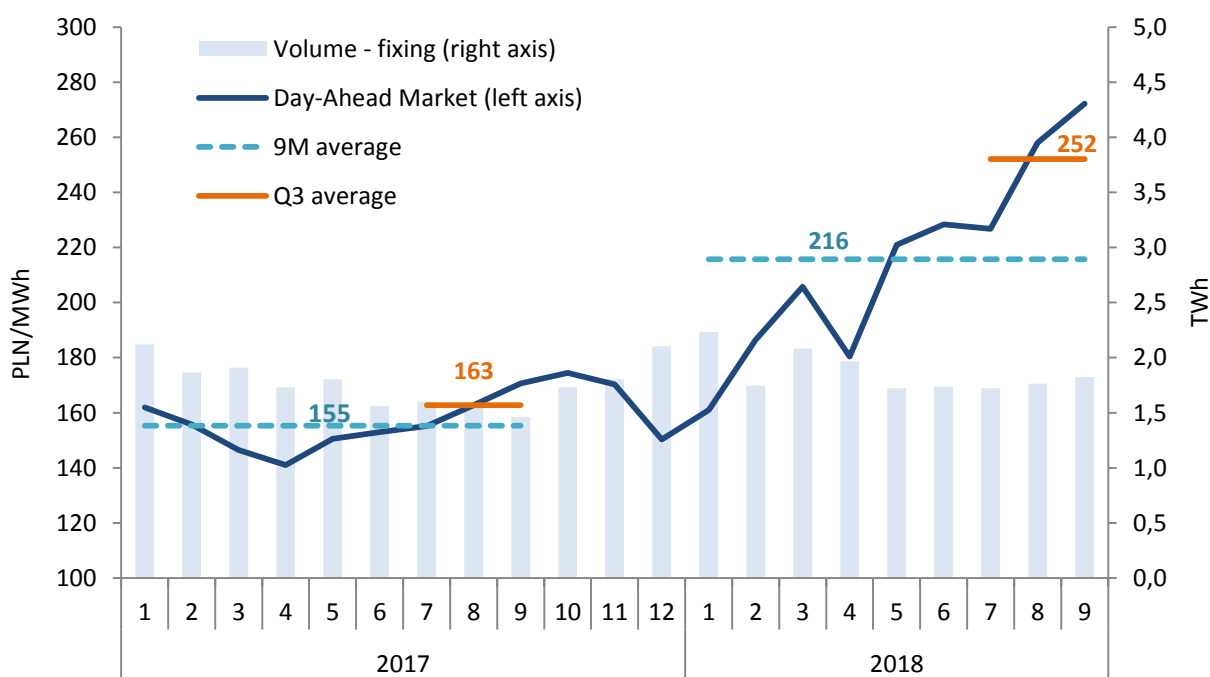
Domestic market

Day-ahead market

In the third quarter of 2018 the average energy price on the Day-Ahead Market¹ reached PLN 252/MWh and was 55% higher than the average price (PLN 163/MWh) quoted in the same period last year. The increase in price was due to the situation on related markets: CO₂ emission allowance prices in the third quarter of 2018 were over three times higher than in the same period last year. Moreover, an increase in coal prices was observed – the average level of the Polish Energy Industry Coal Index (PSCMI1) in the third quarter of 2018 reached PLN 11.26/GJ, i.e. 21% higher than in the comparative period (PLN 9.30/GJ). The growth in electricity prices also had to do with less favourable weather conditions and a 15% y/y decline in energy supply from wind assets in the National Power System.

Cumulatively in the first three quarters of 2018, the average price on the Day-Ahead Market reached PLN 216/MWh, i.e. 39% higher than the average price of PLN 155/MWh recorded in the same period of last year. The growth in prices on the Day-Ahead Market was due to cost pressure and the situation on related markets. The prices of CO₂ emission allowances in the first three quarters of 2018 were nearly three times higher than in the same period last year. The average level of the PSCMI1 in the third quarter of 2018 was at PLN 10.85/GJ – higher by 19% than in the previous year i.e. PLN 9.11/GJ². Wind-based generation declined 13% y/y cumulatively.

Chart: Monthly prices and price volatility at the day ahead market in 2017–2018 (TGE)*



* Average monthly price of IRDN index calculated on the base of hourly quotations (fixing), weighted by the trading volume

Forward market

The average price for BASE_Y-19 electricity delivery contracts reached PLN 258/MWh in the third quarter of 2018, whereas in the same period last year the BASE_Y-18 contract cost PLN 165/MWh on average (56% increase y/y). BASE_Y-19 trading volume in the third quarter of 2018 reached 40 TWh – this is 242% more than the trading volume for BASE_Y-18 recorded in the third quarter of 2017. Increased volume is related to draft amended Energy Law adopted by the Council of Ministers, that assumes obligation to sell 100% of energy generated by the power companies on power exchanges or regulated markets.

¹ Statistic calculated on the basis of fixings data

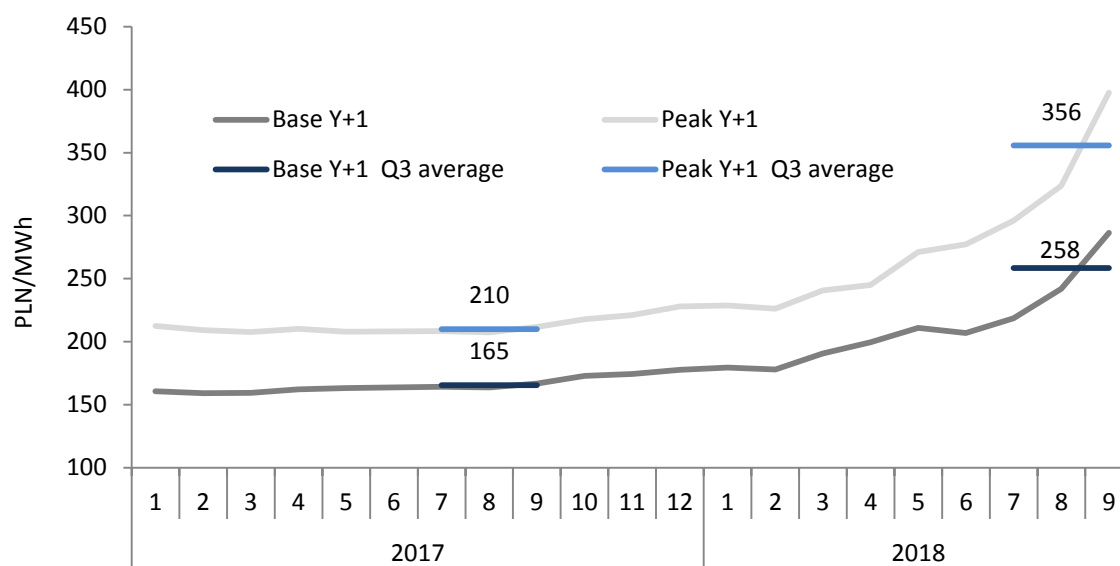
² Arithmetic average from quarterly readings

The average price for peak contracts (PEAK5_Y-19) in the third quarter of 2018 reached PLN 356/MWh, compared to PLN 210/MWh for the PEAK5_Y-18 contract in the same period last year (70% increase y/y). PEAK5_Y-19 trading volume in the third quarter of 2018 reached 2.7 TWh – up by 59% compared to the PEAK5_Y-18 trading volume in the third quarter of 2017.

Cumulatively in the first three quarters of 2018, the average price for base contracts (BASE_Y-19) reached PLN 226 /MWh and was 39% higher than the price for the BASE_Y-18 contract in the first three quarters of 2017 (PLN 163 /MWh). BASE_Y-19 trading volume in the three quarters of 2018 reached 87 TWh – three times more than the trading volume on the BASE_Y-18 contract in the first three quarters of 2017.

The average price for peak contracts (PEAK5_Y-19) in the first three quarters of 2018 was PLN 315 /MWh, which is 50% higher than the average price for the same contract (PEAK5_Y-18) in the three quarters of 2017. PEAK5_Y-19 trading volume in the first three quarters of 2018 reached 4.7 TWh, which is 40% higher than the trading volume on PEAK5_Y-18 in the three quarters of 2017.

Chart: Monthly prices and price volatility on the forward market in 2017–2018 (TGE)*.



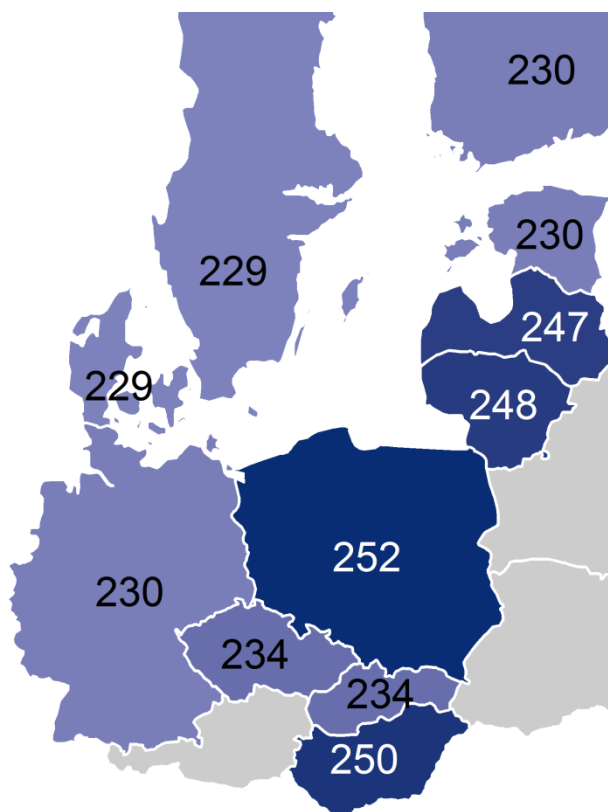
* Monthly average index level for forward contracts for the next year (Y+1), baseload and peak, calculation based on daily quotations, weighted by the trading volume.

International market

Wholesale market (comparison of day-ahead markets)

In the first three quarters of 2018, growth in wholesale electricity prices in neighbouring countries was in the range of PLN 79-91/MWh (i.e. 51-65% y/y) – from this perspective the price growth in Poland by PLN 89/MWh (i.e. by 55%) is in line with the regional trend. The common electricity price growth driver in the region was the situation on related commodity markets: growth in prices on the coal market and the CO₂ emission allowance market. In the third quarter of 2018, the average electricity price in Poland was PLN 18-23/MWh higher than in Sweden, Germany and the Czech Republic. This had an impact on the cross-border trading balance.

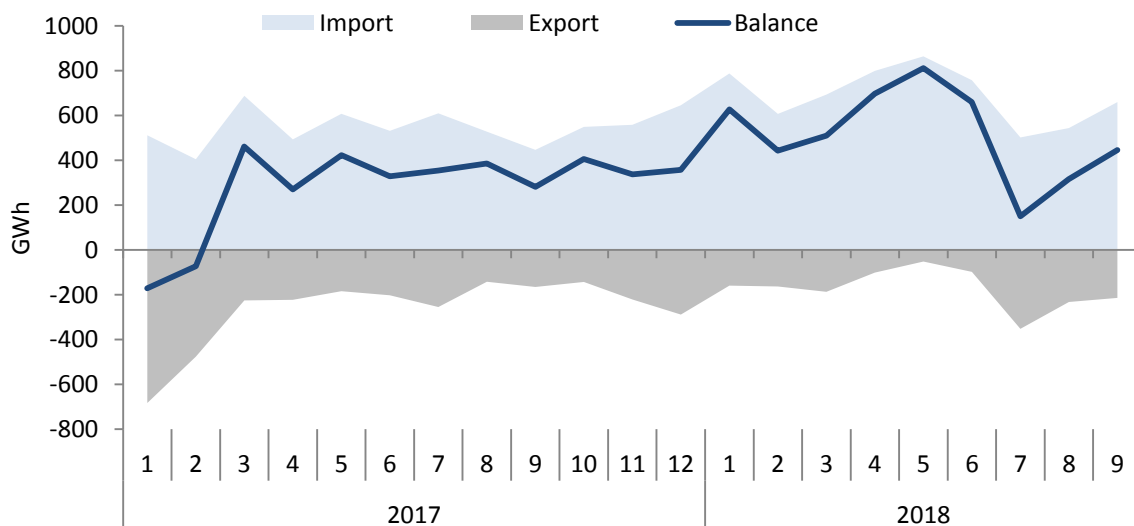
Chart: Comparison of average electricity prices on Polish market and on selected European markets in the third quarter of 2018 (prices in PLN/MWh, average exchange rate EUR/PLN 4.30).



