# **MANAGEMENT BOARD'S REPORT**

on activities of PGE Capital Group for the 3-month period

ended March 31, 2023



Leading in the green transition



### TABLE OF CONTENTS

1.	PGE Capital Group	4
1.1.	Characteristics of activities	4
2.	Electricity market and regulatory and business environment	6
2.1.	Macroeconomic environment	6
2.2.	Market environment	
2.3.	CO <sub>2</sub> emission rights granted free of charge1	
2.4.	Regulatory environment1	
3.	Activities of PGE Capital Group 24	
3.1.	Basic operational data for PGE Capital Group2	
3.2.	PGE Group's key financial results2	
3.3.	Operational segments	2
4.	Other elements of the report	
4.1.	Significant events of the reporting period and subsequent events	
4.2.	Significant changes in organisation of the Capital Group	
4.3.	Changes in the Management Board and in the Supervisory Board7	
4.4.	Information about shares and other securities	
4.5.	Publication of financial forecasts	
4.6.	Significant off-balance sheet items	
4.7.	Branches of the Company	
5.	Statement of the Management Board on the reliable preparation of the	
financ	cial statements	6
6.	Approval of the Management Board's Report7	7
Glossa	ary7	8



Key financial data	Unit	Q1 2023	Q1 2022	% change
Sales revenues	PLN m	27 208	16 897	61%
EBIT	PLN m	2 343	1 550	51%
EBITDA	PLN m	3 427	2 615	31%
EBITDA margin	%	13%	15%	
Recurring EBITDA	PLN m	3 346	2 596	29%
Recurring EBITDA margin	%	12%	15%	
Net profit	PLN m	1 811	1 062	71%
Capital expenditures	PLN m	1 557	895	74%
Net cash from operating activities	PLN m	-6 828	1 281	-
Net cash from investing activities	PLN m	-1 645	-913	-
Net cash from financial activities	PLN m	5 347	-978	-

Key financial data		March 31, 2023	December 31, 2022	% change
Working capital	PLN m	3 008	-1 269	-
Net debt	PLN m	5 942 <sup>1</sup>	-2 656	-
Net debt /LTM reported EBITDA <sup>2</sup> (x)	x	0.63	-0.31	
Net debt /LTM recurring EBITDA <sup>2</sup> (x)	x	0.76	-0.37	

One offs affecting EBITDA		Q1 2023	Q1 2022	% change
Provision for prosumers	PLN m	0	19	-
Correction of estimated contribution to Price Difference Payment Fund for year 2022	PLN m	81	0	-
Total	PLN m	81	19	326%

<sup>1</sup> Estimated level of economic financial net debt (taking into account future payments for CO<sub>2</sub> emission rights) amounts to PLN 13 766 million. <sup>2</sup> LTM EBITDA - Last Twelve Months EBITDA.



# 1. PGE Capital Group

# 1.1. Characteristics of activities

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

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



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



The core business of the segment includes production of electricity and heat in cogeneration sources as well as transmission and distribution of heat.



The core business of the segment includes electricity generation from renewable sources and in pumpedstorage power plants and provision of ancillary services.



The core business of the segment includes wholesale trading of electricity on domestic and international market, sale of electricity to final off-takers, trading of CO2 allowances and energy certificates and fuels and provision of services of the Corporate Centre to companies from the PGE Group.



# **予 DISTRIBUTION**

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

CIRCULAR ECONOMY

The activities of the segment include the provision of comprehensive services in the field of management of combustion by-products ("UPS"), provision of services in auxiliary areas for electricity and heat producers and the supply of materials based on UPS.



Other operations include provision of services, through the subsidiaries, to PGE Group, which include organisation of capital raising in form of Eurobonds (PGE Sweden), provision of IT, payroll and HR services, transportation and investing in start-ups.

Additionally, within the segment there are companies responsible for construction of CCGT units in Gryfino (PGE Gryfino 2050 sp. z o.o.), planned new low-emission unit in Rybnik (Rybnik 2050 sp. z o.o.) and other project companies of the Group.

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



# 2. Electricity market and regulatory and business environment

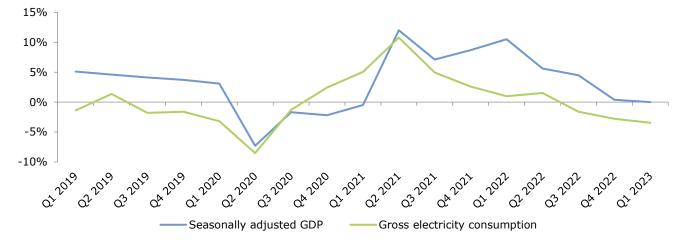
### 2.1. Macroeconomic environment

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

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

In the first quarter of 2023, gross electricity consumption decreased by approx. 3.5% y/y. Lower demand for electricity in Poland in the first quarter of 2023 compared to the first quarter of 2022 is partially justified by the higher air temperature in this period y/y.

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

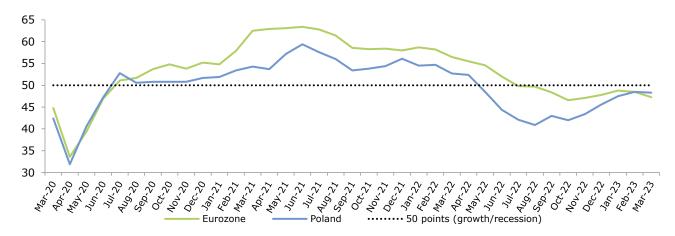


Source: Central Statistical Office of Poland, Polskie Sieci Elektroenergetyczne S.A. (PSE S.A.)

The Purchasing Managers' Index ("PMI") for industry in Poland in 2022 reached an average value of 47.0 points. The beginning of 2023 started with a PMI of 47.5 points. In February, the PMI index reached 48.5 points. From October 2022 to February 2023, the Polish PMI index steadily increased, while March 2023 brought a disturbance of this trend and a slight decrease to 48.3 points. At the same time, it is the eleventh negative reading in a row, i.e. below 50 points. The economic results in the Polish manufacturing sector in the first quarter of 2023 are related to a decrease in production and demand for both domestic and foreign orders. The level of employment in industry is also falling. Despite an improvement compared to the first quarter of 2022, the market situation is still weakened due to the war in Ukraine, high inflation and production costs. The Polish industry is also affected by the condition of the Eurozone industry, where the PMI index in the first quarter of 2023 reached an average of 47.3 points, while in the same period last year it averaged 57.6 points. For the first time since July 2020, the Polish PMI is higher than the PMI of the Eurozone.



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



Source: Markit Economics

The industrial production sold in March 2023 was 2.9% lower y/y. Compared to February 2023, it increased by 14.1%. A decrease was recorded in the production of durable consumer goods - by 9.0% y/y, energy-related goods - by 20.7% y/y and supply goods - by 8.5%. On the other hand, the production of capital goods and non-durable consumer goods increased (20.7% and 1.0% y/y, respectively). In March 2023, the growth rate of sold production of the entire industry decreased by 2.9% y/y. The largest decrease was recorded in the generation and supply of electricity, gas, steam and hot water (21.8% y/y), mining (3.4% y/y), water supply, sewage and waste management, reclamation (0.5% y/y) and manufacturing (0.4% y/y). According to data from the Central Statistical Office, in March 2023, compared to the same period last year, an increase in sold production (at constant prices) was recorded in 13 departments, including in the production of electrical equipment, motor vehicles, trailers and semi-trailers, machines and devices, in the repair, maintenance and installation of machines and devices, and in the production of foodstuffs.



# 2.2. Market environment

### SITUATION IN THE NATIONAL POWER SYSTEM (NPS)

#### Table: Domestic electricity consumption (TWh).

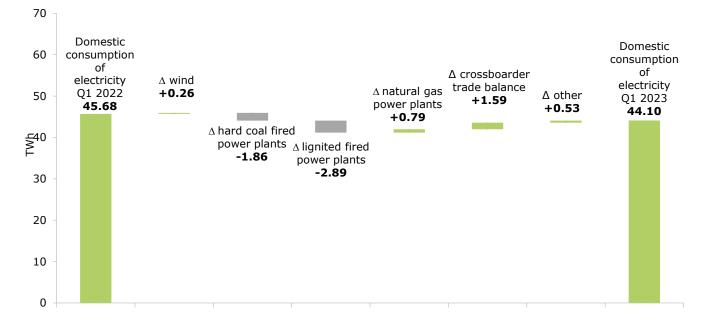
	Q1 2023	Q1 2022	% change
Domestic electricity consumption, including:	44.10	45.68	-3%
Wind farms	6.67	6.41	4%
Industrial thermal hard-coal fired power plants	20.84	22.70	-8%
Industrial thermal lignite fired power plants	9.42	12.31	-23%
Industrial gas-fired power plants	3.93	3.14	25%
International exchange balance	0.63	-0.96	-
Other (hydro power plants, other RES)	2.61	2.08	25%

Source: PSE S.A. data.

#### <u>Q1 2023</u>

In the first quarter of 2023, domestic electricity consumption decreased by 1.6 TWh compared to the base period, mainly due to slower pace of economic growth, higher self-consumption by prosumers and higher average daily temperatures y/y. As a result of improved wind conditions and an increase in installed capacity, electricity production from wind increased by 0.3 TWh compared to the same period previous year. In the first quarter of 2023, Poland was in balance an energy importer, which was a change compared to the first quarter of the previous year (+1.6 TWh). A decrease in production was recorded in hard coal-fired power plants (-1.9 TWh) and in lignite-fired power plants (-2.9 TWh) due to lower domestic electricity consumption. In addition, the fall in natural gas prices resulted in an increase in production based on this type of fuel (+0.8 TWh).

Chart: Energy balance in the NPS (TWh).



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



### ELECTRICITY PRICES - DOMESTIC MARKET

#### DAY-AHEAD MARKET (RDN, SPOT MARKET)

Market/measure	Unit	Q1 2023	Q1 2022	% change
RDN – average price <sup>1</sup>	PLN/MWh	642	630	2%
RDN – trading volume	TWh	13.94	8.38	66%

 $^{1}\mbox{Data}$  from TGE, include weighted average monthly BASE prices.

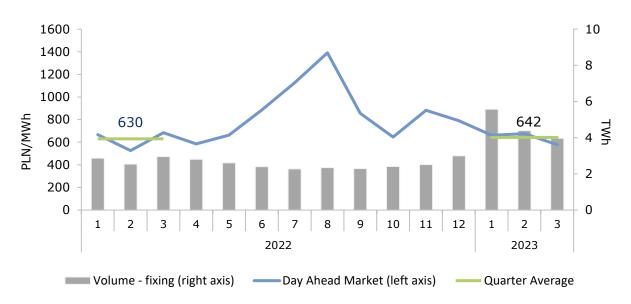
### ANALYSIS - SELECTED PRICE FACTORS AFFECTING RDN QUOTATIONS

Factor	Unit	Q1 2023	Q1 2022	% change
CO <sub>2</sub> emission rights	EUR/t	90.31	82.01	10%
Polish Steam Coal Market Index PSCMI-1	PLN/GJ	32.36	13.47	140%
Wind generation NPS	TWh	6.67	6.41	4%
Ratio: wind generation/ NPS consumption	%	15%	14%	
Ratio: international trading/ NPS consumption	%	1%	-	

In the first quarter of 2023, the average electricity price on the day-ahead market was PLN 642/MWh and was higher by 2% than average price (PLN 630/MWh) in the analogical period of the previous year. The increase in energy prices resulted from higher cost of  $CO_2$  emission rights.

Average level of PSCMI-1 in the first quarter of 2023 was PLN 32.36/GJ, i.e. 140% higher y/y.

Chart: Average monthly prices on the day-ahead market in 2022–2023 (TGE).<sup>1</sup>



<sup>1</sup> Data from TGE, include weighted average monthly BASE prices.

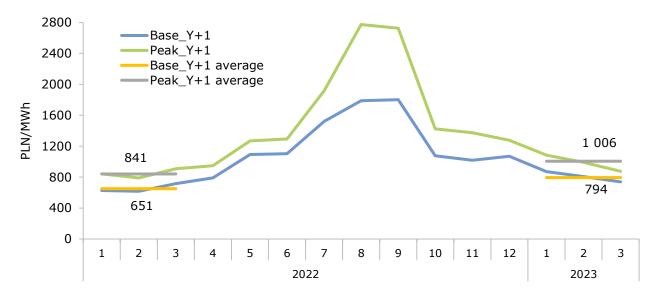


### FORWARD MARKET

Market/measure	Unit	Q1 2023	Q1 2022	% change
BASE Y+1 – average price	PLN/MWh	794	651	22%
BASE Y+1 – trading volume	TWh	4.02	17.32	-77%
PEAK5 Y+1 – average price	PLN/MWh	1 006	841	20%
PEAK5 Y+1 – trading volume	TWh	0.90	1.73	-48%

Electricity prices on forward market are shaped by the similar fundamental factors, as the prices on the Day-Ahead Market described above. The primary factor for the price increase was a significantly reduced supply on the forward market. The high increase in the price of  $CO_2$  allowances was also an important factor.

Chart: Average monthly prices on the forward market in 2022–2023 (TGE). $^1$ 



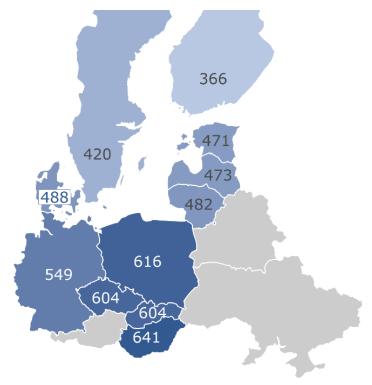
<sup>1</sup> Monthly average index level for forward contracts for the next year (Y+1), baseload and peak, weighted by the trading volume.



ELECTRICITY PRICES - INTERNATIONAL MARKET

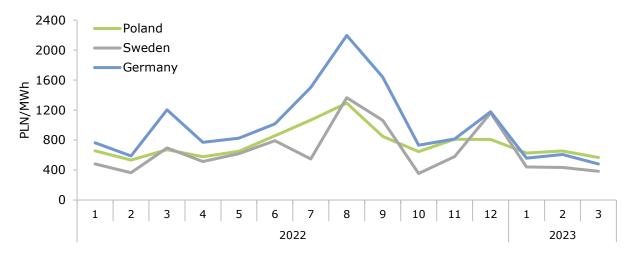
#### WHOLESALE MARKET (COMPARISON OF SPOT MARKETS)

Chart: Comparison of average electricity prices on Polish market and on European markets in the first quarter of 2023 (prices in PLN/MWh, average exchange rate EUR/PLN 4.71).



Source: TGE - RDN price level calculated on the basis of hourly quotations (fixing), EEX, Nordpool

Chart: Evolution of spot market prices.



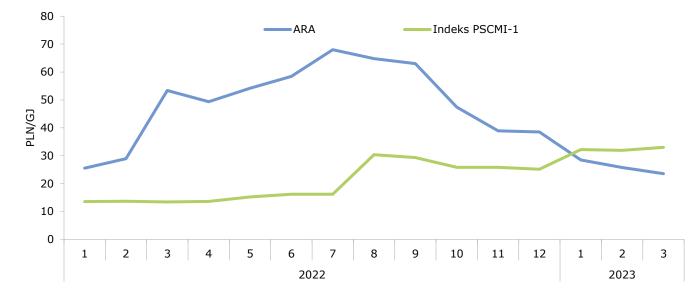
Source: TGE, EEX, Nordpool

In the first quarter of 2023, the y/y change in prices on neighbouring markets ranged between PLN 57 and PLN 419/MWh. The differentiation of energy prices results from a different level of share of renewable energy sources in the technological mix and from the situation on the markets for related products. The price spread between Poland and its neighbouring countries is also due to differences in realised coal prices at home and



abroad and also to prices of natural gas. The price of hard coal in ARA ports fell by 28% y/y in the first quarter of 2023, while the domestic pulverised coal price index, PSCMI-1, increased by 140% over the same period.

Chart: Hard coal indices ARA vs PSCMI-1<sup>1</sup>.



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

#### INTERNATIONAL TRADING

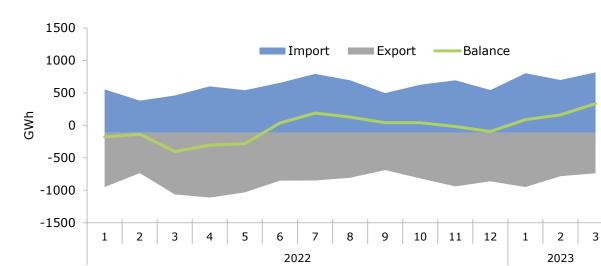


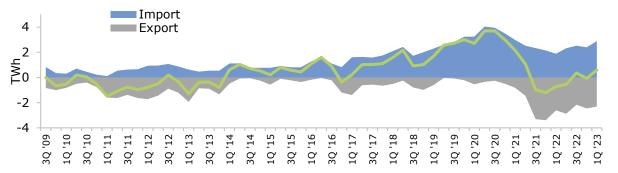
Chart: Monthly imports, exports and cross-border exchange balance in 2022 - 2023.

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

<sup>&</sup>lt;sup>1</sup> The comparison is illustrative only. Methodologies of counting the ARA and PSCMI1 indexes are different. Among other things, the ARA index includes insurance and delivery costs. The PSCMI 1 is an ex-mine index without insurance and delivery costs. Standards for calculating the caloric values are also different (ARA – 25.12 GJ/t vs. PSCMI1 caloric value - range 20-24 GJ/t). The aim is to compare the trend and not the absolute level. For illustration purposes ARA index is recalculated from USD/t to PLN/GJ.



Chart: Quarterly trading volumes – import, export and international trading balance in years 2009 - 2023.



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

Global decline in fuel prices (which translate into a decrease in the costs of electricity production from natural gas and hard coal) translated into a decrease in energy prices in neighbouring countries, which in turn increased electricity import to Poland from neighbouring countries.

In the first quarter of 2023, Poland was a net importer of electricity, with a negative trade balance of -0.6 TWh (imports 2.9 TWh, exports 2.3 TWh), up y/y by 1.6 TWh. Imports from Sweden (1.1 TWh), Germany (0.9 TWh) and Lithuania (0,6 TWh) had the greatest impact on the trade balance. At the same time, we exported the most electricity to Slovakia (1.2 TWh) and Germany (0.6 TWh).

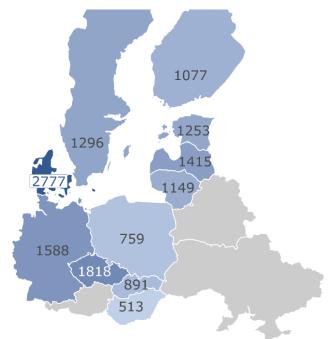
#### RETAIL MARKET

The diversity of electricity prices for retail customers in the European Union depends mainly on the level of the wholesale prices of electricity, fiscal system (taxes and fees), regulatory mechanism and support schemes in particular countries. In Poland in the second half of 2022<sup>2</sup> an additional burden (over sale price and cost of electricity distribution) for individual customers accounted for 38% of the electricity price. The Danes paid the most for electricity, for whom additional charges also accounted for 38% of the final price.

<sup>&</sup>lt;sup>2</sup> Eurostat data on retail market are published in semi-annual intervals.



Chart: Comparison of average prices for individual customers in selected EU countries in the second half of 2022 (prices in PLN/MWh, average exchange rate EUR/PLN 4.73).



Source: own work based on Eurostat data.

Chart: The share of additional charges in electricity prices for the individual customers in selected EU countries in the second half of 2022 (prices in PLN/MWh, average exchange rate EUR/PLN 4.73).



Source: own work based on Eurostat data.

#### PRICES OF CERTIFICATES

In the first quarter of 2023 the average price of green certificates (index TGEozea) reached PLN 219/MWh and was lower by 11% compared to the analogical period of the previous year. An obligation to redeem green certificates changed as compared to 2022 (18.5%) and stands at 12% for 2023.



Chart: Average quarterly prices of green certificates (TGEozea).



Source: Own work based on TGE quotations.

### PRICES OF CO2 EMISSION RIGHTS

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

In the first quarter of 2023 the weighted average price of EUA DEC 23 was EUR 90.31/t and was higher (by approx. 10%) than the average price of EUR 82.01/t for the EUR DEC 22 instrument in the similar period of the previous year.

