

# MANAGEMENT BOARD'S REPORT

on activities of PGE Capital Group  
for the 6-month period

ended June 30, 2024



*Polska Grupa Energetyczna*

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## KEY FINANCIAL DATA

Key financial data	Unit	H1 2024	H1 2023	% change
Sales revenues	PLN m	31 294	49 560	-37%
EBIT	PLN m	2 859	3 549	-19%
EBITDA	PLN m	5 140	5 872	-12%
EBITDA margin	%	16%	12%	
Recurring EBITDA	PLN m	4 837	6 205	-22%
Recurring EBITDA margin	%	15%	13%	
Net profit	PLN m	2 089	2 171	-4%
Capital expenditures	PLN m	4 645	3 953	18%
Net cash from operating activities	PLN m	6 105	339	1 701%
Net cash from investing activities	PLN m	-4 702	-5 491	-14%
Net cash from financial activities	PLN m	-3 786	3 633	-

Key financial data		June 30, 2024	December 31, 2023	% change
Working capital	PLN m	-8 023	-7 107	13%
<b>Net debt</b>	PLN m	<b>9 990<sup>1</sup></b>	<b>11 121</b>	-10%
Net debt/LTM reported EBITDA <sup>2</sup>	x	1.07	1.11	
Net debt/LTM recurring EBITDA <sup>2</sup>	x	1.07	1.04	

One offs affecting EBITDA		H1 2024	H1 2023	% change
Change of reclamation provision	PLN m	392	-331	-
Change of actuarial provision	PLN m	32	-52	-
LTC compensations	PLN m	-7	-31	-77%
Correction of estimated contribution to Price Difference Payment Fund for year 2022	PLN m	0	81	-100%
Write-down of receivables from PKP Cargo S.A.	PLN m	-114	0	-
<b>Total</b>	PLN m	<b>303</b>	<b>-333</b>	-

<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 20 126 million.

<sup>2</sup> LTM EBITDA - Last Twelve Months EBITDA.

# 1. PGE Capital Group - organisation

## 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 nine operating segments:



### RENEWABLES

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



### GAS-FIRED GENERATION

The core business of the segment includes electricity generation from gas-fired sources.

Within the segment there are companies responsible for construction of CCGT units in Gryfino (PGE Gryfino 2050 sp. z o.o.) and new low-emission unit in Rybnik (Rybnik 2050 sp. z o.o.).



### CONVENTIONAL GENERATION

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



### DISTRICT HEATING

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



### DISTRIBUTION

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



### RAILWAY ENERGY SERVICES

The segment's main activities are the distribution and sale of electricity to railway operators and customers functioning within the railway system, the sale of fuels, as well as the maintenance and modernisation of overhead contact line network, together with other auxiliary services.



## SUPPLY

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 CO<sub>2</sub> allowances, energy certificates and fuels and provision of services of the Corporate Centre to companies from the PGE Group.



## 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

Other operations include provision of services, through the subsidiaries, to PGE Capital Group, which include organisation of capital raising in form of Eurobonds (PGE Sweden), provision of IT, transportation and investing in start-ups. Additionally, within the segment there are project companies of the Group.

### 1.2. Organisational structure

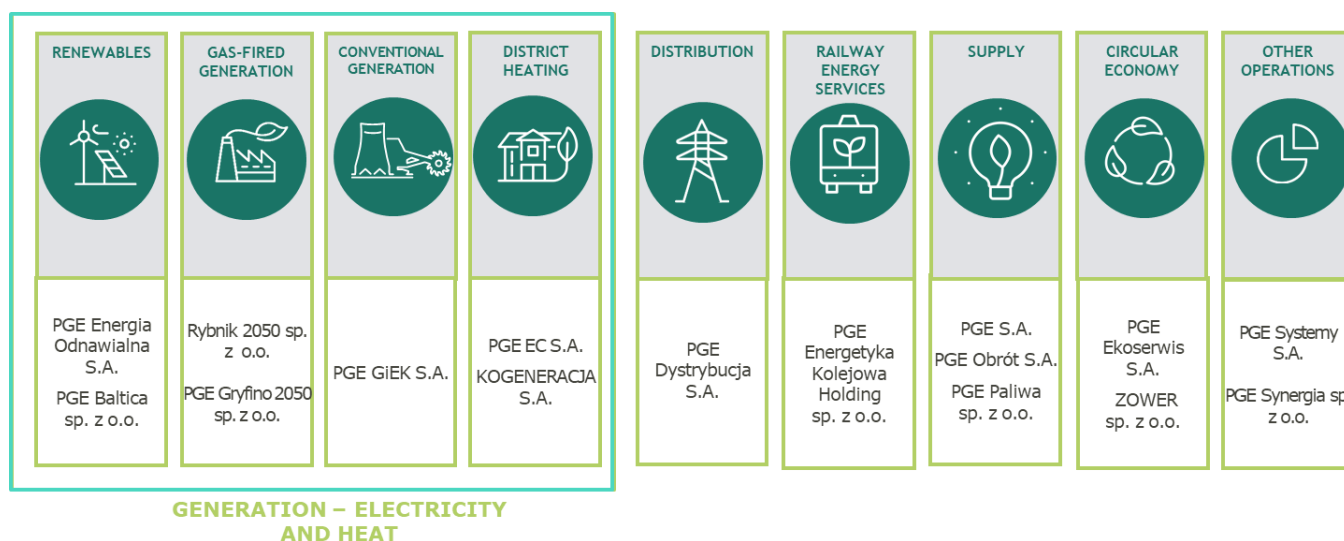
PGE Capital Group as at June 30, 2024 consisted of:

- PGE S.A. - the parent company,
- 79 subsidiaries subject to full consolidation,
- 2 joint operations,
- 6 associates and joint subsidiaries.