Source: TGE, EEX, EPEX, Nordpool, OTE a.s., PXE

International trading

Chart: Monthly imports, exports and cross-border exchange balance in 2017-2018 (in GWh).



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

In the third quarter of 2018, Poland remained a net importer of electricity: trading balance reached 0.92 TWh (import 1.72 TWh, export 0.80 TWh). In the same period last year, Poland was also net importer, with a trading balance of 1.02 TWh (including import 1.58 TWh and export 0.56 TWh). The main net electricity import directions were Sweden (0.47 TWh) and Ukraine (0.32 TWh). Cumulatively in the first three quarters of 2018 Poland remained a net importer of electricity, with a balance of 4.68 TWh (import 6.24 TWh, export 1.56 TWh), compared to a balance of 2.26 TWh (export 4.82 TWh, export 2.56 TWh) in the same period last year. The key net import directions remained Sweden (balance of 2.04 TWh) and Ukraine (1.05 TWh).

Diagram: Geographical structure of commercial exchange in the three quarters of 2018 (GWh).



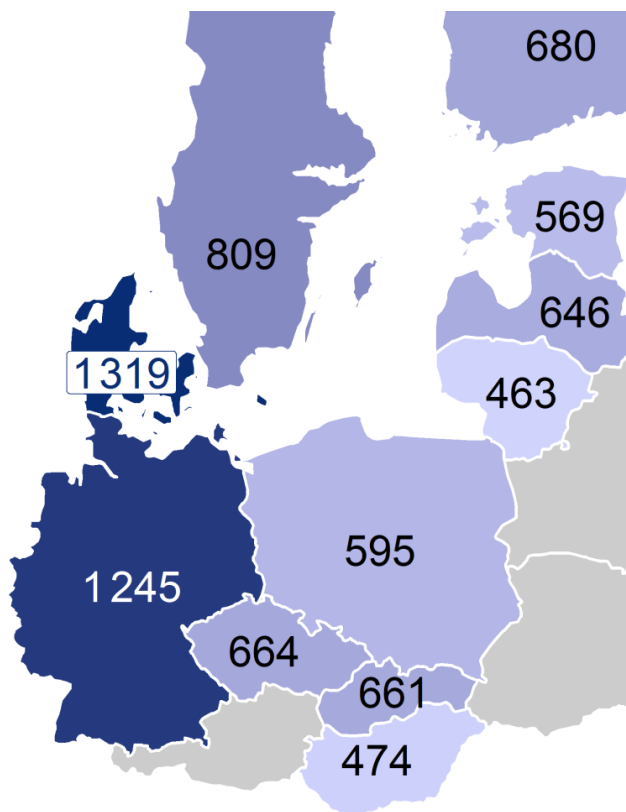
Source: own work based on PSE S.A. data.

Retail market

The diversity of electricity prices for retail customers in the European Union depends not only on the level of the wholesale prices of electricity. The fiscal system, regulation mechanisms and support schemes in particular countries all have significant impact on the final price of electricity. In Poland in the first half of 2018³, an additional burden for individual customers accounted for approx. 34% of the electricity price and in comparison to EU average of 31%. In Denmark and Germany the proportion of additional charges in the price of electricity exceeded 50%.

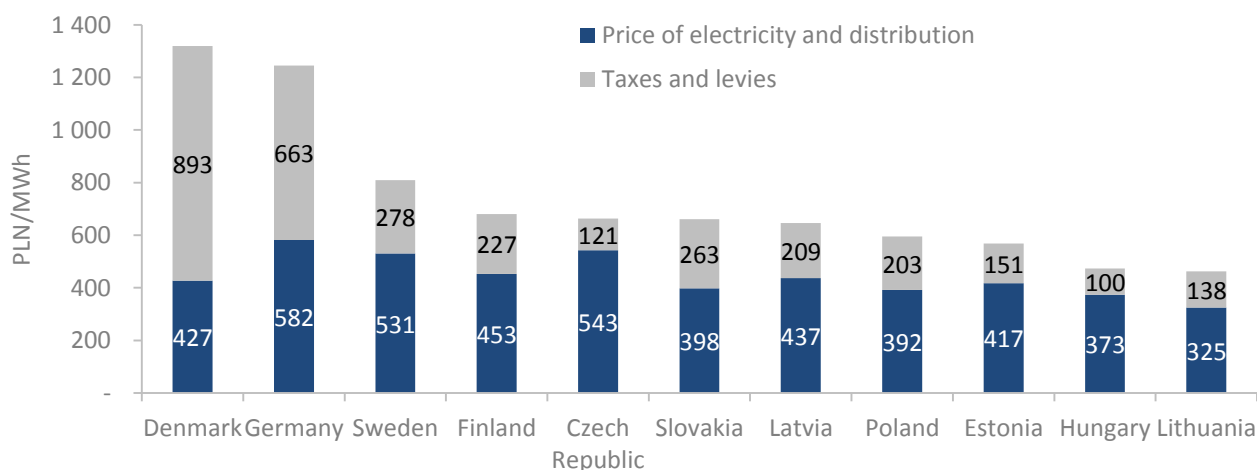
³ Eurostat data are published in semi-annual intervals.

Chart: Comparison of average prices for individual customers in selected EU countries in the first half of 2018⁴ (prices in PLN/MWh, average exchange rate EUR/PLN 4.22).



Source: own work based on Eurostat data.

Diagram: The share of additional charges in electricity prices for the individual customers in selected EU countries in the first half of 2018⁴ (prices in PLN/MWh, calculated with average exchange rate EUR/PLN 4.22).



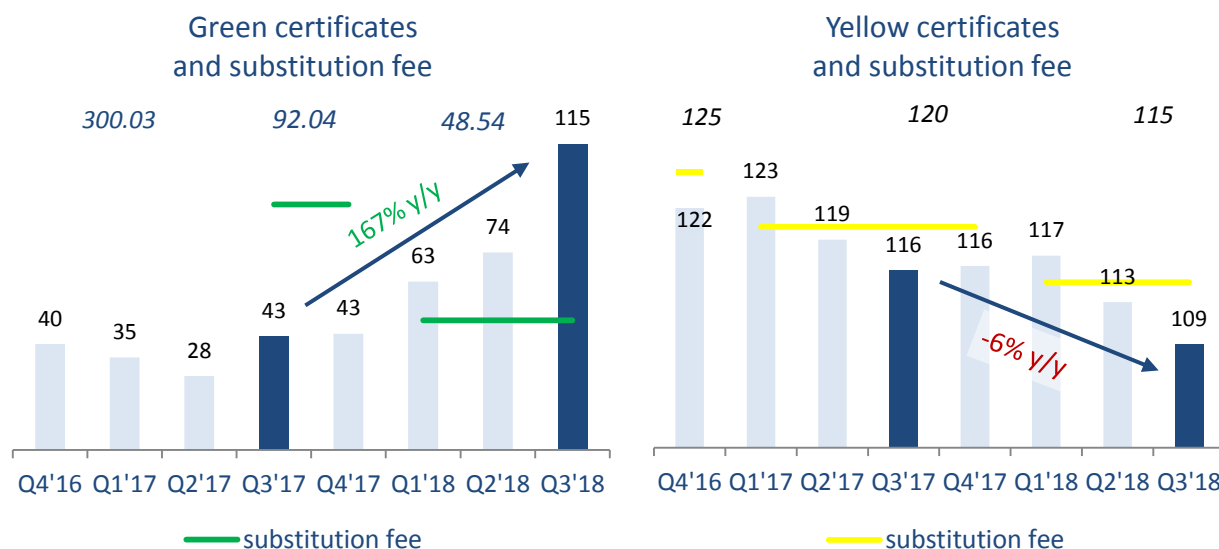
Source: own work based on Eurostat data.

⁴ Eurostat data are published in semi-annual intervals.

3.3.2. Prices of certificates

In the third quarter of 2018, the average price of green certificates (index OZEX_A) reached PLN 115/MWh and was 167% higher than in the same period of previous year. The price growth was driven by both supply (15% y/y decline in wind generation in the third quarter of 2018) and demand factors (regulation of the Minister of Energy that increased an obligation to redeem green certificates from 15.4% in 2017 to 17.5% in 2018 and to 18.5% in 2019). The average price of yellow certificates in the third quarter of 2018 reached PLN 109/MWh and was 6% lower than in the same period of previous year. The decline resulted from a higher supply of energy produced in gas-fired cogeneration sources (higher by 51% y/y in the third quarter of 2018). The obligation to redeem yellow certificates increased to 8% in 2018, compared to 7% in 2017.

Chart: Average quarterly prices of certificates.



Source: Own work based on TGE quotations. The yellow certificates prices presented on the chart are weighted average blended price – for products PMGM-16, PMGM-17, PMGM-18.

3.3.3. 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 CO₂ in the process of electricity or heat production bear the expenses for purchasing EUA allowances to cover the deficit (i.e. the difference between CO₂ 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 realisations of investment tasks for 2019, what means that the free allocations in accordance with the currently used method will end in 2020.

In the third quarter of 2018, the weighted average price of EUA DEC 18 reached EUR 19.70/t and was 220% higher than the average price for EUA DEC 17 (EUR 6.15/t) in the same period last year. Cumulatively in the first three quarters of 2018, the weighted average price for EUA DEC 18 reached EUR 15.15/t, up by 179% from the average price for EUA DEC 17 (EUR 5.43/t) in the same period last year. The increase in CO₂ emission prices observed in the three quarters of 2018 is a result of market perception of the end of the EU ETS reform.

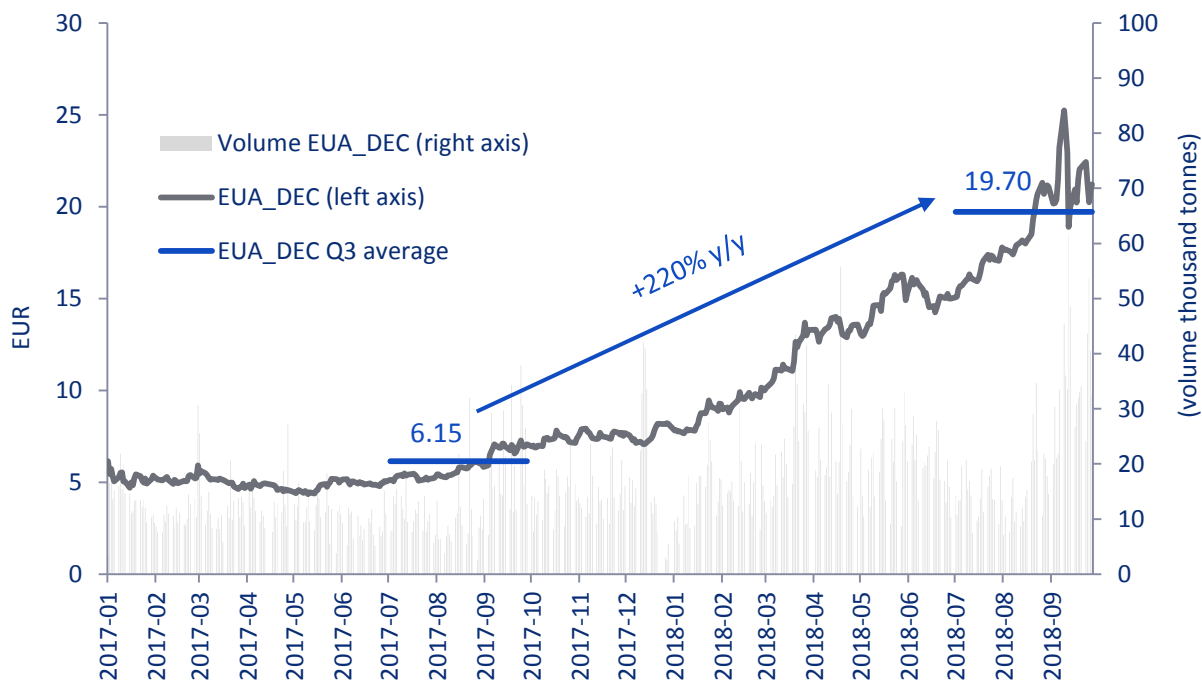
The amended text of the Directive 2003/87/WE („EU ETS”) including changes introduced to the MSR decision was published in the EU Official Journal in March 2018 (see p. 3.2 of this report).

