

ended March 31, 2018

Table of contents

1.	Description of activity of the Capital Group	5
	1.1. Description of organisation	6
2.	PGE Group's strategy and its implementation	8
	2.1. Strategy of the Capital Group	8
	2.2. Implementation of key projects within the strategic objectives	9
3.	Electricity market and regulatory and business environment	16
	3.1. Macroeconomic environment	16
	3.2. Regulatory environment	18
	3.3. Supply markets	28
4.	Results of PGE Capital Group	30
	4.1. Key financial results of the PGE Capital Group	30
	4.2. Key operational figures of PGE Capital Group	34
	4.3. Key financial results in the business segments	37
	4.4. Significant events of the reporting period and subsequent events	48
	4.5. Transactions with related entities	53
	4.6. Publication of financial forecasts	53
	4.7. Information about shares and other securities	53
5.	Statements of the Management Board	54
6.	Approval of the Management Board's Report	54
Glo	ossary	55



	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	4 conventional power plants 8 CHPs 2 lignite mines Acquired assets: 1 conventional power plant 8 CHPs	14 wind power plants 1 photovoltaic plant 29 run-of-river hydro power plants 4 pumped-storage power plants, including 2 with natural flow		288 312 kms. of distribution lines
Energy volumes	Generation 17.11 TWh	Generation 0.55 TWh	Sales to end-users 10.00 TWh	Electricity distributed 9.19 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. 10%* (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]	4 644	212	3 650	1 516
EBITDA [PLNm]	1 288	114	189	638
Share of Group EBITDA	58%	5%	9%	29%
CAPEX [PLNm]	596	15	2	226
Assets [PLNm]	44 591	3 287	4 240	17 897

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 five million households, businesses and institutions.

The parent company of PGE Capital Group is PGE Polska Grupa Energetyczna S.A. (also "PGE S.A.", "PGE", the "Company", the "Issuer").

PGE Group 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., 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 though 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 and 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 consolidated financial statements and described below.

Increase of the share capital of subsidiaries

Entity	Date of registration	(1) S	hare capital	Comment
	National Court Register	(2) Ir	ncrease	
		(3) S	hare capital	
		afte	rincrease	
Towarzystwo Funduszy	April 3, 2018	(1)	PLN 6 250 000	On November 28, 2017 the Extraordinary General Meeting of the company adopted a resolution on an increase of the company's share
Inwestycyjnych Energia S.A.		(2)	PLN 18 000 000	capital. The increased capital was acquired by PGE S.A., in exchange for a cash contribution. PGE S.A. holds 100% of share capital.
(previous name: PGE Towarzystwo Funduszy		(3)	PLN 24 250 000	
Inwestycyjnych S.A.)				
PGE Inwest 5 sp. z o.o., PGE Inwest 8 sp. z o.o.,	Not yet registered in	(1)	PLN 20 000	On April 5, 2018 the Extraordinary Assemblies of Partners of the companies adopted resolutions on an increase of the company's share
PGE Inwest 9 sp. z o.o., PGE Inwest 10 sp.	National Court Register	(2)	PLN 30 000	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
z o.o., PGE Inwest 11 sp. z o.o., PGE Inwest		(3)	PLN 50000	100% of share capital of the companies.
12 sp. z o.o. and PGE Inwest 14 sp. z o.o.				
PGE Inwest 17 sp. z o.o., PGE Inwest 18	Not yet registered in	(1)	PLN 10 000	On April 5, 2018 the Extraordinary Assemblies of Partners of the companies adopted resolutions on an increase of the company's share
sp. z o.o. and PGE Inwest 19 sp. z o.o.	National Court Register	(2)	PLN 30 000	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
		(3)	PLN 40000	100% of share capital of the companies.

Acquisition or disposal of shares by the companies

Shares of the entity	Date of transaction/ registration in the National Court Register	Number of acquired shares	Comment
ElectroMobility Poland S.A. (,,ElectroMobility'') – acquisition by PGE S.A. of the share capital increase shares of ElectroMobility equilation equilation of	January 3, 2018/ April 23, 2018 ElectroMobility's share capital increase registered	2 500 shares	On January 3, 2018 the Extraordinary General Meeting of 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 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 S.A. 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 Polska Grupa Energetyczna S.A. (reverse squeeze-out procedure)	March 7, 2018	3 285 shares	PGE Polska Grupa Energetyczna S.A. acquired 3 285 shares of PGE Energia Ciepła S.A., through reverse squeeze-out procedure, pursuant to art. 418 of the Polish Commercial Companies Code. Currently PGE S.A. holds total of 70 436 319 shares with a nominal value of PLN 704 363 190, representing 99.52% in the share capital of the company.

Shares of the entity	Date of transaction/ registration in the National Court Register	Number of acquired shares	Comment
Zespół Elektrociepłowni Wrocławskich Kogeneracja S.A. ("Kogeneracja S.A.") - acquisition of shares by PGE Energia Ciepła S.A. (as a result of tender offer)	March 14, 2018	1 202 172 shares	PGE Energia Ciepła S.A. 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 Energia Ciepła S.A. 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 Energia Ciepła S.A., 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.

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 companyin 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.

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 Energia Odnawialna 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.

2. PGE Group's strategy and its implementation

2.1. Strategy of the Capital Group

PGE Group's strategy update by 2020 was approved by the Supervisory Board on September 6, 2016. The strategy seeks to adapting the Group's activities to the changing environment, addresses threats and opportunities connected with, among others, volatility of fuel prices, climate policy directions, market model evolution and new technology development.

Mission, vision and overall objectives

PGE's mission is to ensure security and growth based on reliability of supply, technical excellence, modern services and partnership relationships. Increase its value for shareholders and the key role in ensuring Poland's energy security are the overall objectives which PGE Group is constantly realising.

Diagram: Redefining PGE Group's mission.



PGE Group's new mission

We provide security and growth based on reliability of supply, technical excellence, modern services and partnership relationships

PGE Group's vision determines our target position in four areas:



2.2. Implementation of key projects within the strategic objectives

	2016 – 2018	2018 +
Leader in generation, actively taking advantage of growth opportunities	 Continuation of flagship Investments in Opole and Turów Launch of preparatory phase for construction of new gas-fired unit at Dolna Odra power plant Closing of transaction to acquire EDF Polska's assets: strengthening the top position on the power market and securing the position of largest supplier of district heating Adoption of PGE Group's District Heating Strategy 	 Establishment of specialised business line integrating activities in the district heating area Construction of 1000 MWe of new cogeneration capacities Increase of low-emission fuels' share in the district heating segment to 50% Launch of 1045 MW offshore wind farm, with potential to expand the project by additional 1 500 MW Increase of exposure to the diffuse source segment Optimal adaptation of power plants and CHP plants to new industrial emission standards BAT Optimisation of generation portfolio in terms of participation in the capacity market
Reliable and active utility and service supplier	 Connection process simplified and shortened to 7 months Launch of Telephone Reporting Centre, which is active throughout PGE Dystrybucja's entire area, handling the emergency line 991 Launched innovative system for detecting and isolating short-circuit incidents on overhead MV lines Implemented innovative metering system at Białystok branch and Łódź branch Adaptation of distribution network to new sources – 8 251 micro-installations connected in 2017 alone Customer satisfaction indicators and credibility assessments at very high level Retention of low client migration rate in mass segment Expanded retail product offering Launched new sales and customer service channels (mobile electronic customer service office, chatbot) 	 Increase of share of managed district heating networks at PGE Energia Ciepła S.A. locations to 2/3 Increase of the Group's potential through mergers and acquisitions in the district heating area Further improvement in supply reliability and reduction in SAIDI and SAIFI by 56% between 2015 and 2020. Development of integrated and automated system for managing LV distribution network infrastructure cooperating with diffuse energy sources and accumulators installed at prosumer installations. Construction of system for automatic reconfiguration of LV grid to improve the quality of distribution services in normal and emergency work mode Development of autonomous mechanisms for reducing the effects of LV line failures

	2016 – 2018	2018 +
Poland's most efficient and flexible energy group	 Reduction in PGE Group's controllable costs Standardisation and optimisation of support functions across entire PGE Group Start of implementation of integrated management system for production assets Update of human capital management strategy 	 Reduction of controllable costs by PLN 500 million compared to 2016 In the district heating segment, reduction of repair expenses by 10% (by 2023, compared to 2017) Additional annual EBITDA resulting from implementing the District Heating Strategy estimated at approx. PLN 1 billion by 2030 Retention of competitiveness of lignite mining Increase in efficiency of combustion by-product management
Leader in developing new business models and lines of business	 Launch of specialised fund CVC PGE Ventures for equity Investments in promising startups Formation of PGE Nowa Energia sp. z o.o. ("PGE Nowa Energia") for incubation and acceleration of earliest-stage projects Agreement on establishment of two energy clusters 	 PLN 400 million until 2020 intended for research, development and innovations, half of which from external sources Development of energy efficiency activities Development and commercialisation of new technologies to introduce to the market modern and comprehensive client offering, covering photovoltaics, electromobility, intelligent home solutions (the Smart Energy project), natural gas and demand management