All of PGE Group's companies are organised in 9 operating segments indicated in the chart below.

The following diagram illustrates the Group's structure. A full composition of PGE Group, divided into segments as well as directly and indirectly consolidated subsidiaries, is presented in note 1.3 to the consolidated financial statements.

Chart: Structure of PGE Capital Group<sup>1</sup>



<sup>1</sup> Simplified structure – includes key entities.

### 1.3. Significant changes in the organisation of the Capital Group

Significant changes which occurred in the PGE Capital Group's structure in the period from January 1, 2024 until the publication date of this report, are presented in note 1.3 to consolidated financial statements and described below.

#### ACQUISITION OR DISPOSAL OF SHARES BY THE COMPANIES

Segment	Shares of the company	Date of transaction/ registration in the National Court Register (NCR)	Comment
<b>Other operations</b>	PGE Inwest 12 sp. z o.o. – taking up shares by PGE S.A. and joining the PGE Inwest 12 sp. z o.o. and taking up new shares by National Fund for Environmental Protection and Water Management (NFOŚiGW)	October 24, 2023 / March 4, 2024	On October 16, 2023 PGE S.A. and NFOŚiGW signed an investment agreement regarding financing of PGE Inwest 12 sp. z o.o. in order to implement construction of the pumped-storage power plant in Młoty (commune Bystrzyca Kłodzka, Lower Silesia voivodship). As a result of performance of the above-mentioned contract on October 17, 2023 Extraordinary Assembly of Partners of PGE Inwest 12 sp. z o.o. adopted a resolution on increase of the share capital and decided that the new shares in the increased share capital will be taken up respectively by PGE S.A. and NFOŚiGW in exchange for cash contributions. On October 24, 2023 PGE S.A. and NFOŚiGW took up new shares in PGE Inwest 12 sp. z o.o. PGE S.A. currently holds 51%, and NFOŚiGW 49% in the share capital of this company.
<b>Supply</b>	ENESTA sp. z o.o. in restructuring with seat in Stalowa Wola - increase of the share capital and subscription of all new shares by PGE Obrót S.A.	December 18, 2023 / June 17, 2024	On December 18, 2023 the Extraordinary Meeting of Partners of ENESTA sp. z o.o. in restructuring adopted a resolution on increasing the share capital of the company from PLN 82 402 000 to PLN 116 402 000 PLN, i.e. by PLN 34 000 000, by issue of new 34 000 shares of the company with a nominal value of PLN 1 000 per share. PGE Obrót S.A. as one of the company's shareholders, took up all the company's new shares in the increased share capital. As a result of the share capital increase and the subscription of all new shares of the company by PGE Obrót S.A., the share of PGE Obrót S.A. in the share capital of the company increased from 92.25% to 94.51% as of the date of registration of the company's share capital increase in the National Court Register, i.e. as of June 17, 2024.
<b>District Heating</b>	PGE Toruń S.A. with seat in Toruń – compulsory buy-out by PGE Energia Ciepła S.A. of shares from minority shareholders of PGE Toruń S.A.	June 11, 2024 / No entry in the register of shareholders of PGE Toruń S.A. August 12, 2024 entry was made in the register of shareholders of PGE Toruń S.A.	On June 11, 2024 the Ordinary General Meeting of PGE Toruń S.A. on the ground of art. 418 <sup>1</sup> of the Commercial Companies Code decided on compulsory buy-out by PGE Energia Ciepła S.A. of 48 220 shares, representing 0.12% of the share capital of PGE Toruń S.A., from minority shareholders of PGE Toruń S.A. As a result of the buy-out and entry of the appropriate change in the register of shareholders of PGE Toruń S.A., the share of PGE Energia Ciepła S.A. in the share capital of PGE Toruń S.A. increased from 95.22% to 95.34%.

### LIQUIDATION OF COMPANIES

Segment	Company in liquidation	Date of transaction/ registration in the National Court Register	Comment
-	PGE Trading GmbH in liquidation with seat in Berlin	March 1, 2021 As of June 30, 2024, the company has not been removed from the commercial register	On March 1, 2021 the Extraordinary Assembly of Partners of PGE Trading in liquidation, in which PGE holds 100% of the share capital, adopted resolution on dissolution of the company and appointment of a liquidator to carry out liquidation activities. The liquidation process of the company is currently underway.
-	PGE Nowa Energia sp. z o.o. in liquidation with seat in Warsaw	March 31, 2022 /On 16 February 2024, the register court decided to delete the company from the Register of Entrepreneurs of the NCR. On April 22, 2024, the deletion of the company from the NCR became effective.	On March 31, 2022 the Extraordinary Assembly of Partners of PGE Nowa Energia sp. z o.o. in liquidation, in which PGE holds 100% of the share capital, adopted resolution on dissolution of the company and appointment of a liquidator to carry out liquidation activities. On February 16, 2024, the liquidation of PGE Nowa Energia sp. z o.o. in liquidation was completed and the company was deleted from the National Court Register. On April 22, 2024, the deletion of the company from the National Court Register became.
-	Railen GmbH in liquidation with seat in Berlin	January 31, 2023 / As of June 30, 2024, the company has not been removed from the commercial register	On January 26, 2023 the Extraordinary Assembly of Partners of Railen GmbH in liquidation, in which PGE Energetyka Kolejowa Holding sp. z o.o. holds 100% of the share capital, adopted resolution, effective January 31, 2023, resolution on dissolution of the company and appointment of a liquidator to carry out liquidation activities. The liquidation process of the company is currently underway.
-	Railen Baltics, UAB with seat in Vilnius	October 3, 2023/ On January 31, 2024, the Administrator of the Lithuanian Register of Legal Entities reversed the liquidation of Railen Baltics, UAB, i.e. the company is not currently under liquidation	On October 3, 2023, the Administrator of the Lithuanian Register of Legal Entities initiated the liquidation of the company Railen Baltics, UAB in liquidation, in which PGE Energetyka Kolejowa Holding sp. z o.o. holds 100% of the share capital. The decision to initiate liquidation was appealed, as a result of which, on January 31, 2024, the Administrator of the Lithuanian Register of Legal Entities revoked the decision to place Railen Baltics, UAB into liquidation, i.e. the company is now not in liquidation.