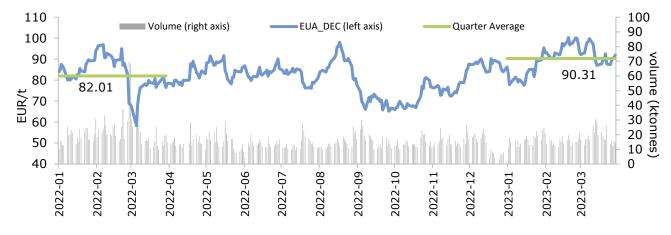


Chart: Prices of CO<sub>2</sub> emission rights.

Source: own work based on ICE exchange quotations



# 2.3. CO<sub>2</sub> emission rights granted free of charge

In accordance with Commission Implementing Regulation (EU) 2019/1842 of October 31, 2019 laying down rules for the application of Directive 2003/87/EC of the European Parliament and of the Council as regards further arrangements for adjustment of the allocation of free CO2 emission allowances due to changes in activity levels, the competent authority may suspend the issuance of free emission allowances to an installation until it is determined that there is no need to adjust the allocation to that installation or the Commission has adopted a decision concerning adjustments to the allocation to that installation.

In national legislation, the Act on the Greenhouse Gas Emission Trading Scheme introduced an additional condition for the issuance of emission allowances to installations. According to the general rules, allowances are issued by February 28 each year, however, in the case of installations, the issue of emission allowances takes place after the submission of an activity level report and the publication of information in the Public Information Bulletin on the website of the office serving the Minister of Climate and Environment. According to the European Commission Regulation, activity level reports are submitted by March 31 each year, what means that on April 12, 2023 emission allowances were issued to the accounts of the operators of installations in the Union Registry in accordance with the publication in the Public Information Bulletin of the Ministry of Climate and Environment on April 7, 2023. Further adjustment will be corrected over the course of 2023 to reflect increases and decreases in production volumes resulting from verified activity level reports submitted for individual installations.

Table: Emission of CO2 compared to the allocation of CO2 emission allowances for 2023 (in tonnes).

Product	CO2 emissions in Q1 2023	Allocation of CO <sub>2</sub> emission rights for 2023 <sup>1</sup>
Electricity	13 953 827	-
Heat	1 903 088	622 025
Total	15 856 915	622 025

<sup>1</sup>Allowances for heat production.



# 2.4. Regulatory environment

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

Legal regulations regarding the current rules for determining the prices of electricity and heat and the compensations due in this respect are described in chapter 4.1 of this report in the section Regulatory changes on the electricity market.

#### DOMESTIC REGULATORY ENVIRONMENT

Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
PGE	The bill on the amendment to the Energy Law and the Renewable Energy Sources Act.	The draft act includes, in particular, proposals for provisions implementing into the Polish legal system Directive (EU) 2019/944 of the European Parliament and of the Council of June 5, 2019 on common rules for the internal market in electricity and amending Directive 2012/27/EU. In particular, the project provides implementation of civic institutions of energy communities , facilitation in the field of aggregation, contracts with dynamic electricity prices and other flexibility and demand response services, direct line changes.	<b>On April 18, 2023,</b> the Council of Ministers adopted the draft act, which was sent for parliamentary work.	The proposed solutions will have an impact on all of PGE Group's operating segments, especially the Supply and Distribution segments. The draft introduces or applies numerous EU laws addressing the electricity market.
	Draft act on amendment of act on renewable energy sources and certain other acts.	The act introduces a change in the settlement method for renewable energy prosumers by replacing the current discount system with a net billing system, which means that energy is ultimately valued according to the value from the hour of generation and hour of consumption. Furthermore, the act requires prosumers entering the system from April 1, 2022 to pay a distribution fee (previously paid on behalf of prosumers by energy vendors ).	The act entered into force on April 1, 2022, with the exception provisions concerning the virtual prosumer, which will enter into force on July 2, 2024.	The draft is of key importance for the Supply segment, which currently has obligations to settle with prosumers and pay a distribution fee on their behalf to DSOs, and for the Distribution segment, which will be required to collect and compile metering data on prosumers.
		The act also introduces the institution of collective prosumer and virtual prosumer.		
	Draft act on amendment of the act on renewable energy sources and certain other acts.	The act introduces amendments to several acts, including: Energy Law, Environmental Protection Law, in connection with heating going green, and other changes related to the necessity to implement directive RED II (regarding the promotion of the use of energy from renewable sources).	<b>On April 25, 2023,</b> the Council of Ministers adopted the draft act, which was sent for parliamentary work.	The draft is of significance for the Renewables segment, especially due to the possibility of using new support systems and for the District Heating segment in terms of increasing the
		Moreover, the act introduces new support systems for biomethane, to modernise RES installations and for existing RES installations to cover operating expenses. The act also changes the definition of hybrid RES installations.		use of heat generated from RES.



Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
	Amendment of the act on investment in wind farms.	Modification of rule 10H - mitigation by allowing municipalities to define in local spatial development plans, after consultation with local communities, a distance less than the statutory distance for wind farms from residential buildings, but not less than 500 m.	<b>On February 8, 2023,</b> the draft was passed by the Sejm. <b>On February 14, 2023,</b> the President signed the act. The act entered into force on <b>April 23, 2023.</b>	The draft is of significance to the development of the Renewables segment.
PGE	Draft Act amending the Act on the greenhouse gas emission allowance trading scheme and the Act - Environmental Protection Law.	The aim of the act is to establish national legislation governing the establishment and operation of the Energy Transition Fund. The Energy Transition Fund is to be used to finance investments in the energy and industrials sectors excluding solid fossil fuels, i.e. coal.	PGE S.A. submitted comments on the published draft law. Analysis of the submitted comments is in progress. The draft is being considered by the Council of Ministers.	The draft will be relevant for the PGE Group, excluding coal assets. Funds from the Energy Transition Fund will be available to finance investments in the areas: RES, grids, storage, etc.
	Draft Regulation of the Minister of Climate and Environment on the method of conducting settlements and balancing of the gas transmission system in periods of mandatory reserves of natural gas and during the period of restrictions in the off-take of natural gas.	<ul> <li>The draft is intended to set out how settlements are to be carried out for released compulsory natural gas reserves and how the price for gaseous fuels used for these settlements is to be calculated, as well as how balancing of the gas transmission system is to be carried out and how imbalances are to be settled during the release of stocks.</li> <li>The draft sets out formulas for the calculation of: <ul> <li>fees for collected mandatory reserves,</li> <li>fees for the release of mandatory reserves to the relevant entity ordering transmission services,</li> <li>fees for balancing activities, taking into account an entity ordering transmission services whose imbalance is negative and positive respectively,</li> <li>fee related to the financial neutrality of balancing during the period of mandatory reserve release.</li> </ul> </li> </ul>	On April 5, 2023, the draft was submitted for verification of the correctness of taking into account the findings of the Legal Committee. The draft is being considered by the Council of Ministers.	The draft is of importance from the point of view of trading in gaseous fuels ( establishment of a system of settlements between PSE S.A. and transmission services principals).
	Draft Act amending the Act on the Management of Agricultural Property of the Treasury and certain other acts.	The draft introduces regulations according under which agricultural properties belonging to the Agricultural Property Stock	The comments are being analyzed by the Ministry of Agriculture and Rural Development.	The draft will make it possible to acquire new land, in particular wasteland included in the Agricultural Property Stock of the State Treasury, for RES investments.
	Draft Act amending the Act on Spatial Planning and Development and certain other acts.	The draft introduces the principle that photovoltaic (PV) investments above 1 MW will only be allowed on the basis of a Local Spatial Development Plan. In other case, it will not be possible to realise the investment in question on the basis of a decision on development conditions. The draft also provides for	On March 23, 2023, the draft was submitted for parliamentary work. On April 11, 2023, the first	The draft may slow down PV investments due to necessity to embed such investment in the Local Spatial Development Plan. The average time required to enact the



Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
		the possibility of applying a simplified procedure for the enactment or amendment to the Local Spatial Development Plan, including in the case of PV investments, but this does not apply to investments with significant impact on the environment.	reading was held in the Sejm. Parliamentary work is currently underway.	Local Spatial Development Plan is around 3 years.
天	The draft law under consideration pertains to modifications to the Act on the preparation and implementation of strategic investments in transmission networks and certain other Acts.	The proposed law introduces new, essential transmission projects and broadens the scope of the distribution project legislation to include voltage equal to or greater than 110 kV, which is crucial for transmitting electric energy from the transmission network to distribution networks. This will make it possible for investors to streamline the process of obtaining public-law permits, as well as introduce a simplified approach to acquiring land for these investments. For the purpose of easing the administrative load on the bodies of local government and government administration, the recommendation is to restrict the list of distribution investments to those that are of utmost importance.	The draft has been considered by the Committee of Legal Affairs at the Government Legislation Centre on March 8, 2023. The proposal for the bill has been sent to the Polish Parliament (Sejm) after receiving approval from the Council of Ministers.	This regulation directly affects the Distribution sector. The implementation of regulations will simplify and accelerate investment activities. With respect to distribution networks having voltage equal to or exceeding 110 kV.
	Proposed legislation on the preparation and execution of investments in the realm of hydroelectric pumped- storage power plants.	The legislation is designed to streamline the investment process for pumped-storage hydroelectric power plants.	The draft has been referred to the Polish Parliament on March 3, 2023. Afterwards, the project will be adopted by the Sejm and submitted to the Senate for review.	The statute aims to make investment in the Renewables segment more efficient and speedy by building new ESPs and refurbishing existing ones.
節	The Act regulating amendments to the Act on special measures in the field of certain heat sources due to the fuel market situation and other acts.	The proposed project modifies the initial legislation on unique solutions for specific heat sources due to the current fuel market situation and other laws. A new heat price freezing mechanism is coming into effect for end-users, lasting until the end of 2023. The distributors (heat providers) are responsible for making settlements related to the reduction of heat prices.	The Act was be announced in the Journal of Laws on <b>February 14, 2023</b> . It came into force the day after it was announced.	The project seeks to resolve the billing structure for heat distributors who use fixed pricing.
	Proposed guidelines on confirming compliance with the permitted emission levels, while acknowledging the uncertainty of measurements.	<ul> <li>The draft regulation specifies:</li> <li>the method of evaluating adherence to the allowable emission level;</li> <li>the highest possible uncertainty values for a single measuring result.</li> <li>strategy for accounting for measurement uncertainty when establishing allowable emission levels;</li> <li>the method of accounting for excess emissions.</li> </ul>	Public consultation until April 3, 2023. Publication of comments and reference to them by the Ministry of Climate and Environment. Handing over the project to the committees of the Council of Ministers.	The project bears an impact on the reporting of substances emissions into the air and their settlement with authorities.



#### INTERNATIONAL REGULATORY ENVIRONMENT

Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
PGE	Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the EU (ETS Directive ). Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve (MSR Decision).	Combating climate change. Development of investment incentives through a CO <sub>2</sub> price signal to develop low-emission sources.	<b>On April 18, 2023,</b> the agreement reached between the European Commission, the European Parliament and the Council (trilogues) was adopted by the EP, and on <b>April 25, 2023</b> by the Council. On <b>May 16, 2023,</b> Directive (EU) 2023/959 was published in the Official Journal of the EU and will enter into force on the twentieth day after its publication. The deadline for the transposition of the ETS Directive has been set as <b>December 31, 2023,</b> with a few derogations possible until <b>June 30, 2024</b> .	Increased competitiveness of renewable sources compared to generation assets using high-emission fuels. Increase in operating costs for conventional generation of electricity and heat. Option to obtain investment support from the Modernisation Fund and Innovation Fund and partial free allocation of allowances to district heating.
PGE	Directive 2018/2001 on the promotion of the use of energy from renewable sources (Renewable Energy Sources Directive).	To adapt legislation related to increased share of renewables in reference to EU's new higher GHG reduction target by 2030.	<b>On March 30, 2023,</b> in the trilogues, a preliminary agreement was reached between the EC, the EP and the Council, assuming a new, binding EU-level target for the share of energy from renewable sources in gross final energy consumption at the level of 42.5% with additional indicative national targets, the implementation of which will enable the achievement of a total target of 45% in 2030. The agreement reached still needs to be formally adopted by the Council and the EP. The proposed deadline for transposing the proposal into national law is <b>December 31, 2024</b> .	Improvement in the competitiveness of low-emission sources of energy in comparison with high-emission sources. Larger share of renewable sources in the Polish energy mix by 2030, including a faster path of decarbonisation of District Heating segment. Possibility of wider use of power-to-heat solutions (e.g. heat pumps or electrode boilers) in the District Heating segment.
PGE	Directive 2012/27/EU on energy efficiency (EED Directive).	To adapt legislation related to energy efficiency improvements in reference to EU's new higher GHG emission reduction target by 2030.	As part of trilogues ended on March 10, 2023 a new binding EU-level target was set to reduce final energy consumption by 11.7% by 2030 compared to 2020. The agreement reached still needs to be formally adopted by the Council and the EP. The directive is to be transposed within two years of its entry into force.	Improvement in the competitiveness of low-emission sources of energy. A faster phase-out of coal-based cogeneration from heating systems in connection with the introduction of a new emission criterion. Need for more extensive development of renewable sources and waste heat in district heating systems. A higher factor for annual final energy savings, resulting in an increase in burdens on the energy efficiency certificate system.



Directive 2010/31/EU on the energy performance of buildings (EPBD).	Alignment of legislation related to improving the energy performance of buildings in the EU with respect to the 2050 climate neutrality target and the new higher 2030 EU GHG reduction target.	In accordance with the EP's approach of March 14, 2023, from 2026 new public utility buildings, and from 2028 new residential buildings will have to meet the zero-emission criteria and, as a rule, be powered only with energy from RES. At the same time, the EP proposes minimum requirements for improving the efficiency of existing buildings, targets for solar energy and provisions to accelerate the development of charging points. Adoption of positions by the Council (October 25, 2022) and the EP allows the start of trilogues. The date for transposition of the Directive into national law is not specified.	Greater competitiveness of renewable energy sources as a heat source in buildings. Reduction in the heat demand of buildings due to improved energy performance. Faster pace of displacement of fossil fuels in the heating sectors, including district heating. Introduction of the concept of zero-emission buildings as a potential reduction in the use of power distribution networks.
Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control – IED).	Introduction of new requirements tightening up the way in which emission levels are set in the integrated permit, the rules for obtaining derogations from BAT requirements and giving new competences to the EC. Public participation in appeal proceedings will be increased.	<b>On March 16, 2023,</b> the Council adopted a general approach, in which, among others, introduced less restrictive determination of emission levels in integrated permits compared to the EC proposal and the possibility of applying for derogations for installation operators in emergency situations, as well as relaxation of provisions penalizing infringements of the provisions of the directive proposed by the European Commission. The legislative proposal is subject to further work in the European Parliament – a plenary vote is expected in <b>July 2023</b> . The new directive is scheduled to enter into force at the <b>end of 2024</b> .	Depending on the final result of the arrangements in the trilogues, the entry into force of the proposed solutions may result in additional capital expenditures being incurred additional costs related to the operation of installations falling under the scope of the IED. It is planned to increase the role of the public in monitoring the fulfillment of obligations under the IED Directive by installation operators.

#### The regulations concerning the financial perspective 2021-2027 and financing for sustainable economic growth

PGE	Directive of the European Parliament and of the Council on corporate sustainability due diligence (CSDD).	<ul> <li>On April 25, 2023, the EP Committee on Legal Affairs adopted its position on the project, in which it raised the following issues:</li> <li>the ability of parent companies to fulfil their obligations under the Directive for their subsidiaries;</li> <li>preparation and implementation of a climate transformation plan by the company;</li> <li>companies' compliance with the directive as a factor that should be taken into account when granting state aid, concessions and public contracts.</li> </ul>	
		The vote at the EP plenary session is scheduled for June 1, 2023.	



PGE	2023/435 of the European Parliament and of the Council amending Regulation (EU) 2021/241 as regards REPowerEU chapters in recovery	<b>On February 28, 2023,</b> the regulation was published in the Official Journal of the EU and entered into force on March 1, 2023.	, , ,
	and resilience plans.		

#### Regulations introducing changes on the electricity market in the EU

PGE	Proposal for a Regulation of the European Parliament and of the Council amending Regulations (EU) 2019/943 and (EU) 2019/942 as well as Directives (EU) 2018/2001 and (EU) 2019/944 to improve the Union's electricity market design.	Guaranteeing the protection of consumers against excessive changes in electricity prices, providing access to clean and secure energy, and enhancing the market's ability to withstand variations in natural gas prices. Encouraging the adoption of PPA contracts <sup>3</sup> ; empowering end consumers in the market, simplifying the implementation of CFD agreements <sup>4</sup> .	<b>On March 14, 2023,</b> the EC presented a legislative proposal. The European Commission's recommendations centre on initiatives that serve to spread the use of PPA agreements for RES, CfD for new RES ventures, and nuclear power. The EC recommends measures to back the advancement of flexibility services such as demand management and energy storage, strengthen consumer protection, broaden prosumers' authorities, and establish new mechanisms for an energy emergency. In order to reduce the risk of bankruptcy, the EC suggests that energy suppliers be required to implement appropriate transaction security strategies by imposing a risk management obligation. The regulation proposal has been forwarded for additional work in the Council and the EP. In the EP, a vote in the ITRE committee is tentatively foreseen in July 2023 and a vote in plenary in September 2023.	The impact of the reform on PGE CG will depend on further legislative work in the EP and the Council. The mandatory use of PPA or differential contracts and the allocation of funds from these contracts will have significant implications for PGE CG. Significant regulatory changes are a possibility for companies in the Supply and Distribution segments, with obligations for mandatory securing and potential changes to tariffs and offers, as well as a new tariff formation method and incentives for using flexibility services.
PGE	The EU draft regulation seeks to improve protection against manipulation in the wholesale energy market by amending regulations (EU) 1227/2011 and 2019/942.	Increase market transparency and monitoring capacity and ensure more effective investigation and enforcement of cross-border breaches in the EU so that consumers and market participants have confidence in the integrity of energy markets, prices reflect	On March 14, 2023, the EC presented a legislative proposal to increase the powers of the European Union Agency for the Cooperation of Energy Regulators (ACER), to strengthen cooperation and the obligation to exchange information between ACER, the supervisory authorities of the individual Member States, the European Securities and Markets Authority (ESMA) and the financial supervisory authorities of the individual	The impact of the reform on PGE CG depends on further legislative work in the EP and the Council.

<sup>3</sup> PPA - Power Purchase Agreement; a long-term contract involving the direct purchase of electricity by the end-user from RES generators.

<sup>4</sup> CFD - Contract for difference; a contract for difference, defining a support model in which the supporting party and the supported party agree on a certain reference price. In the event that market energy prices are below the reference price, the supported party receives the positive difference; however, if energy prices exceed the reference price, the supporting party is entitled to that difference.



demand relationship and no	Member States regarding potential breaches of Regulation (EU) 596/2014 on market abuse. In addition, the EC proposes to regulate the authorisation and supervision of platforms in respect of confidential information and registered reporting mechanisms. The EC also proposes that ACER assess daily LNG prices and publish such an assessment on a daily basis. ACER should also develop and publish a daily LNG benchmark.	
	The regulation proposal has been forwarded for additional work in the Council and the EP.	



### 3. Activities of PGE Capital Group

# 3.1. Basic operational data for PGE Capital Group

		命		R	
	Conventional Generation	District Heating	Renewables	Distribution	Supply
Key assets of the segment <sup>1</sup>	5 conventional power plants 2 lignite mines	16 CHP plants	20 wind farms 24 photovoltaic power plants 29 run-of-river hydro power plants 4 pumped-storage power plants, including 2 with natural flow	298 836 kms of distribution lines	-
Installed capacity electricity/heat <sup>1</sup>	12 852 MWe/844 MWt	2 608 MWe/6 923 MWt	2 428 MWe/-	-	-
Electricity volumes <sup>1</sup>	Net electricity generation 11.56 TWh	Net electricity generation 3.13 TWh	Net electricity generation 1.03 TWh	Electricity distribution volume 9.47 TWh	Sales to final off-takers 8.83 TWh <sup>2</sup>
Heat volumes <sup>1</sup>	Heat production (net) 1.14 PJ	Heat production (net) 19.56 PJ	-	-	-
Market position <sup>1</sup>	PGE Group is the leader of		PGE Group is the largest electricity producer from RES with market share of approx. 7% (excluding co-	Second domestic electricity distributor with regard to	Leader in wholesale and retail trading in Poland
	PGE Group is also a in electricity and distric		combustion of biomass and bio-gas)	number of customers	

<sup>1</sup> Operational data of PKP Energetyka S.A. not included

<sup>2</sup> Data for PGE Obrót S.A.