Development investments Construction of new units in Opol • aim of the project: construction of • budget: approx. PLN 11 billion (n • capital expenditures incurred so fa • fuel: hard coal • net efficiency: 45.5% • contractor: syndicate of compar co-operation of GE as Project mana • commissioning according to the 31, 2018; unit 6 – March 31, 2 Contractor are: May 31, 2019 for have analysed the working schedu accuracy of assumptions taken, re the contract execution. In the opin mentioned dates is possible pro commitment, introducing necessa https://www.gkpge.pl/Investor-Re • status: as regards unit 5 cold sta boiler are under way; as regards regard to the boiler and assembly work is also continued on the asse	e power plant of two power units of 900 MW each net, without costs of financing) nr: approx. PLN 8.4 billion nies: Rafako, Polimex-Mostostal and Mostostal Warszawa with ager on behalf of the syndicate binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team ale presented by the General Contractor with regard to methodic asons for delay and planned methods of further management of ion of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 investments aim of the project: construction of budget: approx. PLN 11 billion (n capital expenditures incurred so fa fuel: hard coal net efficiency: 45.5% contractor: syndicate of compart co-operation of GE as Project mana commissioning according to the 31, 2018; unit 6 – March 31, 22 Contractor are: May 31, 2019 fot have analysed the working schedu accuracy of assumptions taken, ret the contract execution. In the opint mentioned dates is possible pro- commitment, introducing necessa https://www.gkpge.pl/Investor-Re status: as regards unit 5 cold sta boiler are under way; as regards regard to the boiler and assembly work is also continued on the asse 	of two power units of 900 MW each net, without costs of financing) ir: approx. PLN 8.4 billion nies: Rafako, Polimex-Mostostal and Mostostal Warszawa with ager on behalf of the syndicate binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team ile presented by the General Contractor with regard to methodic asons for delay and planned methods of further management of ion of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 budget: approx. PLN 11 billion (n capital expenditures incurred so fa fuel: hard coal net efficiency: 45.5% contractor: syndicate of compar co-operation of GE as Project mana commissioning according to the 31, 2018; unit 6 – March 31, 22 Contractor are: May 31, 2019 fc have analysed the working schedu accuracy of assumptions taken, re the contract execution. In the opin mentioned dates is possible pro commitment, introducing necessa https://www.gkpge.pl/Investor-Re status: as regards unit 5 cold sta boiler are under way; as regards regard to the boiler and assembly work is also continued on the asse 	net, without costs of financing) net, without costs of financing) net, without costs of financing) net, without costs of financing) nets: Rafako, Polimex-Mostostal and Mostostal Warszawa with ager on behalf of the syndicate binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team alle presented by the General Contractor with regard to methodic asons for delay and planned methods of further management of nion of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 coapital expenditures incurred so fa fuel: hard coal net efficiency: 45.5% contractor: syndicate of compar co-operation of GE as Project mana commissioning according to the 31, 2018; unit 6 – March 31, 2 Contractor are: May 31, 2019 fc have analysed the working schedu accuracy of assumptions taken, re the contract execution. In the opin mentioned dates is possible pro commitment, introducing necessa https://www.gkpge.pl/Investor-Re status: as regards unit 5 cold sta boiler are under way; as regards regard to the boiler and assembly work is also continued on the asse 	hies: Rafako, Polimex-Mostostal and Mostostal Warszawa with ager on behalf of the syndicate binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team ale presented by the General Contractor with regard to methodic asons for delay and planned methods of further management of ion of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 fuel: hard coal net efficiency: 45.5% contractor: syndicate of compar co-operation of GE as Project mana commissioning according to the 31, 2018; unit 6 – March 31, 2 Contractor are: May 31, 2019 for have analysed the working schedu accuracy of assumptions taken, re the contract execution. In the opin mentioned dates is possible pro commitment, introducing necessa https://www.gkpge.pl/Investor-Re status: as regards unit 5 cold sta boiler are under way; as regards regard to the boiler and assembly work is also continued on the asse 	nies: Rafako, Polimex-Mostostal and Mostostal Warszawa with ager on behalf of the syndicate binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team alle presented by the General Contractor with regard to methodic asons for delay and planned methods of further management of ion of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 net efficiency: 45.5% contractor: syndicate of comparts co-operation of GE as Project manals commissioning according to the 31, 2018; unit 6 – March 31, 2 Contractor are: May 31, 2019 for have analysed the working schedulaccuracy of assumptions taken, retthe contract execution. In the opin mentioned dates is possible procommitment, introducing necessa https://www.gkpge.pl/Investor-Re status: as regards unit 5 cold staboiler are under way; as regards regard to the boiler and assembly work is also continued on the assembly work is als	nies: Rafako, Polimex-Mostostal and Mostostal Warszawa with ager on behalf of the syndicate binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team alle presented by the General Contractor with regard to methodic asons for delay and planned methods of further management of ion of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 contractor: syndicate of compar co-operation of GE as Project mana commissioning according to the 31, 2018; unit 6 – March 31, 2 Contractor are: May 31, 2019 for have analysed the working schedu accuracy of assumptions taken, re the contract execution. In the opin mentioned dates is possible pro commitment, introducing necessa <u>https://www.gkpge.pl/Investor-Re</u> status: as regards unit 5 cold sta boiler are under way; as regards regard to the boiler and assembly work is also continued on the asse 	nies: Rafako, Polimex-Mostostal and Mostostal Warszawa with ager on behalf of the syndicate binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team ale presented by the General Contractor with regard to methodic asons for delay and planned methods of further management of ion of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 commissioning according to the 31, 2018; unit 6 – March 31, 2 Contractor are: May 31, 2019 for have analysed the working schedu accuracy of assumptions taken, rethe contract execution. In the opin mentioned dates is possible procommitment, introducing necessa https://www.gkpge.pl/Investor-Re status: as regards unit 5 cold staboiler are under way; as regards regard to the boiler and assembly work is also continued on the asse 	binding agreement with the General Contractor: unit 5 – July 2019 wherein commissioning dates declared by the General or unit 5 and September 30, 2019 for unit 6. The Project team ale presented by the General Contractor with regard to methodic easons for delay and planned methods of further management of all of the Project team, the execution of the investment in above ovided that the General Contractor will act with the highest
 status: as regards unit 5 cold sta boiler are under way; as regards regard to the boiler and assembly work is also continued on the asse 	ry conditions which will guarantee timely execution of works (see lations/Current-reports/5-2018).
systems and a slag removal system 91%	rt-up is progressing, preparations for a chemical cleaning of the the key equipment at unit 6, installation work is on-going with γ of low- and medium-pressure pipelines at the machine facility; mbly of ancillary infrastructure including flue gas desulphurisation n; overall project progress at the end of March 2018 was approx.
Construction of new unit in Turów	v power plant
• aim of the project: construction of the project is a set of the project i	of power unit with a capacity of 490 MW
 budget: approx. PLN 4 billion (ne 	et, without costs of financing)
 capital expenditures incurred so fa 	r: approx. PLN 1.6 billion
• fuel: lignite	
• net efficiency: 43.1%	
 contractor: syndicate of company 	ies: MHPSE, Budimex and Tecnicas Reunidas
 commissioning: H1 2020 	
 December 1, 2014 - issue of Notice 	to Proceed
 status: status: as regards the uni elements of a turboset is on-go desulphurisation system and car buildings: main (including control r shell recommenced after winter br 	t's main equipment, assembly of the boiler's pressure part and bing, as is assembly of auxiliary systems, including a flue gas rburisation system and construction work on two electricity room) and electrostatic precipitator. Construction of cooling tower reak.
Construction of a Thermal Process • aim of the project: construction Rzeszów CHP with capacity of appr co-generation)	sing Installation with Energy Recovery at Rzeszów CHP of a thermal processing installation with energy recovery at rox. 8 MWe in condensation (approx. 4.6 MWe + 16.5 MWt in
 budget: approx. PLN 293 million (net, without costs of financing)
 capital expenditures incurred so fa 	r: approx. PLN 148 million
 fuel: municipal waste 	
 boiler's efficiency: 86% 	
 contractor: syndicate of TM.E. S.p. 	A. Termomeccanica Ecologia and Astaldi S.p.A
 commissioning: June 2018 	
 status: as regards the main equipment and installations in the equipment	nent, installation works are on-going and the assembly of ancillary