### RESTRUCTURING OF THE COMPANIES

Segment	Company in liquidation	Date of transaction/ registration in the National Court Register	Comment
<b>Supply</b>	ENESTA sp. z o.o. in restructuring with seat in Stalowa Wola	June 21, 2022 / No completion of restructuring proceedings as at June 30, 2024	On June 21, 2022, the District Court in Rzeszów, 5th Commercial Division, opened restructuring (recovery) proceedings of the company ENESTA sp. z o.o. in restructuring and appointed an Administrator as part of these restructuring proceedings. The restructuring process of the company is currently underway. PGE Obrót S.A. currently holds 94.51% share in the share capital of the company.



## 1.4. Composition of the management and supervisory bodies

### 1.4.1 Management Board

#### MANAGEMENT BOARD MEMBERS

Table: Composition of the Company's Management Board as at January 1, 2024

Name and surname of the Management Board	Position	Period of office
Wojciech Dąbrowski	President of the Management Board	from February 20, 2020 to February 7, 2024
Wanda Buk	Vice-President for Regulatory Affairs	from September 1, 2020 to February 7, 2024
Przemysław Kołodziejak	Vice-President for Operations	from May 1, 2023
Lechosław Rojewski	Vice-President for Finance	from June 9, 2021 to February 28, 2024
Rafał Włodarski	Vice-President for Support and Development	from January 9, 2023 to February 7, 2024

#### CHANGES IN THE MANAGEMENT BOARD IN 2024

On February 7, 2024, the Supervisory Board adopted the following resolutions:

- No. 287/XII/2024 on dismissal of Wojciech Dąbrowski, President of the Management Board, from the Management Board,
- No. 288/XII/2024 on dismissal of Wanda Buk – Vice-President of the Management Board for Regulations,
- No. 289/XII/2024 on dismissal of Rafał Włodarski - Vice-President of the Management Board for Support and Development.

Moreover, the Supervisory Board of the Company on February 7, 2024 adopted resolutions to delegate Supervisory Board Members:

- No. 290/XII/2024 Eryk Kosiński to temporarily perform the duties of the Member of the Management Board of the Company for the 3-month period and to entrust him the duties of the President of the Management Board of the Company,
- No. 291/XII/2024 Małgorzata Banasik to temporarily perform the duties of the Member of the Management Board of the Company for the 3-month period.

On February 28, 2024 the Supervisory Board of the Company has adopted a resolution No. 304/XII/2024 on dismissal of Lechosław Rojewski, Vice-President of the Management Board for Finance.

On March 6, 2024, following the qualification procedure, the Supervisory Board adopted the resolutions:

- No. 312/XII/2024 on appointing Dariusz Marzec to the Management Board of PGE S.A., entrusting him the position of President of the Management Board as from March 18, 2024,
- No. 313/XII/2024 on appointing Marcin Laskowski to the Management Board of PGE S.A., entrusting him the position of Vice-President of the Management Board for Regulations as from March 18, 2024.

Also on March 6, 2024 the Company's Supervisory Board adopted resolutions to:

- No. 314/XII/2024 terminate as of March 17, 2024 delegation of Eryk Kosiński, Supervisory Board Member, to temporarily perform the duties of the Member of the Management Board of PGE acting as the President of the Management Board of PGE,
- No. 315/XII/2024 terminate as of March 8, 2024 delegation of Małgorzata Banasik, Supervisory Board Member, to temporarily perform the duties of the Member of the Management Board of PGE.

On March 21, 2024, following the qualification procedure, the Supervisory Board adopted the resolution:

- No. 326/XII/2024 on appointing Robert Kowalski to the Management Board of PGE S.A., entrusting him the position of Vice-President of the Management Board for Support and Development as from May 15, 2024.

On April 4, 2024, following the qualification procedure, the Supervisory Board adopted the resolution No. 336/XII/2024 on appointing Renata Czech to the Management Board of PGE S.A., entrusting her the position of Vice-President of the Management Board for Finance as from April 15, 2024.

Also on April 4, 2024 the Supervisory Board adopted the resolution No. 343/XII/2024 on dismissal of Przemysław Kołodziejak, Vice-President of the Management Board for Operations.

On April 5, 2024 the Supervisory Board received a statement of Renata Czech, appointed as the Vice-President of the Management Board for Finance, on resignation from this position due to personal reasons.