#### BALANCE OF ENERGY OF PGE CAPITAL GROUP

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

Sales volume	Q1 2023	Q1 2022	% change
A. Sales of electricity outside the PGE Capital Group:	20.48	26.34	-22%
<ul> <li>Sales to end-users<sup>1</sup></li> </ul>	8.87	9.10	-3%
<ul> <li>Sales on the wholesale and balancing market</li> </ul>	11.61	17.24	-33%
B. Purchases of electricity from outside of PGE Group (wholesale and balancing market)	6.31	10.23	-38%
C. Net production of electricity in units of PGE Capital Group	15.72	17.32	-9%
D. Own consumption DSO, lignite mines, pumped-storage power plants (D=C+B-A)	1.55	1.21	28%

<sup>1</sup> Sale mainly by PGE Obrót S.A. and PGE Energia Ciepła S.A.

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

Lower energy sales on the wholesale market, including the balancing market, result from lower demand for electricity, a higher share of electricity imports and a higher share of RES production. The lower purchase on the wholesale market is mainly the result of lower sales to end customers in the corporate client segment, who tend to diversify energy sources, mainly with greater use of RES.

Table: Net production of electricity (TWh).

Production volume	Q1 2023	Q1 2022	% change
NET ELECTRICITY PRODUCTION IN TWh, including:	15.72	17.32	-9%
Lignite-fired power plants	8.15	10.30	-21%
Coal-fired power plants	3.43	3.31	4%
Coal-fired CHP plants	1.52	1.58	-4%
Gas-fired CHP plants	1.48	1.12	32%
Biomass-fired CHP plants	0.12	0.09	33%
Communal waste-fired CHP plants	0.00	0.01	-100%
Pumped-storage power plants	0.29	0.22	32%
Hydroelectric plants	0.16	0.14	14%
Wind power plants	0.57	0.55	4%
including RES generation	0.85	0.79	8%

The level of electricity production in the first quarter of 2023 was 9% lower compared to the first quarter of 2022.

The lower level of electricity production is mainly the effect of lower demand for electricity in the Polish power system and higher net energy imports.

Lower generation at lignite-fired power plants (decline by 2.2 TWh) is due to lower use by PSE S.A. Reserve downtime of units in Bełchatów power plant and Turów power plant were longer by: o 1 603 h in Bełchatów power plant and 884 h in Turów power plant. At the same time average load factor of Bełchatów power plant was lower by 27 MW. In addition, units at Bełchatów power plant were in overhaul longer by 2 324 h, mainly as a result of the overhaul of unit no. 7, which has been ongoing since January 2023.

Slight drop in production was recorded in coal-fired CHP plants.



Higher production in hard coal-fired power plants (increase by 0.1 TWh) results from increased generation at Opole power plant, what is a consequence of shorter reserve downtime of the units by 596 h and higher average load factor by 34 MW.

Higher generation from gas-fired CHP plants (increase by 0.4 TWh) is the result of a low base in the first quarter of 2022, when a failure occurred at the Lublin Wrotków CHP plant.

Higher production in biomass Szczecin CHP plant due to the optimisation of production between CHP Szczecin and CHP Pomorzany in terms of cost minimisation, resulting from the new model of heat and electricity generation in the above-mentioned locations.

Higher production in pumped storage power plants results from the nature of the operation of the generating units, which were used to a greater extent by PSE S.A. in the first quarter of 2023.

Higher production in hydro power plants is due to better hydrological conditions in the first quarter of 2023.

Higher production in wind farms results from recognising production of wind farms purchased in June 2022.

### HEAT PRODUCTION

Table: Net production of heat (PJ).

Heat production volume	Q1 2023	Q1 2022	% change
Net production of heat in PJ, including	20.70	21.84	-5%
Lignite-fired power plants	0.90	0.96	-6%
Coal-fired power plants	0.24	0.24	0%
Coal-fired CHP plants	15.79	16.32	-3%
Gas-fired CHP plants	3.08	3.34	-8%
Biomass-fired CHP plants	0.48	0.76	-37%
CHP plants fuelled by municipal waste	0.05	0.08	-38%
Other CHP plants	0.16	0.14	14%

External temperatures contributed more than any other factor to lower net generation of heat in 2023 (y/y). The average temperatures in 2023 were by  $0.5^{\circ}$ C higher y/y, which translated into decreased production of heat.

### HEAT SALES

In the first quarter of 2023 the heat sales volume in PGE Capital Group totalled 20.2 PJ and was lower by 1.1 PJ y/y. The above result was caused mainly by lower demand for heat due to the higher average outside temperatures than in the first quarter of 2022.



# 3.2. PGE Group's key financial results

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

PGE Group's consolidated results are composed of the financial results of each of its operating segments. The following segments have the largest share in the Group's recurring EBITDA for the first quarter of 2023: Distribution (38%), District Heating (27%), Conventional Generation (27%) and Renewables (13%). The Supply segment generated a loss, while other segments have an insignificant share in recurring EBITDA.

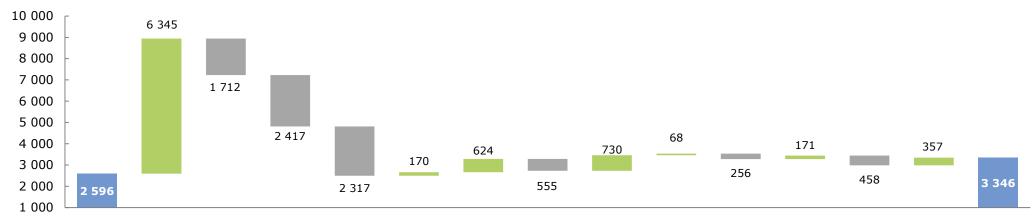
Chart: Main financial data of PGE Capital Group (PLN million)





#### CONSOLIDATED STATEMENT OF FINANCIAL POSITION

Chart: Key factors affecting EBITDA in PGE Capital Group (in PLN million).



	Q1 Q1 2022 ele	sult on the sale of ectricity at roducers <sup>1</sup>	CO2 emission rights <sup>2</sup>	Fuel costs, other production materials, electricity for pumping	Contribution to PDP fund <sup>3</sup>	Revenues from highly-efficient co-generation		Result on the sale of electricity to final customers <sup>4</sup>	Revenues from heat sales	Margin on distribution services⁵	Personnel expenses	Capitalised costs	Costs of materials and repair and maintenance services and external services	Other <sup>6</sup>	EBITDA Q1 2023
Change		6 345	-1 712	-2 417	-2 317	170	624	-555	730	68	-256	171	-458	357	
Reported EBITDA Q1 2022	2 615														
One-offs Q1 2022	19														
Recurring EBITDA Q1 2022	2 596	7 699	4 924	1 797	0	123	708	350	1 000	1 153	1 368	39	804	417	
Recurring EBITDA Q1 2023		14 044	6 636	4 214	2 317	293	1 332	-205	1 730	1 221	1 624	210	1 262	774	3 346
One-offs Q1 2023															81
Reported EBITDA															3 427

<sup>1</sup> Revenue from the sale of electricity reduced by the purchase cost of electricity.

<sup>2</sup> Adjusted for result on resale of CO<sub>2</sub> emission rights, that was caused due to reductions by PSE S.A. and trading activities, and result on forward contracts.

<sup>3</sup> Contribution to the PDP Fund without impact of correction of estimated contribution for 2022 (one-off).

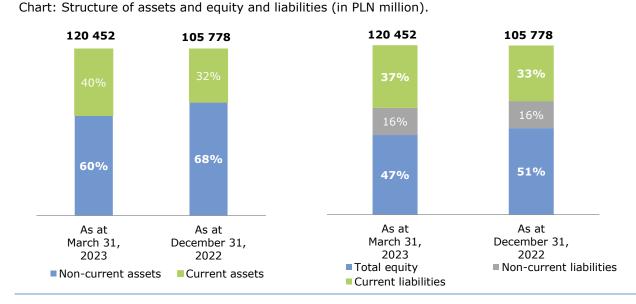
<sup>4</sup> Including margin adjustment on certificates at PGE Group; without additional estimation of the cost of the balancing difference.

<sup>5</sup> Including revenues from distribution services, transmission services (PSE), balance of transferred fees and costs of electricity purchased to cover balancing difference; without additional estimation of the cost of the balancing difference.

<sup>6</sup> Other without provision for prosumers (one-off).



#### CONSOLIDATED STATEMENT OF FINANCIAL POSITION



CONSOLIDATED STATEMENT OF CASH FLOWS

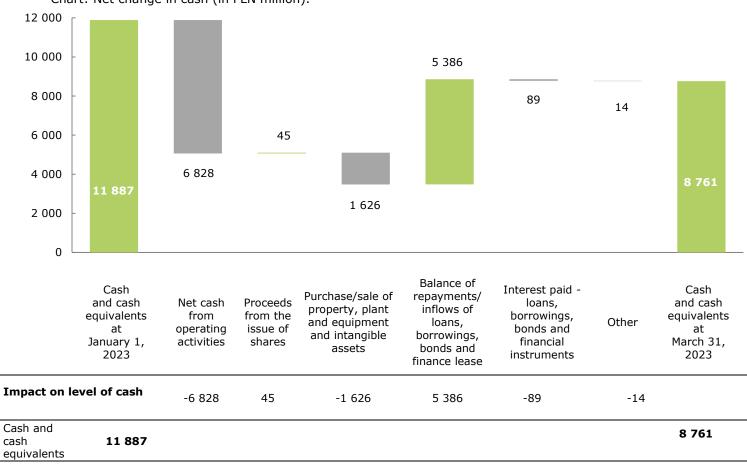
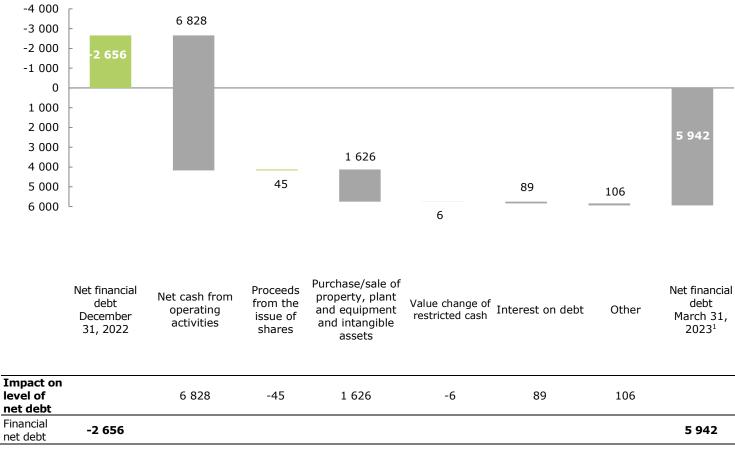


Chart: Net change in cash (in PLN million).



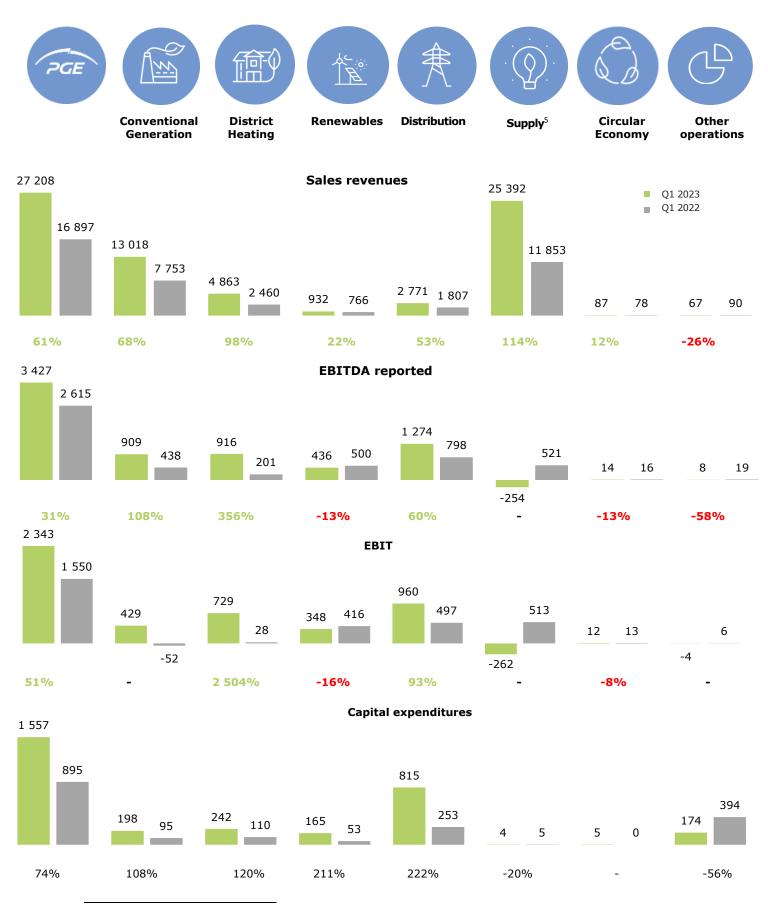
#### Chart: Net debt (in PLN million).



<sup>1</sup> Estimated level of net economic financial debt (taking into account forward payment for CO<sub>2</sub> emission rights) amounts to PLN 13 766 million.



### KEY RESULTS IN BUSINESS SEGMENTS (IN PLN MILLION)



<sup>5</sup> Data restated.

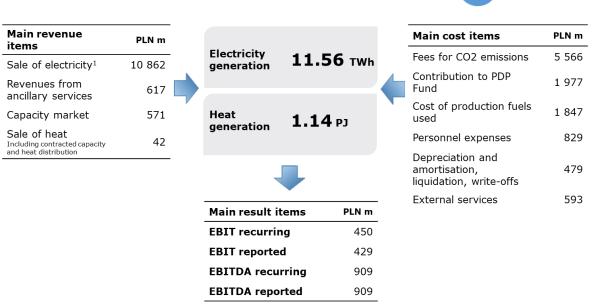


# 3.3. Operational segments

#### CONVENTIONAL GENERATION

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

**Conventional Generation** 



<sup>1</sup> managerial perspective

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

Revenue from the Capacity Market, a mechanism introduced to prevent electricity shortages in the NPS, constitutes a significant item in the segment's revenue in 2021. PGE GiEK S.A.'s power plants receive fees for performing the capacity obligation (a Capacity Market entity being on standby to supply electricity to the system and the obligation to supply specified capacity to the system when the system is under threat). Capacity Market revenue compensated for revenue from ancillary services. The cold intervention reserve and operational capacity reserve services were discontinued, while revenue from capacity reallocation remained.

In addition, this segment generates **revenues from sales of heat** produced at industrial plants.

Under the provisions of the Emergency Measures Act, from December 2022, electricity generating entities are required to make a contribution to the **Price Difference Payment Fund**.



#### <u>Assets</u>

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

Conventional Generation is the leader of lignite mining (its share in the extraction market of this raw material accounting for 96%<sup>6</sup> of domestic extraction), it is also the largest generator of electricity as it generates approx. 30%<sup>7</sup> of domestic gross electricity production. The generation is based on lignite extracted from mines owned by the company as well as hard coal.

Diagram: Main assets of the Conventional Generation segment with their installed capacity.

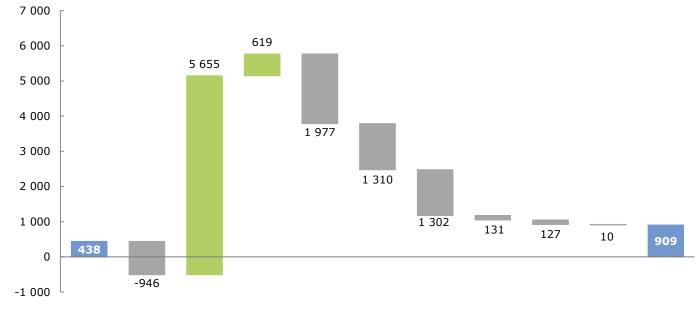
El. Dolna Odra 908 MWe			
	F	5	
El. Turów 2 059 MWe	A P P		El. Bełchatów 5 097 MWe
El. Opole 3 408 MWe	<u>Invin</u> <u>A</u> A		
El. Rybnik 1 380 MWe			
El Power plant	- A Hard coal	Lign	ite

<sup>&</sup>lt;sup>6</sup> Own calculations based on data from Central Statistical Office of Poland.

<sup>&</sup>lt;sup>7</sup> Own calculations based on data from PSE S.A.



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



	EBITDA Q1 2022	Electricity production -volume <sup>1</sup>	Electricity production - price <sup>1</sup>	Ancillary services and Capacity Market	PDP Fund	Costs of fuel	Costs of CO <sub>2</sub> <sup>2</sup>	Costs of ZHZW <sup>3</sup>	Personnel costs	Other	EBITDA Q1 2023
Change		-946	5 655	619	-1 977	-1 310	-1 302	-131	-127	-10	
EBITDA Q1 2022	438	6 :	153	569	0	537	4 264	266	702	515	
EBITDA Q1 2023		10	862	1 188	1 977	1 847	5 566	397	829	525	909

<sup>1</sup> Managerial perspective.

<sup>2</sup> Costs reduced by resale of CO2 emission rights, that was caused due to reductions by PSE S.A. and trading activities.

<sup>3</sup> ZHZW - Agreement for Commercial Management of Generation Capacities.

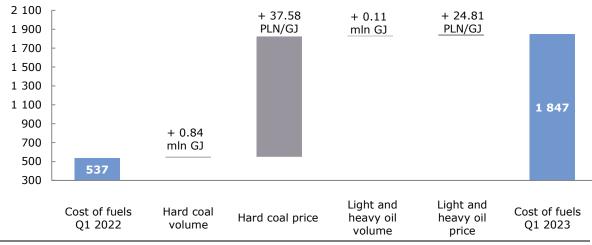
Key factors affecting the EBITDA result of Conventional Generation segment on y/y basis included:

- Increase in revenues from the sale of electricity, which results from: higher average selling price of electricity by PLN 501/MWh y/y, which translated into an increase in revenues by approx. PLN 5 655 million; lower sales volume by 2.1 TWh, which resulted in a decrease in revenues by approx. PLN 946 million.
- Higher revenues from ancillary services, resulting mainly from larger settlements with the TSO due to the reallocation of electricity production between PGE GIEK branches within the Balancing Market and higher result obtained from the Capacity Market, as a result of the higher price of the capacity obligation, and higher share of the capacity of PGE GIEK S.A. in the total capacity of the PGE Capital Group.
- **Contribution to the PDP fund,** which did not exist in the comparable period.
- Higher fuel consumption costs, mainly hard coal, due to the much higher fuel price. Main changes on different types of fuel are presented in the chart below.
- Higher CO<sub>2</sub> costs as a result of higher average cost of CO<sub>2</sub> by PLN 153/t y/y. Main changes are shown in the chart below.
- **Higher ZHZW costs** results from higher average price of electricity.



• **Higher personnel expenses** mainly in connection with the implementation of agreements concluded with the social party.

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

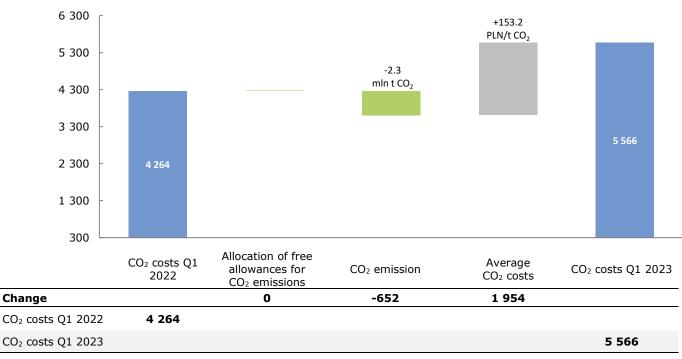


				volume	price	
Change		13	1 275	7	15	
Cost of fuels Q1 2022	537	5	10	27		
Cost of fuels Q1 2023		1 7	'98	49		1 847

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

	Q1 :	2023	Q1 2022		
Fuel type	Volume (tons ths)	Cost (PLN million)	Volume (tons ths)	Cost (PLN million)	
Hard coal	1 533	1 798	1 532	510	
Fuel oil – light and heavy	14	49	11	27	
Total		1 847		537	

Chart: CO<sub>2</sub> costs in Conventional Generation segment (in PLN million).