Modernisation and replacement projects	 Comprehensive reconstruction and modernisation of units no. 1-3 at Turów power plant 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: modernisation work on unit 2 was completed. Irregularities in the operation of the turboset were observed during the unit's startup. Work is under way to remove the causes of the problem. The first synchronisation of unit 2 with the power network and start of regulated operations are planned for the second quarter of 2018. 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 Belchatów 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: works related to filling in and securing the "Zwałowisko" and "Lubień" storage sites continue, as de works related to approximate of installations for write 14. Proceed of storage sites continue, as de works related to approximate of installations for write 14. Proceed of storage sites continue, as de works related to approximate of installations for write 14. Proceed of storage sites continue, as de works related to approximate of installations for write 14. Proceed of storage sites continue, as de works related to approximate of installations for write 14. Proceed of storage sites continue, and storage sites cont
	suspension production from tanks 1 and 2 and of installations for unit 14. Process of start-up of installation for suspension production from tanks 1 and 2 and of installation of ash feeding to tank V and the dispatch station have been commenced. Comissioning of installations is planned at the end of August 2018.
	 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 SO ₂ 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: work is in progress on assembly of SCR reactor structure at unit B. Trial run of SCR installation at unit A was completed – installation was approved for use and warranty measurements began.
	As regards the flue gas desulphurization (FGD) system: assembly of wharf construction commenced, ongoing assembly works of supporting structure for absorber and bag filter of Unit A, assembly of reactor B in system's building commenced.
	 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 SO_2 emissions from boilers no. 3 and 4 to a level allowing
	for further use after 2017
	• status: on March 2, 2018, a foundation act was signed and a cornerstone set for an expansion of the
	flue gas desulphurisation system and system for reducing nitrogen oxide emissions. Construction and assembly works and deliveries of system elements are on-going.
	As regards deNO _x : on January 30, 2018, a final and binding decision from the Marshal's Office of Bydgoszcz was received, approving the building design and granting a construction permit. On January 31, 2018, the construction site was handed over to the Contractor by protocol. Construction and assembly works and deliveries of system elements are on-going
	 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 flue gas denitrogenation system for six OP-650 boilers at Rybnik power plant
	 project objective: construction of flue gas denitrogenation unit to ensure compliance with IED Directive requirements budget: PLN 259 million (net, without financing costs) expenditures so far: PLN 215 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. deadline: December 2018 status: progress at approx. 83%. Still left to do is SNCR at boiler 5 as well as optimisation and some warranty-related measurements.
	Construction of flue gas denitrogenation units at CHP plants in: Kraków, Wrocław, Gdańsk, Gdynia
	• project objective: construct flue gas denitrogenation unit to ensure compliance with IED Directive requirements
	budget: PLN 545 million (net, without financing costs)
	contractors: General Electric: Fortum-ZRE: Fortum Mehldau: SBB Energy: Fortum-Instal
	 deadline: December 2018
	• status: progress at approx. 90%. Still left to complete and optimise are SNCR installations in Gdańsk, Kraków and Gdynia.
Project of network	• aim of the project: reduction of electricity procurement costs for balancing differences
losses reduction	 activities undertaken (multi-year project): replacement of HV/MV, MV/LV transformers with low-loss units, adaptation of transformers' output to power consumption; grid conversion and modernisation: construction of HV/MV and MV/LV stations, increase of cable cross-sections for HV, MV and LV lines, reduction of MV and LV lines; maintenance of optimal grid workload, elimination of adverse energy transit in HV lines, optimisation of MV line partitions; reduction of load asymmetries in LV lines.
	 the results of the project: lowering of the balancing difference in 2017 to 5.37% (in 2016 it amounted to 5.77%); volume of balancing difference in 2017 was by 5% lower than in 2016 with the simultaneous increase of volumes of energy delivered to off-takers by 3% in that period. activities initiated in Q1 2018: project assumptions for 2018-2022 were updated in March 2018; activities aimed at reducing balancing differences at PGE Dystrybucja S.A. are to be continued, the tasks assumed in the project are being carried out on an ongoing basis.

Strategic Research and Development and New Business Areas ("SOBiR+NB"), within which the Group intends to carry out R&D and innovation projects concerning, among others, the supply of new products or services. The SOBiR+NB areas are aligned with the Group's most important challenges and are identified for each element of the value chain (see the graph below).



In connection with an Update of the Group's Strategy until 2020 being introduced in the third quarter of 2016, works have progressed on updating the Development and Innovation Strategy. The updated Development and Innovation Strategy will place emphasis on challenges that most affect the Group, where R&D and innovation are essential to the achievement of business objectives. In connection with this, particular attention will be paid to both dynamically developing segments such as electromobility or energy warehousing as well as ways of acquiring and developing initiatives such as new models of management and implementation of innovations like acceleration and investing in an equity fund model in small businesses that develop technologies and products. A strategic option for PGE will be the design and development of specific technologies – which constitutes a large quality change in contrast to the previous model – an operator of technologies from other businesses, providers. An SPV named PGE Nowa Energia was formed to work with small businesses (start-ups) in the acceleration and project commercialisation (implementation of innovation solutions) formula. By working with start-up market stakeholders (small businesses, accelerators, other investors, government agencies, etc.), the company is a competence centre, allowing PGE to effectively identify and develop technologies and products being part of and related to the power value chain. Moreover, PGE Nowa Energia is a company designated to build charging infrastructure for electric vehicles and develop the Group's operations in the electromobility area.

In order to facilitate the continued development of companies and obtainment of new solutions from the market (at the maturity stage later than acceleration), the PGE Ventures company was established, which serves the role of the corporate investment fund of PGE Capital Group. The purpose of the company is to invest PGE's own funds and funds obtained via support tools – the public budget available through the Polish Development Fund (PFR) and the National Research and Development Centre ("NCBIR").

Innovation

PGE focuses on initiating and executing R&D projects that fall within the SOBiR+NB areas. In the first quarter of 2018, several dozen projects were continued within these areas.

Key projects in Q1	2018
Involvement in equity structures that support the development of new technologies and solutions as well as small businesses	 aim of the project: Introduction of a new model for developing and implementing new solutions, allowing to manage higher-risk undertakings whilst reducing time-to-market for new solutions (for own purposes or to sell to other entities) main activities: PGE Ventures company was established to conduct an investment activity on the basis of its own funds and funds obtained from the public budget (PFR Ventures, NCBiR). The process of recruitment was completed the first edition of PGE Ventures' scouting programme was completed, with the first two investment agreements signed in January 2018 Advanced negotiations are on-going with other highly innovative startups in which PGE Ventures plans to invest in the nearest future the acceleration activities conducted by the PGE Nowa Energia company have been commenced and rules of co-operation between the companies (PGE Nowa Energia and PGE Ventures) have been determined, providing for optimization and maintenance of continuity at the next stages of development of small. Project acceleration applications are being accepted.
Electromobility	 aim of the project: promoting and developing electric transport in Poland and gaining by PGE Capital Group of experience and the competence necessary to serve the role of the operator of electrical cars charging infrastructure and of the supplier of electrical cars charging services main activities: concern individual transport – cars used for private and business purposes PGE has been continuing a project launched in December 2016 in which a pilot run is being implemented that consists of the construction of infrastructure for an electromobility system in Łódź. In the fourth quarter of 2017, the first rapid charging station in Łódź was launched, with the next stations expected to follow in the coming months. Talks regarding cooperation in other locations are on-going (Rzeszów, Kraków, Siedlce, Warsaw).
Recykling	 aim of the project: PGE Group is preparing to execute a project allowing to develop and implement a new technology for the recycling of lithium batteries, particularly those used in energy warehouse systems and to charge electric cars. This technology is intended to obtain strategic materials from used lithium batteries – cobalt, nickel and copper. The project directly supports the assumptions of the Ministry of Development concerning the transformation of the economy in the direction of closed-circuit economy, as well as the requirements of the Polish legislation specifying the needs of collection and utilization of used batteries. The project has a business potential due to the anticipated growth in the world's market of lithium batteries and the increase in the quantity of battery wastes connected with that, as well as increased demand of markets for products recycled from used batteries. main activities: PGE S.A. has set up a consortium with RDLS sp. z o.o. ("RDLS"), a spin-off company of the Warsaw University operating in the area of environmental research and biotechnology. The goal of the consortium is to produce a pilot recycling installation for lithium batteries and implement this technology in Poland. The project was recommended by NCBiR for co-financing from public funds of the Research Programme of the Power Sector ("PBSE"). The consortum led by RDLS, received a consent for financing of the project from NCBiR funds. In December 2017 the Management Board of PGE S.A. issued approval for commencement of the project implementation phase and signing of an agreement on project funding between NCBiR and RDLS. The project implementation has commenced on December 29, 2017 – on that day the consortium leader aigned the neuroparties of the project funding between NCBiR and RDLS.

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 first quarter of 2018, gross electricity consumption went up 2.8% compared to analogical period of 2017. The increase was higher than in the previous year, when consumption went up 2.7% compared to analogical period of 2016.

Economic trends in the first quarter of 2018 remained positive in general. According to estimates by Institute of Economic Prognosis and Analyses, in the first quarter of 2018 growth of real gross domestic product (not adjusted seasonally) was 4.2% compared to 2016.



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

Source: Central Statistical Office of Poland, PSE.

Economic growth and rising electricity consumption were accompanied by optimistic condition of Polish industry, which is responsible for approx. 45% of domestic electricity consumption. The Purchasing Managers' Index (PMI) for industry reached 54.2 points on average in the first quarter of 2017, and 54.0 points on average in the first quarter of 2018. It means level above 50 points, above which the respondents expect the sector's situation to improve. The positive result stems mainly from growing production, employment and consumption. The results of the Polish industrial sector should be further strengthened by the Eurozone, whose PMI for Q1 2017 reached an average level of 55.6 points, and 57.0 points in the analogical period of 2018.