On May 20, 2024, following the qualification procedure, the Supervisory Board adopted the resolution No. 368/XII/2024 on appointing Maciej Górski to the Management Board of PGE S.A., entrusting him the position of Vice-President of the Management Board for Operations as from June 24, 2024.

On June 24, 2024, following the qualification procedure, the Supervisory Board adopted the resolution No. 378/XII/2024 on appointing Przemysław Jastrzębski to the Management Board of PGE S.A., entrusting him the position of Vice-President of the Management Board for Finance as from July 15, 2024.

#### THE CURRENT COMPOSITION OF THE COMPANY'S MANAGEMENT BOARD

Table: Composition of the Company's Management Board at the date of signing of this report

Name and surname of the Management Board	Position
Dariusz Marzec	President of the Management Board
Maciej Górski	Vice-President for Operations
Przemysław Jastrzębski	Vice-President for Finance
Robert Kowalski	Vice-President for Support and Development
Marcin Laskowski	Vice-President for Regulations

### 1.4.2 Supervisory Board

Supervisory Board of PGE S.A. operates on the basis of the Act of September 15, 2000 - Code of Commercial Companies and the Company's Statute and Regulations of the Supervisory Board, the content of which is available on the Company's website: [Regulations of the Supervisory Board](#).

Table: Composition of the Supervisory Board as at January 1, 2024

Name and surname of the Management 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
Tomasz Hapunowicz	Supervisory Board Member - independent
Mieczysław Sawaryn	Supervisory Board Member - independent

#### CHANGES TO THE COMPOSITION OF THE COMPANY'S SUPERVISORY BOARD IN 2024

On January 25, 2024, the Minister of State Assets by a statement appointed Michał Domagała to the Supervisory Board.

On January 31, 2024 the Extraordinary General Meeting:

- Dismissed from the Supervisory Board the following persons:
  - Janina Goss
  - Tomasz Hapunowicz
  - Mieczysław Sawaryn
  - Artur Składanek
  - Radosław Winiarski
- appointed to the Supervisory Board the following persons:
  - Małgorzata Banasik
  - Eryk Kosiński
  - Andrzej Kozyra
  - Elżbieta Niebisz

- Sławomir Patyra
- Andrzej Rzońca
- Andrzej Sadkowski

On February 7, 2024, a new Presidium of the Supervisory Board was elected. Also on February 7, 2024 the Supervisory Board adopted resolutions to delegate Supervisory Board Members:

- Eryk Kosiński to temporarily perform the duties of the Member of the Management Board of the Company for the 3-month period and to entrust him the duties of the President of the Management Board of the Company,
- Małgorzata Banasik to temporarily perform the duties of the Member of the Management Board of the Company for the 3-month period.

On March 6, 2024, the Supervisory Board adopted resolutions concerning the termination of the delegation of Supervisory Board Members to temporarily perform the duties of Members of the Management Board of PGE S.A.

Table: Composition of the Company's Supervisory Board at the date of signing of the report

Name and surname of the Management Board	Position
Michał Domagała	Chairman of the Supervisory Board – independent
Andrzej Sadkowski	Vice-Chairman of the Supervisory Board – independent
Anna Kowalik	Secretary of the Supervisory Board
Małgorzata Banasik	Member of the Supervisory Board – independent
Eryk Kosiński	Member of the Supervisory Board – independent
Andrzej Kozyra	Member of the Supervisory Board – independent
Elżbieta Niebisz	Member of the Supervisory Board – independent
Sławomir Patyra	Member of the Supervisory Board – independent
Andrzej Rzońca	Member of the Supervisory Board – independent

### 1.4.3 Committees of the Supervisory Board

Table: Composition of the committees of the Supervisory Board as at January 1, 2024

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

On January 25, 2024, the Minister of State Assets by a statement appointed Michał Domagała to the Supervisory Board.

On January 31, 2024, the Extraordinary General Meeting dismissed the following from the Supervisory Board: Janina Goss, Tomasz Hapunowicz, Mieczysław Sawaryn, Artur Składanek, Radosław Winiarski and appointed to the Supervisory Board: Małgorzata Banasik, Eryk Kosiński, Andrzej Kozyra, Elżbieta Niebisz, Sławomir Patyra, Andrzej Rzońca and Andrzej Sadkowski.

Table: Composition of the committees of the Supervisory Board as at the signing date of the report

Name and surname of the member of the Supervisory Board	Audit Committee	Corporate Governance Committee	Strategy and Development Committee	Appointment and Remuneration Committee
Małgorzata Banasik			Chairwoman	Member
Michał Domagała	Member			Member
Eryk Kosiński		Member	Member	
Anna Kowalik	Member	Member		Chairwoman
Andrzej Kozyra		Member		Member
Elżbieta Niebisz	Member		Member	
Sławomir Patyra		Chairman		Member
Andrzej Rzońca	Chairman		Member	
Andrzej Sadkowski			Member	

## 1.5. Shares and shareholders

### 1.5.1 Share capital of PGE S.A. and ownership structure

#### SHARE CAPITAL

As at January 1, 2024, June 30, 2024 and the date of signing of this report, the share capital of PGE S.A. was PLN 19 183 746 098.70 and split into 2 243 712 994 shares with a nominal value of PLN 8.55 each. There were no changes in share capital of PGE S.A. during the first half of 2024.

Table: Share capital of the Company.