#### Table: Data on CO<sub>2</sub> costs in Conventional Generation.

Data on CO <sub>2</sub>	Q1 2023	Q1 2022	% change
Allocation of free allowances for $CO_2$ emissions (tons)	15 682	15 503	1%
CO <sub>2</sub> emission (tons)	12 774 471	15 079 259	-15%
Average $CO_2$ costs (PLN/t $CO_2$ ) <sup>1</sup>	436.3	283.1	54%

<sup>1</sup> Managerial perspective .

#### CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Conventional Generation segment

PLN million	Q1 2023	Q1 2022	% change
Investments in generating capacities, including:	177	89	99%
Development	4	0	-
Modernisation and replacement	173	89	94%
Other	21	6	250%
Total	198	95	108%

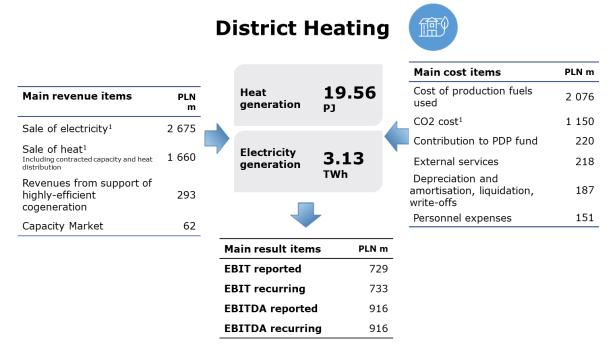
#### KEY EVENTS IN CONVENTIONAL GENERATION

- INTEC Sp. z o.o. handed over the construction site to the Contractor, i.e. INTEC SP. z o.o. on January 5, 2023 for the commencement of works titled "Construction of a steam generator at the Rybnik Power Plant."
- The Environmental Decision for the construction of the Starting Station in the Dolna Odra Power Plant, which was issued on January 20, 2023, became legally effective on February 3, 2023.
- The second stage pilot installation of reverse osmosis at the Industrial Wastewater Treatment Plant in the Turów Power Plant has been completed and tested successfully on February 28, 2023.
- On March 15, 2023 the attainment of the required technical parameters by the flue gas desulfurization installations at the Belchatów Power Plant's was confirmed.
- The construction and acceptance of the chimney foundation, boiler room building foundation, switching station building, and transformer building for the "Rybnik Power Plant Steam Generator Construction" project were completed between March 7 and March 21, 2023.
- The delivery of steam generators and their installation on the boiler room foundation took place on March 23, 2023 as part of the "Rybnik Power Plant Steam Generator Construction" project.



# DISTRICT HEATING

Core business of the District Heating segment includes production of electricity and heat from cogeneration sources as well as distribution of heat.



#### <sup>1</sup> managerial perspective

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

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

Generation of heat and electricity is directly related to key variable costs of the segment, i.e. **the cost of production fuel used** (in particular, hard coal and gas) and **the cost of fees for CO<sub>2</sub> emissions** and **contribution to PDP fund.** 

Electricity production in high-efficiency cogeneration is additionally remunerated. CHP plants receive support at a level covering increased operating costs related to production. The support mechanism in the form of certificates is in place also for biomass-fired generating assets. This type of production is additionally remunerated by awarding origin certificates, i.e. green certificates, the sale of which generates additional revenue. Within the segment such revenues is obtained at Szczecin CHP plant and biomass unit in Kielce CHP.

Revenue from the Capacity Market, a mechanism introduced to prevent electricity shortages in the National Power System, constitutes a significant item in the segment's revenue. CHP plants receive fees for performing



the capacity obligation (a Capacity Market entity being on standby to supply electricity to the system and the obligation to supply specified capacity to the system when the system is under threat).

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

Under the provisions of the Emergency Measures Act, from December 2022, electricity generating entities are required to make a contribution to the Price Difference Payment Fund.

# <u>Assets</u>

The following companies are included in the segment: PGE EC S.A., KOGENERACJA S.A., EC Zielona Góra S.A., PGE Toruń S.A., MEGAZEC sp. z o.o., EC Szczecin, EC Pomorzany and the district heating network in Gryfino.

Currently, the segment includes 16 combined heat and power plants.

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

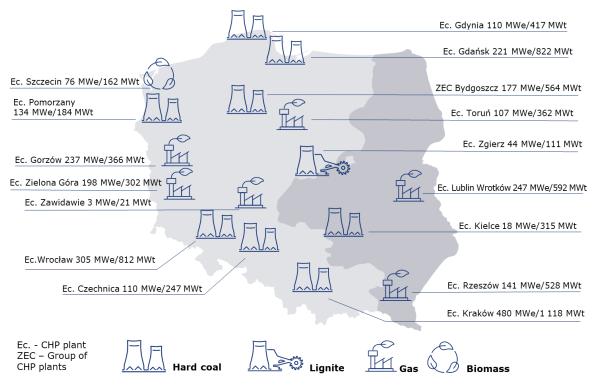


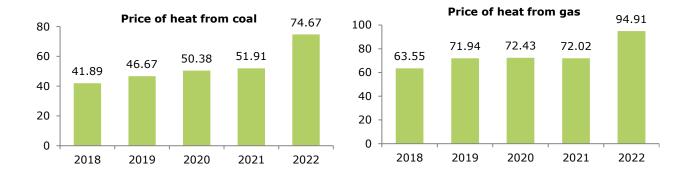
Diagram: Main assets of the District Heating segment and their installed capacity.



## TARIFFS IN DISTRICT HEATING

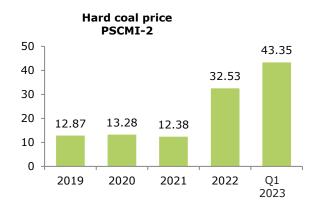
Due to the fact that the income on heat sales for CHP plant are tariffed as part of the so-called simplified method, they are characterised by a relative delay in the transfer of costs (annual or two-year). They are based on the year-to-year dynamics of average costs (including fuels used) incurred by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

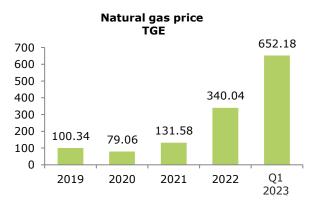
Charts: Changes in the reference price of heat for hard coal and natural gas (PLN/GJ).



Source: ERO.

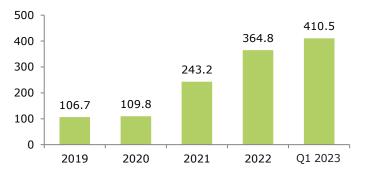
Changes in costs of fuels – hard coal (PLN/GJ) – PSCMI-2<sup>8</sup> and gas (PLN/MWh) - TGE.





Source: ARP, TGE.

Chart: Changes in price of CO<sub>2</sub> emission rights<sup>9</sup> (PLN/t).



### Price of CO<sub>2</sub> emission rights

Source: ICE.

<sup>&</sup>lt;sup>8</sup> PSCMI-2 Polish Steam Coal Market Index 2 - the average prices for pulverised coals sold on the domestic heating market.

<sup>&</sup>lt;sup>9</sup> Arithmetic average of the daily and monthly records in a given period (spot price).



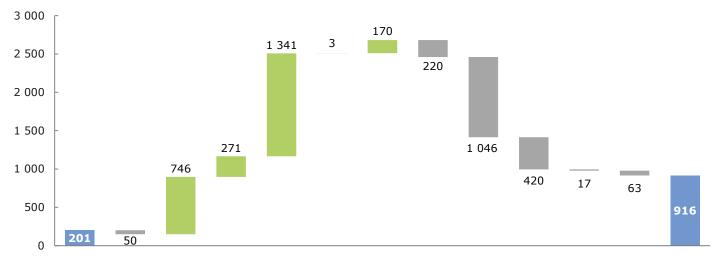
Polska Grupa

Energetyczna

Reflecting previous cost increases, the reference price of heat produced from hard coal increased by 44% in 2022. It is a base to the increase in heat prices for co-generation entities establishing the tariff during 2023. In 2023 the average market price of coal increased by 33%, while the average price of  $CO_2$  emission rights increased by 13% in comparison to 2022.

Tariffs for the production of heat from gas in 2023 are set based on an change in the reference price, whereas in 2023 gas prices are already significantly higher than in previous periods. Prices of gas in TGE forward contracts stood at approx. PLN 652/MWh (i.e. increase by 92%).

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



	EBITDA	Heat	Heat	Electricity	Electricity		Revenues from support			Costs			EBITDA
	Q1	production	production	production	production	Canacity	of highly-	PDP Fund	Cost of fuel	of	Personnel expenses	Other	Q1
	2022	- volume	- price <sup>1</sup>	price <sup>1</sup> - volume – price <sup>1</sup> efficient Fund fuer cogeneration				CO <sub>2</sub> <sup>2</sup> expenses			2023		
Change		-50	746	271	1 341	3	170	-220	-1 046	-420	-17	-63	
EBITDA Q1 2022	201	9	64	1 (	063	59	123	0	1 030	730	134	114	
EBITDA Q1 2023		1 (	660	2	575	62	293	220	2 076	1 150	151	177	916

<sup>1</sup> Value adjusted for costs of certificates redemption.

<sup>2</sup> Costs reduced by resale of CO<sub>2</sub> emission rights surplus resulting from reductions by PSE S.A. and trading activities.

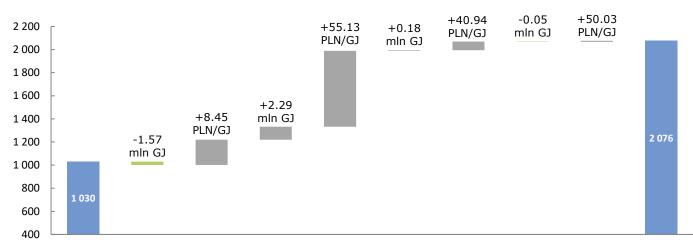
Key factors affecting the EBITDA result of District Heating segment on y/y basis included:

- Lower volume of net heat production in the first quarter of 2023 y/y is a result of higher outside temperatures compared to analogical period of 2022. The average temperatures were by 0.5° C higher, what translated into decreased heat production (by 1.1 PJ).
- Increase of heat sale price is a result of increased tariffs for heat for the CHP plants in the second half of 2022 following the publication by the ERO of new reference prices for heat production in units not being co-generation units and the amendment of the tariff regulation.
- Increase in revenues from the sale of electricity, which results from: higher average selling price of electricity by PLN 476/MWh y/y, which translated into an increase in revenues by approx. PLN 1 341 million and higher sales volume by 0.3 TWh, which resulted in an increase in revenues by approx. PLN 271 million.
- **Higher revenues from Capacity Market,** due to the higher volume of dispatch capacity.
- Higher revenues due to support for high-efficiency cogeneration due to the granting of a higher individual cogeneration bonus for gas-fired units.
- **Contribution to the PDP fund,** which did not exist in the comparable period.



- Higher fuel consumption costs which are caused by higher gas prices and higher price of hard coal use. The details are shown in the chart below.
- Higher CO<sub>2</sub> costs are mainly a result of higher price of allowances. The details are shown in the chart below.
- **Higher level of personnel costs** is mainly the result of an increase in salaries due to wage agreements and an increase in the minimum wage.
- Higher level of the item other mainly due to higher ZHZW costs, due to the higher average selling price of electricity.

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



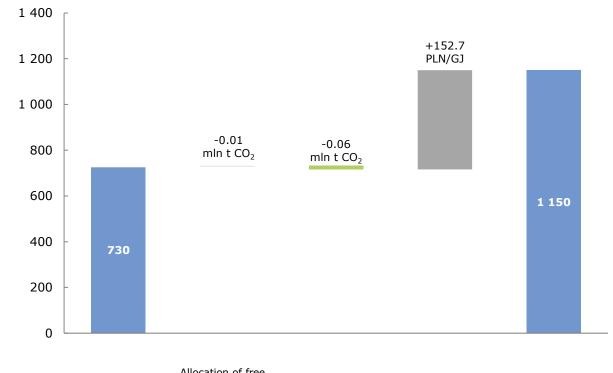
	Costs of fuel Q1 2022	Hard coal volume	Hard coal price	Gas volume	Gas price	Biomass volume	Biomass price	Fuel oil and other raw materials volume	Fuel oil and other raw materials price	Costs of fuel Q1 2023
Change		-28	218	112	657	6	75	-4	10	
Costs of fuel	1 0 2 0	40	1	47	' <b>`</b>		· ว		25	
Q1 2022	1 030	48	51	47	2	3	52		25	
Costs of fuel Q1 2023		67	71	1 2	41	13	33		31	2 076

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

	20	23	2022		
Fuel type	Volume	Cost	Volume	Cost	
	(tons ths)	(PLN million)	(tons ths)	(PLN million)	
Hard coal	1 160	671	1 247	481	
Gas (cubic metres ths)	383 169	1 241	322 011	472	
Biomass	220	133	205	52	
Fuel oil and other raw materials	-	31	-	25	
Total		2 076		1 030	



Chart: CO<sub>2</sub> costs in District Heating (PLN million).



	CO <sub>2</sub> costs Q1 2022	Allocation of free allowances for CO <sub>2</sub> emissions	$CO_2$ emission	Average CO <sub>2</sub> costs	CO <sub>2</sub> costs Q1 2023
Change		2	-16	434	
CO <sub>2</sub> costs Q1 2022	730				
CO <sub>2</sub> costs Q1 2023					1 150

Table: Data on CO<sub>2</sub> costs in District Heating.

Data regarding CO <sub>2</sub>	Q1 2023	Q1 2022	% change
Allocation of free allowances for $CO_2$ emissions (tons)	240 393	247 209	-3%
CO <sub>2</sub> emission (tons)	3 082 444	3 145 696	-2%
Average $CO_2$ costs (PLN/t $CO_2$ ) <sup>1</sup>	404.6	251.9	61%

<sup>1</sup> Managerial perspective.

# CAPITAL EXPENDITURES

Table: Capital expenditures incurred in District Heating segment.

PLN million	Q1 2023	Q1 2022	% change
Investments in generating capacities, including:	239	106	125%
Development	216	76	184%
Modernisation and replacement	23	30	-23%
Other	3	4	-25%
Total	242	110	120%



# KEY EVENTS IN DISTRICT HEATING

- The turnkey construction of the New Czechnica CHP plant, i.e. CCGT unit with a total gross capacity of 179 MWe and 163 MWt, heat accumulator and four water boilers with total capacity of 152 MWt, is in progress. The installation of the reserve-peak boiler room technology was concluded in the third quarter of 2023. The boiler room is being prepared for operation. Installation work on the recovery boilers and auxiliary plant are underway.
- CHP plants Gorzów Wielkopolski, Lublin and Rzeszów: The implementation of peak-reserve boiler construction projects has been continued. Throughout the first quarter of 2023, efforts to complete construction work persisted, with a focus on finishing the boiler house and other buildings. Since the end of last year, stationary boilers have been mounted on foundations in Gorzów and Lublin installation work is ongoing. In addition, 5 mobile boilers were transported and positioned on foundations in Lublin in March 2023. In the most advanced project at CHP Rzeszów, where deliveries had already been made and 6 gas boilers were placed on foundations, work was continued on finishing the boiler hall, construction of the electrical building and construction of the gas pipeline.
- At Rzeszów CHP plant the construction of the second line with a capacity of 80 000 tons of waste / year of the Waste-to-Energy Incinerator is in progress. Work on projects and the procurement of equipment were undertaken in the first quarter of 2023. Deliveries of the equipment are planned for the second half of 2023.
- Bydgoszcz CHP plant: The investment program at EC Bydgoszcz I (EC I) and EC Bydgoszcz II (EC II) is in progress.
  - **EC I**: construction of four gas boilers is in progress (total capacity 38 MWt). In March 2023, the assembly work of the boilers was completed.
  - **EC II**: the contract is being pursued for construction of a cogeneration source based on five gas engines with a total capacity of 52.6 MWe/ 50.8 MWt and a reserve-peak heat source. In the first quarter of 2023, design work and preparatory work for the commencement of facility works were carried out. In March 2023, a decision on the building permit was obtained.
- At Zgierz CHP plant an implementation of the contract is in progress for the deployment of three gas engines with a total capacity of 15 MWe, as well as a reserve-peak boiler unit and a small (100 kW) photovoltaic installation. In the first quarter of 2023, construction and construction works were completed. Installation of technological installations is in progress.
- On April 28, 2023, a new gas boiler house with a capacity of 5x32 MWt was commissioned at Kielce CHP plant. Construction of a cogeneration system based on a 7.32 MWe and 12.42 MWt gas turbine with a recovery boiler was continued. The commissioning of the cogeneration unit is planned for the fourth quarter of 2023.

Aim of the project	Budget <sup>1</sup>	Expenditures incurred <sup>1</sup>	Capital expenditures in 2023 <sup>1</sup>	Fuel/ Net efficiency	Contractor	Investment completion date
Construction of New Czechnica CHP Plant	PLN 1.2 bn	approx. PLN 547 m	PLN 117 m	85% in	Syndicate of: Polimex Mostostal S.A. (Leader) / Polimex Energetyka sp. z o.o.	Q2 2024

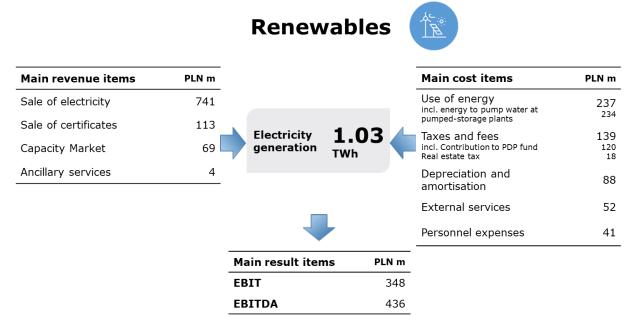
### KEY PROJECT IN 2023

<sup>1</sup> Expenditures incurred do not include financing costs and expenses in the form of advances paid to the General Contractor for the Project and to the other contractors.



# **RENEWABLES**

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



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

Revenue from the Capacity Market, a mechanism introduced to prevent electricity shortages in the National Power System, constitutes a significant item in the segment's revenue, starting from 2021. Selected power plants in the Renewables segment receive fees for performing the capacity obligation (a Capacity Market Entity being on standby to supply electricity to the system and the obligation to supply specified capacity to the system when the system is under threat). Capacity Market revenue compensated for revenue from ancillary services. The readiness intervention reserve service was discontinued.

On the cost side, the most important items include: **use of energy to pump water at pumped-storage plants, depreciation of segment assets** and **third-party services**, mainly the repair services. Property tax and employee wages also constitute a significant cost item in this segment. Under the provisions of the Emergency Measures Act, from December 2022, electricity generating entities are required to make a contribution to the **Price Difference Payment Fund**.



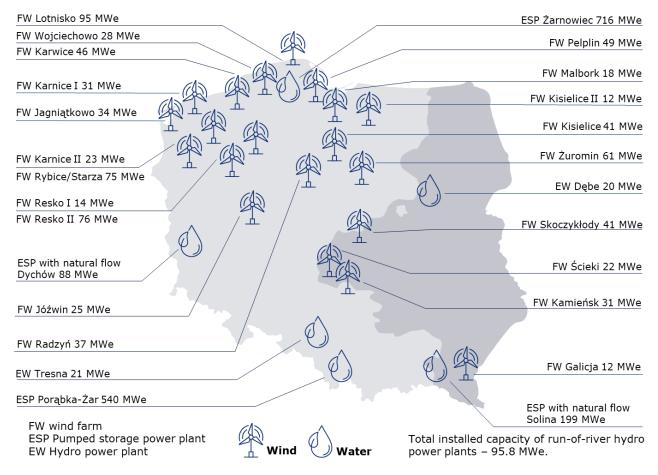
# <u>ASSETS</u>

The PGE Capital Group's operations in renewable energy are managed by the PGE Energia Odnawialna S.A. Due to the profile of operations, the segment also includes companies from the Offshore area, which are responsible for all activities related to offshore wind energy.