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



Source: Markit Economics

Positive development in the Polish economy is confirmed by dynamics in overall industrial production. In the first quarter of 2018, it went up by 5.6% y/y, compared to 7.3% in the first quarter of 2017. The change resulted from increase in industrial production dynamics (5.5% y/y in the first quarter of 2018 versus 8.1% in the first quarter of 2017). Simultaneously, production in the whole energy sector increased by 9.2% y/y in the first quarter of 2018 vs 3.6% in the first quarter of 2017. The value of industrial manufacturing depends on volumes of goods produced and prices. PPI in the first quarter of 2018 amounted to 0.1% y/y. CPI reading amounted to 1.5% y/y.

Table: Key economic indicators for Poland.

Key economic indicators (% change y/y)	Q1 2018	Q1 2017
GDP ¹	4.2	4.4
CPI ²	1.5	2.0
PPI ³	0.1	4.4
Sold industrial production ³	5.6	7.3
Sold production – manufacturing ³	5.5	8.1
Sold production – energy ³	9.2	3.6
Dynamics of domestic electricity consumption ⁴	2.8	2.7
Gross domestic electricity consumption (TWh) ⁴	45.1	43.9
EUR/PLN ⁵	4.18	4.32

Source: ¹ for Q1 2018 – forecast by Institute of Economic Prognosis and Analyses, for Q1 2017 - Central Statistical Office of Poland, ² National Bank of Poland, ³ Central Statistical Office of Poland, ⁴ PSE S.A., ⁵ National Bank of Poland.

3.2. Regulatory environment

Regulatory environment

Domestic

- introduction of a capacity market and work on implementing provisions for the Act on Capacity Market (see point 2.2.1 of this report) and the capacity market regulations
- notification of the support mechanism established in the Act on Capacity Market to the European Commission ("EC"). EC issued a decision on February 7, 2018.
- contemplated changes in system services in connection with the expected introduction of the capacity market in 2018
- 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 connection time, among others
- entry into force of ordinance of the Energy Minister of December 29, 2017, on detailed rules for establishing and calculating tariffs and settlements in trade in electricity, which introduced a tariff with lower prices and fee rates during off-peak hours (e.g. at night)
- work on an update of the Act on Renewable Energy Sources (draft update sent to parliament), which designates a system for supporting the production of energy from renewable sources. This draft update includes, among other things, a change in which public aid is calculated and a change in auctions for support of new technology baskets. The draft update 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 in 2018-2019 (regulation of the Minister of Energy of August 11, 2017)
- on-going work on an update of the act on investment in wind farms. The draft updated bill includes a change in property tax rules for wind farms (only a part of an installation would constitute the tax base) retroactively from January 1, 2018.
- work on a legislative package that is intended to transform linear economy towards a circular economy
- entry into force of act on electromobility and alternative fuels on February 22, 2018
- start of work on a regulation regarding the technical requirements for charging stations and charging points
- entry into force of the Water Law of July 20, 2017, which introduces a system of fees for using water for energy purposes and publication of the ordinance of the Council of Ministers of December 22, 2017, on rates for water services, which specifies unit rates for fees for using water for energy purposes
- work on National Action Plan concerning energy efficiency for Poland 2017
- works on new Energy Policy of Poland until 2050
- International key 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 ("LRF") 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.

Having agreed on a common position of the European Commission, European Parliament and the EU Council in November 2017, on March 19, 2018, the text of Directive (EU) 2018/410 of the European Parliament and of the Council of March 14, 2018. In the first half of 2018, the European Commission began work on implementing provisions that will address detailed operational rules for the Modernisation Fund. 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"), including specifying the share of renewable energy in energy consumption in EU in 2030 (The Council and European Commission want a target of at least 27%, while the European Parliament is expecting a target of at least 35%) and the way in which Poland would contribute to achieving the target share of renewable sources in EU's energy mix by 2030. The draft includes proposed regulations that limit the use and further support for biomass.
- COM (2016) 861 final proposal for a Regulation of the European Parliament and of the Council on the internal market for electricity ("EMR") and 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"), the objective of which is to create a new structure for a single energy market, including through introducing numerous pro-consumer solutions and making the market more flexible and intervening in the structure 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. Negotiations regarding the final version of the Regulation and Directive will be led by the Austrian presidency, which begins in July 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 managing energy union objectives based on cooperation with other EU member states and arrangements with the European Commission. As regards the renewables objective, the draft includes a platform for financing renewables projects, however, as proposed by the Council, the contributions would be optional. Partially optional nature of the contribution is also included in the proposal of the European Parliament.
- 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.

The Council has adopted *a general approach* for the EED draft on June 26, 2017 and to the RED II, EMR, EMD and EU Governance proposals on December 18, 2017. In the first quarter of 2018, talks regarding EED, RED II and EU Governance were held as part of trialogues between the European Parliament, Council of the European Union and European Commission. The trialogues are expected to continue in the second quarter of 2018. Trialogues related to EMR and EMD are expected to start in the second half of 2018.

- regulations related to emission reduction as part of the environmental policy, including:
 - The European Commission on July 31, 2017, adopted Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants ("BAT conclusions for LCP"), which was published in the EU Journal on August 17, 2017. The deadline for adapting installations is four years from the publication date, i.e. August 17, 2021. The Polish government filed a complaint regarding this decision with the EU Court of Justice, an appeal against the legal act itself, filed by Eurocoal, is being examined in parallel.

3.2.1. Electricity prices

Domestic market - Prices

Day-ahead market

In the first quarter of 2018, the average price of electricity on the Day-Ahead Market reached PLN 184/MWh and was 19% higher than the average price recorded in the same period of last year (PLN 155/MWh). This growth in price was driven by cost factors. Prices of CO_2 emission allowances nearly doubled in the first quarter of 2018, comparing to the same period in the previous year. Coal prices also increased – the average level of the Polish Steam Coal Market Index ("PSCMI1") in the first quarter of 2018 grew by 18% to PLN 10.5/GJ, compared to PLN 8.9/GJ in the same period of last year.

The volume of wind electricity production in the first quarter of 2018 reached 3.41 TWh, compared to 3.58 TWh in the same period of 2017 – denoting a change of -5% y/y. In the context of high volatility on commodity markets (coal and CO_2), wind-based generation had minor impact on average energy prices in the first quarter of 2018. It should however be noted that wind-based production was unevenly distributed between the months of 2018 (1.72 TWh in January vs 0.59 TWh in February vs 1.10 TWh in March) – which translated into swings in the average monthly price. National energy consumption increased by 2.8% y/y in the first quarter of 2018 to 45.09 TWh. The additional energy consumption was accommodated mainly by supply from foreign sources: net import grew to 1.59 TWh in the first quarter of 2018 from 0.22 TWh in the first quarter of 2017. This had a curbing effect on energy price growth but was insufficient to counteract the aforementioned cost factors.



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 contracts in the first quarter of 2018 reached PLN 186/MWh, while in the same period of last year price of BASE_Y-18 was PLN 160/MWh on average (+16% y/y). Trading volume for BASE_Y-19 in the first quarter of 2018 was 18.1 TWh – this is 159% higher than the BASE_Y-18 trading volume in the first quarter of 2017. The average price for PEAK5_Y-19 contracts in the first quarter of 2018 was PLN 231/MWh and was 10% higher than the analogical contract PEAK5_Y-18 quoted in the first quarter of 2017. PEAK5_Y-19 trading volume in the first quarter of 2018 amounted to 0.6 TWh – this is by 10% lower than the PEAK5_Y-18 in the first quarter 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 hourly quotations, weighted by the trading volume.

International market

Wholesale market (comparison of day-ahead markets)

Chart: Regional reversal of price relations (PLN/MWh).



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

Wholesale energy prices in Germany declined from PLN 179/MWh in the first quarter of 2017 to PLN 148/MWh in the first quarter of 2018 (decrease of prices was particularly affected by wind production in January 2018 whoch was nearly twice as high as in January 2017). The situation In the Czech Republic the energy price declined from PLN 183/MWh in the first quarter of 2017 to PLN 155/MWh in the first quarter of 2018. The situation in Sweden was different, with energy prices increasing from PLN 142/MWh in the first quarter of 2017 to PLN 165/MWh in the first quarter of 2017 to PLN 165/MWh in the first quarter of 2018. The situation in Lithuania – increase from PLN 151/MWh to PLN 177/MWh. These changes resulted in the reversal of price relations – in the base period, energy prices in the north (Sweden, Lithuania) were approx. PLN 30/MWh lower in comparison to prices in the Czech Republic and Germany – while in the first quarter of 2018 the opposite was true. In Poland, wholesale energy prices went up from PLN 155/MWh to PLN 184/MWh. This evolution of wholesale energy prices was reflected in the foreign trade balance.

Chart: Comparison of average electricity prices on Polish market and on selected European markets in the first quarter of 2018 (prices in PLN/MWh, average exchange rate EUR/PLN 4.18).