Series/ issue	Type of shares	Type of privilege	Number of shares	Value of series/issue at nominal value	Capital payment method
"A"	ordinary	n/a	1 470 576 500	12 573 429 075.00	contribution in kind/cash
"B"	ordinary	n/a	259 513 500	2 218 840 425.00	cash
"C"	ordinary	n/a	73 228 888	626 106 992.40	merger with PGE GiE S.A.
"D"	ordinary	n/a	66 441 941	568 078 595.55	merger with PGE Energia S.A.
"E"	ordinary	n/a	373 952 165	3 197 291 010.75	cash
<b>Total</b>			<b>2 243 712 994</b>	<b>19 183 746 098.70</b>	

<sup>1</sup> PGE Górnictwo i Energetyka S.A.

#### SHAREHOLDERS WITH A SIGNIFICANT STAKE

According to the letter from the Ministry of the State Assets of May 20, 2022, the State Treasury held 1 365 601 493 ordinary shares of the Company, representing 60.86% of the Company's share capital and entitling to 1 365 601 493 votes on the General Meeting of the Company, constituting 60.86% of total 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. (TF Silesia), 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: Shareholding structure at January 1, 2024, June 30, 2024 and at the signing date of this report<sup>1</sup>.

State Treasury and its subsidiary		Other shareholders		Total	
Nominal value of shares (PLN)	% in share capital and votes	Nominal value of shares (PLN)	% in share capital and votes	Nominal value of shares (PLN)	% in share capital and votes
11 835 757 313.55	61.70	7 347 988 785.15	38.30	19 183 746 098.70	100.00

<sup>1</sup> The ownership structure is presented on the basis of information available to the Company.

All of the Company shares have been paid.

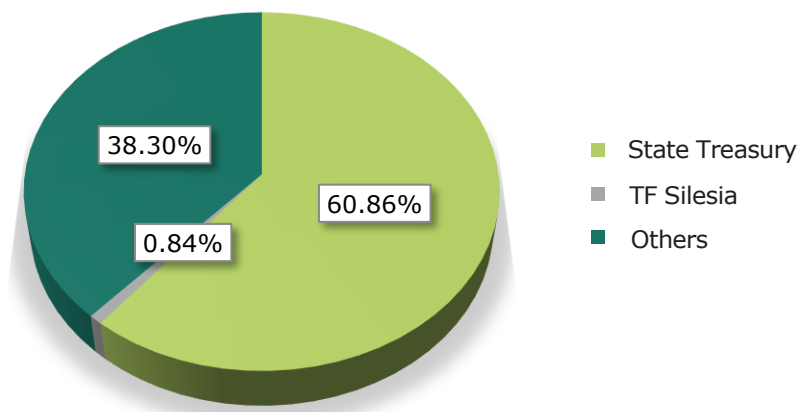
Although the Company's shares are not privileged, the Statutes of the Company provide for special rights of the State Treasury until it remains a Shareholder of the Company.

Table: Shareholders holding directly or indirectly by subsidiaries at least 5% of the total votes at the General Meeting of PGE S.A. January 1, 2024, June 30, 2024 and at the signing 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 – TF Silesia	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%
<b>Total</b>	<b>2 243 712 994</b>	<b>2 243 712 994</b>	<b>100.00%</b>

During the first half of 2024, there were no changes in the shareholding structure of PGE S.A.

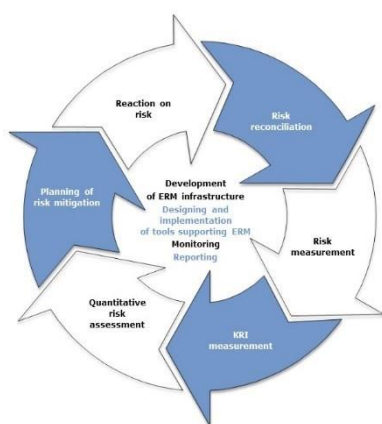
Chart: Shareholding structure of PGE S.A.



### 1.5.2 Shares of the parent company and shares in the entities related to PGE S.A. 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. as at June 30, 2024 and as at the date of signing of this report.

## 2. Risks in the PGE Group's operations



PGE S.A., as the Corporate Centre managing the Capital Group, creates and implements integrated risk management architecture at PGE Group. In particular, it shapes PGE Group's risk management policies, standards and practices, designs and develops internal IT tools to support these processes, specifies global risk appetite and adequate limits as well as monitors their levels. PGE Capital Group companies, as well as other entities from the electrical and power sector, are exposed to a number of risks and threats resulting from the specific operating activities and operating in specific market and regulatory environment.

In PGE Group risk management process is pursued based on the GRC (Governance - Risk - Compliance) model i.e. the concept of 3 lines (Business - Risk - Audit). It allows adaptation and integration of each of the operational areas at all levels of management. Having established a top-level Risk Committee, which reports directly to the Management Board, supervision over the effectiveness of risk management in the Group is ensured. Function definition within corporate risk management allows an independent assessment of particular risks, their impact on PGE Group and limiting and controlling major risks using dedicated instruments. Formation of a separate compliance function within the Group guarantees that PGE Group's activities are in line with legal conditions and ensures observance of the adopted internal standards.

The PGE Capital Group has consequently developed a comprehensive risk management system. The Group measures and assesses risks in the key companies of the Group. Mechanism allowing identification of areas exposed to risk and risk level measurement methods are constantly verified and developed. Thanks to that, the significant risks

concerning various areas of operations are identified and kept within the assumed limits by reducing negative effects of such risks and by taking preventive or corrective measures, in accordance with the presented cycle.