Further discussion about enhancing the reduction ambitions within the European Union should be expected to take place at the COP24 in Katowice, during which the European Commission is expected to present in greater detail a preliminary version of the Road Map 2.0, together with specific proposals for the EU's new reduction ambitions until 2050. At the same time, work is on-going on delegated and implementing acts for the directive recently adopted. New legislative motions related to the revision of the EU ETS directive and the MSR decision should be expected once the new European Commission is appointed, which will take place in the second half of 2019.

The European Commission is currently analysing Poland's application to adopt the remedial measures referred to in art. 29a of the EU ETS directive concerning excessive price fluctuations. Adopting these measures is justified if, for more than six consecutive months, the allowance price is more than three times the average price of allowances during the two preceding

years. Depending on the calculation method, this condition was already met at the beginning of October 2018 or may be met in December 2018.

Chart: Prices of CO₂ emission rights.



Source own work based on ICE quotations.

3.3.4. Emission rights granted free of charge for years 2013-2020

The Regulation of the Council of Ministers, that sets the allocation of allowances for particular units of electricity producers in period 2013-2020, was adopted on April 8, 2014. Analogically, allocations of allowances for heat producers were set by the Regulation of the Council of Ministers of March 31, 2014.

PGE's installations accounts were credited with free allowances for heat for 2018 and energy for 2017, while free allowances for electricity for 2018 will be received by the Group by the end of April 2019, after verification of reports from investments submitted to the National Investment Plan.

At the same time, redemption of emission rights resulting from CO₂ emissions in 2017 was completed in April 2018.

Table: Emission of CO₂ from major Group installations and allocation of CO₂ emission rights for 2018 (in Mg).

Operator	CO ₂ emissions in Q3 2018*	CO ₂ emissions in Q1-Q3 2018*	Allocation of CO ₂ emission rights for 2018**
Bełchatów Power Plant	9 944 910	29 130 507	6 211 022
Turów Power Plant	1 754 765	5 045 522	2 500 954
Opole Power Plant	2 011 871	5 658 101	1 437 267
ZEDO ***	923 707	2 927 924	1 187 286
Bydgoszcz CHPs	96 296	500 828	290 951
Lublin Wrotków CHP	3 954	272 863	166 164
Gorzów CHP	96 542	358 812	129 987
Rzeszów CHP	19 836	186 292	78 433
Kielce CHP	12 384	118 973	52 905
Zgierz CHP	29 997	120 417	22 210
TOTAL PGE GIEK S.A.	14 894 262	44 320 239	12 077 179
Rybnik power plant	1 497 660	3 921 423	458 373
Wybrzeże CHPs****	208 838	1 318 387	583 062
Kraków CHP	250 638	1 189 214	497 146
ZEW Kogeneracja*****	188 049	1 065 370	387 589
Zielona Góra CHP	143 917	417 144	47 491
Toruń CHP	20 396	160 323	52 056
TOTAL Acquired assets	2 309 498	8 071 861	2 025 717
TOTAL Conventional Generation	17 203 760	52 392 100	14 102 896

* 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 will be confirmed in the Regulation of the Council of Ministers in the first quarter of 2019

*** Pomorzany CHP, Dolna Odra power plant, Szczecin CHP

**** Gdańsk CHP and Gdynia CHP

***** Wrocław CHP, Czechnica CHP, Zawidawie CHP

3.4. Supply markets

3.4.1. Fuel purchase costs

Table: Volume and cost of purchase of fuels from third party suppliers.

Type of fuel	Q1-Q3 2018		Q1-Q3 2017	
	Volume (tons ths)	Cost (PLN m)	Volume (tons ths)	Cost (PLN m)
Hard coal	8 773	2 215	3 751	839
Gas (cubic metres ths)	789 289	538	445 421	303
Biomass	307	62	361	67
Fuel oil*	32	69	21	28
TOTAL		2 884		1 237

In the three quarters of 2018 the costs of purchasing primary fuels from providers outside the Group amounted to PLN 2 884 million and were higher by PLN 1 647 million than in the three quarters of 2017. The biggest impact on the change of fuel purchase costs in PGE Group came from the Acquired assets which are mainly hard coal-fired and gas-fired.

Hard coal

- higher purchase volume by 134% (PLN +1 123 million)

The higher volume of hard coal purchased in the first half of 2018 is mainly related to the acquisition of EDF's assets and higher generation in hard coal-fired units of PGE GIEK.

- higher average price by 13% (PLN +253 million)

Higher hard coal price in the three quarters of 2018 results from the higher prices on the mining market, both domestic and international, what translated directly into higher contractual prices.

Gas

- higher purchase volume by 77% (PLN +234 million)

Increased volume of gas used results from acquisition of gas-fired EDF assets (see p. 4.2.1 of this report).

- higher average price by 0.2% (PLN 1 million)

Fuel oil

- higher average price by 62% (PLN +26 million)

Higher global prices of crude oil and refinery products attributed to the significant increase of average purchase price of fuel oil.

- higher purchase volume by 52% (PLN +15 million)

Higher purchase volume in the three quarters of 2018 compared to the analogical period of the previous year results from impact of acquisition of assets from EDF. Higher number of generating units translated into higher number of trial run of units related to failures, planned overhauls and TSO's request to produce.

Biomass

- lower purchase volume by 15% (PLN -10 million)

Lower volume of biomass purchase is a result of limited heat generation from biomass combustion in Szczecin CHP.

- higher average price by 9% (PLN +5 million)

In the three quarters of 2018 approximately 60% of the electricity was produced from internally sourced lignite, whose extraction price is fully controlled by PGE Capital Group. In comparable period of 2017 the production from lignite accounted for 72% of total production.

3.4.2. Tariffs

PGE Group companies earn part of their income based on tariffs approved by the President of the Energy Regulatory Office:

- tariffs for the sale of electricity to households (G tariff group),
- tariffs of the distribution companies,
- tariffs for heat.

Distribution of electricity

Methodology of and assumptions for tariffs determination were published in the document "Tariffs for the DSO for the year 2018", which was prepared and published by the President of the Energy Regulatory Office.

On December 14, 2017, the President of ERO approved a tariff for PGE Dystrybucja S.A. for electricity distribution services over the period from January 1, 2018, to December 31, 2018.

Tariff came into force on January 1, 2018.

On January 3, 2018, the President of ERO approved a change in PGE Dystrybucja S.A.'s tariff consisting of the introduction of so called an anti-smog tariff (G12as). This tariff was adjusted by the decision of the ERO President of January 16, 2018.

On February 27, 2018, in connection with the publication of the Act on Electromobility and Alternative Fuels, a change in the tariff was made in the part related to the connection to the grid of charging infrastructure for public road transport and publicly available charging stations – change is effective from March 14, 2018.

Distribution tariffs for 2018 approved by the President of the Energy Regulatory Office, contributed to changes in average tariff in particular tariff groups (calculated for revenues and volume in a given tariff year) in comparison to year 2017:

- A tariff group – decrease by 4.44%,
- B tariff group – decrease by 0.28%,
- C+R tariff group – decrease by 0.47%,
- G tariff group – decrease by 0.79%.

The change in rates for distribution services takes into account a decline in the RES fee to PLN 0/MWh in 2018 and maintaining the transition fee at the same level as in 2017. These fees are fully transferred to entities in charge of support instruments, thus they do not impact profit of the distribution companies.

Changes in average tariff in particular tariff groups (not including RES fees and transition fee) are as follows:

- A tariff group – decrease by 1.73%,
- B tariff group – increase by 2.78%,
- C+R tariff group – increase by 1.17%,
- G tariff group – increase by 0.72%.

The quality regulation elements introduced in 2016 are being continued in 2018. It has been settled that the ratios directly impacting the regulated revenue will be following key performance indicators:

- SAIDI – System Average Interruption Duration Index,
- SAIFI – System Average Interruption Frequency Index,
- Connection time.

Non-compliance with the levels of ratios indicated by the ERO President may result in penalty of decreasing the regulated revenue through reduction of amount of return on capital in year t+2. In the initial period no rewards are anticipated for achieving better indicators than the required ones.

Impact of quality parameters realized in 2016 is included in tariff for 2018 and the realization of 2018 parameters will be included in tariff for 2020. In accordance with the assumptions adopted by the ERO, a penalty cannot exceed 2% of regulated revenue and value of 15% of return on capital in a given year. The 2018 tariff does not include a reduction in regulated revenue from quality regulation.

Pursuant to the Energy Law, energy companies holding concessions set tariffs for heat and propose their duration. Conduction of proceedings concerning heat tariffs approval lies within the competence of regional branches of the Energy Regulatory Office. PGE's average sales price for district heating increased by approx. 2% from the prices in effect in the three quarters of 2017.

4. Results of PGE Capital Group

4.1. Key financial results of the PGE Capital Group

Key financial data	Unit	Q3 2018	Q3 2017	% change	Q1-Q3 2018	Q1-Q3 2017	% change
Sales revenues*	PLN million	6 091	6 073	0%	18 962	16 693	14%
EBIT	PLN million	532	1 883	-72%	2 363	3 815	-38%
EBITDA	PLN million	1 466	2 663	-45%	5 141	6 108	-16%
Net profit for the reporting period	PLN million	403	1 462	-72%	1 699	2 957	-43%
LTC compensations	PLN million	1	1 197	-100%	-82	1 280	-
<i>LTC revenues</i>	<i>PLN million</i>	<i>1</i>	<i>1 211</i>	<i>-100%</i>	<i>-82</i>	<i>1 211</i>	<i>-</i>
<i>LTC settlements adjustment (other operations)</i>	<i>PLN million</i>	<i>0</i>	<i>-14</i>	<i>-</i>	<i>0</i>	<i>69</i>	<i>-</i>
Capital expenditures	PLN million	1 515	1 598	-5%	3 759	4 193	-10%
Net cash from operating activities	PLN million	-15	1 963	-	2 668	5 245	-49%
Net cash from investing activities	PLN million	-1 434	-1 379	4%	-4 339	-1 970	120%
Net cash from financial activities	PLN million	1 567	-98	-	445	-340	-
EBITDA margin	%	24%	44%		27%	37%	

Key financial data	Unit	As at September 30, 2018	As at December 31, 2017**	% change
Working capital	PLN million	-694	524	-
Net debt/LTM EBITDA***	x	1.44	0.99	

* The Group has applied IFRS 15 since the standard's effective date i.e. since January 1, 2018, without restating the comparable data (changes introduced by IFRS 15 are described in note 4 to the interim condensed consolidated financial statements)

** Data restated

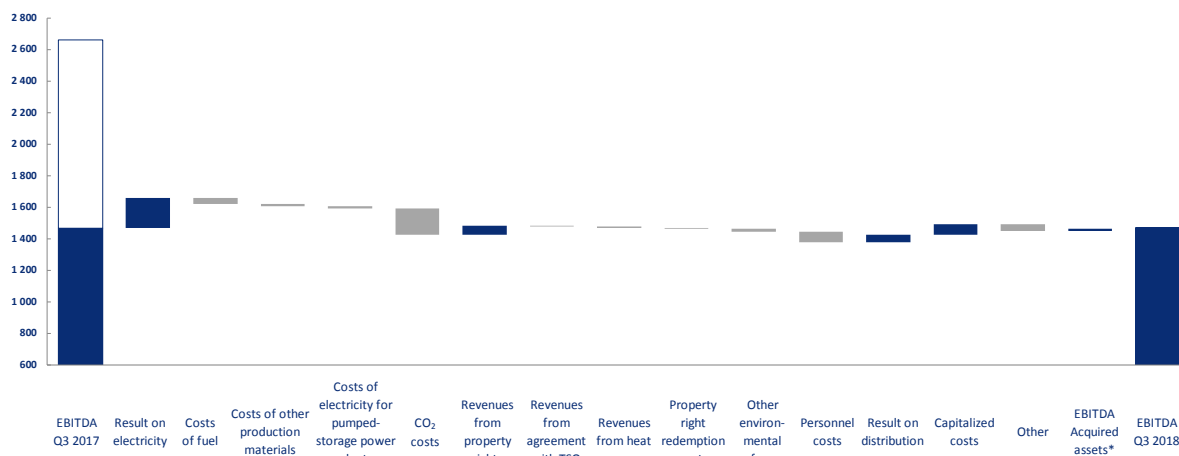
*** LTM EBITDA - Last Twelve Months EBITDA

Table: Impact of one-offs on EBITDA (in PLN million).