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

International trading

Import Export Balance 800 600 400 200 0 -200 -400 -600 -800 Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Feb | Jan Mar 2017 2018

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

Source: own work based on PSE data

In the first quarter of 2018, Poland was a net importer of electricity: the foreign trade balance was 1.59 TWh (import of 2.10 TWh, export of 0.51 TWh) – in the same period last year, import and export were close to equal (import of 1.60 TWh, export of 1.39 TWh, balance of 0.22 TWh). As a result, the balance (net import) increased seven-fold y/y. The main change in relation to the base period was a reversal of the trade balance with Germany and the Czech Republic – the total trade volume with these two countries amounted to 0.86 TWh of net export in the first quarter of 2017 vs 0.17 TWh of net import in the first quarter of 2018, which explains the y/y change in the balance by 1 TWh. The main net import direction was Sweden, with the balance of 0.73 TWh being similar to that in the same period last year. Net import from Lithuania of 0.30 TWh also remained close to last year's level. Net import from Ukraine grew to 0.42 TWh from 0.33 TWh in the same period of last year.

Diagram: Geographical structure of commercial exchange in the first quarter of 2018 (GWh).



Source: own work based on PSE 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 2017 (at the preparation date of this report, Eurostat has not ye published newer data), an additional burden for individual customers accounted for approx. 25% of the electricity price and was lower than EU average. In Denmark and Germany the proportion of additional charges in the price of electricity exceeded 50%.

Prices of certificates

In the first quarter of 2018, the average price of green certificates (PMOZE) reached PLN 63/MWh and was 80% higher than in the same period of last year (index OZEX_A). Updated Act on renewable energy sources of July 2017 introduced new way of the substitute fee calculatation – as 125% of the average market price from the previous year. Market price changes were also affected by a 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 first quarter of 2018 reached PLN 117/MWh and was 5% lower than in the same period last year. The decline resulted from a higher supply of energy produced in gas-fired cogeneration sources and a reduction of the substitute fee from PLN 120/MWh in 2017 to PLN 115/MWh in 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.

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. When it comes to costs of CO_2 emissions it means the expenses for purchasing EUA allowances to cover the deficit (i.e. the difference between CO_2 emissions at PGE Group's generating units and the free-of-charge allowances received under derogation in accordance with the National Investment Plan).

In the first quarter of 2018, the average weighted price of the EUA DEC 18 instrument was EUR 10.33/t and was nearly twice as high as the average price of EUR 5.19/t of EUA DEC 17 in the analogical period of previous year. The growth in prices of CO_2 emission allowances observed in the second half of 2017 and the first quarter of 2018 is a reflection of progress in the legislative process aimed at reforming the ETS system. In November 2017, during so called trilogue, an agreement was reached between the European Parliament, the European Commission and the Estonian Presidency as to the final wording of the reformed directive. In January 2018, the draft was formally adopted by the European Parliament and at the end of February accepted by the Council of the European Union. The agreement includes a doubling of the volumes of allowances for the market stability reserve ("MSR") in 2019-2023 from 12% to 24%, together with the introduction of cyclical cancellations of allowances from 2023. Chart: Prices of CO₂ emission rights.



Source: Bloomberg, own work

3.2.2. 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 CO_2 from major Group installations in the first quarter of 2018 in comparison to allocation of CO_2 emission rights for 2018 (in Mg).

Operator	CO ₂ emissions in Q1 2018*	Allocation of CO ₂ emission rights for 2018**	
Bełchatów Power Plant	9 653 200	6 211 022	
Turów Power Plant	1 727 902	2 500 954	
Opole Power Plant	1 818 269	1 437 267	
ZEDO ***	1 126 684	1 187 286	
Bydgoszcz CHPs	300 862	290 951	
Lublin Wrotków CHP	221 951	166 164	
Gorzów CHP	171 969	129 987	
Rzeszów CHP	126 328	78 433	
Kielce CHP	88 054	52 905	
Zgierz CHP	53 818	22 210	
TOTAL PGE GIEK S.A.	15 289 037	12 077 179	
Rybnik power plant	1 204 968	703 890	
Wybrzeże CHPs****	790 627	583 062	
Kraków CHP	713 364	497 470	
ZEW Kogeneracja*****	634 534	477 859	
Zielona Góra CHP	157 864	47 491	
Toruń CHP	107 443	52 056	
TOTAL Acquired assets	3 608 800	2 361 828	

TOTAL Conver	ntional Gene	eratior	n segment	:			18	3 897 8 3	37		14 439 007

* 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 power plant, Dolna Odra power plant, Szczecin power plant

**** Gdańsk CHP and Gdynia CHP

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

3.3. Supply markets

3.3.1. Fuel purchase costs

Table: Volume and cost of purchase of fuels from third party suppliers in the first quarter of 2017 and 2018.

	Q	L 2018	Q1 2017		
Type of fuel	Volume (tons ths)	Cost (PLN m)	Volume (tons ths)	Cost (PLN m)	
Hard coal	2 623	619	1 308	290	
Gas (cubic metres ths)	397 104	291	242 934	179	
Biomass	175	30	133	24	
Fuel oil*	12	30	7	10	
TOTAL		970		503	

* heavy and light

In the first quarter of 2018 the costs of purchasing primary fuels from providers outside the Group amounted to PLN 970 million and were higher by PLN 467 million than in the first quarter 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 101% (PLN +292 million)
- The higher volume of hard coal purchased in the first quarter of 2018 is mainly related to the acquisition of EDF's assets.
 higher average price by 6% (PLN +37 million)
- Higher hard coal price in the first quarter 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 63% (PLN +114 million)
 Increased volume of gas used results from acquisition of gas-fired EDF assets and from higher productions at gas-fired CHP plants PGE GiEK S.A. (see p. 4.2.1 of this report).
- lower average price by 1% (PLN -2 million)

Fuel oil

- higher average price by 75% (PLN +13 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 71% (PLN +7 million)
 Higher purchase volume in the irst quarter of 2018 compared to the analogical period of the previous year results from impact of acquisition of assests 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

- higher purchase volume by 32% (PLN +8 million) higher volume of biomass purchase is a result of heat production in the Acquired assets and higher purchase of this material in Szczecin CHP (see p. 4.2.1 of this report).
- lower average price by 5% (PLN -2 million)

In the first quarter of 2018 approximately 56% 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 71% of total production.

3.3.2. 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.

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 transaition 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.

Not meeting the levels of ratios indicated by the ERO President will 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.

Tariff for heat

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 first quarter of 2017.

4. Results of PGE Capital Group

4.1. Key financial results of the PGE Capital Group

Key financial data	Unit	Q1 2018	Q1 2017	% change
Sales revenues	PLN million	7 137	5 741	24%
EBIT	PLN million	1 315	1 201	9%
EBITDA	PLN million	2 214	1 948	14%
LTC compensations	PLN million	14	75	-81%
LTC revenues	PLN million	14	0	-
LTC settlements adjustment (other operations)	PLN million	0	75	-
Capital expenditures	PLN million	855	1 088	-21%
Net cash from operating activities	PLN million	1 681	1 637	3%
Net cash from investing activities	PLN million	-1 818	425	-
Net cash from financial activities	PLN million	-60	-80	-25%
EBITDA margin	%	31%	34%	

Key financial data		As at December 31, 2018	As at December 31, 2017*	% change
Working capital	PLN million	1 471	513	187%
Net debt/LTM EBITDA **	x	0.98	0.99	

* Data restated

** LTM EBITDA - Last Twelve Months EBITDA

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

	Q1	Q1	%
	2018	2017	change
LTC compensations	14	75	-81%
Voluntary Leave Program	-2	-7	-71%
Total	12	68	-82%

4.1.1. Consolidated statement of comprehensive income

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



* Adjusted for one-offs

* 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.

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



	EBITDA Q1 2017	Conventional Generation*	Renewables	Supply**	Distribution	Other Operations*** + consolidation adjustments	EBITDA Q1 2018
Change		352	23	-54	20	-19	
EBITDA reported Q1 2017	1 948	992	91	243	618	4	
One-offs Q1 2017	68	68	0	0	0	0	
Recurring EBITDA Q1 2017	1 880	924	91	243	618	4	
Recurring EBITDA Q1 2018		1 276	114	189	638	-15	2 202
One-offs Q1 2018		12	0	0	0	0	12
EBITDA reported Q1 2018		1 288	114	189	638	-15	2 214

One-offs

* Result of the segment in Q1 2018 includes 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.

** Result of the segment in Q1 2018 includes EBITDA of PGE Paliwa sp. z o.o.

*** Result of the segment in Q1 2018 includes EBITDA of companies: 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).



Chart: Net debt (in PLN million).



4.2. Key operational figures of PGE Capital Group

Table: Key operational figures.