All identified and assessed risks relating to the Group's current activities are recorded in the risk register (risk books) maintained by the Risk and Insurance Department in PGE S.A. Risk books reflect changes in the value of particular risk parameters along with information on implemented mitigating activities (reducing the probability of occurrence and minimising negative consequences of a risk) and its operational efficiency. The effectiveness of the mitigating actions implemented is denoted by the following three categories:

- effective,
- to be improved,
- to be changed.









Among the most significant risks for PGE Group (presented in p 2.1 of this report) approx. 84% are mitigating actions from the effective category and approx. 16% from the category to be improved, while there were no mitigating actions from the category to be changed.


The table in p. 2.1 presents the most significant risks identified in the PGE Capital Group together with their assessment in 2024 EOY perspective. A risk level indicates a risk's potential financial impact on the Group's results, and a risk prospect (trend) indicates the probable direction of risk development. Potential events determining risk assessments in the previous report are now partially described in other sections of this report as period events.


The current scenario (2024 EOY perspective) assumes leaving coal assets (Conventional Generation segment) in the PGE Group.


## 2.1. Risks - current outlook

The main risks and threats of PGE S.A. and the PGE Group are presented below along with their assessment and outlook for year 2024.


Risk area	Risk name	Risk level/outlook	Mitigating actions and tools used for the management of the risk
MARKET AND PRODUCT RISKS  Related to prices and volumes of offered products and services	<b>Gross margin on electricity from the production assets of the PGE Capital Group and on trading in related products</b> – its amount is exposed to risks arising from the uncertainty as to the future levels and volatility of market prices (electricity prices and the prices of key energy products - CO <sub>2</sub> , fuels, including in particular hard coal, gas, the prices of certificates and guarantees of origin) and regulatory issues concerning electricity, EUA and fuel price levels.	 	<b>Most important actions:</b> <ul style="list-style-type: none"> <li>Optimization of generation assets - definition of production scenarios for updated market parameters of electricity, CO<sub>2</sub> and fuels.</li> <li>Defining and implementing a margin hedging strategy by hedging revenues brought in by the generation assets of the PGE Capital Group (electricity sales) and costs (EUA, currencies and fuel purchases), monitoring limits relating to the level of hedged margin expected at a given point in time in accordance with the hedging strategy approved by the Risk Committee.</li> <li>Determining risk appetite and position hedging levels with consideration given to the results of analysing pricing risk in respect of electricity and related products, VaR-based. Target hedging levels are specified taking into consideration the Group's financial standing, in particular its strategic objectives.</li> <li>Monitoring risk exposure for individual areas in relation to the set limits and hedging strategies defined by the Risk Committee or the Management Board of PGE S.A. through operational reports prepared by the Department of Risk and Insurance.</li> <li>Research, monitoring and analysing the electricity markets and sector trends and the regulatory environment with regard to changes in the electricity sector and related products in order to optimally use generation and selling capacities.</li> <li>Acquiring new customers - diversification of channels to reach final off-takers and diversification of target groups by maintaining an extensive product portfolio and adapting offering to market demand (including the development of the offer for products such as PPAs - Power Purchase Agreements).</li> <li>Current clients retention - a diversified portfolio of customer loyalty schemes and special offers dedicated to former clients who moved over to the competitors.</li> </ul>
	<b>Electricity and heat production</b> – related to production planning and the negative impact of factors determining production capacities.	 	
	<b>Electricity sales volumes</b> - this risk being derived from the uncertainty surrounding the margin levels of the generation assets held and the risk of deterioration in the economic efficiency of the coal assets due to regulatory policies relating to the energy sector, macroeconomic indicators affecting the demand for electricity and energy goods, including inter alia the level of economic prosperity, the direction of the energy market development (e.g. changes in the energy mix), war in Ukraine and undertaken countermeasures.	 	
	<b>Tariffs (regulated prices)</b> – resulting from the requirement to approve rates for distribution services and electricity and heat prices for particular groups of entities, as well as from delays in compensation payments by the Settlement Administrator.	 	

 Low level of risk; does not pose a threat and may be tolerated

 Medium level of risk; needs preparation of the proper reaction based on analysis of costs and benefits







 High level of risk; Intolerable risk, which needs immediate and active reaction, leading simultaneously to limitation of possible consequences and of probability of occurrence thereof