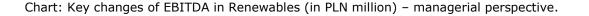
Assets in the segment include:

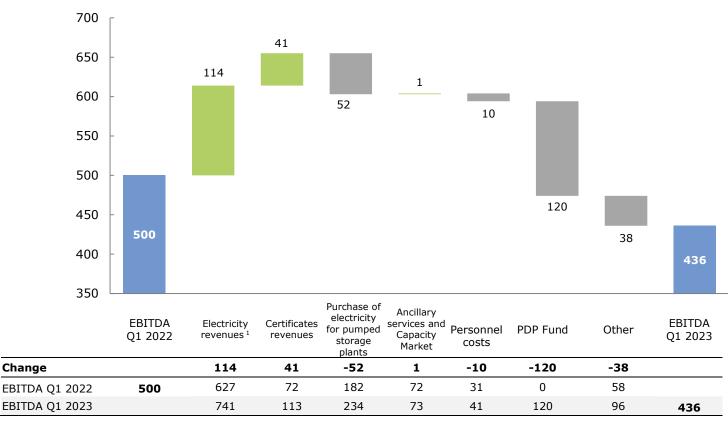
- 20 wind farms,
- 24 photovoltaic power plants,
- 29 run-of-river hydro power plants,
- 4 pumped-storage power plants, including 2 with natural flow.

Diagram: Main assets of the Renewables segment and their installed capacity.









<sup>1</sup>The sum of electricity revenues includes revenues from main generation technologies (wind, water, PV, pumped storage).

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

- Increase in revenues from electricity sales results from: higher average electricity sale price by PLN 58/MWh y/y, what translated into increase of revenues by PLN 62 million; higher sales volume by 81 GWh, what caused revenues increase of approx. PLN 52 million.
- Increased revenues from sales of certificates resulting mainly from: higher average electricity sale price by PLN 70/MWh y/y, as a result, revenues increased by PLN 36 million; higher sales volume by 28 GWh, what translated into increase of revenues by PLN 5 million.
- The increase in electricity purchase costs for pumping in pumped storage power plants results from: higher average electricity purchase price by PLN 70/MWh y/y, which translated into an increase in costs by PLN 31 million; higher purchase volume by 46 GWh, contributing to an increase in costs by PLN 21 million.
- The increase in personnel costs is mainly a result of higher employment due to the development of the Offshore Energy and Renewable Energy areas.
- **Contribution to PDP Fund,** which did not exist in the comparable period.
- Higher level in item Other results mainly from higher operating costs, caused by the development of the Offshore Energy and Renewable Energy areas.



# CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Renewables segment.

PLN million	Q1 2023	Q1 2022	% change
Investments in generating capacities, including:	162	51	218%
<ul> <li>Development</li> </ul>	132	45	193%
<ul> <li>Modernisation and replacement</li> </ul>	30	6	400%
Other	3	2	50%
Total	165	53	211%

# KEY EVENTS IN RENEWABLES

• Offshore wind farms construction program:

As part of offshore wind farms investments, 8 applications for a new location permit for an offshore wind farms in the Baltic Sea was submitted to the Ministry of Infrastructure. 4 proceedings have been settled in favour of the PGE Capital Group and 4 have not yet been completed. In addition, the PGE Group obtained 3 location permits in 2012, based on which it is preparing investments in the Baltic Sea with a total capacity of approx. 3.5 GW (including 2.5 GW in JO with Ørsted). Works carried out in these areas are on schedule. On April 20, 2023 Elektrownia Wiatrowa Baltica–2 sp. z. o.o. and Siemens Gamesa Renewable Energy Sp. z. o.o. concluded following agreements:

- Turbine Supply Agreement, which includes 107 wind turbines of 14 MW each with a total capacity of 1 498 MW;
- Service Warranty Agreement for 5 years from the commissioning of all turbines;
- Spare Parts and Tools Agreement.

The strategic goal of the PGE Group in the offshore energy area is to build at least 6.5 GW of capacity by 2040. There are currently 11 reservoirs available in the Baltic Sea, while the PGE Group is applying for permits to erect and use artificial islands within 8 reservoirs.

- PGE Group PV Development Program:
  - projects with a total capacity of approx. 200 MW are being implemented, including four large PV farms Gutki with a capacity of 12 MW, Huszlew with a capacity of 13 MW, Augustynka with a capacity of 25 MW and Jeziórko with a capacity of 100 MW, in which the first electricity will be produced by the end 2023.
  - the development of further photovoltaic farm projects, including the acquisition of land rights and obtaining the required administrative decisions aimed at obtaining construction permits, continued in the first quarter of 2023. In 2023, it is planned to obtain building permits for projects with a total capacity of approx. 290 MW.
- Modernisation of technological equipment at the Dębe hydro power plant: design work is carried out by the consortium of Elbis sp. z o.o. and Ramb sp. z o.o. On January 27, 2023, hydropower unit no. 3 was commissioned.
- Comprehensive modernisation program of Porąbka-Żar pumped-storage power plant: implementation is underway, including replacement with new ones of the four hydrosets that have been in operation since the beginning of the plant's operation, i.e. since 1979, modernisation of the asphalt concrete screen of the upper reservoir (last modernisation in 1995) and replacement modernisations on the fairway facilities. Carrying out the investments will extend the operation of the power station by at least 30 years. Design work and preparatory work for the start of facility works are currently in progress. The main modernisation works are scheduled to start in 2024.



# **DISTRIBUTION**

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

		Distribut	tion 🕅	
		Volume of		Main cost items PLN m
Main revenue items	PLN m	distributed	9.47 TWh	Transmission services 536
Sale of distribution	2 653	energy		Personnel expenses 392
services Including compensations	348			Network loss <sup>1</sup> 326
Connection fees	Customers 5	5.67 m	Depreciation and 318 amortisation, liquidation, write-offs incl. capitalised depreciation 4	
		-		Taxes and fees149incl. real estate tax125
		Main result items	PLN m	
		EBIT	960	
		EBITDA	1 274	

#### <sup>1</sup> managerial perspective.

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

Moreover, starting from December 2022, a compensation scheme for trading and distribution firms has been implemented in accordance with the Extraordinary Measures Act, regarding the application of maximum prices and discounts.

The key element shaping the Distribution segment's result is **return on company's invested capital**. This is based on the Regulatory Asset Base ("RAB"), which is established on the basis of completed investments and taking into account asset depreciation. The Regulatory Asset Base serves as the basis for calculating return on capital, using weighted average cost of capital, which is published by the ERO President in accordance with a set formula and using as the risk free rate the average yield on 10-year State Treasury bonds with the longest maturity during the 36-month period preceding the tariff application submission, quoted on the Treasury BondSpot market. In addition, return on capital depends on the achievement of individual quality targets set by the ERO President for performance indicators including: interruption time, interruption frequency, connection time and (not yet included) time to provide metering and settlement data.



## VOLUME, CUSTOMERS AND OPERATING DATA

PGE Dystrybucja S.A. operates in the area of 129 829 sq. km and delivers electricity to approximately 5.7 million customers.

Diagram: Area of PGE distribution grid.



PGE's distribution network area

# Table: Volume of distributed energy (TWh)

Tariff	Q1 2023	Q1 2022	% change
A tariff group	1.20	1.28	-6%
B tariff group	3.56	3.83	-7%
C+R tariff groups	1.77	1.89	-6%
G tariff group	2.94	2.79	5%
Total	9.47	9.79	-3%

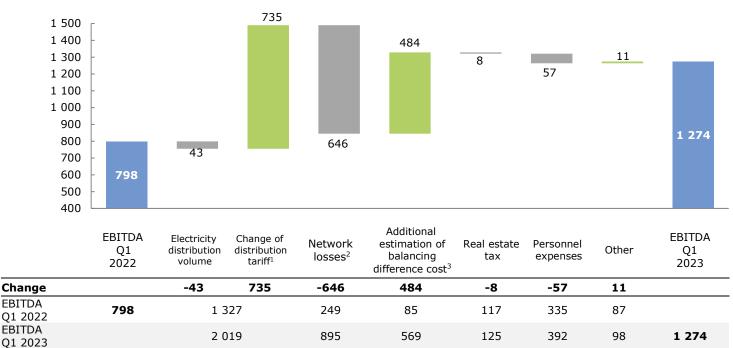
Table: Number of customers according to power take-off points.

Tariffs	Q1 2023	Q1 2022	% change
A tariff group	135	121	12%
B tariff group	13 599	13 130	4%
C+R tariff groups	477 438	486 605	-2%
G tariff group	5 178 581	5 105 007	1%
Total	5 669 753	5 604 863	1%



# KEY FACTORS FOR THE RESULTS OF THE SEGMENT

# W Chart: Key changes of EBITDA in Distribution (in PLN million) - managerial perspective.



<sup>1</sup> Excluding cost of transmission services from PSE S.A. and taking into account revenues from compensations.

<sup>2</sup> Adjusted for revenues from the Balancing market.

<sup>3</sup> Position that affects the Supply segment negatively, neutral for PGE Capital Group.

Key factors affecting results of Distribution segment y/y included:

- A decrease in the volume of distributed electricity by 0.32 TWh, resulting mainly from lower demand for electricity from high- and medium-voltage consumers. Additionally, there was a decrease in the number of energy consumption points in the tariff of small and medium-sized businesses and farms (by 9.2 ths).
- Increase in rates in tariff for 2023 by PLN 40.8/MWh compared to the tariff for the previous year, as a result of the increase in the cost of the balance difference. In addition, the item includes revenues from compensation related to the law limiting electricity price increases in 2023.
- Higher costs of electricity purchases to cover network losses mainly as a result of significant increase in electricity prices.
- Positive impact of the additional estimation of the cost of the balancing difference as a result of changes in electricity prices. The additional valuation has a neutral impact on the results of the PGE Capital Group
- Increase of costs of tax on real estate results from higher tax rates and an increase in the value of the buildings as a result of the investment and expansion of the power grid.
- Increase in personnel costs due to increasing employment costs resulting from increased inflation pressure.
- Increase in item other, resulting mainly from higher revenues from the sale of other distribution services in the field of reactive energy and capacity excess, as a result of the increase in rates in the 2023 Tariff.



# CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Distribution segment.

PLN million	Q1 2023	Q1 2022	% change
Development investments	360	147	145%
Modernisation and replacement investments	448	103	335%
Other	7	3	133%
Total	815	253	222%

KEY EVENTS IN DISTRIBUTION

- **Connecting new customers:** the Customer Connection Program to the distribution network was implemented, under which in 2023 expenditures were incurred in the amount of PLN 339 million.
- Program LTE450: tenders were pursued for the purchase and implementation of CORE LTE450 core network components as well as the purchase and implementation of RAN LTE450 radio network components along with the technical support service.
- Cabling program: in the first quarter of 2023 PGE continued to implement its cabling program for medium-voltage (MV) grids up to the level of 30% of MV networks owned by PGE Dystrybucja S.A., incurring expenditures in amount of PLN 185 million. 2 437 km of MV cable lines were completed from the start of the Program in 2019, while 149 km of MV cable lines were installed in 2023.
- Installation program for remote reading meters: This project is mandatory and results from the requirements imposed on Distribution System Operators (DSO) by the legislator in the amended Energy Law. In the first quarter of 2023, actions were taken to:
  - purchase of remote reading meters for end customers for years 2023 2024.
  - purchase of metres and modems for MV/LV substations for years 2023 2025,
  - purchase of the service of installing meters at end users,
  - purchase of services of modernisation and installation of meters in MV/LV substations,

According to the provisions of the law, the DSO has until December 31, 2028, to install remote reading meters connected to a remote reading system representing at least 80% of the total number of end-customer energy consumption points. EP Directive 2019/994 specifies that at least 80% of final customers must be equipped with smart meters. PGE Dystrybucja S.A. has decided to meter 100% of customers by 2030. The rationale for replacing meters at all customers by 2030 is mainly related to the need to ensure equal treatment of customers and to provide a uniform way of implementing business processes, both in terms of customer relations, vendors, as well as in terms of maintenance of metering systems, which will also maximise project benefits.

Implementation of central systems CRM and Billing (NCB program): A tender procedure for the performance of an order encompassing the implementation of a comprehensive, central IT solution to support key business processes at PGE Group being performed by PGE Obrót S.A. and PGE Dystrybucja S.A. was settled. This will consist of two billing systems – separate for each of the companies – and a CRM system for PGE Obrót S.A. On April 29, 2022, PGE Systemy S.A. signed a contract with the contractor A2 Customer Care from Atende Group selected in the tender - for the development and implementation of the CRM Billing system. The new solution will replace the existing billing and CRM systems for customer service at PGE Group. At the end of the year the investment task moved from the analysis phase to the pilot implementation phase. In the first quarter of 2023, implementation works of the pilot stage were carried out. The course of work is in line with the planned schedule.



# <u>SUPPLY</u>

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

		Supply				
					Main cost items	PLN m
Main revenue items	PLN m	Volume of electricity			Purchase of CO <sub>2</sub>	10 738
Sale of CO <sub>2</sub> emission	10 920	sales to	8.83		emission allowances	10 / 50
allowances	0.050	final off-takers <sup>1</sup>	TWh		Purchase of electricity	9 830
Sale of electricity including compensations	9 358 1 659				Purchase of fuels <sup>2</sup>	3 881
Sale of fuels <sup>2</sup> including compensations	3 865 112	Customers <sup>1</sup>	5.61		<ul> <li>including transport costs</li> <li>Purchase of gas</li> </ul>	112 654
Revenue from the sale of gas	663	Customers	million		Redemption of energy origin certificates	248
Sales management	500		-		Segment operating expenses including contribution to PDP	178 0
		Main result item	ns PLN	m	Fund	
		EBIT recurring	-34	13		
		EBIT reported	-20	52		
		EBITDA recurrir	ng -33	35		
		EBITDA reporte	<b>d</b> -2	54		

<sup>1</sup> Data for PGE PGE Obrót S.A.

<sup>2</sup> Managerial perspective

As part of retail-market activities, the key source of **segment's revenue is sale of electricity** to final customers. This is sale to business and institutional clients, which constitutes more than 70% of the sales volume, and to retail clients. The segment's revenue also includes the **sale of natural gas and fuels**, mainly: pulverised coal and coarse coal, which is sold by PGE Paliwa sp. z o.o.

Additionally, based on the provisions of the Emergency Measures Act, a system of compensation for trading companies for maximum prices and discounts was introduced from December 2022. At the same time, electricity trading companies are required to make a **contribution to the Price Difference Payment Fund**.

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

As part of the activities on the wholesale market,  $CO_2$  purchases are made for the needs of the Conventional Generation and District Heating segments, which is reflected both in terms of costs and revenues. At the same time, a significant revenue item is the provision of services to the Group's companies related to the management of purchases and sales of electricity and related products.

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



# VOLUME, CUSTOMERS AND OPERATING DATA

## Table: Volume of electricity sales to final off-takers $(TWh)^1$ .

Tariffs	Q1 2023	Q1 2022	% change
A tariff group	1.61	1.76	-9%
B tariff group	2.94	3.12	-6%
C+R tariff groups	1.73	1.61	7%
G tariff group	2.55	2.60	-2%
Total	8.83	9.09	-3%

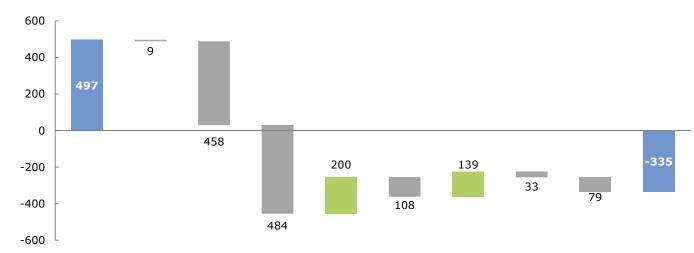
<sup>1</sup> Data for PGE Obrót S.A.

Table: Number of customers according to power take-off points<sup>1</sup>.

Tariffs	Q1 2023	Q1 2022	% change
A tariff group	155	149	4%
B tariff group	11 353	11 047	3%
C+R tariff groups	421 500	409 380	3%
G tariff group	5 179 763	5 036 960	3%
Total	5 612 771	5 457 536	3%

<sup>1</sup> Data for PGE Obrót S.A.

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



	EBITDA Q1 2022	Result on electricity - volume	Result on electricity - margin	Estimation of the cost of	Revenues from services provided to other segments of the PGE Group	Result on sale of gas and other fuels	Result on sale of CO <sub>2</sub>	Personnel expenses	Other <sup>2</sup>	EBITDA Q1 2023
Change		-9	-458	-484	200	-108	139	-33	-79	
Reported EBITDA Q1 2022	521									
One-offs Q1 2022	24									
Recurring EBITDA Q1 2022	497	2	94	85	349	102	44	102	105	
Recurring EBITDA Q1 2023		-1	73	569	549	-6	183	135	184	-335
One-offs Q1 2023										81
Reported EBITDA Q1 2022										-254

<sup>1</sup> Position with a positive impact on the Distribution segment, neutral for the PGE Capital Group.

<sup>2</sup> Item without taking into account the impact of reversing the provision for prosumers and correction of the estimate of the contribution to the PDP Fund for 2022 at PGE Obrót S.A. (one-offs)



# Table: Data on one-offs in Supply (PLN million).

One-offs	Q1 2023	Q1 2022	% change
Correction of estimated contribution to Price Difference Payment Fund for 2022 at PGE Obrót	81	0	-
Release of provision for prosumers <sup>1</sup>	0	24	-
Total	81	24	238%

<sup>1</sup> In connection with the amendment of the Act on Renewable Energy Sources of October 29, 2021, introducing changes in settlements with prosumers and specifying the period of support for existing prosumers, it was considered that the conditions for creating provisions for onerous contracts within the meaning of IAS 37 were met. The provision was created for contracts for 2022. In 2022, provision was fully released for the projected loss on the sale of electricity to prosumers.

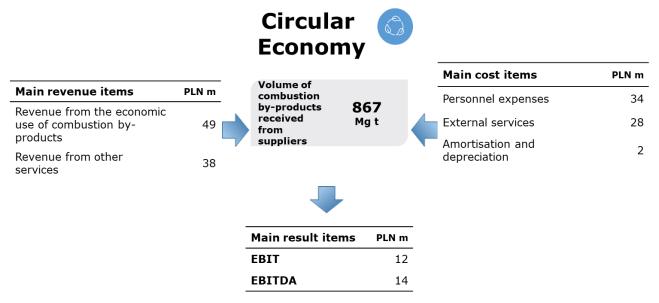
Key factors affecting EBITDA of Supply segment y/y included:

- The lower result on sale of electricity is mainly the result of a lower margin on sales on tariff products.
- Negative impact of additional valuation of balancing difference as a result of changes in electricity prices. The additional valuation has a neutral impact on the results of the PGE Capital Group.
- Increase of revenues from services performed within the Group resulting from the increase in revenues under the ZHZW agreement, which is a consequence of the higher value of trade in electricity under management.
- Lower result on sale of gas and other fuels is an effect of adjustment in PGE Paliwa sp. z o.o. result for 2022.
- Higher result on sale of CO<sub>2</sub> mainly as a result of mainly as a result of higher interim valuation of CO<sub>2</sub> futures contracts.
- Higher personnel expenses as a consequence of organisational changes and the ongoing process of changing remuneration.
- Value change on item 'Other' mainly as a result of higher costs of settlements with prosumers.



# CIRCULAR ECONOMY

The activities of the segment include the provision of comprehensive services in the field of management of combustion by-products ("UPS"), provision of services in auxiliary areas for electricity and heat producers and the supply of materials based on UPS.



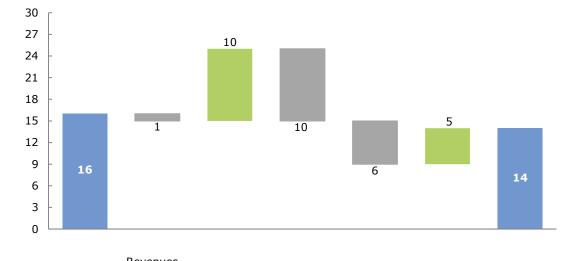
From the beginning of 2021, PGE Group reports a new operating segment – Circular Economy, which includes the following companies: PGE Ekoserwis S.A., EPORE S.A., ZOWER sp. z o.o. The management of combustion by-products at PGE Group turns waste into high-value substances that are used in other branches of economy (cement industry, construction, road-building, mining) and thus reduces the volume of ultimate waste generated.

The main revenue source in the Circular Economy segment is **revenue from the economic use of combustion by-products**, which includes revenue from the sale of products manufactured on the basis of combustion by-products in internal production processes and the sale of services related to the management of combustion by-products. The level of revenue depends on multiple factors, including commercial potential for selling combustion by-products, in processed and unprocessed form, seasonality of industries purchasing combustion by-products, seasonality of suppliers of combustion by-products (power plants, combined heatand-power plants), volumes collected, efficiency of production infrastructure, capabilities for storing combustion by-products as materials inventories intended for production, as well as market conditions.