Key figures	Unit	Q1 2018	Q1 2017	% change	2017
Lignite extraction	Tons m	12.86	13.34	-4%	49.51
Net electricity production	TWh	17.66	15.00	18%	56.79
Heat sales	PJ	23.49	7.88	198%	24.85
Sales to final customers*	TWh	10.54	10.06	5%	40.43
Distribution of electricity**	TWh	9.19	8.96	3%	35.34

* after elimination of sales within PGE Group

** with additional estimation

4.2.1. Balance of energy of PGE Capital Group

Sales of electricity

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

Sales volume	Q1 2018	Q1 2017	% change	2017
SALES IN TWh, including:	19.63	17.07	15%	65.78
Sales to end-users*	10.54	10.06	5%	40.43
Sales on the wholesale market, including:	8.39	6.29	33%	22.67
Sales on the domestic wholesale market - power exchange	7.32	4.16	76%	14.66
Other sales on the domestic wholesale market	0.94	2.03	-54%	7.55
Sales to foreign customers	0.13	0.10	30%	0.46
Sales on the Balancing Market	0.70	0.72	-3%	2.68

* after elimination of internal sales within PGE Group

The higher volume of sales to end customers 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 (10 TWh). The higher sales volume on the wholesale market – exchange results largely from expanded generation capacity due to the 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 "exchange obligation", which led to the transfer of sales into the regulated segment 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	Q1 2018	Q1 2017	% change	2017
PURCHASES IN TWh, including:	3.47	3.36	3%	13.76
Purchases on the domestic wholesale market – power exchange	1.21	0.75	61%	2.55
Purchases on the domestic wholesale market, other	0.09	1.02	-91%	4.43
Purchases from abroad	0.12	0.01	1100%	0.21
Purchases from Balancing Market	2.05	1.58	30%	6.57

Higher purchases on the wholesale market – exchange resulted from portfolio optimisation and exercise of options to buy back previously sold electricity at prices below the cost of manufacture. The decline in purchases on the domestic wholesale market – other is mainly the result of the removal of the obligation to purchase electricity from renewable energy sources of over 500 kWe. The increase in purchases on the balancing market resulted from a higher volume of reductions forced by PSE S.A. in January 2018, largely due to higher wind-based generation in that month.

Production of electricity

Table: Production of electricity (in TWh).

Generation volume	Q1 2018	Q1 2017	% change	2017
ELECTRICITY HENERATION IN TWh, including:	17.66	15.00	18%	56.79
Lignite-fired power plants	9.82	10.57	-7%	38.95
including co-combustion of biomass	0.00	0.00	-	0.00
Coal-fired power plants	3.95	2.51	57%	11.11
including co-combustion of biomass	0.01	0.04	-75%	0.13
Coal-fired CHP plants	1.80	0.38	374%	1.47
including co-combustion of biomass	0.01	0.00	-	0.00
Gas-fired CHP plants	1.49	0.95	57%	2.87
Biomass-fired CHP plants	0.05	0.05	0%	0.20
Pumped-storage power plants	0.11	0.10	10%	0.44
Hydroelectric plants	0.15	0.12	25%	0.47
Wind power plants	0.29	0.32	-9%	1.28
Including Acquired assets *:	3.16	-	-	1.58

* 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 first quarter of 2018, compared to the first quarter of 2017, was lower generation at hard coal-fired power plants. This growth results from inclusion of Rybnik power plant in generation (1.22 TWh). Higher generation at Opole power plant resulted from repair-related downtime being lower by 737 hours (unit no. 3 remained in medium overhaul in March 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 demand from PSE S.A. in the first quarter of 2018.

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 (1.41 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 (0.53 TWh).

Production in biomass CHP plants remained at the similar level as in the first quarter of 2017.

Decreased production in lignite-based power plants in the first quarter of 2018 results from longer downtime of units in Bełchatów power plant (by 1 518 h) and Turów power plant (by 1 720 h) in repairs and modernisations. Unit no. 6 in Bełchatów power plant was in medium overhaul from March 3 till April 6, unit no. 2 was in medium overhaul from February 11 till March 9 and unit no. 1 was in medium overhaul from January 1 till January 15 (in case of uni no. 1 longer downtime in repair was compensated by shorter time in reserve). In Turów power plant, during the whole first quarter of 2018, unit no. 2 was in modernization while unit no. 6 was in repairs for 332 h longer compared to the first quarter of 2017.

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

Production at hydro power plants at higher level compared to the first quarter of 2017, results mainly from better hydrological conditions.

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

4.2.2. Sales of heat

In the first quarter of 2018 the heat sales in PGE Capital Group totaled 23.49 PJ and were higher by 15.61 PJ than in the first quarter of 2017. The above growth includes the sales of heat by the Acquired assets from Conventional Generation segment, which were not recognised in the first quarter of 2017 (15.17 PJ) and higher sales by branches of PGE GiEK S.A. (0.44 PJ), what resulted largely from increased demand for heat caused by the lower average outside temperatures.

4.3. Key financial results in the business segments

Table: Breakdown of the Group's revenues by business segments in the first quarter of 2018 and 2017.

PLN million	Q1 2018	Q1 2017	% change
Conventional Generation	4 644	3 164	47%
Renewables	212	192	10%
Supply	3 650	3 953	-8%
Distribution	1 516	1 643	-8%
Other Operations	144	172	-16%
TOTAL	10 166	9 124	11%
Consolidation adjustments	-3 029	-3 383	-10%
TOTAL AFTER ADJUSTMENTS	7 137	5 741	24%

Table: Key financial figures for each business segment in the first quarter of 2018 (after intrasegmental eliminations).

PLN million	EBITDA	EBIT	Capital expenditures	Assets of the segment*
		Q1 2018		
Conventional Generation	1 288	765	596	44 591
Renewables	114	50	15	3 287
Supply	189	182	2	4 240
Distribution	638	346	226	17 897
Other Operations	17	-5	41	694
TOTAL	2 246	1 338	880	70 709
Consolidation adjustments	-32	-23	-25	-3 320
TOTAL AFTER ADJUSTMENTS	2 214	1 315	855	67 389

* see note 5.1 to the consolidated financial statements

Table: Key financial figures for each business segment in the first quarter of 2017 (after intrasegmental eliminations).

PLN million	EBITDA	EBIT	Capital expenditures	Assets of the segment*
		Q1 2017		
Conventional Generation	992	630	788	37 101
Renewables	91	25	12	3 631
Supply	243	237	3	3 569
Distribution	618	326	263	17 332
Other Operations	12	-21	33	591
TOTAL	1 956	1 197	1 099	62 224
Consolidation adjustments	-8	4	-11	-2 613
TOTAL AFTER ADJUSTMENTS	1 948	1 201	1 088	59 611

* see note 5.1 to the consolidated financial statements

4.3.1. Conventional Generation segment

Assets

Diagram: Main assets of the Conventional Generation segment.



Key financial figures

Table: Key figures for Conventional Generation.

PLN million	Q1 2018	Q1 2017	% change
Sales revenues	4 644	3 164	47%
EBIT	765	630	21%
EBITDA	1 288	992	30%
Capital expenditures	596	788	-24%



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

---*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 first quarter of 2018 compared to the results of the first quarter of 2017 included:

- Lower electricity sales volume mainly as a result of lower production at Belchatów and Turów power plants, due to longer time of units in overhauls and modernization (see p. 4.2.1 of this report).
- Increse 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 first quarter of 2018 was PLN 172.2/MWh (PLN 173.3/MWh including the impact of the Acquired assets), compared to PLN 163.5/MWh in the first quarter of 2017.
- Lower revenues from certificates, mainly due to lack of revenues from the sale of white certificates, which were recognized in the first quarter of 2017.
- Lower revenues from ancillary control services, mainly lower revenues from Operational Capacity Reserve due to lower volume of ORM in Opole and Bełchatów power plant (unit no. 1) as a result of lower trading factor of those power plants.
- Higher revenues from sales of heat, resulting from increased demand for heat by off-takers caused by lower average daily temperatures.
- Higher fuel consumption costs, mainly hard coal. It is mainly a result of higher electricity production in Opole power plant (see p. 4.2.1 of this report) ang higher prices of hard coal. Main changes on different types of fuel are presented on the chart below.
- Lower CO₂ costs as a result of lower unit cost of CO₂ emission rights and lower emission of CO₂. Above favourable effect was
 decreased by unfavourable impact of lower allocation of CO₂ emission rights.
- Higher personnel expenses mainly as a result of higher remuneration fund and salary-related expenses.
- Higher capitalised costs, mainly as a result of greater involvement of own services into investment execution.
- EBITDA generated by the Acquired assets in the first quarter of 2018.



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

*Acquired assets: Rybnik power plant, EC Gdańsk, EC Gdynia, EC Kraków, EC Wrocław, EC Zzechnica, EC Zawidawie, EC Zielona Góra, EC Toruń

Capital expenditures

Table: Capital expenditures incurred in Conventional Generation segment in the first quarter of 2018 and 2017.

PLN million	Q1 2018	Q1 2017	% change
Investments in generating capacities, including:	440	684	-36%
 Development 	269	538	-50%
 Modernisation and replacement 	171	146	17%
Purchase of finished capital goods	10	2	400%
Vehicles	1	0	-
Other	3	3	0%
Acquired assets*	68	0	-
TOTAL	522	689	-24%
Capitalized costs of overburden removal in mines	74	99	-25%
TOTAL with capitalized costs of overburden removal	596	788	-24%

*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 first quarter of 2018 were incurred for the following projects:

 construction of units 5 and 6 in Opole power plant 	PLN 166 million;
 construction of unit no. 11 in Turów power plant 	PLN 72 million;
 construction of a Thermal Processing Installation with Energy Recovery at Rzeszów CHP 	PLN 31 million;
 modernisation of units 1-3 in Turów power plant 	PLN 18 million;
 construction of installation to transport ash and suspension from unit 14 in Belchatów power plant 	PLN 15 million;
 change in technology of furnace waste storage in Bełchatów power plant 	PLN 10 million.