 decrease

 stable perspective

















 growth







Risk area	Risk name	Risk level/outlook	Mitigating actions and tools used for the management of the risk
	<b>The Capacity Market</b> – consequence of threats related to non-compliance with the capacity obligations of Capacity Market Units.		<ul style="list-style-type: none"> <li>▪ Care for a high level of customer service by developing employees' competences and building relations with business and retail clients.</li> <li>▪ Use of tools to supporting customer relations processes allows the Group better sales planning and organisation of sales.</li> <li>▪ Ensuring the expected level of operational readiness of the individual capacity market units (investment delays may generate additional costs).</li> <li>▪ Close cooperation with the ERO throughout the tariff year, adapting the strategy for securing tariff sales to the expected approach of the ERO with regard to determining tariff prices for electricity.</li> <li>▪ Close cooperation with the Settlement Administrator and the ERO President on settlements related to the Extraordinary Measures in 2023 Act aimed at limiting electricity prices and providing support for certain consumers in 2023 (Act on Extraordinary Measures in 2023) and the Act of May 23, 2024 on the Energy Voucher and Amendments to Certain Acts to Restrict the Price of Electricity, Natural Gas and System Heat (the Energy Voucher Act).</li> </ul>
PROPERTY RISKS	<b>Failures and damage to property</b> – connected with the operation and degradation over time of energy equipment and facilities and protection of energy equipment and facilities against destructive factors (including fire, effects of weather phenomena, intentional damage).		<p><b>Most important actions:</b></p> <ul style="list-style-type: none"> <li>▪ Diversification of the current structure of the production sources, Introducing a technology reducing the negative impact of atmospheric factors.</li> <li>▪ Active pursuing of a strategy for building up and modernization of the production capacities.</li> <li>▪ Performing maintenance repairs in line with the highest sector standards.</li> <li>▪ Insurance of the most important production assets in the event of breakdown and property damage. Assets are insured based on an analysis of insurance costs, capabilities of insurance markets for specified risks or for particular types of assets, costs related to asset replacement and potential lost revenue.</li> <li>▪ The systematic improvement of reliability of the power supply to the end users through modernization of the distribution grid.</li> <li>▪ Continuous monitoring of environmental laws and regulations regarding environmental protection, and the energy policy.</li> </ul>
Related to development and maintenance of the assets	<b>Tangible investments</b> – related to the strategic development directions of the PGE Capital Group and limited possibilities of obtaining financing for these projects.		
	<b>Asset management and maintenance investment</b> - related to risks arising from the maintenance of production assets in good condition.		
OPERATIONAL RISKS	<b>Fuel management</b> – connected with uncertainty regarding the costs, quality, timeliness and volumes of fuel supply (mainly coal) and production raw material as well as the effectiveness of inventory management processes.		<p><b>Most important actions:</b></p> <ul style="list-style-type: none"> <li>▪ Optimisation of equipment lifecycles and the availability of key assets.</li> <li>▪ Timely inspections, repairs and modernisation of the existing assets.</li> <li>▪ Optimisation of costs inter alia through monitoring of fuel prices and reserves and securing supply through long-term contracts with suppliers and through price fixing formulas.</li> <li>▪ Monitoring ICT networks due to increased activity of criminal groups in connection with the war in Ukraine.</li> </ul>
Related to pursuing of ongoing economic processes	<b>Cybersecurity</b> – the risk of deliberate disruption of the proper functioning of the information processing and exchange space created by IT systems operating at the PGE Capital Group.		

<sup>1</sup> The decrease in the risk trend is due to the stabilisation of the fuel market situation.

<sup>2</sup> The increase in the risk level and trend is due to Russia's hybrid warfare.





Risk area	Risk name	Risk level/outlook	Mitigating actions and tools used for the management of the risk
	<b>Oversight of insurance policies</b> - risks arising from the failure to tailor insurance policies to the needs or the Company's failure to comply with the terms of insurance policies which may result in lack of receiving a claim in whole or in part.	 	<ul style="list-style-type: none"> <li>Monitoring of legal changes and changes in technical standards in the field of by-products.</li> <li>Investments in improving the efficiency of the combustion process.</li> <li>Constant monitoring of service availability.</li> <li>Creating Business Continuity Plans for critical systems, developing and testing emergency procedures.</li> </ul>
	<b>Reputation</b> - risk associated with the negative perception of the entity's image by its customers, counterparties, investors, Shareholders as well as the general public.	 	<ul style="list-style-type: none"> <li>Continuous contact and cooperation with the Risk and Insurance Department and the Company's other departments with regard to identified new risks or gaps in current insurance policies.</li> <li>Internal broker's operational activity - PGE Asekuracja S.A.</li> </ul>
	<b>Procurement</b> - related to the ineffectiveness and incorrectness of the purchasing process.	 	<ul style="list-style-type: none"> <li>Centralisation of the claims handling process.</li> <li>Ongoing monitoring of changes in legal regulations.</li> </ul>
	<b>Human Resources</b> - pertaining to difficulties in provision of personnel with the relevant experience, competences and ability to perform specific tasks.	 	<ul style="list-style-type: none"> <li>Training in regulations preventing money laundering and terrorist financing.</li> <li>Requirement to read Best Procurement Practices and the Code of Conduct for Business Partners of PGE Group companies.</li> </ul>
	<b>Social dialogue</b> - related to the failure to reach an agreement between the PGE Group's management and the social partners, which could lead to strikes / collective disputes.	 	<ul style="list-style-type: none"> <li>Operating the Central Supplier Survey System.</li> <li>The proper approval path and internal regulations concerning the purchasing process.</li> <li>Control of the work environment.</li> <li>Training of employees in the field of occupational health and safety.</li> <li>PGE Group's active participation in internship programmes and cooperation with educational institutions in order to secure a pipeline of qualified personnel.</li> <li>Assessment and training of personnel in order to make optimal use of it within the Group's structures.</li> <li>Conducting an intensive and effective dialogue in order to avoid escalation of potential disputes with the social partners and to work out the most favourable solutions with regard to employment and employment costs within PGE Capital Group connected therewith.</li> </ul>
REGULATORY AND LEGAL RISKS	<b>Environmental protection</b> - resulting from industry regulations specifying which "environmental" requirements energy installations should meet and what are the principles for using the natural environment, including uncertainty about their final form and level of limits and ESG reporting.	 	<b>Most important actions:</b> <ul style="list-style-type: none"> <li>Monitoring of the changes being introduced or proposed provides that our operations in key business segments are carried in compliance with the law and that PGE Capital Group has solutions which take into account potential changes in the legal environment.</li> <li>Social dialogue.</li> <li>Operational supervision in terms of planned and implemented investment and modernisation measures with respect to their compliance with environmental requirements.</li> <li>Improvement of activities aimed at protecting and improving the state of the environment by implementing technological and organisational solutions ensuring efficient and effective management in this area.</li> </ul>
Related to compliance with external and internal legal provisions	<b>Employee safety</b> - associated with failures to provide safe working conditions.	 	
	<b>Climate</b> - commitments on the EU and national level and under strategic objectives arising from the EU's climate and energy policy and reporting on ESG issues.	 	