One-offs	Q3 2018	Q3 2017	% change	Q1-Q3 2018	Q1-Q3 2017	% change
LTC compensations	1	1 197	-100%	-82	1 280	-

4.1.1. Consolidated statement of comprehensive income

Chart: Key changes of recurring EBITDA in PGE Capital Group (in PLN million).



Change	Result on electricity	Costs of fuel	Costs of other production materials	Costs of electricity for pumped-storage power plants pumping	CO ₂ costs	Revenues from property rights	Revenues from agreement with TSO	Revenues from heat	Property right redemption costs	Other environmental fees	Personnel costs	Result on distribution	Capitalized costs	Other	EBITDA Acquired assets*	EBITDA Q3 2018
EBITDA reported Q3 2017	2 663															
One-offs Q3 2017	1 197															
Recurring EBITDA Q3 2017	2 536	418	42	22	256	-7	124	88	184	62	1 023	1 015	244		0	
Recurring EBITDA Q3 2018	2 730	456	59	33	427	54	117	79	189	81	1 089	1 061	311		17	1 465
One-offs Q3 2018																1
EBITDA reported Q3 2018																1 466

* PGE Energia Ciepła S.A., PGE Toruń S.A., PGE Gaz Toruń sp. z o.o., EC Zielona Góra S.A., Kogeneracja S.A., PGE Paliwa sp. z o.o., PGE Ekoserwis sp. z o.o., Torec sp. z o.o., Zower sp. z o.o., Energopomiar sp. z o.o.

Chart: Key changes of recurring EBITDA by segments (in PLN million).



Change	EBITDA Q3 2017	Conventional Generation	Renewable Energy	Supply	Distribution	Other Operations + consolidation adjustments	EBITDA Q3 2018
EBITDA reported Q3 2017	2 663	1 789	70	192	585	27	
One-offs Q3 2017	1 197	1 197	0	0	0	0	
Recurring EBITDA Q3 2017	1 466	592	70	192	585	27	
Recurring EBITDA Q3 2018		526	132	157	622	28	1 465
One-offs Q3 2018		1	0	0	0	0	1
EBITDA reported Q3 2018		527	132	157	622	28	1 466

□ One-offs
■ Acquired assets*

* EBITDA of companies: PGE Energia Ciepła S.A., PGE Toruń S.A., PGE Gaz Toruń sp. z o.o., EC Zielona Góra S.A., Kogeneracja S.A., PGE Paliwa sp. z o.o., PGE Ekoserwis sp. z o.o., Torec sp. z o.o., Zower sp. z o.o., Energopomiar sp. z o.o.

4.1.2. Consolidated statement of financial position

Chart: Key changes in Assets (in PLN million).

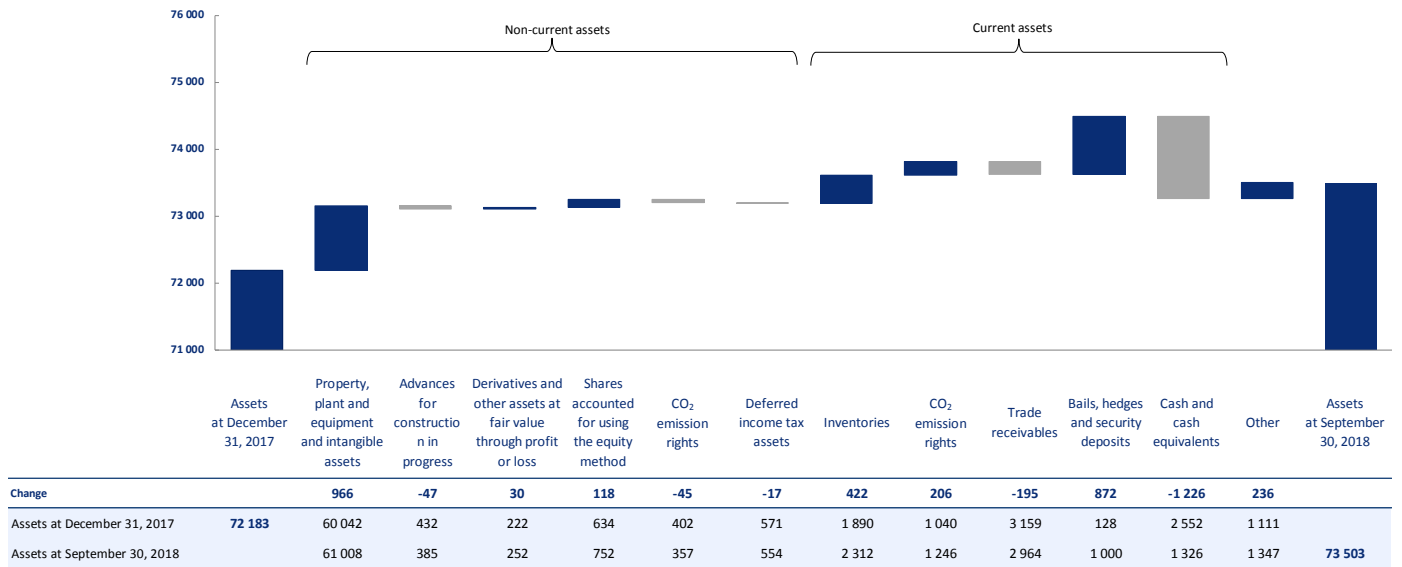
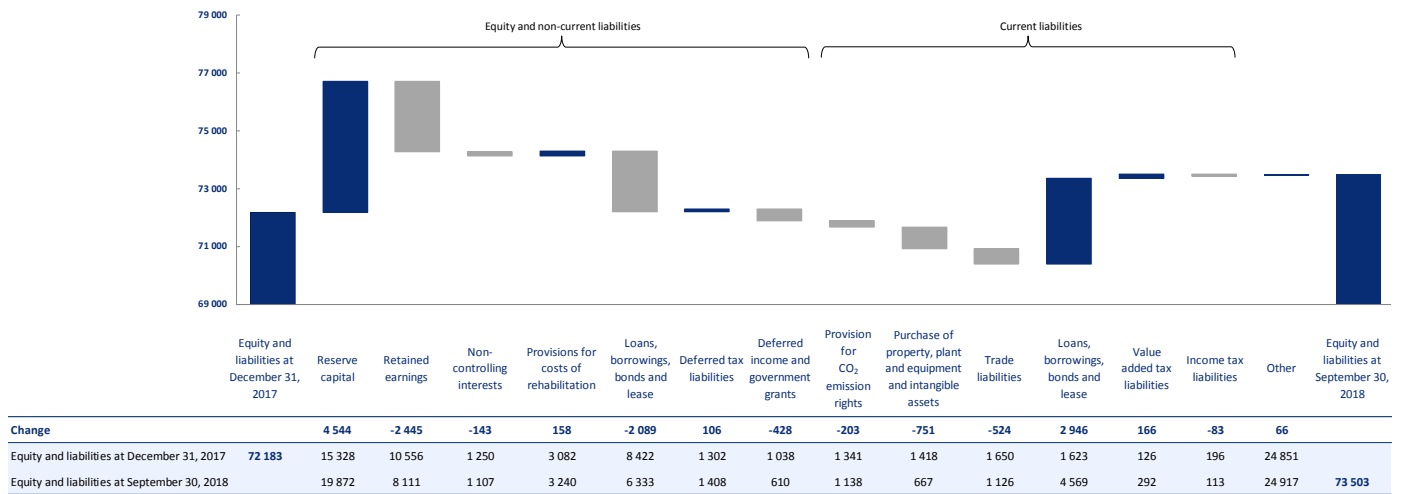
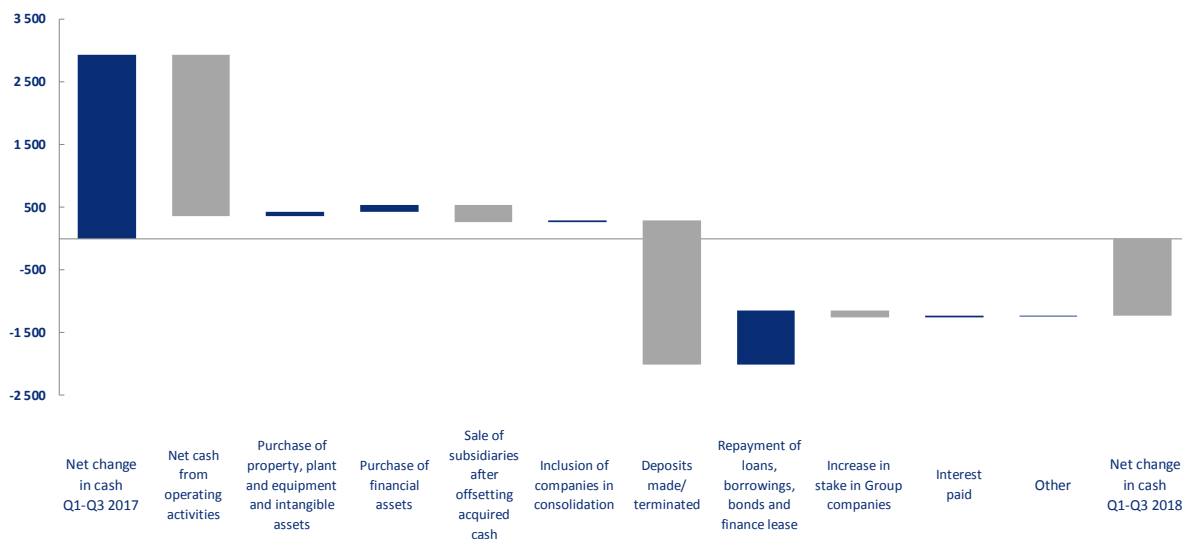


Chart: Key changes in Equity and liabilities (in PLN million).