**Revenue from other services** includes revenue from the sale of continuous and ad hoc services provided to electricity and heat producers, including the operation of ash handling systems and equipment, operation of technological lines, operation of mill facilities and operation of fuel and combustion by-product storage sites.



Chart: Key factors affecting EBITDA in Circular Economy segment (in PLN million) – managerial perspective.



	EBITDA Q1 2022	Revenues from sale of combustion by- products	Revenues from sale of services	Personnel expenses	External services	Other	EBITDA Q1 2023
Change		-1	10	-10	-6	5	
EBITDA Q1 2022	16	50	28	24	22	16	
EBITDA Q1 2023		49	38	34	28	11	14

Key factors affecting EBITDA of Circular Economy segment included:

- Lower revenues from sale of combustion by-products, caused by lower collection volumes of combustion by-products from producers that is possible to be managed and the realisation of a lower selling price;
- Higher revenues from the sale of services, which is the result of a wider scope of work carried out and higher service labour costs.
- Higher level of personnel costs is mainly the result of the ongoing process of changing wages.
- Higher third-party service costs, resulting mainly from higher combustion by-products management costs.
- **Lower level of item Other**, due to the higher stock of the coal mixture.

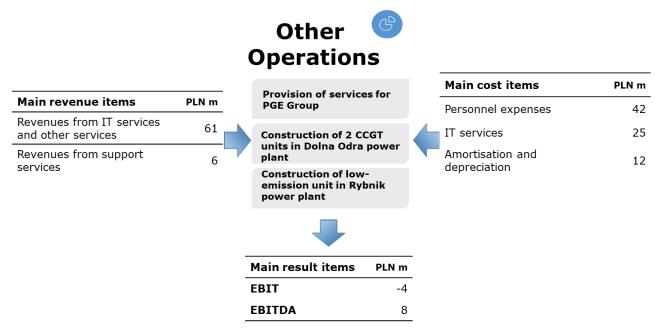


# OTHER OPERATIONS

# SEGMENT DESCRIPTION AND ITS BUSINESS MODEL

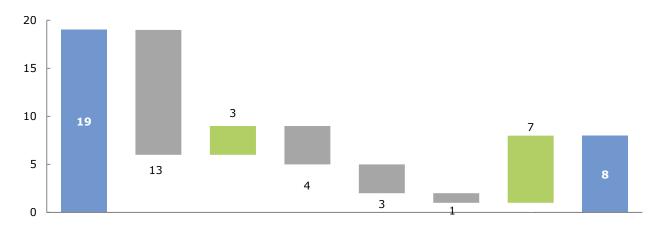
Core activities of the segment include provision of services to PGE Group, inter alia organisation of capital raising in form of Eurobonds (PGE Sweden), provision of IT, payroll and HR services, transportation and investing in start-ups.

In addition, the segment's structures include companies responsible for the construction of new, low-emission generation units. The structure of the Other Operations also includes companies: PGE Gryfino 2050 sp. z o.o. which is responsible for construction of gas and steam units in Dolna Odra power plant and Rybnik 2050 sp. z o.o., which is responsible for construction of low-emission unit on the premises of Rybnik power plant.



# KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key factors affecting EBITDA in Other operations segment (in PLN million) – managerial perspective.



	EBITDA Q1 2022	Costs of IT services	Capitalised costs	Revenues from sale of services	Costs of consulting services	Personnel expenses	Other	EBITDA Q1 2023
Change		-13	3	-4	-3	-1	7	
EBITDA Q1 2022	19	12	9	71	2	41	8	
EBITDA Q1 2023		25	12	67	5	42	1	8

Key factors affecting EBITDA of Other Operations segment included:

- Higher costs of IT services resulting from the purchase of external services in order for PGE Systemy S.A. to provide a wider range of services to PGE Group and deliver new investment programs, especially LTE450.
- **Higher capitalised costs** as a result of higher cost allocation to assets in the first quarter of 2023 due to projects carried out by PGE Systemy S.A.
- Lower revenues from the sale of services due to the sale of the company Elbest sp. z o.o. in 2022.
- **Higher costs of advisory services** due to the wider scope of projects implemented by Elbis sp. z o.o.
- **Higher personnel costs** due to the increase in the minimum wage.
- Change of value on item 'Other' mainly as a result of postponed settlements of project costs.

# CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Other operations segment.

PLN million	Q1 2023	Q1 2022	% change
Total	174	394	-56%

# KEY ACTIVITIES IN OTHER OPERATIONS

- On February 9, 2023 an agreement was signed with syndicate of Polimex Mostostal S.A., Siemens Energy sp. z o.o. and Siemens Energy Global GmbH & Co. KG for realisation of CCGT unit with a gross capacity of 882 MW in Rybnik with a value of PLN 3 million net. The order also includes a LTSA worth approx. PLN 0.8 billion net. The General Contractor has commenced work on preparing the fundamental project documentation as part of the contract.
- Work continued on the construction of two **new gas-and-steam units** of 671 MWe each (**PGE Gryfino 2050 sp. z o.o**). The key elements of the engine room of unit 9 and unit 10 have been placed on foundations, and assembly work of the entire turbine set is in progress as part of the improvements, steam turbine in block 9 has been connected with a generator. Throughout January 2023, deliveries of gas compressors were executed, tests of boiler pressure continued, and cabling commenced. The installation of the HRSG boiler of unit 9 was completed in February 2023. As regards the construction of the gas connection assemblies are underway approx. 90% of the gas pipeline route has been completed. Construction and installation work on the buildings and auxiliary facilities were continued. The material advancement of the project at the end of the first quarter of 2023 was more than 90%.
- At company PGE Inwest 14 sp. z o.o. Work is in progress on a Battery Electricity Storage System (BESS) project at ESP Żarnowiec, which will be one of the largest energy storage facilities of its kind in Europe. The project has obtained a decision on environmental conditions and conditions for connection to the 400 kV transmission grid. Another milestone for the project was the first concession promise for electricity storage in Poland. Combining the existing 716 MW Żarnowiec pumped-storage plant with BESS will result in an innovative hybrid installation with a total power rating of at least 921 MW and a capacity of over 4.6 GWh. The capacity of the entire installation corresponds to the capacity of the largest conventional units in Poland, which has a significant impact on increasing the level of flexibility of the NPS, taking into account the constantly increasing share of RES and the progressing phase out of coalfired units. The BESS will be able to provide a full range of ancillary services. further activities in 2023 will be related to the preparation of a public procurement procedure for the construction of BESS and the power evacuation system. In addition, BESS will perform the function of technical and commercial balancing for unstable RES, i.e. onshore and offshore wind farms owned by PGE Group.

Aim of the project	Budget	Expenditures incurred <sup>1</sup>	Capital expenditures in 2023 <sup>1</sup>	Fuel/ Net efficiency	Contractor	Investment completion date
Construction of two CCGT units at PGE Gryfino 2050 sp. z o.o.	PLN 4.3 bn	PLN 2.9 bn	PLN 158 m	Natural gas/ 63%	Syndicate of companies: General Electric (consortium leader) and Polimex Mostostal	December 2023
Construction of gas-steam unit at Rybnik 2050 sp. z o.o.	PLN 4.0 bn	PLN 3.2 m	PLN 0.32 m	Natural gas/ 61%	Syndicate of companies: Polimex Mostostal S.A. (consortium leader), Siemens Energy sp. z o.o., Siemens Energy Global GmbH & Co. KG	December 2026

# KEY PROJECTS IN OTHER OPERATIONS

<sup>1</sup> Expenditures incurred do not include expenses in the form of advances paid to the General Contractor for the Investment and to the other contractors.



# 4. Other elements of the report

# 4.1. Significant events of the reporting period and subsequent events

# IMPACT OF WAR IN UKRAINE ON PGE GROUP'S ACTIVITIES

In connection with the situation in Ukraine, a Crisis Team has been established at the central level of PGE Group to continuously monitor threats and identify potential risks. The Crisis Team's work includes monitoring the security of electricity and heat generation and supply and the protection of critical and IT infrastructure. Its tasks also include undertaking actions minimising the risk of a crisis situation, preparing the Company in the event of a crisis situation and planning, organising and coordinating works ensuring continuity of the Company's and PGE Group's operations.

Cybersecurity has grown significantly in importance in the current geopolitical situation. PGE Group has implemented special procedures for monitoring Information and communication technologies (ICT) networks due to increased activity of criminal groups aiming to attack ICT and Operational Technology (OT) systems. Incidents are regularly identified: phishing, attempts to install malware and DDoS attacks (Distributed Denial of Service).

The physical security of the Group's facilities also has been strengthened.

# KEY AREAS IN PGE GROUP AFFECTED BY THE WAR IN UKRAINE

- level of generated margin,
- fuel availability and prices,
- prices of CO2 emission allowances,
- disruption of the component supply chain or a significant increase in their prices,
- rising inflation and interest rates and a weakening of the national currency,
- capital raising opportunities,
- improving energy efficiency,
- greater pressure on the energy transition through RES development,
- import of hard coal,
- cybersecurity and physical security,
- geopolitics,
- new regulations,
- counterparties (sanctions lists).

# PGE'S KEY OPERATING RISKS RELATED TO THE WAR IN UKRAINE

- reduced availability of hard coal on the Polish market due to the planned embargo on supplies of this raw material from Russia,
- increase in hard coal and gas prices on the international market,

# RISKS RELATED TO GAS SUPPLIES

- CHP Gorzów and CHP Zielona Góra are supplied with field gas (so-called Ln nitrogenous gas). Due to the use of dedicated transmission infrastructure between the mine and the CHP plant, these generating assets are neutral to supply disruptions to Poland's National Gas Transmission System.
- EC Toruń, EC Zawidawie, EC Czechnica, EC Lublin Wrotków, EC Rzeszów, EC Zgierz, EC Bydgoszcz, EC Kielce are supplied with high-methane gas (so-called gas E). Gas E taken from the National Gas Transmission System is secured in the form of adequate storage and in Poland this is at a relatively high level.

PGE Group has no influence over the directions of supply and management of fuel transmission therefore the risk of possible disruptions lies with Polski Koncern Naftowy Orlen S.A. (previously PGNiG) (PKN Orlen) and the Transmission System Operator (Gaz-System S.A.). PGE has established communication channels with PKN Orlen and Gaz-System S.A. in commercial and operational management in cooperation with the respective



PGE Group location. In accordance with national gas supply constraint management programs, securing supplies for electricity and heat generation is favoured over other customers.

# IMPACT OF FUEL AVAILABILITY CONSTRAINTS ON ELECTRICITY GENERATION

- In the case of gas fuel, due to the lack of stock-holding capacities, a reduced availability translates into an immediate disruption in electricity and heat production. However, if there are back-up coal-fuelled water boilers at a CHP plant, it is possible to produce heat until these stocks are exhausted (this pertains to CHP Lublin Wrotków and CHP Rzeszów). In the case of CHP Gorzów, an OP-140 coal-fired steam boiler constitutes a back-up. At CHP Zielona Góra, oil boilers serve as back-up for heat production.
- The main suppliers of hard coal for electricity and heat production are Polish mining companies and coal importing companies. Currently, CHP plants and Centrally Dispatched Generating Units (JWCD) have reserves of hard coal to enable uninterrupted production of electricity and heat. The electricity supply for PGE Dystrybucja and PGE Obrót is secured on a commercial basis. The physical supply of energy is conditioned by the current balancing and operation of the NPS. Disruptions in electricity generation will affect the energy supply depending on the location on the grid in the NPS. So far, PGE Group has not identified any risk associated with electricity or heat supply to residents, institutions and businesses.

### THE RISK OF IMPACT OF THE WAR ON FUTURE FINANCIAL RESULTS

The aforementioned risks may have a material impact on individual areas of PGE Group's operations and future financial performance. In particular, the recoverable amount of selected asset items, the level of expected credit losses and the measurement of financial instruments may change.

In view of the dynamic course of the war on the territory of Ukraine and its macroeconomic and market consequences, PGE Group will monitor its development on an ongoing basis and any events that occur will be reflected accordingly in the Group's future financial statements.

# LEGAL ASPECTS

# THE ISSUE OF COMPENSATION REGARDING THE CONVERSION OF SHARES

Information on the issue of compensation regarding the conversion of shares are described in note 23.4 to the consolidated financial statements.

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

Significant proceedings pending in front of courts, competent arbitration authority or public administration authority are described in note 23.4 to the consolidated financial statements.

### TERMINATION BY ENEA S.A. OF AGREEMENTS FOR SALE OF CERTIFICATES

Information on termination by ENEA S.A. of agreements for sale of certificates are described in note 23.4 to the consolidated financial statements.

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

As at March 31, 2023 PGE S.A. and subsidiaries did not grant guarantees to other entities or to a subsidiary, where a value of guarantees constitutes at least 10% of the Company's equity.

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

Information on issue, redemption and repayment of debt securities and other securities is described in p. 4.2 of the foregoing report and in note 1.3 to the consolidated financial statements.



# TRANSACTIONS WITH RELATED ENTITIES

Information about transactions with related entities is presented in note 25 to the consolidated financial statements.

# PLANNED SALE OF COAL ASSETS TO THE NATIONAL ENERGY SECURITY AGENCY

On March 1, 2022, the Council of Ministers adopted a resolution on accepting the document: "Transformation of the electricity sector in Poland. Separation of generation coal assets from companies with State Treasury shareholding". According to the document, the asset spin-off process will be pursued through acquisition by the State Treasury from PGE S.A., ENEA S.A., TAURON Polska Energia S.A. and ENERGA S.A. all assets related to the generation of energy in hard coal-fired and lignite-fired power plants, including service companies providing services to them. Due to the inseparability of lignite-fired energy complexes, lignite mines will also be among the acquired assets. Assets related to hard coal mining will not be transferred to the entity dealing with generation of electricity in coal units. CHP plants will not be subject to his transaction, as they are planned to be modernised towards low and zero-emission sources. It is planned that the carve-out of assets from the energy groups will take place through the purchase of shares of individual companies directly by the State Treasury and their subsequent consolidation within NABE - if this option is selected, consolidation within NABE will take place through their contribution to a capital increase in PGE GiEK S.A.

NABE will operate as a holding company, concentrated around PGE GiEK S.A., and the companies being acquired from ENEA, TAURON and ENERGA as subsidiaries in its group.

NABE will be a fully self-sufficient entity, capable of procuring all internal and external functions, i.e. HR, IT, procurement, trading, to ensure seamless operations either independently or – in the transition period – based on contracts signed with external entities, including companies from which the assets are being carved out.

All potential transactions required under the selected structure related to the carve out of assets will be carried out on the basis of a market valuation by an independent entity and following independent due diligence. The individual valuations will take into account the financial liabilities that the generating companies being carved out as part of the transaction have to their parent companies and/or financial liabilities to financing institutions.

The method of settlement of the transaction, due to the indebtedness of the generation companies towards parent entities in their capital groups, will be subject to detailed arrangements between the State Treasury and the current owners and creditors.

According to the document, after the separation of coal-fired generation assets, energy companies will focus on developing their activities on the basis of their assets in the area of distribution, heating, trading and generation of energy in low- and zero-emission sources.

NABE's role will be to provide the necessary power balance in the energy system. NABE will focus on maintenance and modernisation investments necessary to maintain the efficiency of the coal-fired units in operation, including those aimed at reducing the carbon intensity of the units in operation.

On July 23, 2021, PGE S.A., ENEA, TAURON and ENERGA concluded an agreement with the State Treasury regarding cooperation in the process of separating coal energy assets and their integration into NABE.

As at the preparation date of this report due diligence process was finalised, works on the valuation of the spun-off companies and the determination of other key parameters of the future sale transaction are entering the final phase, including in particular the terms of financing and details of debt repayment. The necessary corporate decisions regarding the sale of coal assets have not been made. Therefore, it is currently not possible to reliably estimate the impact of the spin-off on the PGE Group's future financial reports, including the level of expected future credit losses.

In PGE Capital Group's opinion as at the reporting date, the conditions of IFRS 5 regarding the activities held for sale are not met in relation to assets and liabilities as well as revenues and costs for the described coal sources.

The book value of consolidated net assets of the activity which is planned to be separated amounts to PLN 11 387 million as at March 31, 2023. At the date of publication of the report the value of the transaction has not been determined.



# PROVISION FOR CLAIMS FROM CONTRACTORS OF ENESTA SP. Z O.O.

In 2021 ENESTA sp. z o.o. (currently ENESTA sp. z o.o. in restructurisation) terminated unfavourable contracts for the supply of electricity and natural gas. In 2022, some contractors brought their claims to court. After unsuccessful attempts to reach an agreement with its counterparties, ENESTA applied for restructuring proceedings. On June 21, 2022, restructuring proceedings were opened. At the end of 2022 and in February 2023, judgments unfavourable to the company were passed in pending proceedings. The judgments established the existence and validity of contracts for the sale of electricity and natural gas. Due to the need to continue the implementation of unfavourable sales contracts, a provision was created at the end of 2022 for onerous contracts in the amount of PLN 37 million. In addition, provisions were created for potential court disputes in connection with the reserve sale carried out in 2022 by the supplier of last resort in the amount of PLN 56 million. In the first quarter of 2023 provision for onerous contracts was partly released and currently amount to PLN 33 million. Sales revenues are invoiced in accordance with final court judgments.

As at March 31, 2023, the value of assets and equity and liabilities of the company amounts to PLN 177 million and the value of equity to PLN (-)228 million.

# RECOMMENDATION NOT TO PAY DIVIDEND FOR 2022

On March 21, 2023 the Management Board of PGE S.A. decided on the recommendation not to pay dividend for 2022 to the PGE's shareholders. Decision was taken in accordance with the dividend policy and is a result of analysis of Company's indebtedness, expected capital expenditures and planned acquisitions (in line with the PGE Group's Strategy until 2030 with 2050 perspective, including acquisition of 100% shares in PKPE Holding Sp. z o.o.), in the context of prolonged market volatility and uncertainty.

# Current report of PGE S.A.:

Recommendation not to pay dividend

# IMPLEMENTATION BY PGE PALIWA SP. Z O.O. OF THE DECISION OF THE PRESIDENT OF THE COUNCIL OF MINISTERS CONCERNING THE PURCHASE OF COAL FOR HOUSEHOLDS

On July 13, 2022 and on August 8, 2022 PGE Paliwa sp. z o.o. received a decision from the Prime Minister instructing the purchase of at least 3 million tonnes of thermal coal with parameters similar to the quality parameters used by households and its import into the country by the end of April 2023.

The implementation of the above mentioned decision resulted in a temporary increase in PGE Group's cash requirements and a potential temporary increase in debt in connection with the settlement of coal purchase and resale transactions. In the current conditions, the company does not expect the implemented actions to have a material impact on PGE Group's consolidated financial result.

PGE Paliwa sp. z o.o. was named in the Regulation of the Minister of State Assets of November 2, 2022, on the list of entities authorised to conduct sales of solid fuel to municipalities, as one of six market-entry entities authorised to conduct sales of solid fuel to municipalities for sale under preferential purchase. According to the provisions of the Act of October 27, 2022, on preferential purchase of solid fuel for households, the sale price of solid fuel may not be higher than PLN 1 500 gross. At the same time, the market-entry entity is entitled to compensation in the amount of the product of the quantity of solid fuel and the difference between the justified average unit purchase cost of solid fuel in that period and the average net selling price of solid fuel in that period, plus value added tax.

The company has estimated and recognised an estimate of compensation revenue for deliveries made in 2022 of PLN 131 million and for deliveries made in the first quarter of 2023 of PLN 112 million. The applications for compensation for the respective periods were submitted in accordance with the deadlines set out in the Law of October 27, 2022 on the preferential purchase of solid fuel for households. In April 2023, PGE Paliwa received compensation reimbursement for the first two applications submitted. The company has carried out sales under the aforementioned Act until April 30, 2023.



# REGULATORY CHANGES ON THE ELECTRICITY MARKET

Due to the electricity market crisis, the legislator decided to introduce regulations that temporarily introduce exceptional solutions for electricity prices and tariffication in 2023. On October 18, 2022, the Act of October 7, 2022, on special measures to protect electricity consumers in 2023 in connection with the situation on the electricity market (Act for Households) entered into force and on November 4, 2022, the Act on emergency measures to limit the level of electricity prices and support certain consumers in 2023 entered into force.