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

- Decision on environmental conditions secured for project "Lignite mining at Złoczew deposit"; the appeal against this decision was submitted by the Greenpeace Poland Foundation in a letter dated April 24, 2018
- Use permit secured for dam on reservoir Witka;
- Construction of both cooling towers for units 5 and 6 at Elektrownia Opole completed.

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

Change

Table: Key figures for Renewables.

PLN million	Q1 2018	Q1 2017	% change
Sales revenues	212	192	10%
EBIT	50	25	100%
EBITDA	114	91	25%
Capital expenditures	15	12	25%

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



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

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

- Decrease in revenues from electricity sales from wind farms resulting mainly from: (i) unfavourable wind conditions in the analysed period, what translated into lower volume of electricity sales by 38 GWh and (ii) lower sale price by PLN 7/MWh compared to the first quarter of 2017.
- The increase of revenues from sales of certificates from wind farms resulting from positive adjustment of certificates sold and revaluation of inventories, what attributed to the growth of revenues by approx. PLN (+) 4 million.
- The increase of sales revenues of electricity from hydro power plants mainly due to favourable hydrologic conditions in the analysed period, what translated into increased volume of electricity sales by 20 GWh and price higher by PLN 19/MWh in comparison to the first 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 25/MWh in the first guarter of 2018 compared to the first guarter of 2017, what attributed to the growth of revenues by approx. PLN (+) 1 million; (ii) positive adjustment of valuation of certificates sold and revaluation of inventories what attributed to the increase of revenues by approx. PLN (+) 1 million.
- Higher sales revenues from ancillary control services (agreement with PSE S.A.) result mainly from higher volume and higher tariff for active cold intervention reserve service.
- Favourable deviation in costs results mainly from lower costs of services of Trading and Technical Operator and trade balancing and lower purchase of electricity from the Balancing Group.
- 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.

Capital expenditures

Table: Capital expenditures incurred in Renewables segment in the first quarter of 2018 and 2017.

PLN million	Q1 2018	Q1 2017	% change
Investments in generating capacities, including:	14	11	27%
 Development 	9	5	80%
 Modernisation and replacement 	5	6	-17%
Other	1	1	0%
TOTAL	15	12	25%

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.

Diagram: Area of PGE distribution grid.



Key financial figures

Table: Key figures for Distribution.

PLN million	Q1 2018	Q1 2017	% change
Sales revenues	1 516	1 643	-8%
EBIT	346	326	6%
EBITDA	638	618	3%
Capital expenditures	226	263	-14%

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



* Except costs of transmission by PSE S.A. ** Other revenues (reactive power, excess capacity, additional services), resumption of deliveries, balance of transit services

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

- Increased volume of distributed energy by 235 GWh, resulting from inter alia higher number of customers measured by power take-off points (by approx. 46 thousand) in comparison to the first quarter of 2017 and growth of the economic activity of customers 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 0.4/MWh after decreasing revenues by cost of fees for PSE S.A.
- Increase of revenues from connection fees results mainly from connection of two substations of PKP Energetyka S.A. in Łódź Branch.
- Increase of other revenues from operations mainly from passive power and excessive capacity what results from bahaviour of off-takers, whose power consumption is higher than volume contracted in the agreement with PGE Dystrybucja S.A.
- Higher costs of energy to cover balancing difference mainly as a result of higher volume by 89 GWh.
- 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 on-going process to optimise salaries.
- Change in other resulting mainly from refund of property tax (approx. PLN 4 million) for 2013-2017 due to change of classification of transformer station to buildings.

Capital expenditures

Table: Capital expenditures incurred in Distribution segment in the first quarter of 2018 and 2017.

PLN million	Q1 2018	Q1 2017	% change
MV and LV power networks	88	80	10%
110/ MV and MV/MV	19	33	-42%
110 kV power lines	3	7	-57%
Connection of new off-takers	83	91	-9%
Purchase of transformers and energy counters	10	31	-68%
IT, telemechanics and communication	14	15	-7%
Other	9	6	50%
TOTAL	226	263	-14%

4.3.4. Supply segment

Key financial figures

Table: Key figures for Supply.

PLN million	Q1	Q1	% change
	2018	2017	
Sales revenues	3 650	3 953	-8%
EBIT	182	237	-23%
EBITDA	189	243	-22%
Capital expenditures	2	3	-33%

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



*PGE Paliwa sp. z o.o.

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

- Lower result from electricity by PLN 65 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), after which balancing of electricity demand resulting from sales to final off-takers partly occurred.
- Decrease in costs to redeem certificates, mainly as a result of lower market prices for green and yellow certificates, partly compensated by increased demand for certificates steming from increased obligation to redeem green, yellow and purple certificates.
- Decrease of revenues from services performed within the Group by PLN 8 million, resulting from the change of settlement method between the companies (PLN -18 million), partly compensated by the increase of revenues from the Agreement for Commercial Management of Generation Capacities ("ZHZW") due to higher trading volume by 0.7 TWh and higher sale and purchase prices of electricity under management. Increase of revenues from PGE GIEK S.A. amounted to PLN 10 million.

4.3.5. Other operations

Key financial figures

Table: Key figures for Other operations.

PLN million	Q1 2018	Q1 2017	% change
Sales revenues	144	172	-16%
EBIT	-5	-21	76%
EBITDA	17	12	42%
Capital expenditures	41	33	24%

Increase in the EBITDA result of the Other operations segment by approx. PLN 5 million was mainly connected with the EBITDA of PGE Systemy S.A. higher by approx. PLN 8 million as a consequence of increasing the range of services provided for companies from the Group belonging to other segments.

Capital expenditures

Capital expenditures in Other Operations in the first quarter of 2018 amounted to PLN 41 million compared to PLN 33 million in the first quarter of 2017.

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

PGE EJ 1 sp. z o.o. – for nuclear project development
 PGE Systemy S.A. – for IT infrastructure and software development
 PLN 14 million.

47 of 57

4.4. Significant events of the reporting period and subsequent events

No significant event took place in the first quarter of 2018 and until the publicaton date of this report.

4.4.1. Description of material agreements

No material agreements took place in the first quarter of 2018.

4.4.2. Changes in the Management Board and Supervisory Board

As at March 31, 2018 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 Wasiłek	Vice-President for Operations
Emil Wojtowicz	Vice-President for Finance

As at January 8, 2018 the Supervisory Board consisted of:

Name and surname	Desition	
of the Supervisory Board member	POSICION	
Anna Kowalik	Chairman of the Supervisory Board	
Artur Składanek	Vice-Chairman of the Supervisory Board – independent	
Grzegorz Kuczyński	Secretary of the Supervisory Board - independent	
Janina Goss	Supervisory Board Member - independent	
Witold Kozłowski	Supervisory Board Member - independent	
Mieczysław Sawaryn	Supervisory Board Member - independent	

On January 9, 2018 the State Treasury, represented by the Minister of Energy, by way of a written statement, appointed Mr. Tomasz Hapunowicz as a member of Supervisory Board of the Company as of January 9, 2018.

As at the publication date of this report, the Supervisory Board of the Company consists of:

Name and surname	Desition
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
Janina Goss	Supervisory Board Member - independent
Tomasz Hapunowicz	Supervisory Board Member - independent
Witold Kozłowski	Supervisory Board Member - independent
Mieczysław Sawaryn	Supervisory Board Member - independent

Name and surname of the member of the Supervisory Board	Audit Committee	Corporate Governance Committee	Strategy and Development Committee	Appointment and Remuneration Committee
Janina Goss	Member from March 2, 2016			Member from March 2, 2016
Tomasz Hapunowicz		Member From January 23, 2018	Member From January 23, 2018	
Anna Kowalik	Member		Member From January 23, 2018	Member
Witold Kozłowski		Member from Sep. 13, 2016 Chairman from October 25, 2016	Member from December 13, 2017	Member from September 13, 2016
Grzegorz Kuczyński	Member from March 2, 2016 Chairman from March 18, 2016	Member from March 2, 2016	Member From January 23, 2018	
Mieczysław Sawaryn			Member from March 2, 2016	Member from March 2, 2016 Chairman from August 8, 2016
Artur Składanek	Member From September 19, 2017	Member from March 2, 2016	Member from March 2, 2016 Chairman from January 23, 2018	

In the first quarter of 2018 the standing committees of the Supervisory Board consisted of:

4.4.3. 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 20.4 to the consolidated financial statements.

The issue of compensation regarding the conversion of shares

Information on the issue of compensation regarding the conversion of shares are described in note 20.4 to the consolidated financial statements.

4.4.4. 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 20.4 to the consolidated financial statements.

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

Table: Main guarantees granted by the PGE Group companies as at March 31, 2018.