4.1.3. Consolidated statement of cash flows

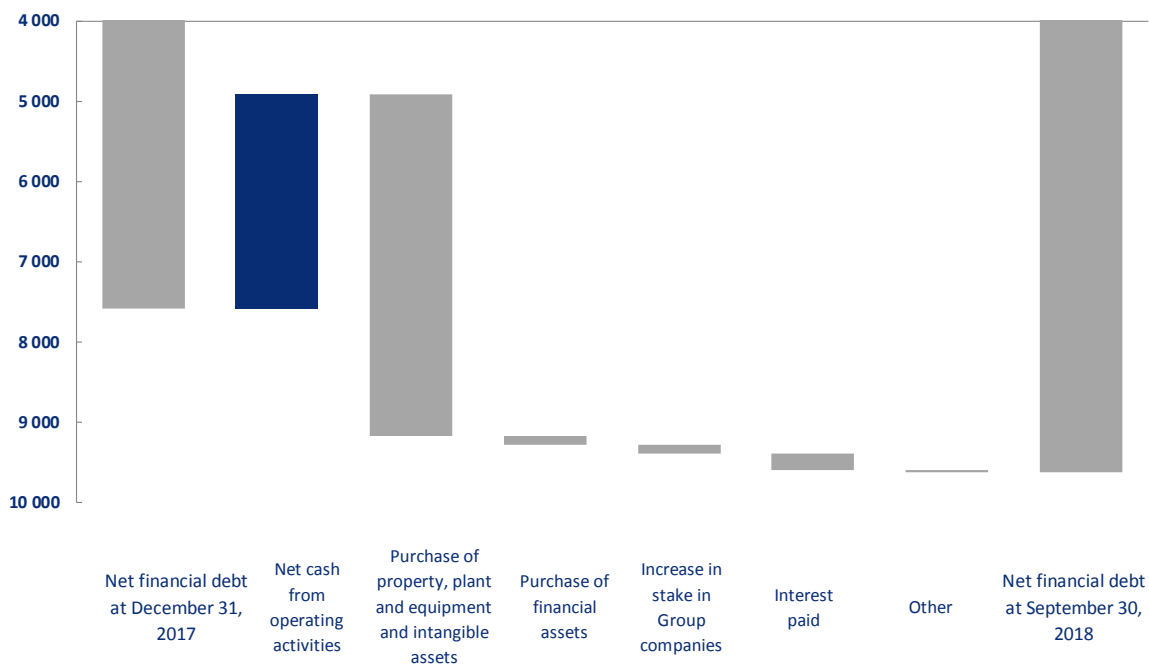
Chart: Net change in cash (in PLN million).



	Net change in cash Q1-Q3 2017	Net cash from operating activities	Purchase of property, plant and equipment and intangible assets	Purchase of financial assets	Sale of subsidiaries after offsetting acquired cash	Inclusion of companies in consolidation	Deposits made/terminated	Repayment of loans, borrowings, bonds and finance lease	Increase in stake in Group companies	Interest paid	Other	Net change in cash Q1-Q3 2018
Change		-2 577	68	115	-272	18	-2 297	862	-111	29	4	
Net change in cash Q1-Q3 2017	2 935	5 245	-4 338	-218	272	0	2 283	-106	0	-230	27	
Net change in cash Q1-Q3 2018		2 668	-4 270	-103	0	18	-14	756	-111	-201	31	-1 226

4.1.4. Consolidated statement of cash flows

Chart: Net debt (in PLN million).



	Net financial debt at December 31, 2017	Net cash from operating activities	Purchase of property, plant and equipment and intangible assets	Purchase of financial assets	Increase in stake in Group companies	Interest paid	Other	Net financial debt at September 30, 2018
Change in Q1-Q3 2018		-2 668	4 270	103	111	201	26	
Net financial debt	7 579							9 622

4.2. Key operational figures of PGE Capital Group

Table: Key operational figures.

Key figures	Unit	Q3 2018	Q3 2017	% change	Q1-Q3 2018	Q1-Q3 2017	% change
Lignite extraction	Tons m	13.11	12.40	6%	38.29	37.42	2%
Net electricity production	TWh	16.17	13.58	19%	49.09	41.46	18%
Heat sales	PJ	3.35	1.33	152%	32.39	11.94	171%
Sales to final customers*	TWh	10.78	9.93	9%	31.51	29.73	6%
Distribution of electricity**	TWh	9.09	8.70	4%	27.08	26.20	3%

* After elimination of sales within PGE Group

** With additional estimation

4.2.1. Balance of energy of PGE Capital Group

Table: Sales of electricity outside the PGE Capital Group (in TWh).

Sales volume	Q3 2018	Q3 2017	% change	Q1-Q3 2018	Q1-Q3 2017	% change
SALES IN TWh, including:	18.80	15.28	23%	56.60	47.31	20%
Sales to end-users*	10.78	9.93	9%	31.51	29.73	6%
Sales on the wholesale market, including:	7.29	4.72	54%	22.77	15.52	47%
<i>Sales on the domestic wholesale market - power exchange</i>	6.18	2.87	115%	19.61	9.71	102%
<i>Other sales on the domestic wholesale market</i>	0.94	1.76	-47%	2.77	5.54	-50%
<i>Sales to foreign customers</i>	0.17	0.09	89%	0.39	0.27	44%
Sales on the Balancing Market	0.73	0.63	16%	2.32	2.06	13%

* After elimination of internal sales within PGE Group

The higher volume of sales to end customers in the third quarter of 2018 compared to the same period of 2017 resulted from recognition of sales generated by PGE Energia Ciepła S.A. Retail sales by Supply segment remained at a similar level (29.9 TWh). The higher sales volume on the wholesale market – power exchange results mainly from placing generation capacity of the newly acquired assets. Additionally, the volume growth was driven by favourable market conditions. Sales volume on the other wholesale markets declined due to lower sales in bilateral contracts, caused by larger requirements resulting from the so-called “power exchange obligation”, which led to the transfer of sales into the regulated market and a change in regulations regarding allocating energy from renewable sources (limit on sales to obligated sellers).

Purchases of electricity

Table: Purchases of electricity from outside of the PGE Capital Group (in TWh).

Purchases volume	Q3 2018	Q3 2017	% change	Q1-Q3 2018	Q1-Q3 2017	% change
PURCHASES IN TWh, including:	3.43	2.67	28%	10.55	9.04	17%
Purchases on the domestic wholesale market – power	1.61	0.43	274%	4.37	1.48	195%
Purchases on the domestic wholesale market, other	0.08	0.61	-87%	0.26	2.87	-91%
Purchases from abroad	0.14	0.08	75%	0.41	0.12	242%
Purchases from Balancing Market	1.60	1.55	3%	5.51	4.57	21%

The growth in volume of purchases from the power exchange results from the recognition of newly acquired assets in sales portfolio optimisation and the exercise of early buy-back options for energy previously sold at prices below the cost of manufacture as well as due to higher trading activities being tied to greater liquidity at the TGE exchange. The decline in purchases on the domestic wholesale market – other is mainly the result of the abolition of the obligation to purchase electricity from renewable energy sources of over 500 kWe. The higher purchase from the Balancing Market is a result of

newly acquired assets and higher volume of reductions forced by PSE S.A., largely due to imported electricity covering a larger share of domestic demand.

Production of electricity

Table: Production of electricity (in TWh).

Generation volume	Q3 2018	Q3 2017	% change	Q1-Q3 2018	Q1-Q3 2017	% change
ELECTRICITY HENERATION IN TWh, including:	16.17	13.58	19%	49.09	41.46	18%
Lignite-fired power plants	10.07	9.83	2%	29.32	29.76	-1%
<i>including co-combustion of biomass</i>	0.00	0.00	-	0.00	0.00	-
Coal-fired power plants	4.59	3.02	52%	12.52	7.83	60%
<i>including co-combustion of biomass</i>	0.02	0.04	-50%	0.07	0.10	-30%
Coal-fired CHP plants	0.51	0.08	538%	2.95	0.60	392%
<i>including co-combustion of biomass</i>	0.00	0.00	-	0.01	0.00	-
Gas-fired CHP plants	0.63	0.23	174%	2.87	1.69	70%
Biomass-fired CHP plants	0.02	0.04	-50%	0.10	0.14	-29%
Pumped-storage power plants	0.07	0.08	-13%	0.27	0.26	4%
Hydroelectric plants	0.07	0.07	0%	0.32	0.33	-3%
Wind power plants	0.21	0.23	-9%	0.74	0.85	-13%
<i>Including Acquired assets*:</i>	2.30			7.54		

* Rybnik power plant, EC Gdańsk, EC Gdynia, EC Kraków, EC Wrocław, EC Czechnica, EC Zawidawie, EC Zielona Góra, EC Toruń

The main impact on the level of electricity generation in the three quarters of 2018, compared to the three quarters of 2017, was higher generation at hard coal-fired power plants. This growth results from inclusion of Rybnik power plant in generation (3.91 TWh). Higher generation at Opole power plant resulted from repair-related downtime being lower by 1 115 hours (unit no. 3 remained in medium overhaul from March 3, 2017 till May 4, 2017) and larger use of the power plant's units by PSE S.A. Higher production at Opole power plant compensated for lower output at Dolna Odra power plant, due to lower use of units by PSE S.A.

The higher production at hard coal-based CHP plants results from recognition of production of Gdańsk CHP, Gdynia CHP, Wrocław CHP, Czechnica CHP and Kraków CHP (2.38 TWh).

The growth in production at gas-fired combined heat-and-power plants results from the recognition of production of Toruń CHP, Zielona Góra CHP and Zawidawie CHP (1.25 TWh).

Production in biomass CHP plants was at the lower level than in the three quarters of 2017.

Decreased production in lignite-based power plants in the three quarters of 2018 results from longer downtime of units in Turów power plant (by 4 274 h) in repairs and modernisations. Turów's unit no. 1 has been in modernization since May 1, 2018. Production at Bełchatów power plant remained at the similar level as in the three quarters of 2017.

Production at wind power plants was lower than in the three quarters of 2017 resulting mainly from worse windiness.

Production at hydro power plants was at slightly lower level compared to the three quarters of 2017.

Slightly higher production in pumped storage power plants results from the nature of these generation units, which in the three quarters of 2018, were used to a higher extent by PSE S.A.

4.2.2. Sales of heat

In the three quarters of 2018 the heat sales in PGE Capital Group totalled 32.39 PJ and were higher by 20.45 PJ than in the three quarters of 2017. The above growth includes the sales of heat by the Acquired assets from Conventional Generation segment, which were not recognised in the three quarters of 2017 (21.09 PJ) and lower sales by branches of PGE GiEK S.A. (-0.64 PJ), what resulted largely from decreased demand for heat caused by the higher average outside temperatures.

4.3. Key financial results in the business segments

Table: Breakdown of the Group's revenues by business segments.

PLN million	Q3 2018	Q3 2017	% change
Conventional Generation	3 781	3 748	1%
Renewables	216	161	34%
Supply	3 296	3 610	-9%
Distribution	1 432	1 552	-8%
Other Operations	174	86	102%
TOTAL	8 899	9 157	-3%
Consolidation adjustments	-2 808	-3 084	-9%
TOTAL AFTER ADJUSTMENTS	6 091	6 073	0%

Table: Key financial figures for each business segment (after intrasegmental eliminations).

PLN million	EBITDA	EBIT	Capital expenditures	Assets of the segment*
	Q3 2018			
Conventional Generation	527	-34	1 035	44 837
Renewables	132	68	16	3 171
Supply	157	150	4	5 217
Distribution	622	328	473	18 150
Other Operations	28	8	43	769
TOTAL	1 466	520	1 571	72 144
Consolidation adjustments	0	12	-56	-3 099
TOTAL AFTER ADJUSTMENTS	1 466	532	1 515	69 045

* see note 6.1 to the condensed interim consolidated financial statements

Table: Key financial figures for each business segment (after intrasegmental eliminations).