Pursuant to the Act for households, in 2023 an electricity trading company is required to apply to the aforementioned households customers prices equal to those contained in the tariff in force on January 1, 2022 for individual tariff groups up to certain consumption limits. Once the consumption limits for household consumers are exceeded, a maximum price of 693 PLN/MWh (price excluding VAT and excise duty) is used for billing off-takers in households in accordance with the Emergency Measures Act in 2023. This means that electricity prices have been fixed by law and therefore in 2023 the tariffs approved by the President of the Emergy Regulatory Office will not have a direct impact on electricity prices for households.

Additionally, in accordance with the Emergency Measures Act in 2023, the maximum electricity price for other eligible customers is set at 785 PLN/MWh (price excluding VAT and excise duty). This price, in principle, applies from December 1, 2022 to December 31, 2023. The maximum price limit for eligible customers also applies to electricity sales agreements concluded or amended after February 23, 2022, in which case the maximum price also applies to settlements for the period from the date of conclusion or amendment of these agreements until November 30, 2022. Electricity companies are required to make systematic refunds resulting from the application of the maximum prices until the end of 2023.

Electricity trading companies, in accordance with the implemented regulations, is entitled to compensation for applying electricity prices in their settlements with household customers at the same level as on January 1, 2022. The compensation is the product of the electricity consumed at the point of consumption, up to the maximum consumption limits entitling customers to apply to them the prices from 2022 and the difference between the price of electricity resulting from the electricity tariff approved by the President of the Energy Regulatory Office for 2023 and the electricity prices approved in the tariff for 2022. In turn, for applying the maximum price of PLN 693/MWh in settlements with household customers, trading companies are entitled to compensation in the amount of the product of the volume of electricity consumed in a given month and the difference between the reference price and the maximum price, for each energy point. The reference price is the price of electricity resulting from the electricity tariff approved by the President of URE for 2023. Compensation is also due for the use of maximum prices in settlements with other eligible entities. In this case, in principle, the reference price for compensation payments is calculated on the basis of electricity prices in exchange contracts and the prices of electricity purchased for sale to eligible customer, plus the cost of redemption of energy certificates of origin and a margin.

The mechanisms introduced in the Act for Households and the Emergency Measures in 2023 Act should as a rule compensate trading companies for the price reduction.

From December 1, 2022 PGE Group's financial position is also affected by the provisions of the Emergency Measures in 2023 Act, which provide for the requirement to make monthly contributions to the account of the Price Difference Payment Fund (PDP Fund) by electricity producers and power companies that are engaged in the business of electricity trading. The contribution to the PDP Fund is the product of the volume of electricity sales and the positive volume-weighted average difference of the market price of electricity sold and the volume-weighted average of the price cap of electricity sold, as regulated in the Regulation of the Council of Ministers of November 8, 2022 on the method of calculating the price cap.

A different way of calculating the price cap has been defined for individual generation sources:

for units generating energy from lignite and hard coal, the price limit takes into account, among other things, the unit cost of fuel consumed, the cost of CO2 emission allowances, the efficiency of the generating units, a margin and a certain level of investment allowance and for coverage of fixed costs of 50 PLN/MWh.



for units generating energy from RES, the price limit is determined with reference to the reference price referred to in art. 77 sec. 3 p. 1 of the Renewable Energy Sources Act, whereby for hydroelectric power plants the price limit will be 40% of this reference price.

For electricity trading companies, on the other hand:

- for energy sold to final consumers, the price limit is the product of the volume-weighted average price of electricity purchased on a given day and a margin defined as 1.035 or 1.03 (plus the unit cost of redemption of certificates of origin),
- for energy sold to customers other than final consumers, the price limit is the product of the volumeweighted average price of energy purchased on a given day and the margin defined as 1.015 or 1.01.

From January 1, 2023 onwards, trading companies will calculate the amount of the contribution to the Fund for the calendar month to which the settlement relates, taking into account the volume of electricity sales, the market price and the price cap for periods of 3 decades of that month, i.e. from the 1st to the 10th, from the 11th to the 20th and from the 21st to the last day of the month. Until December 31, 2022, the Fund contributions were calculated separately for each day of the month.

The above regulations had the following impact on the values presented in the consolidated financial statements of the PGE Capital Group:

- PDP Fund contribution for the first quarter of 2023 amounted to PLN 2 236 million (decreasing financial result).
- estimate of compensation due for the first quarter of 2023 was PLN 2 019 million.

The above figures for reduction in revenue and compensation payable are estimates determined to the best knowledge available to PGE Group at the date of this report.

# MARGIN DEPOSITS

In connection with their forward transactions on the power exchange TGE, for which the underlying commodity is electricity and natural gas, PGE Group companies are required to put up margin deposits, which constitutes the basic element of the clearing guarantee system for forward markets. The margins are lodged by entities opening positions in futures contracts and their task is to secure the risk related to cleared futures and forward transactions.

Collateral margins are composed of the initial margin and the variation margin.

The clearinghouse Izba Rozliczeniowa Giełd Towarowych S.A. (IRGiT) determines the required value of the collateral margin as a sum of the initial margin and the variation margin.

The variation margin is responsible for the on-going alignment of the portfolio value with market values, can take positive (surplus) as well as negative values (margin requirement) and is subject to daily updates. The clearinghouse accepts both monetary and non-monetary collateral - bank guarantees,  $CO_2$ , property rights, sureties and declaration of submission to enforcement in the form of a notarial deed in accordance with Art. 777 of the Civil Code.

In addition, for PGE Group Companies, the IRGiT applies mutual netting of initial and variation margins within the Netting Group, which has the effect of reducing the value of required security deposits.

In the first quarter of 2023 compared to 2022 the amount of collateral deposits significantly decreased. From September 1, 2022, the IRGIT introduced updates to the order and amount of recognition of non-monetary collateral to cover the required security deposits. The updated IRGIT rules set the maximum amount of security to be provided in the form of a declaration of submission to execution in the form of a notarial deed pursuant to art. 777 of the Civil Code up to 90% of the value of the required security deposits. The remaining 10% of the value of the required security deposits may be covered by up to 90% with bank guarantees and/or property rights and CO2 recognised by IRGIT, with at least 10% covered by cash.

The PGE Group has the ability to make forward transactions on ICE Endex of the Intercontinental Exchange Inc. (ICE) and on the European Energy Exchange AG, for which the underlying instrument are  $CO_2$  emission allowances. Margin deposits are required to secure open positions in futures contracts. The margins consist of



the Initial Margin and Variation Margin, whose function is to cover the difference between the transaction price of a concluded contract and its market valuation based on the settlement price on a daily basis. For a long position, a fall in the current day's clearing prices compared to the previous day's clearing prices means the necessity to make Variation Margin deposits, while an increase in prices compared to the previous day means that you will receive a Variation Margin.

The PGE Group makes settlements related to CO<sub>2</sub> trading on an ongoing basis.

# SIGNING OF A LETTER OF INTENT REGARDING A COOPERATION REGARDING THE DEVELOPMENT OF A NUCLEAR POWER PLANT AND INITIAL AGREEMENT ON SETTING-UP OF SPV

On October 31, 2022 PGE S.A. signed with Korea Hydro & Nuclear Power Co. Ltd. and ZE PAK S.A. a letter of intent, the aim of which is to start cooperation as part of the strategic Polish-Korean project to build a nuclear power plant in Pątnów. The parties have decided to start the cooperation in order to develop plan for the nuclear power plant based on the Korean technology APR1400, particularly to perform analysis of data regarding geotechnical, seismic and environmental conditions, develop an estimated budget for the preparatory work, construction phase and production phase along with the proposed Project financing model as well as to create an expected Project implementation schedule along with the definition of dates for key milestones.

Pątnów area is indicated in the Energy Policy of Poland until 2040 and in the Polish Nuclear Power Programme as one of four possible locations of nuclear power plant in Poland.

On March 7, 2023 PGE signed with ZE PAK S.A. an initial agreement on setting-up a joint special purpose vehicle (the "SPV") for the nuclear power plant construction project. On April 13, 2023 PGE S.A. and ZE PAK S.A. established a special purpose vehicle PGE PAK Energia Jądrowa S.A. based in Konin that will acquire or subscribe for shares in a company with a task to pursue project of nuclear power plant construction with a potential share of technological partner.

The agreement includes a summary of main terms of parties' cooperation in terms of joint venture intended to participate in implementation of nuclear power plant investment, including determination of corporate governance rules and operations of the SPV and limitations in selling shares of the SPV. PGE S.A. and ZEPAK S.A. will possess equal number of shares in the SPV and corporate rules will be based on the rule of joint control.

At the same time, it is planned that the special purpose vehicle will implement it as part of the next stage of cooperation:

- feasibility study,
- site surveys,
- environmental impact assessment for the purposes of the planned construction of a nuclear power plant.

# Current reports of PGE S.A.:

Signing of a letter of intent regarding a cooperation regarding the development of a nuclear power plant

Initial agreement on setting up of SPV

# The signing of a preliminary agreement regarding the acquisition of 100% of the shares in PKPE Holding

On December 28, 2022, PGE and Edison Holdings S.à r.l. signed a preliminary share sale agreement regarding the shares in PKPE Holding Sp. z o.o. (the "Company"), pursuant to which parties committed to conclude a promised agreement for the sale of 100% of the shares in PKPE Holding sp. z o.o. In performance of the Preliminary Agreement, PGE will directly acquire 100% of the shares in PKPE Holding sp. z o.o., and, indirectly, 100% of the shares in PKPE Edition of the shares in PKPE Holding sp. z o.o.

PKPE Holding sp. z o.o. is a holding company controlling a number of entities the activities of which are concentrated around PKP Energetyka S.A. (the "PKPE Group"). The PKPE Group is an energy distributor and seller of energy to the traction grid, and additionally provides traction grid maintenance.



The price to be paid by PGE was determined to be approximately PLN 1 913.5 million on the basis of the enterprise value as at March 31, 2022, of approximately PLN 5 944.5 million.

The closing of the transaction of the direct acquisition by PGE S.A. of 100% of the shares in PKPE Holding sp. z o.o., and consequently an indirect acquisition of 100% of the shares in PKP Energetyka S.A. and shares in other subsidiaries owned by the company, took place on April 3, 2023.

The acquisition of PKPE Holding Sp. z o.o. is in line with PGE Group's strategy. As a result of the transaction, PGE Group will gain access to the distribution grid throughout the whole country.

# Current reports of PGE S.A.:

Signing of the agreement on acquisition PKP Energetyka S.A.

Signing of the agreement on acquisition of PKP Energetyka S.A. part 2

Signing of the agreement on acquisition of PKP Energetyka S.A. part 3

# SIGNING OF A LOAN AGREEMENT WITH EUROPEAN INVESTMENT BANK

On February 3, 2023 PGE signed a loan agreement with European Investment Bank ("EIB"). The value of the loan agreement amounts to PLN 1.4 billion, the loan will be intended for implementation of the projects in the distribution segment, including MV lines cabling program, connection of new off-takers and generating units as well as installation of smart meters. Investments are planned to be implemented in years 2022-2025.

Loan availability period is 24 months from the agreement signing date and the maturity date will be maximum 18 years from the drawing date of the last installment under the agreement. The interest rate will be determined before the payment of the each installment. The agreement does not provide for tangible collaterals. After signing the above mentioned agreement, total nominal value of the financing from EIB amounts to PLN 5.7 billion.

### Current report of PGE S.A.:

Signing of a loan agreement with EIB

### SIGNING OF THE AGREEMENT FOR CONSTRUCTION OF THE POWER UNIT IN RYBNIK

On February 9, 2023 Rybnik 2050 sp. z o.o., a subsidiary of PGE, signed an agreement with consortium of: Polimex Mostostal S.A. (consortium leader), Siemens Energy Sp. z o.o. (consortium member), Siemens Energy Global GmbH & Co. KG (consortium member). The subject matter of the agreement is the performance of construction and assembly works and other works by the consortium, in order to build a gas and steam unit in Rybnik with a gross capacity of 882 MWe.

The value of the agreement amounts to PLN 3.0 billion net. In connection with the agreement, a service agreement was also signed with regard to gas turbine for the period of at least 12 years starting from the commissioning date of the unit. The value of the service agreement amounts to PLN 0.8 billion net. Total value of all signed agreements amounts to PLN 3.8 billion net.

Current report of PGE S.A.:

Signing of the agreement for construction of the power unit in Rybnik

# SIGNING OF THE SYNDICATED LOAN

On March 1, 2023 the revolving loan agreement was signed by PGE S.A. with a syndicate consisting of the following banks: Powszechna Kasa Oszczędności Bank Polski S.A., Bank Polska Kasa Opieki S.A., Bank of China (Europe) S.A., acting in Poland through its branch Bank of China (Europe) S.A. (Spółka Akcyjna) Oddział w Polsce, Industrial and Commercial Bank of China (Europe) S.A., acting in Poland through its branch Industrial and Commercial Bank of China (Europe) S.A., acting in Poland through its branch Industrial and Commercial Bank of China (Europe) S.A. (Spółka Akcyjna) Oddział w Polsce, Alior Bank S.A. and Santander Bank Polska S.A. The subject matter of the agreement includes granting by the banks of the revolving loan of up to PLN 2 330 million. The loan may be utilised for:

 finance the day-to-day operations of PGE S.A. and the Group in particular in line with the long term Group strategy aiming at reduction of emissions and increase of production of electricity from renewable sources;



- finance investment and capital expenditure in connection with the operations of PGE S.A. and the PGE group, other than investments in new carbon assets;
- refinancing of the financial liabilities of PGE and PGE Group.

The final repayment date falls on February 26, 2027. Interest rate of the loan will be calculated on the floating rate based on the relevant WIBOR rate (reference rate) plus margin. The margin may be periodically adjusted depending on the ESG rating assigned to PGE by a specialised agency. According to the provisions of the agreement, PGE undertakes to keep the consolidated net debt to consolidated EBITDA at a level not higher than 4:1 in the case PGE holds investment grade credit rating or at a level not higher than 3.5:1 in the case PGE does not held investment grade credit rating.

The loan is not secured on any of the assets of PGE or of the PGE Group.

Current report of PGE S.A.:

Signing of the syndicated loan



# 4.2. Significant changes in organisation of the Capital Group

Changes which occurred in the PGE Capital Group's structure in the period from January 1, 2023 until the publication date of this report, are presented in note 1.3 to consolidated financial statements and described below.

## ESTABLISHMENT OF COMPANIES

Segment	Entity	Date of establishment/ registration in the National Court Register (NCR)	Comment
Other operations	PGE PAK Energia Jądrowa S.A. in organisation (PGE PAK Energia Jądrowa)	April 13, 2023/ not yet registered	On April 13, 2023 PGE S.A. and ZE PAK S.A. with its seat in Konin (ZE PAK) established a capital company with its registered office in Konin in the form of a joint-stock company with the following name: PGE PAK Energia Jądrowa S.A. PGE S.A. and ZE PAK each hold 50% of shares in the share capital of the established company. The share capital of this company is PLN 10 000 000.

### ACQUISITION OR DISPOSAL OF SHARES BY THE COMPANIES

Segment	Shares of the company	Date of transaction/ registration in the NCR	Comment
District Heating	EC Zielona Góra – compulsory buyout of shares of EC Zielona Góra from the minority shareholders by KOGENERACJA S.A. as a shareholder of EC Zielona Góra	March 1, 2021/ April 25, 2023 the ownership title was transferred to KOGENERACJA S.A., by making changes in the register of shareholders of EC Zielona Góra.	On March 1, 2021 the Extraordinary General Meeting of EC Zielona Góra, pursuant to art. 418 of the Code of Commercial Companies, adopted a resolution on compulsory buyout of 8 849 shares hold by the minority shareholders, representing a total of 1.6% of the share capital of EC Zielona Góra. On April 25, 2023, the above-mentioned 8,849 shares were transferred to KOGENERACJA., by making an appropriate entry in the register of shareholders of EC Zielona Góra. In connection with the above, as of April 25, 2023, KOGENERACJA S.A. became the only shareholder holding 100% of the shares of EC Zielona Góra. PGE Energia Ciepła S.A. holds shares in ZEW KOGENERACJA representing 58.07% of the share capital of KOGENERACJA S.A.
Circular Economy	EPORE S.A. (EPORE) – sale by PGE GIEK S.A. of all possessed shares in EPORE to PGE Ekoserwis S.A. (share sale agreement) – intragroup transaction	December 23, 2022/ On January 10, 2023 a change was made in the register of shareholders of EPORE.	On December 23, 2022PGE GiEK S.A. as a seller and PGE Ekoserwis S.A. as a buyer signed share sale agreement concerning all possessed shares in EPORE, i.e. 63 963 shares, with a total nominal value of PLN 31 981 500, representing 100% in the share capital. The ownership of the shares was transferred to PGE S.A. on October 25, 2022. PGE S.A. is the sole shareholder in PGE Ekoserwis S.A.



Segment	Shares of the company	Date of transaction/ registration in the NCR	Comment
-	ElectroMobility Poland S.A. (ElectroMobility Poland) - share capital increase of ElectroMobility Poland and acquisition of all new shares by the State Treasury	December 28, 2022/ January 16, 2023	On December 28, 2022 the Extraordinary General Meeting of ElectroMobility Poland adopted a resolution on increasing the share capital of the company, by private placement of 50 748 series C shares with a nominal value of PLN 4 926.29 each. The Extraordinary General Meeting of the company decided to deprive the existing Shareholders of the pre-emptive rights to the new shares in their entirety and to offer all new shares to be acquired by the State Treasury in exchange for a cash contribution. As a result of acquisition by the State Treasury of new shares in the increased share capital of ElectroMobility Poland, share of PGE S.A. in the share capital of this company decreased from 4.33% to 2.30%.
-	PKPE Holding sp. z o.o. with seat in Warsaw (PKPE Holding) – acquisition by PGE S.A. from Edison Holdings S.àr.I. of all shares in PKPE Holding, owning inter alia 100% shares in PKP Energetyka S.A.	December 28, 2022 On April 3, 2023 the ownership title was transferred to PGE S.A.	On December 28, 2022 PGE S.A. as a buyer and Edison Holdings S.àr.I. as a seller zawarta signed preliminary agreement regarding the acquisition of the shares in PKPE Holding. As a result PGE S.A. and Edison Holdings S.à r.I. committed to conclude a promised agreement for the sale of 100% of the shares in PKPE Holding (Preliminary Agreement). On April 3, 2023, after meeting certain conditions precedent, PGE S.A. acquired directly 100% of shares in PKPE Holding, and indirectly 100% of shares in PKPE Holding, and indirectly 100% of shares in PKPE Holding.
-	Zakłady Pomiarowo- Badawcze Energetyki "Energopomiar" sp. z o.o. (Energopomiar) – sale by PGE S.A. and PGE Energia Ciepła S.A. of all possessed shares in Energopomiar to PGE GiEK S.A. – intragroup transaction	January 4, 2023	On January 4, 20234 PGE S.A. and PGE Energia Ciepła S.A. as sellers and PGE GiEK S.A. as a buyer signed share sale agreement regarding all shares possessed by PGE S.A. and PGE Energia Ciepła S.A. in Energopomiar, i.e. 1 share each in this company, with a nominal value of PLN 1 007 774.28 in case of the share owned by PGE S.A. and with a nominal value of PLN 418 288.40 in case of the share owned by PGE Energia Ciepła S.A., jointly representing 26.48% in the share capital. As a result of the concluded share sale agreement, PGE S.A. and PGE Energia Ciepła S.A. ceased to be partners of Energopomiar, and PGE GiEK currently holds shares constituting in total 49.79% share in Energopomiar. Transfer of ownership of shares to PGE GiEK S.A. took place on January 4, 2023.



## LIQUIDATION OF COMPANIES

Segment	Company in liquidation	Date of transaction/ registration in the National Court Register	Comment
Supply	PGE Trading GmbH in liquidation with seat in Berlin ("PGE Trading")	March 1, 2021/ PGE Trading has not been removed from the commercial register kept by the District Court in Berlin- Charlottenburg	On March 1, 2021 the Extraordinary Assembly of Partners of PGE Trading, in which PGE holds 100% of the share capital, adopted resolution on dissolution of PGE Trading and appointment of a liquidator to carry out liquidation activities of PGE Trading.
Other Operations	PGE Nowa Energia sp. z o.o. in liquidation with seat in Warsaw (PGE Nowa Energia)	March 31, 2022/ PGE Nowa Energia is not yet removed from the register of entrepreneurs of the National Court Register	On March 31, 2022 the Extraordinary Assembly of Partners of PGE Nowa Energia, in which PGE holds 100% of the share capital, adopted resolution on dissolution of PGE Nowa Energia and appointment of a liquidator to carry out liquidation activities.