Issuer of guarantee	Entity entitled to guaran- tee (Beneficiary)	Entity whose liabilities are subject to guaran- tee (Debtor)	Date of commitment due to the granted guarantee (yyyy-mm-dd)	Validity of guar- antee until (yyyy-mm-dd)	Value of guaran- tee (million)	Currency	Value of loan subject to guar- antee (million)	Currency
PGE S.A.	Bondholders	PGE Sweden AB	2014-05-22	2041-12-31	2 500.0	EUR	638.0	EUR
PGE S.A.	Nordic Investment Bank	PGE GIEK S.A.	2017-05-12	2024-12-31	134.3	EUR	111.9	EUR

4.4.6. 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 consolidated financial statements.

4.4.7. 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. In the first quarter of 2018, PGE EJ 1 received a loan from its shareholders instead of a share capital increase.

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 first quarter 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 first quarter 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

In 2013, PGE EJ1 sp. z o.o. signed an agreement for environmental studies, site characterisation and services related to obtaining permits and permissions necessary in the investment process associated with the construction of a nuclear power plant with a consortium of WorleyParsons Nuclear Services JSC, WorleyParsons International Inc. and WorleyParsons Group Inc. ("WorleyParsons"), in the amount of approximately PLN 253 million net (including basic scope of approximately PLN 167 million). Due to delays in the implementation of the agreement, in 2013 PGE EJ 1 accrued to WorleyParsons a contractual penalty in the amount of approximately PLN 7 million. In addition, in connection with a further improper execution of services in 2014, PGE EJ 1 accrued contractual penalties in the total amount of approximately PLN 43 million. On December 23, 2014, PGE EJ 1 terminated the contract for reasons attributable to WorleyParsons.

Contractual penalties of 2013 were deducted from the remuneration payable to WorleyParsons in 2014. Penalties for 2014 were partly deducted from the remuneration payable to WorleyParsons and partly obtained from the bank guarantee. After all deductions and amounts received by the company from the bank guarantee, PGE EJ 1 is entitled to claim towards WorleyParsons for payment of approximately PLN 14 million as a penalty by way of delay.

On August 7, 2015 PGE EJ 1 filed with the District Court in Warsaw a claim against WorleyParsons for the payment of approximately PLN 15 million plus statutory interest for late payment of the amount due.

On November 13, 2015, PGE EJ 1 received a payment demand from WorleyParsons for about PLN 59 million due for WorleyParsons remuneration, which - according to the claimant - was deducted unduly, for the works that in opinion of WorleyParsons were unjustifiably not accepted and for the project management, as well as funds collected from the bank guarantee. The court obligated PGE EJ 1 sp. z o.o. to submit a statement of defence within three months from receipt. Moreover, value of claims by WorleyParsons amounting to approximately PLN 54 million was included in the WorleyParsons' payment demand for PLN 92 million of March 13, 2015 with regard to termination of the agreement. On March 24, 2017, PGE EJ1 received a procedural document expanding the action being brought by WorleyParsons from approximately PLN 59 million to approximately PLN 104 million (i.e. by around PLN 45 million). It is possible that WorleyParsons will file another claim amounting to approximately PLN 32 million representing the difference in amount of claims from the demand for payment of March 13, 2015 and the expanded claim received on March 24, 2017.

PGE EJ 1 does not accept the claim and regards its possible admission by the court as less likely than its dismissal.

On March 29, 2017, mediation between the Parties took place – the meeting did not result in a settlement. The first hearing was held on December 8, 2017, during which the Court decided to examine the matter behind closed doors (without an audience).

Further hearings in the case took place on February 15 and 16, 2018.

The company filed a response to WorleyParsons' expanded lawsuit on March 31, 2018.

Furthermore, on May 20, 2016, PGE EJ 1 filed a motion with the District Court for the Capital City of Warsaw in Warsaw to commit WorleyParsons to attempt reaching a settlement concerning PGE EJ 1's claims of PLN 41 million together with statutory interest for compensation for undue contractual performance. A conciliation meeting at the court is scheduled for June 8, 2017. During the hearing on June 8, 2017, the Court stated that a certified copy of the application was not delivered to the American WorleyParsons companies, and therefore it adjourned the hearing without setting a date. On July 3, 2017, a representative of PGE EJ 1 received information that a certified copy of the application was delivered to the American companies. At a hearing on September 19, 2017, the court ruled that a settlement had not been agreed and concluded the case.

4.5. Transactions with related entities

Information about transactions with related entities is presented in note 22 to the consolidated financial statements.

4.6. Publication of financial forecasts

PGE S.A. did not publish financial forecasts.

4.7. Information about shares and other securities

4.7.1. 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%

4.7.2. 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 2017 did not hold shares of PGE S.A.

5. Statements of the Management Board

Statement on the reliable preparation of the financial statements

To the best knowledge of the Management Board of PGE S.A., the quarterly consolidated financial statements and comparative data were prepared in accordance with the governing accounting principles, present a fair, true and reliable view of the material and financial situation of PGE Capital Group and its financial result.

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

6. Approval of the Management Board's Report

The foregoing Management Board's Report on activities of the Capital Group of PGE Polska Grupa Energetyczna S.A. was approved for publication by the Management Board of the parent company on May 15, 2018.

Warsaw, May 15, 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 Wasiłek

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.
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.
CCS	Carbon Capture and Storage Technology used to capture CO ₂ from the emissions of fossil fuel power plants followed by its underground storage.
CDM	Clean Development Mechanisms, one of the flexible mechanisms introduced under Article 12 of the Kyoto Protocol.
CER	Certified Emission Reduction.
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.
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.
ERO	Energy Regulatory Office (pol. URE).
ERU	Emission Reduction Units.
EUA	European Union Allowances: transferable CO ₂ emission allowances; one EUA allows an operator to release one
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 a network with a nominal voltage of 110 kV.	
(HV)	
Integrated Gasilication Complined Cycle.	ing the
maximum achievable capacity of that system, confirmed by the acceptance protocols of that system (a his value, it does not change over time	storical
IRIESP the Transmission Network Operation and Maintenance Manual required to be prepared by a transm	nission
system operator pursuant to the Energy Law; instructions prepared for power networks that specify in det	tail 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 s	system
balancing and system limitation management, including information on comments received from system	n users
and their consideration, are submitted to the ERO President for approval by way of a decision.	
IKZ Cold Intervention Reserve Service – service consisting of maintaining power units ready for energy produced on request of PSE S A	uction.
I I I I I I I I I I I I I I I I I I I	
Kyoto Protocol the Kyoto Protocol to the United Nations Framework Convention on Climate Change of December 11	. 1997
(Dz.U. of 2005, No. 203, Item 1684), in force since February 16, 2005.	,
KSE the National Power System, a set of equipment for the distribution, transmission and generation of elec	ctricity,
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 territ	tory of
Poland.	
kV kilo volt, an SI unit of electric potential difference, current and electromotive force; 1kV= 103 V.	
kWh kilowatt-hour, a unit of electric energy in the SI system defined as the volume of electricity used by the	e 1 kW
equipment over one hour. 1 kWh = $3,600,000 \text{ J} = 3.6 \text{ MJ}$.	
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	e 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, $1 \text{ MW} = 10^6 \text{ W}$.	
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 s	system
adopted by the Ordinance of the Council of Ministers of July 1, 2008 (Dz. U. of 2008, No. 202, item 1248).	
Nm ³ normal cubic meter; a unit of volume from outside the SI system signifying the quantity of dry gas in 1	m3 of
NO nitrogen ovides	
Operational Canacity ORM constitutes of generation canacities of active Production Schedular Units (IGWa) in operat	ion or
Reserve (ORM) lavover, representing excess capacity over electricity demand available to the TSO under the Energy	zv Sale
Agreements and on the Balancing Market in unforced generation	
Peak peakload	h 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 8:0)0 p.m.
(12-hour standard for the German market) in a given period, for example week, month, quarter or year.	- p
Peak power pumped a special kind of hydroelectric power plants. In addition to river flow and the difference in the water table	e levels
storage plants they need two bodies of water connected with a channel or a pipeline. The power station is situated next	to the
lower lake or at the dam of the upper lake. The pumped storage facilities provide ancillary control servin	ces for
the National Power System. Their functions are to secure stability, provide passive energy, store excessive	power
in the system and supply power to the system in peak time. The pumped storage plants that have a r inflow of water to the upper lake also generate electricity from renewable sources. The main off to	atural
electricity produced by the peak nower pumped storage nower stations and their services is TSO	
PJ petadżul, jednostka pracy/ciepła w układzie SI, 1 PJ = ok. 278 GWh	

PSCMI1	Polish Steam Coal Market Index
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
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.
TFS	Tradition Financial Services, an electricity trading platform used for concluding various transactions, purchase and sale of conventional energy, property rights, renewable energy and CO ₂ emission allowances.
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 energy 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), $1 \text{ V}=1J/1\text{ C}=(1 \text{ kg x m}^2)/(\text{A x s}^3)$.
W (watt)	a unit of power in the International Systems of Units (SI), $1 \text{ W} = 1 \text{ J}/1\text{ s} = 1 \text{ kg x m}^2 \text{ x s}^3$.
Yellow certificate	a certificate confirming generation of energy in gas-fired power plants and CCGT power plants.
Yellow energy	popular name for energy generated in gas-fired power plants and CCGT power plants.