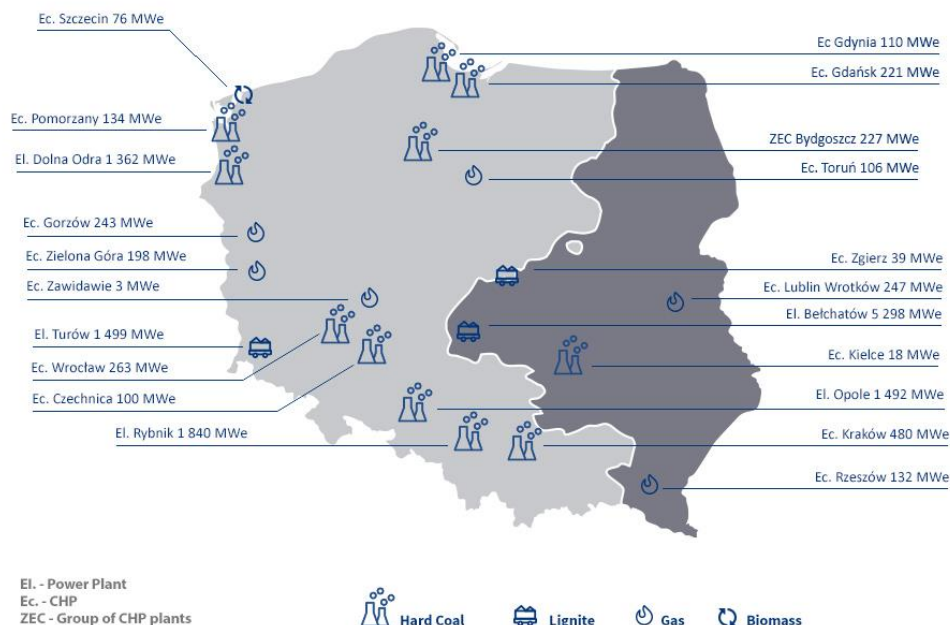
PLN million	EBITDA	EBIT	Capital expenditures	Assets of the segment*
	Q3 2017			
Conventional Generation	1 789	1 378	1 135	37 278
Renewables	70	4	21	3 493
Supply	192	185	4	3 515
Distribution	585	297	431	17 564
Other Operations	20	3	32	626
TOTAL	2 656	1 867	1 623	62 476
Consolidation adjustments	7	16	-25	-2 726
TOTAL AFTER ADJUSTMENTS	2 663	1 883	1 598	59 750

* see note 6.1 to the condensed interim consolidated financial statements

4.3.1. Conventional Generation segment

Assets

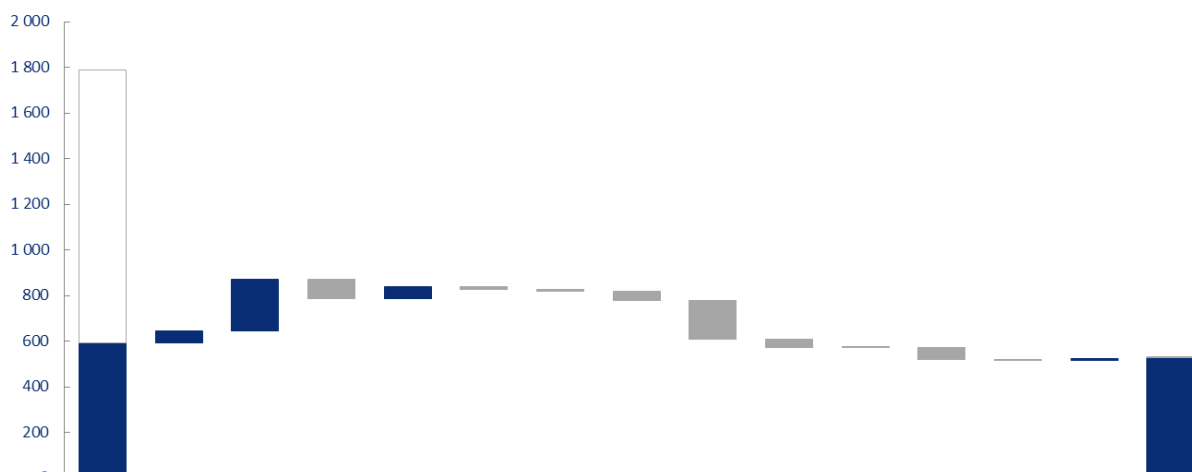
Diagram: Main assets of the Conventional Generation segment.



Key figures for Conventional Generation.

in PLN million	Q3 2018	Q3 2017	% change
Sales revenues	3 781	3 748	1%
EBIT	-34	1 378	-
EBITDA	527	1 789	-71%
Capital expenditures	1 035	1 135	-9%

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



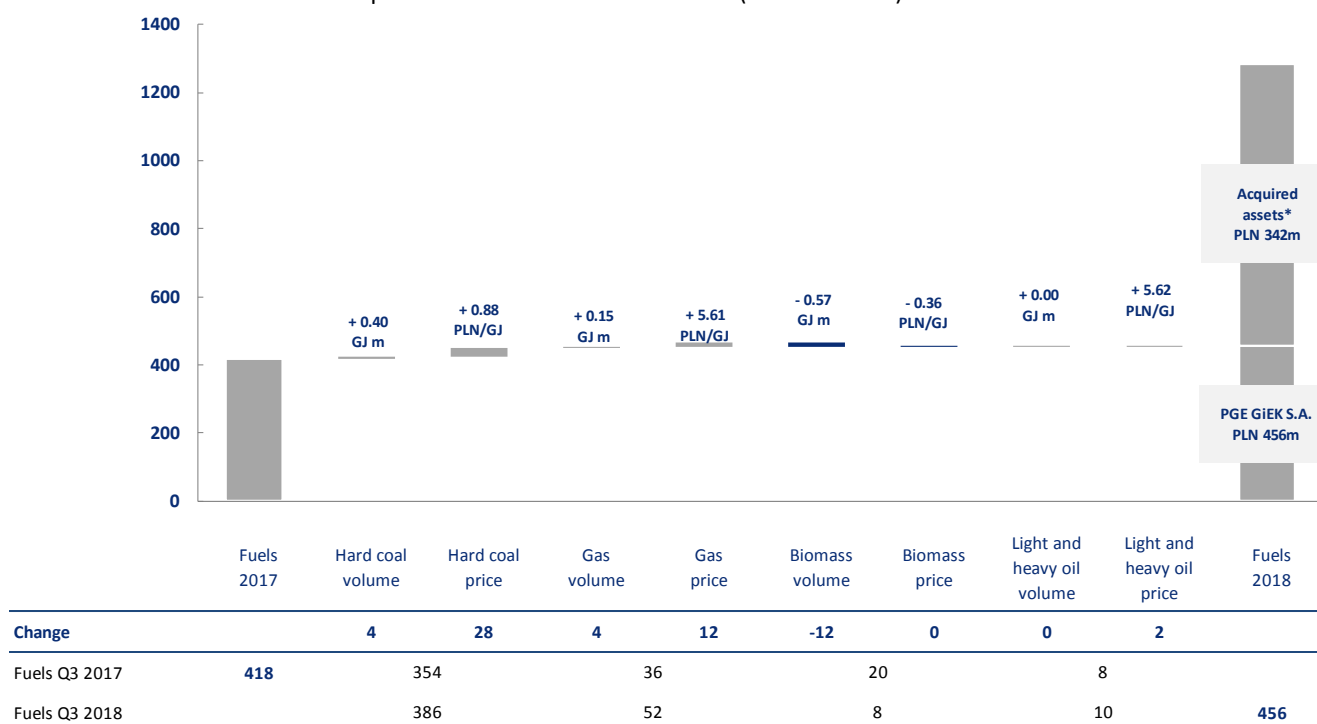
Change	EBITDA Q3 2017	Electricity production difference in volume	Electricity production difference in price	Result on energy trading	Revenues from property rights	Revenues from agreement with TSO	Revenues from heat	Costs of fuel	CO ₂ costs	Personnel costs	Cost of materials and repair services	Other	Capitalized costs	EBITDA Acquired assets*	EBITDA Q3 2018
EBITDA reported Q3 2017	1 789														
One-offs Q3 2017	1 197														
Recurring EBITDA Q3 2017	592	2 134	47	-35	60	87	418	256	635	163			223	0	
Recurring EBITDA Q3 2018		2 415	-39	17	49	78	456	427	671	165			217	11	526
One-offs Q3 2018															1
EBITDA reported Q3 2018															527

* EBITDA of companies: PGE Energia Ciepła S.A., PGE Toruń S.A., PGE Gaz Toruń sp. z o.o., EC Zielona Góra S.A., Kogeneracja S.A.

Key factors affecting the results of Conventional Generation segment in the third quarter of 2018 compared to the results of the third quarter of 2017 included:

- **Higher electricity sales volume** in PGE GiEK S.A. by 0.13 TWh, mainly as a result of higher production in unit no. 14 of Bełchatów power plant. It's a result of lower production in comparable period due to downtime of the unit in medium overhaul from 31 July till 16 October 2017.
- **Increase in electricity sales prices**, which caused an increase in revenue from sales. The average realised sales price for electricity at the Conventional Generation segment excluding the sales to final off-takers in the third quarter of 2018 was PLN 182/MWh (PLN 184/MWh including the impact of the Acquired assets), compared to PLN 165/MWh in the third quarter of 2017.
- **Lower result on electricity trading**, due to lower margin realized on electricity trading by PLN 59/MWh (change on price PLN -104 million) with the higher volume of electricity trading by 0.49 TWh (impact on result PLN +18 million).
- **Higher revenues from certificates**, mainly due to revaluation of certificates produced in Szczecin CHP that took place in September 2017 (PLN -57 million).
- **Lower revenues from ancillary control services**, mainly lower revenues from Operational Capacity Reserve due to lower volume of OCR in Opole and Dolna Odra power plant due to higher trading factor of those power plants.
- **Lower revenues from sales of heat**, resulting from decreased demand for heat by off-takers caused by higher average daily temperatures in the third quarter of 2018.
- **Higher fuel consumption costs**, mainly hard coal and gas, what was caused by the higher prices of raw materials. Main changes on different types of fuel are presented on the chart below.
- **Higher CO₂ costs** as a result of higher unit cost of allowances. This effect was accelerated by unfavourable impact of lower allocation of allowances granted free of charge and higher emission of CO₂.
- **Higher personnel expenses** mainly as a result of higher remuneration fund and salary-related expenses.
- **Repairs expenses** remained at mainly as a result of lower capitalisation of overburden removal costs in mines due to lower N:W ratio. Unfavourable effect of lower level of capitalisation of overburden removal costs in mines was decreased as a consequence of greater involvement of own services into investment execution.
- EBITDA generated by the Acquired assets in the third quarter of 2018.

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



* Acquired assets: El. Rybnik, Ec. Gdańsk, Ec. Gdynia, Ec. Kraków, Ec. Wrocław, Ec. Czechnica, Ec. Zawidawie, Ec. Zielona Góra, Ec. Toruń

Capital expenditures

Table: Capital expenditures incurred in Conventional Generation segment.

PLN million	Q3 2018	Q3 2017	% change
Investments in generating capacities, including:	888	1 030	-14%
▪ Development	456	731	-38%
▪ Modernisation and replacement	432	299	44%
Purchase of finished capital goods	9	7	29%
Vehicles	4	1	300%
Other	15	8	88%
Acquired assets*	61	-	-
TOTAL	977	1 046	-7%
Capitalized costs of overburden removal in mines	58	89	-35%
TOTAL with capitalized costs of overburden removal	1 035	1 135	-9%

*PGE Energia Ciepła S.A., PGE Toruń S.A., PGE Gaz Toruń sp. z o.o., EC Zielona Góra S.A., Kogeneracja S.A.

Highest capital expenditures in the third quarter of 2018 were incurred for the following projects:

- construction of units 5 and 6 in Opole power plant PLN 262 million;
- construction of new unit in Turów power plant PLN 134 million;
- modernisation of units 1-3 in Turów power plant PLN 40 million;
- construction of a Thermal Processing Installation with Energy Recovery at Rzeszów CHP PLN 39 million;
- investment program in Pomorzany CHP PLN 19 million;
- construction of flue gas denitrification system for OP 230 boilers no. 3 and 4 at ZEC Bydgoszcz PLN 14 million;
- shaping of reservoir no. 4 at KWB Bełchatów mine's internal heap PLN 12 million;
- program of adaptation to BAT conclusions in Bełchatów power plant PLN 10 million;
- expansion of flue gas desulphurisation system for OP 230 boilers no. 3 and 4 at ZEC Bydgoszcz PLN 10 million;
- change in technology of furnace waste storage in Bełchatów power plant PLN 9 million.