# 4.3. Changes in the Management Board and in the Supervisory Board

# MANAGEMENT BOARD MEMBERS

As at 1 January 2023, the Management Board of the Company was composed as follows:

Name and surname of the Management Board		Position
Wojciech Dąbrowski	President of the Management Board	from February 20, 2020
Wanda Buk	Vice-President for Regulatory Affairs	from September 1, 2020
Lechosław Rojewski	Vice-President for Finance	from June 9, 2021
Paweł Śliwa	Vice-President for Innovations	from February 20, 2020
Ryszard Wasiłek	Vice-President for Operations	from February 20, 2020

On January 4, 2023, as a result of the qualification procedure, the Supervisory Board adopted Resolution No. 107/XII/2023 on the appointment of Mr. Rafał Włodarski to the Management Board of PGE S.A., entrusting the function of Vice President of the Management Board for Support and Development with effect from January 9, 2023.

On March 28, 2023 Mr. Ryszard Wasiłek submitted his decision to stand down from the position of the Company's Vice-President of the Management Board for Operations, effective April 30, 2023.

On April 19, 2023, as a result of the qualification procedure, the Supervisory Board adopted resolution on the appointment of Mr. Przemysław Kołodziejak to the Management Board of PGE S.A. entrusting the function of Vice-President of the Management Board for Operations as of May 1, 2023.

As at the date of publication of this report, the Company's Management Board is composed of the following members:

- Wojciech Dąbrowski President of the Management Board
- Wanda Buk Vice-President for Regulatory Affairs
- Przemysław Kołodziejak Vice-President for Operations
- Lechosław Rojewski Vice-President for Finance
- Paweł Śliwa Vice-President for Innovations
- Rafał Włodarski Vice-President for Support and Development

# SUPERVISORY BOARD MEMBERS

As at January 1, 2023, the Company's Supervisory Board was composed of:

Name and surname of the Supervisory Board	Position
Anna Kowalik	Chairman of the Supervisory Board
Artur Składanek	Vice-Chairman of the Supervisory Board – independent
Radosław Winiarski	Secretary of the Supervisory Board
Janina Goss	Supervisory Board Member - independent
Zbigniew Gryglas	Supervisory Board Member - independent
Tomasz Hapunowicz	Supervisory Board Member - independent
Marcin Kowalczyk	Supervisory Board Member
Mieczysław Sawaryn	Supervisory Board Member - independent



On February 9, 2023, the Company received the resignation of Mr Marcin Kowalczyk from membership in the Supervisory Board of PGE S.A. effective February 9, 2023.

On April 28, 2023, the Ordinary General Meeting of PGE S.A. appointed Mr. Cezary Falkiewicz to the Supervisory Board.

From April 28, 2023, the Supervisory Board of the Company operates in the following composition:

- Anna Kowalik Chairman of the Supervisory Board
- Artur Składanek Vice-Chairman of the Supervisory Board
- Radosław Winiarski
   Secretary of the Supervisory Board
- Cezary Falkiewicz
   Supervisory Board Member
- Janina Goss Supervisory Board Member
- Zbigniew Gryglas Supervisory Board Member
- Tomasz Hapunowicz
   Supervisory Board Member
- Mieczysław Sawaryn
   Supervisory Board Member

As at January 1, 2023, the standing committees of the Supervisory Board functioned in following composition:

Name and surname of the member of the Supervisory Board	Audit Committee	Corporate Governance Committee	Strategy and Development Committee	Appointment and Remuneration Committee
Janina Goss	Member			Member
Zbigniew Gryglas		Member	Member	
Tomasz Hapunowicz		Chairman	Member	
Marcin Kowalczyk			Member	Member
Anna Kowalik	Member	Member	Member	Member
Mieczysław Sawaryn	Member	Member	Member	Chairman
Artur Składanek	Chairman		Member	
Radosław Winiarski	Member		Chairman	

On February 9, 2023, the Company received the resignation of Mr Marcin Kowalczyk from membership in the Supervisory Board of PGE S.A. effective February 9, 2023.

Since February 9, 2023, the standing committees of the Supervisory Board have functioned in following composition:

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



# 4.4. Information about shares and other securities

# SHAREHOLDERS WITH A SIGNIFICANT STAKE

On the ground of the letter from the Ministry of the State Treasury of April 27, 2016, the State Treasury held 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. at March 31, 2022:

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%

On April 6, 2022, the Extraordinary General Meeting of PGE Polska Grupa Energetyczna S.A. adopted Resolution No. 7 on decreasing the share capital by way of reducing the par value of shares and simultaneously increasing the share capital by way of issuing series E shares under the private subscription procedure, depriving the existing shareholders entirely of the preemptive right to all series E shares, applying for admission and introduction of series E shares or rights to series E shares to trading on the regulated market of Giełda Papierów Wartościowych w Warszawie S.A. (Warsaw Stock Exchange), dematerialising series E shares or rights to series E shares.

In connection with § 1 - 3 of Resolution No. 7 of the Extraordinary General Meeting of PGE of April 6, 2022, § 7 of the Company Statutes is amended in such a way that it will have the following wording:

"The share capital of the Company shall be PLN 19,183,746,098.70 (say: nineteen billion one hundred and eighty-three million seven hundred and forty-six thousand and ninety-eight zloty and seventy groszy) and shall be divided into 2,243,712,994 (say: two billion two hundred and forty-three million seven hundred and twelve thousand nine hundred and ninety-four) shares with a par value of PLN 8.55 (say: eight zloty and fifty-five groszy) each, including:

- 1,470,576,500 series "A" bearer shares,
- 259,513,500 series "B" bearer shares,
- 73,228,888 series "C" bearer shares,
- 66,441,941 series "D" bearer shares,
- 373,952,165 series "E" bearer shares.

An application for an appropriate entry on amendment of the Company's Articles of Association has been submitted to the National Court Register.

May 18, 2022 changes in the share capital of PGE S.A. were registered in the National Court Register, about which the Company informed in the current report No. 29/2022 of May 19, 2022.

The State Treasury also acquired shares of a new issue under an investment agreement with which PGE S.A. signed with the State Treasury on April 5, 2022.

On May 20, 2022, the Minister of State Assets, representing the State Treasury, sent a notification informing about the change in the number of shares and the share in the total number of votes held by the State Treasury in the Company. Currently, the State Treasury holds 1 365 601 493 shares, constituting 60.86% of the Company's share capital and entitling to exercise 1 365 601 493 votes, which constitutes 60.86% of the total number of votes.

In addition, The State Treasury informed about the subsidiary holding PGE shares and the total number of votes by both entities and its percentage share in the total number of votes. According to the notification, taking into account the number of shares (18 697 608) held by a subsidiary of the State Treasury, i.e.



Towarzystwo Finansowe Silesia sp. z o.o. based in Katowice, the State Treasury holds a total of 1 384 299 101 shares constituting 61.70% of the share capital of the Company and entitling to exercise 1 384 299 101 votes, which constitutes 61.70% of the total number of votes.

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

Shareholder	Number of shares	Number of votes	% in total votes on General Meeting
State Treasury	1 365 601 493	1 365 601 493	60.86%
State Treasury's subsidiary – Silesia sp. z o.o.	18 697 608	18 697 608	0.84%
State Treasury and its subsidiary - total	1 384 299 101	1 384 299 101	61.70%
Others	859 413 893	859 413 893	38.30%
Total	2 243 712 994	2 243 712 994	100.00%

# TREASURY SHARES

As at March 31, 2023 PGE S.A. and subsidiaries did not hold any treasury shares.

# 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, none of the members of management and supervisory authorities of the Company held shares of the parent company or shares in entities related to PGE S.A at March 31, 2023.

# 4.5. Publication of financial forecasts

PGE S.A. did not publish financial forecasts.

# 4.6. Significant off-balance sheet items

Significant off-balance sheet items are described in notes 28 and 29 to the consolidated financial statements.

# 4.7. Branches of the Company

The company has a Branch of the Center for Knowledge and Development of the PGE Group with its registered office in Lublin.



# **5.** Statement of the Management Board 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, presents a fair, true and reliable view of the material and financial situation of PGE Capital Group and its financial result.

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



# 6. Approval of the Management Board's Report

The foregoing Management Board's Report on activities of PGE Capital Group was approved for publication by the Management Board of the parent company on May 23, 2023.

Warsaw, May 23, 2023

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

President of the Management Board	Wojciech Dąbrowski	
Vice- President of the Management Board	Wanda Buk	
Vice- President of the Management Board	Przemysław Kołodziejak	
Vice- President of the Management Board	Lechosław Rojewski	
Vice- President of the Management Board	Paweł Śliwa	
Vice- President of the Management Board	Rafał Włodarski	



# Glossary

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.
ARA	USD hard coal price index in EU. Loco in harbours Amsterdam-Rotterdam-Antwerp
Balancing market	a technical platform for balancing electricity supply and demand on the market. The differences between the planned (announced supply schedules) and the actually delivered/off-taken volumes of electricity are settled here. The purpose of the balancing market is to balance transactions concluded between individual market participants and actual electricity demand. The participants of the balancing market can be the generators, customers for electricity understood as entities connected to a network located in the balancing market area (including off-takers and network customers), trading companies, electricity exchanges and the TSO as the balancing company.
Base, baseload	standard product on the electricity market: a constant hourly power supply per day in a given period, for example week, month, quarter or year.
BAT	Best Available Technology
Best Practices	Documents "Best Practice for WSE Listed Companies 2016" adopted by the resolution of the WSE Supervisory Board of October 13, 2015 and effective from January 1, 2016 until June 30, 2021 and "Best Practice for WSE Listed Companies 2016 2021" adopted by the resolution of the WSE Supervisory Board of March 29, 2021 and effective from July 1, 2021.
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.
CCGT	Combined Cycle Gas Turbine
Circular economy	system that minimises the consumption of resources and the level of waste as well as emissions and energy losses by creating a closed loop of processes in which waste from one process is used as resources in other processes so as to maximally reduce the quantity of production waste
Co- combustion	the generation of electricity or heat based on a process of combined, simultaneous combustion in one device of biomass or biogas together with other fuels; part of the energy thus generated can be deemed to be energy generated with the use of renewable sources.
Co- generation	the simultaneous generation of heat and electricity or mechanical energy in the course of one and the same technological process.
Constrained generation	the generation of electricity to ensure the quality and reliability of the national power system; this applies to generating units in which generation must continue due to the technical limitations of the operation of the power system and the necessity of ensuring its adequate reliability.
CVC fund	Corporate Venture Capital; in the CVC model, portfolio companies, aside from financial support, receive the opportunity to verify their ideas in a corporate setting
Distribution	transport of energy through distribution grid of high (110 kV), medium (15kV) and low (400V) voltage in order to supply the customers.
Distribution System Operator (DSO)	a power company engaging in the distribution of gaseous fuels or electricity, responsible for traffic in the gas or electricity distribution systems, current and long- term security of operation of the system, the operation, maintenance, repairs and indispensable expansion of the distribution network, including connections to other gas or power systems.



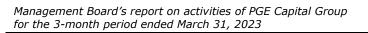
Energy cluster	civil-law arrangement that may include natural persons, legal entities, scientific units, research institutes or local government units, concerning the generation,
	distribution or trade in energy and energy demand balancing, with this energy being from renewable sources or other sources or fuels, within a distribution grid with nominal voltage below 110 kV, within the operational area of the given cluster, not
	exceeding the area of one district (powiat) in the meaning of the act on district authorities) or 5 municipalities (gmina) in the meaning of the act on municipal authorities; an energy cluster is represented by a coordinator, which is a
	cooperative, association, foundation appointed for this purpose or any member of
	the energy cluster indicated in the civil-law arrangement
ERO EUA	Energy Regulatory Office (pol. URE). European Union Allowances: transferable $CO_2$ emission allowances; one EUA allows
LUA	an operator to release one tonne of $CO_2$ .
EU ETS	European Union Greenhouse Gas Emission Trading Scheme) EU emission trading scheme. Its operating rules are set out in the ETS Directive, amended by the Directive 2009/29/EC of the European Parliament and of the Council of April 23, 2009 (OJ EU L. of 2009, No. 140, p. 63–87).
EV	Electric vehicle
FIT/FIP	Feed-in-Tariff (FIT) and Feed-in-Premium (FIP): system of subsidies to the market price of electricity performed by Zarządca Rozliczeń S.A.
Generating unit	a technically and commercially defined set of equipment belonging to a power company and used to generate electricity or heat and to transmit power.
GJ	Gigajoule, a unit of work/heat in the SI system, 1 GJ = 1000/3.6 kWh = approximately 278 kWh.
GPZ	main power supply point, a type of transformer station used for the processing or distribution of electricity or solely for the distribution of electricity.
Green certificate	popular name for energy generated from renewable energy sources.
GW	gigawatt, a unit of capacity in the SI system, $1 \text{ GW} = 10^9 \text{ W}$ .
GWe	one gigawatt of electric capacity.
GWt	one gigawatt of heat capacity.
HCI Hg	hydrogen chloride.
HICP	mercury. Harmonised Index of Consumer Prices
High	
Voltage Network (HV)	a network with a nominal voltage of 110 kV.
IED	Industrial Emissions Directive
IGCC	Integrated Gasification Combined Cycle.
Installed capacity	the formal value of active power recorded in the design documentation of a generating system as being the maximum achievable capacity of that system, confirmed by the acceptance protocols of that system (a historical value, it does not change over time.
IRiESP	the Transmission Network Operation and Maintenance Manual required to be
	prepared by a transmission system operator pursuant to the Energy Law; instructions prepared for power networks that specify in detail the terms and
	conditions of using these networks by system users as well as terms and conditions
	for traffic handling, operation and planning the development of these networks; sections on transmission system balancing and system limitation management,
	sections on transmission system balancing and system limitation management, including information on comments received from system users and their
10.7	sections on transmission system balancing and system limitation management, including information on comments received from system users and their consideration, are submitted to the ERO President for approval by way of a decision.
IRZ	sections on transmission system balancing and system limitation management, including information on comments received from system users and their
KRI	sections on transmission system balancing and system limitation management, including information on comments received from system users and their consideration, are submitted to the ERO President for approval by way of a decision. Cold Intervention Reserve Service – service consisting of maintaining power units ready for energy production. Energy is produced on request of PSE S.A. Key Risk Indicator
	sections on transmission system balancing and system limitation management, including information on comments received from system users and their consideration, are submitted to the ERO President for approval by way of a decision. Cold Intervention Reserve Service – service consisting of maintaining power units ready for energy production. Energy is produced on request of PSE S.A. Key Risk Indicator the National Power System, a set of equipment for the distribution, transmission and generation of electricity, forming a system to allow the supply of electricity in
KRI	sections on transmission system balancing and system limitation management, including information on comments received from system users and their consideration, are submitted to the ERO President for approval by way of a decision. Cold Intervention Reserve Service – service consisting of maintaining power units ready for energy production. Energy is produced on request of PSE S.A. Key Risk Indicator the National Power System, a set of equipment for the distribution, transmission



kV	kilo volt, an SI unit of electric potential difference, current and electromotive force; $1kV = 103 V$ .	
kWh	kilowatt-hour, a unit of electric energy in the SI system defined as the volume of electricity used by the 1 kW equipment over one hour. 1 kWh = 3,600,000 J = 3.6 MJ.	
kWp	a power unit dedicated to determining the power of photovoltaic panels, means the amount of electricity in the peak of production.	
Low Voltage Network (LV)	a network with a nominal voltage not exceeding 1 kV.	
LTC	long-term contracts on the purchase of capacity and electricity entered into between Polskie Sieci Elektroenergetyczne S.A. and electricity generators in the years 1994-2001.	
Medium- voltage network (MV)	an energy network with a nominal voltage higher than 1 kV but lower than 110 kV.	
MEV	Minimum Energy Volumes.	
MSR	Market Stability Reserve (relating to CO <sub>2</sub> )	
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 <sub>2</sub> emissions Allocation Plan for the years 2008-2012 prepared for the EU emission trading system adopted by the Ordinance of the Council of Ministers o July 1, 2008 (Dz. U. of 2008, No. 202, item 1248).	
NH <sub>3</sub>	ammonia	
Nm <sup>3</sup>	normal cubic meter; a unit of volume from outside the SI system signifying the quantity of dry gas in 1 m3 of space at a pressure of 101.325 Pa and a temperature of 0°C.	
NO <sub>x</sub>	nitrogen oxides.	
N:W ratio	Ration of volume of overburden removed in m <sup>3</sup> to the mass of extracted coal in tons	
OTF	Organised Trading Facilities	
Operational Capacity Reserve (ORM)	ORM constitutes of generation capacities of active Production Schedular Units (JGWa) in operation or layover, representing excess capacity over electricity demand available to the TSO under the Energy Sale Agreements and on the Balancing Market in unforced generation	
Peak, Deakload	a standard product on the electricity market; a constant power supply from Monday to Friday, each hour between 7:00 a.m. and 10:00 p.m. (15-hour standard for the Polish market) or between 8:00 a.m. and 8:00 p.m. (12-hour standard for the German market) in a given period, for example week, month, quarter or year.	
Peak power bumped storage blants	special type of hydro-power plant allowing for electricity storage. It uses the upper reservoir, to which water is pumped from the lower reservoir using electricity (usually excessive in system). The pumped storage facilities provide ancillary control services for the national power system. In periods of increased demand for electricity, water from the upper reservoir is released through the turbine. This way, electricity is produced.	
ין	Petajoule, a unit of work/heat in the SI system, 1 PJ = approx. 278 GWh	
Property ights	negotiable exchange-traded rights under green and co-generation certificates	
Prosumer	end customer who purchases electricity under a comprehensive agreement and generates electricity only from renewable sources at a micro-installations for own purposes, unrelated to economic activities	
PSCMI1	Polish Steam Coal Market Index 1 - average level of prices of coal dust sold to industrial-scale power plants in Poland	



RAB Red	Regulatory Asset Base.
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 tariffs for energy companies, 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.
RIG	Readiness Interventional Reserve - the power plant's readiness to provide the active power generation service or its consumption at the request of PSE.
SAIDI	System Average Interruption Duration Index - index of average system interruptio 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 consumer 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), wherei SAIDI in quality tariff does not include interruptions on low voltage.
SAIFI	System Average Interruption Frequency Index - index of average system amount o interruptions (long, very long and disastrous), determined as number of off-takers exposed to the effects of all such interruptions during the year divided by the total number of off-takers. SAIFI does not include interruptions lasting less than three minutes and is determined separately for planned and unplanned interruptions. It applies to breakdowns in the low (LV), medium (MV) and high voltage (HV), wherein SAIFI in quality tariff does not include interruptions on low voltage.
SCR	Selective catalytic reduction
SNCR	Selective non-catalytic reduction
Start-up	early-stage company established in order to build new products or services and characterised by a high level of uncertainty. The most common features of start-up are: short operational history (up to 10 years), innovativeness, scalability, higher risk than in the case of traditional businesses but also potential higher returns on investment
Tariff	the list of prices and rates and terms of application of the same, devised by an energy enterprise and introduced as binding on the customers specified therein in the manner defined by an act of parliament.
Tariff group	a group of customers off-taking electricity or heat or using services related to electricity or heat supply to whom a single set of prices or charges and terms are applied.
TGE	Towarowa Giełda Energii S.A. (Polish Power Exchange), a commodity exchange on which trading can take place in electricity, liquid or gas fuels, extraction gas, emission allowances and property rights whose price depends directly or indirectly on electric energy, liquid or gas fuels and emission allowances, admitted to commodity exchange trading.
TPA, TPA rule	Third Party Access, the owner or operator of the network infrastructure to third parties in order to supply goods/services to third party customers.
Transmission of electricity	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-tern 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
TWh	the field of electricity transmission. terawatt hour, a multiple unit for measuring of electricity unit in the system SI. 1
Ultra-high- voltage	TWh is 10 <sup>9</sup> kWh. an energy network with a voltage equal to 220 kV or higher.





network (UHV)	
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	popular name for energy generated in gas-fired power plants and CCGT power
energy	plants.
ZHZW	Commercial Management of Generation Capacities.