Key developments in the third quarter of 2018 in the Conventional Generation segment:

- On July 31, 2018, an agreement was executed with Rafako S.A. to conduct modernisation of flue gas desulphurisation system for units 3-6 at Bełchatów power plant.
- On August 2, 2018, a decision by the Environment Minister was obtained, which upheld a decision by the Podkarpackie voivodship marshal concerning an integrated permit for a thermal waste processing with energy recovery project.
- On August 31, 2018, final handover of the sub-task "Construction of suspension production and pumping system together with modernisation of reservoirs 1 and 2 at PGE GiEK S.A. Branch Elektrownia Bełchatów" was completed.
- On September 25, 2018, an agreement was signed with the consortium of SBB Energy S.A. Opole (Consortium Leader), Polimex Energetyka sp. z o.o. and Polimex-Mostostal S.A., concerning delivery and assembly of flue gas catalytic denitrification installation for OP-650-type boilers at units 5, 6, 7, and 8 at Dolna Odra power plant.
- On October 10, 2018, Annex 9 to the Agreement concerning construction of units 5 and 6 at Opole power plant was signed, extending the performance deadline for unit 5 to June 15, 2019 and for unit 6 to September 30, 2019 (see point 2 of this report).

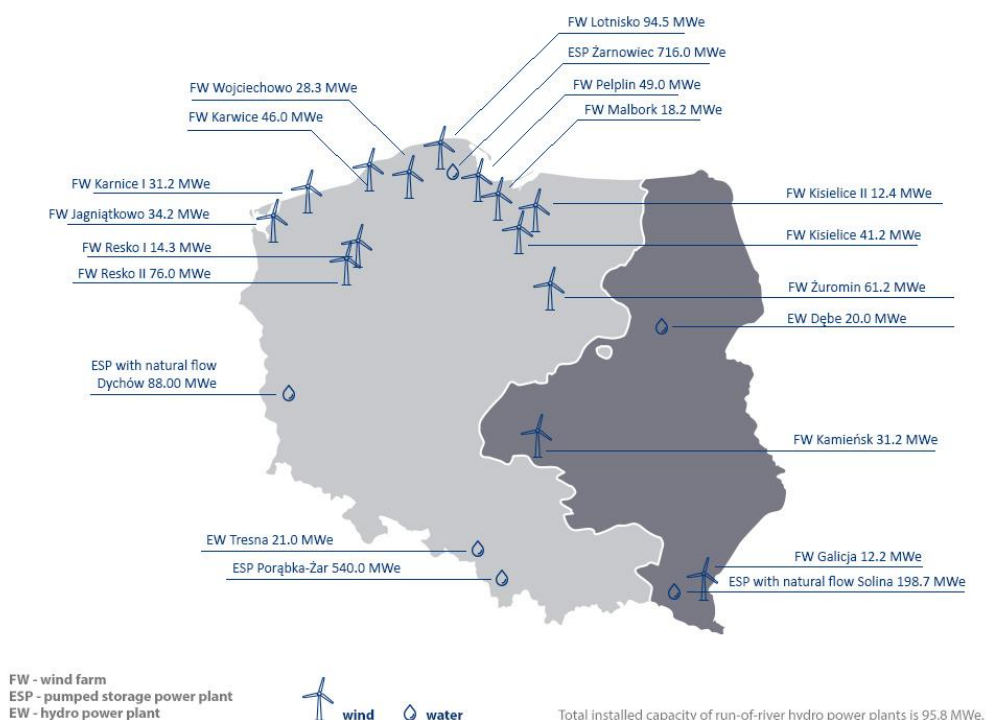
4.3.2. Renewables segment

Assets

The PGE Capital Group's operations in renewable energy are managed by the PGE Energia Odnawialna S.A. 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.

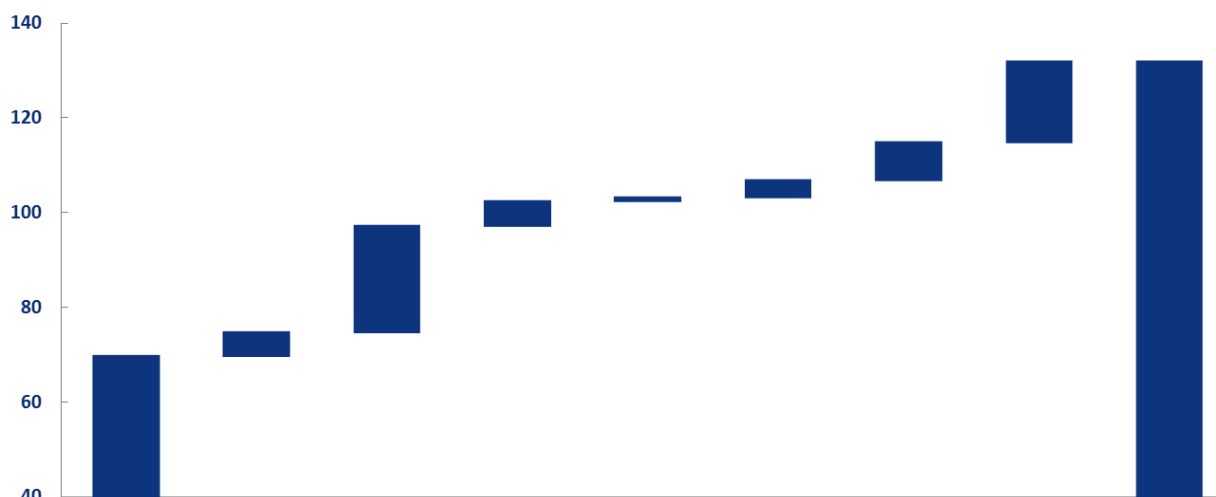


Key financial figures

Table: Key figures for Renewables.

in PLN million	Q3 2018	Q3 2017	% change
Sales revenues	216	161	34%
EBIT	68	4	1600%
EBITDA	132	70	89%
Capital expenditures	16	21	-24%

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



Change	EBITDA Q3 2017	Revenues from electricity - wind	Revenues from property rights - wind	Revenues from electricity - water	Revenues from property rights - water	Revenues from agreement with TSO*	Costs	Other	EBITDA Q3 2018
EBITDA Q3 2017	70	38	22	13	1	64	71		
EBITDA Q3 2018		43	44	18	2	67	63		132

* excluding revenues and costs relating to balancing market not affecting EBITDA result

Key factors affecting the results of Renewables in the third quarter of 2018 compared to the third quarter of 2017 were:

- **Increase in revenues from electricity sales from wind farms** resulting mainly from price higher by PLN 76/MWh in comparison to the third quarter of 2017.
- **The increase of revenues from sales of certificates from wind farms** resulting from: (i) valuation of certificates at a price approx. PLN 55/MWh higher in the third quarter of 2018 than in the third quarter of 2017, which increased revenue by approx. PLN (+) 10 million; (ii) positive adjustment of certificates sold and revaluation of inventories, what attributed to the increase of revenues by approx. PLN (+) 12 million.
- **The increase of sales revenues of electricity from hydro power plants** mainly due to price higher by PLN 92/MWh in comparison to the third quarter of 2017.
- **The increase of revenues from sales of certificates from hydro power plants** resulting from valuation of ongoing production of certificates at a price higher by approx. PLN 71/MWh in the third quarter of 2018 compared to the third quarter of 2017.
- **Higher sales revenues from ancillary control services** (agreement with PSE S.A.) result mainly from higher tariff for active cold intervention reserve service
- **Favourable deviation in costs** results mainly from mainly from a correction of property tax concerning wind farms.
- **Favourable result in the Other item** results mainly from penalties for failure to perform the contract for sale of certificates to Enea S.A. and Energa Obrót S.A and higher revenues from other operations.

Capital expenditures

Table: Capital expenditures incurred in Renewables segment.

PLN million	Q3 2018	Q3 2017	% change
Investments in generating capacities, including:	14	19	-26%
▪ Development	1	5	-80%
▪ Modernisation and replacement	13	14	-7%
Other	2	2	0%
TOTAL	16	21	-24%

4.3.3. Distribution segment

PGE Dystrybucja S.A. operates in the area of 122,433 sq. km and delivers electricity to approximately 5.4 million customers.

Diagram: Area of PGE distribution grid.



Key financial figures

Table: Key figures for Distribution.

in PLN million	Q3 2018	Q3 2018*	Q3 2017**	% change	% change*
Sales revenues*	1 432	1 587	1 552	-8%	2%
EBIT	328	331	297	10%	11%
EBITDA	622	625	585	6%	7%
Capital expenditures	473	473	431	10%	10%

* Data restated – IFRS 15 not applied in 2018

** The Group has applied IFRS 15 since the standard's effective date i.e. since January 1, 2018, without restating the comparable data (changes introduced by IFRS 15 are described in note 4 to the interim condensed consolidated financial statements)

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



Change	EBITDA Q3 2017	Volume of distributed electricity	Change of distribution tariff*	Other revenues of distribution tariff**	Other operating revenues***	Network losses****	Property tax	Personnel costs	Repair and maintenance costs	Other	EBITDA Q3 2018
Change EBITDA Q3 2017	585	982	-6	4	-5	10	-4	-8	3	-2	
EBITDA Q3 2018		1 021		49	32	75	96	264	29		622

* Except costs of transmission by PSE S.A.

** Reactive power, excess capacity, additional services

*** Revenues from connection fee, resumption of supplies, transit services balance, revenues from illegal electricity consumption and additional fees

**** Adjusted for revenues from the Balancing Market

Key factors affecting the results of Distribution in the third quarter of 2018 compared to the results of the third quarter of 2017 included:

- **Increased volume of distributed energy** by 395 GWh, resulting from – inter alia – higher number of customers measured by power take-off points (by approx. 48 thousand) and growth of the economic activity of customers, mainly from groups A and B, in the area of operation of PGE Dystrybucja S.A.
- **A slight drop of the average rate** by approximately PLN 0.6/MWh after decreasing revenues by cost of fees for PSE S.A..
- **Increase of other revenues from distribution activities** mainly from passive power and excessive capacity what results from behaviour of off-takers, whose power consumption is higher than volume contracted in the agreement with PGE Dystrybucja S.A.
- **Decline in other operating revenues**, concerning mainly connection fee revenue, as a result of a change in presentation of connection fees settled over time under IFRS 15. In addition, in the third quarter of 2017 the company completed large connection-related investment pursued by the Rzeszów Branch.
- **Lower costs of energy to cover balancing difference** as a result of a decline in the volume of balancing difference by 79 GWh and the recognition of electricity estimates for covering the balancing difference.
- **Increase of costs of tax on real estate** in connection with an increase of: (i) grid assets value as a result of investments, (ii) tax rates binding in current year.
- **Increase in personnel costs**, resulting largely from an completed process to optimise salaries.
- **Lower costs of renovation and exploitation** in connection with lower number of works on the grid assets in the third quarter of 2018. In the third quarter of 2017 tasks with regard to inspection of the stations accumulated.
- **Change in other** resulting mainly from higher costs: (i) fees for situating equipment within a road lane as a result of an increase in the base for calculating these fees and an increase in rates, (ii) transmission-related fees for State Forests as a result of changes in land tax charged by State Forests offices.

Capital expenditures

Table: Capital expenditures incurred in Distribution segment.

PLN million	Q3 2018	Q3 2017	% change
MV and LV power networks	186	123	51%
110/ MV and MV/MV	27	34	-21%
110 kV power lines	45	64	-30%
Connection of new off-takers	152	133	14%
Purchase of transformers and energy counters	29	44	-34%
IT, telemechanics and communication	13	26	-50%
Other	21	7	200%
TOTAL	473	431	10%

4.3.4. Supply segment

Key financial figures

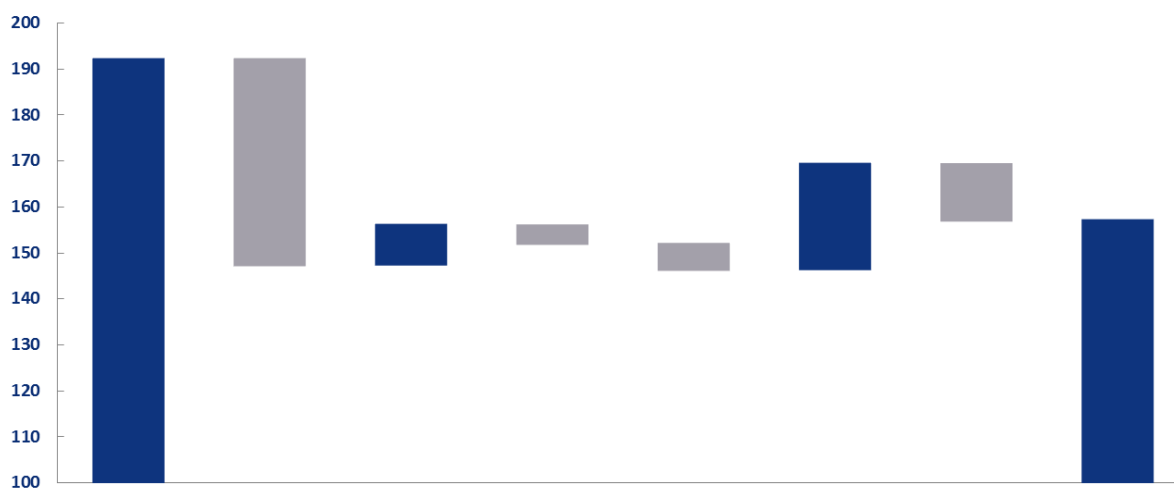
Table: Key figures for Supply.

PLN million	Q3 2018	Q3 2018*	Q3 2017**	% change	%change
Sales revenues*	3 296	4 289	3 610	-9%	19%
EBIT	150	150	185	-19%	-19%
EBITDA	157	157	192	-18%	-18%
Capital expenditures	4	4	4	0%	0%

* Data restated – IFRS 15 not applied in 2018

** The Group has applied IFRS 15 since the standard's effective date i.e. since January 1, 2018, without restating the comparable data (changes introduced by IFRS 15 are described in note 4 to the interim condensed consolidated financial statements)

Chart: Key changes of EBITDA in Supply (in PLN million).



Change	EBITDA Q3 2017	Result on electricity margin	Result on electricity volume	Property right redemption costs	Result on gas trading	Services for other segments in PGE Group	Other	EBITDA Q3 2018
EBITDA Q3 2017	192							
EBITDA Q3 2018		-45	9	-4	-6	23	-12	157

Key factors affecting EBITDA of Supply segment in the third quarter of 2018 compared to the third quarter of 2017 included:

- **Lower result from electricity** by PLN 36 million resulting mainly from achieving lower unit margin on sale of electricity, related to increase of prices on the wholesale market (particularly on spot market), partly used for balancing of electricity demand resulting from sales to final off-takers.
- **Increase in costs to redeem certificates** mainly as a result of increased demand for certificates stemming from increased obligation to redeem green, yellow and Purple certificates, partly compensated by achieving lower prices of green certificates redemption and lower market prices of yellow and red certificates.
- **Lower result on gas trading**, mainly due to a decline in gas sale margins as a consequence of higher market prices having impact on the cost of balancing transactions with the Conventional Generation segment and retail customers' demand on the SPOT 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 (+) 44 million), as a consequence of higher sale and purchase prices of electricity under management and higher trading volume (+ 4.4 TWh including introduction of PGE Energia Ciepła S.A. to the agreement + 3.8 TWh). Higher revenue from ZHZW was partly offset by different method of settlements with the companies within so called support agreements (PLN - 21 million).
- **Lower result in other** mainly as a result of: (i) lower revenue from wind farm balancing services, (ii) higher operating costs in the segment, (iii) better result on other operations.

4.3.5. Other Operations

Key financial figures

Table: Key figures for Other Operations.

in PLN million	Q3 2018	Q3 2017	% change
Sales revenues	174	86	102%
EBIT	8	3	167%
EBITDA	28	20	40%
Capital expenditures	43	32	34%

Increase in EBITDA of Other Operations segment by approx. PLN 8 million is mainly related to acquisition of EDF assets.

Capital expenditures

Capital expenditures in Other Operations in the third quarter of 2018 amounted to PLN 43 million compared to PLN 32 million in the third quarter of 2017.

Within the above amount, the highest capital expenditures in the three quarters of 2018 were incurred by the following companies:

- PGE EJ 1 sp. z o.o. – for nuclear project development PLN 21 million,
- PGE Systemy S.A. – for IT infrastructure and software development PLN 19 million.

5. Significant events of the reporting period and subsequent events

5.1. Changes in the Management Board and Supervisory Board

As at September 30, 2018 and as at the publication date of this report, the Management Board worked in unchanged composition:

Name and surname of the Management Board member	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 Wasilek	Vice-President for Operations
Emil Wojtowicz	Vice-President for Finance

On July 19, 2018 the Ordinary General Meeting of the Company appointed eight members to the Supervisory Board of the 11th term as from July 20, 2018.

As at September 30, 2018 and as at the publication date of this report, the Supervisory Board worked in following composition:

Name and surname of the Supervisory Board member	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
Artur Bartoszewicz	Supervisory Board Member - 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

As at September 30, 2018 the standing committees of the Supervisory Board consisted of:

Name and surname of the member of the Supervisory Board	Audit Committee	Corporate Governance Committee	Strategy and Development Committee	Appointment and Remuneration Committee
Artur Bartoszewicz	Member from July 24, 2018		Member from July 24, 2018	
Janina Goss	Member from July 24, 2018			Member from July 24, 2018
Tomasz Hapunowicz		Member from July 24, 2018 Chairman from July 24, 2018	Member from July 24, 2018	
Anna Kowalik	Member from July 24, 2018		Member from July 24, 2018	Member from July 24, 2018
Grzegorz Kuczyński	Member from July 24, 2018 Chairman from 07.08.2018	Member from July 24, 2018		
Mieczysław Sawaryn			Member from July 24, 2018	Member from July 24, 2018 Chairman from July 24, 2018
Jerzy Sawicki		Member from July 24, 2018	Member from July 24, 2018	Member from July 24, 2018
Artur Składanek	Member from July 24, 2018		Member from July 24, 2018 Chairman from July 24, 2018	

5.2. 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 condensed interim 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 condensed interim consolidated financial statements.

5.3. 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 condensed interim consolidated financial statements.

5.4. Information about granting guarantees by the Company or its subsidiary

Table: Main guarantees granted by the PGE Group companies as at September 30, 2018.

Issuer of guarantee	Entity entitled to guarantee (Beneficiary)	Entity whose liabilities are subject to guarantee (Debtor)	Date of commitment due to the granted guarantee (dd-mm-yyyy)	Validity of guarantee until (dd-mm-yyyy)	Value of guarantee (million)	Currency	Value of loan subject to guarantee (million)	Currency
PGE S.A.	Bondholders	PGE Sweden AB	22.05.2014	31.12.2041	2 500.0	EUR	638.0	EUR
PGE S.A.	Nordic Investment Bank	PGE GiEK S.A.	12.05.2017	31.12.2024	121.4	EUR	101.2	EUR

5.5. 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. 1.1 of the foregoing report and in note 1.3 to the condensed interim consolidated financial statements.

5.6. Activities related to nuclear energy

The programme to build Poland's first nuclear power plant (the "Programme") is focusing on conducting site characterisation and environmental surveys until an environmental impact assessment report and site report are prepared. Decisions with regard to the continuation of the Programme, in the above scope or otherwise, will be made based on decisions by the Minister of Energy concerning an updated Programme for Poland's Nuclear Power, a model for the procurement of nuclear power plant technology and investment financing model.

Business partnership

As a result of the sale of shares on April 15, 2015 to the Business Partners (TAURON Polska Energia S.A., ENEA S.A. and KGHM Polska Miedź S.A.) by PGE S.A., PGE S.A. holds 70% in the share capital of PGE EJ 1 sp. z o.o. ("PGE EJ 1", "EJ 1"), and each of the Business Partners holds 10% in the share capital of PGE EJ 1.

According to the Partners' Agreement, concluded on September 3, 2014, the Parties jointly undertook to finance operations under the initial phase of the Program (the "Development Stage"), proportionally to their shareholdings. It is assumed that PGE's financial commitment in the Development Stage will not exceed amount of approx. PLN 700 million. The funds for the Program are paid to PGE EJ1 in form of the increase of the share capital and loans. In the first quarter of 2018, PGE EJ 1 received a loan from its shareholders instead of a share capital increase. The share capital of PGE EJ 1 was increased in the third quarter of 2018.

Proceeding for selection of technology

Further action with regard to delivery of technology is dependent on the final arrangements with the Ministry of Energy related to formula of technology selection, working out economic, organisational and legal solutions, including the risk distribution and estimated costs of implementation of those solutions.

Site characterisation and environmental survey

Site characterisation and environmental surveys, necessary to prepare an environmental impact assessment and a site characterisation report, were continued in the three quarters of 2018. The surveys are being carried out with the participation of ELBIS Sp. z o.o., a company from PGE Group. The aim of the surveys is gathering of data necessary to assess the area from the point of view of usefulness for foundation of nuclear power plant.

Works are being conducted at two sites: Lubiatowo-Kopalino and Żarnowiec, within Choczewo, Krokowa and Gniewino municipalities in the Pomeranian Voivodeship.

The works on schedule update have been carried out.

Social acceptance

The main aim of activities in this area is to maintain a high level of community support at the planned nuclear plant sites and to deliver knowledge about nuclear power and about the Programme to the widest possible range of stakeholders.

In the three quarters of 2018, 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.

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 EJ 1 sp. z o.o. 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. PGE Group does not accept the claim and regards its possible admission by the court as unlikely.

5.7. Rating

On November 7, 2018 rating agency Moody's published credit opinion for PGE S.A., in which it affirmed PGE's rating at investment level of Baa1 with stable outlook. In its latest credit opinion, the rating agency took into account PGE's strong position as the largest energy group in Poland, increasing share of revenues from regulated activities following the acquisition of district heating assets from EDF, as well as strong balance sheet and relatively low net debt/EBITDA ratio.

5.8. Tender offer to subscribe for the sale of 100% shares of Polenergia S.A.

Information regarding the tender offer to subscribe for the sale of 100% shares of Polenergia S.A. is presented in note 24.1 to the condensed interim consolidated financial statements.

5.9. Transactions with related entities

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

5.10. Publication of financial forecasts

PGE S.A. does not publish financial forecasts.

5.11. Information about shares and other securities

5.11.1. 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%

5.11.2. 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 consolidated report for the first half of 2018 did not hold shares of PGE S.A.

6. 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.

7. 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 13, 2018.

Warsaw, November 13, 2018

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 Wasilek**

Vice-President
of the Management Board **Emil Wojtowicz**

Glossary

AKPiA	Control, measurement and automation apparatus area
Ancillary control services (ACS)	services provided to the transmission system operator, which are indispensable for the proper 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.
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).
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.
HICP	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.
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= 10 ³ 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 EU emission trading system by the National Administrator of the Emission Trading System.
NAP II	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 m ³ 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 Scheduling 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 Energy Coal Market Index 1 - average level of prices of coal dust sold to industrial-scale power plants in Poland
RAB	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), $1 \text{ V} = 1 \text{ J}/1 \text{ C} = (1 \text{ kg} \times \text{m}^2) / (\text{A} \times \text{s}^3)$.
W (watt)	a unit of power in the International Systems of Units (SI), $1 \text{ W} = 1 \text{ J}/1 \text{ s} = 1 \text{ kg} \times \text{m}^2 \times \text{s}^{-3}$.
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.