<sup>3</sup> The growing trend is due to the growing difficulties in recruiting technical and specialist staff.

Risk area	Risk name	Risk level/outlook	Mitigating actions and tools used for the management of the risk
	<p><b>Concessions</b> – resulting from the statutory requirement to hold concessions with regard to conducted operations.</p>		<ul style="list-style-type: none"> <li>Monitoring national regulations concerning the Act on Extraordinary Measures in 2023 and the Energy Voucher Act.</li> </ul>
	<p><b>Reporting and Taxes</b> – related to changes in tax regulations and their interpretation as well as their practical, correct implementation.</p>		<ul style="list-style-type: none"> <li>Reduction in the emission intensity of PGE Group's generating assets, development of low- and zero-carbon energy generation sources.</li> <li>Adaptation of internal regulations and practices to make sure that the activities are in compliance with the power sector regulations and binding law.</li> <li>Monitoring and analysing PGE Group's legal environment at an international level, together with risk assessment.</li> <li>Assessing the impact on PGE Group of proposed regulatory changes at an international level.</li> <li>Issuing opinions and influencing changes with regard to the legal environment at an international level in a strategic dimension.</li> <li>Managing cooperation and contacts with stakeholders as regards international regulations, including through the activities of PGE S.A.'s office in Brussels.</li> <li>Managing the PGE Capital Group's membership and cooperation within the industry organisation called the Polish Electricity Committee.</li> <li>Preparing for the fulfilment of new reporting obligations resulting from the new European Union legislation (CSRD/ESRS Directive, taxonomy, CSDD).</li> <li>Monitoring internal regulations implementing EU environmental directives into the national legal system.</li> <li>Participating in ESG ratings and foreign investor surveys.</li> <li>Effective raising of external financing and state aid for the development of planned low- and zero-carbon investments by PGE Group.</li> </ul>
<p>FINANCIAL RISKS</p> <p>Related to finance management</p>	<p><b>Credit risk</b> – connected with the counterparty default, partial and/or late payment of receivables or a different type of breach of contractual conditions (for example failure to deliver/collect goods or failure to pay for any associated damages or contractual penalties).</p>		<p><b>Most important actions:</b></p> <ul style="list-style-type: none"> <li>A counterparty assessment is carried out and forms a base for applying internal rating and credit limits, that are regularly monitored and updated. Exposures that exceed established limits are hedged in accordance with the rules of the credit risk management procedure. The level of utilisation of limits is monitored on a regular basis, payment of receivables is monitored on an ongoing basis and early recovery procedures are in place.</li> </ul>
	<p><b>Liquidity risk</b> – connected with the possibility of losing the ability to meet current liabilities and obtaining financing sources for business operations.</p>		<ul style="list-style-type: none"> <li>Applying a central financing model, which assumes – as a rule – that external capital is raised by PGE S.A. PGE Group subsidiaries use a variety of intra-group financing sources. Liquidity risk is monitored using periodic planning for operating, investing and financing activities. Liquidity planning is related to the cyclical mid-term and long-term preparation and updating of the PGE Capital Group's financial forecasts and plans, allowing for the long-term planning of its cash flows and liquidity. This allows the PGE</li> </ul>

<sup>4</sup> The high level of risk is influenced by the preparation for sustainability reporting.

<sup>5</sup> The high level of risk is influenced by the coal assets held by the PGE Group.

Risk area	Risk name	Risk level/outlook	Mitigating actions and tools used for the management of the risk
	<p><b>Interest rate risk</b> – resulting from the negative impact of changes in market interest rates on PGE Group's cash flows.</p>	 	<p>Group's investment plans and costs to be adjusted in advance to the expected and planned values. In addition, in order to minimise the possibility of cash flow disruptions and liquidity risk, PGE S.A. diversifies its financing sources and their acquisition with regard to its future financial settlements of the PGE Capital Group.</p>
	<p><b>Foreign exchange risk</b> – resulting from negative impact of exchange rate movements on PGE Group's cash flows denominated in currencies other than domestic currency.</p>	 	<ul style="list-style-type: none"> <li>As regards currency risk and interest rate risk, PGE Group has implemented internal management procedures. PGE Group companies execute derivative transactions involving interest rate- and/or currency-based instruments (IRS, CCIRS, FX Forward) only in order to hedge identified risk exposures. Regulations in force do not allow, with regard to derivative transactions based on interest rates and currencies, to enter into speculative transactions, i.e. transactions which would be aimed at generating additional gains resulting from changes in the level of interest rates and changes in exchange rates, while exposing the Group to the risk of incurring a potential loss on this account.</li> </ul>

<sup>6</sup> The decrease in the level of risk is due to the immediate securing of the exposure to this risk.

## 2.2. Risks - long-term outlook

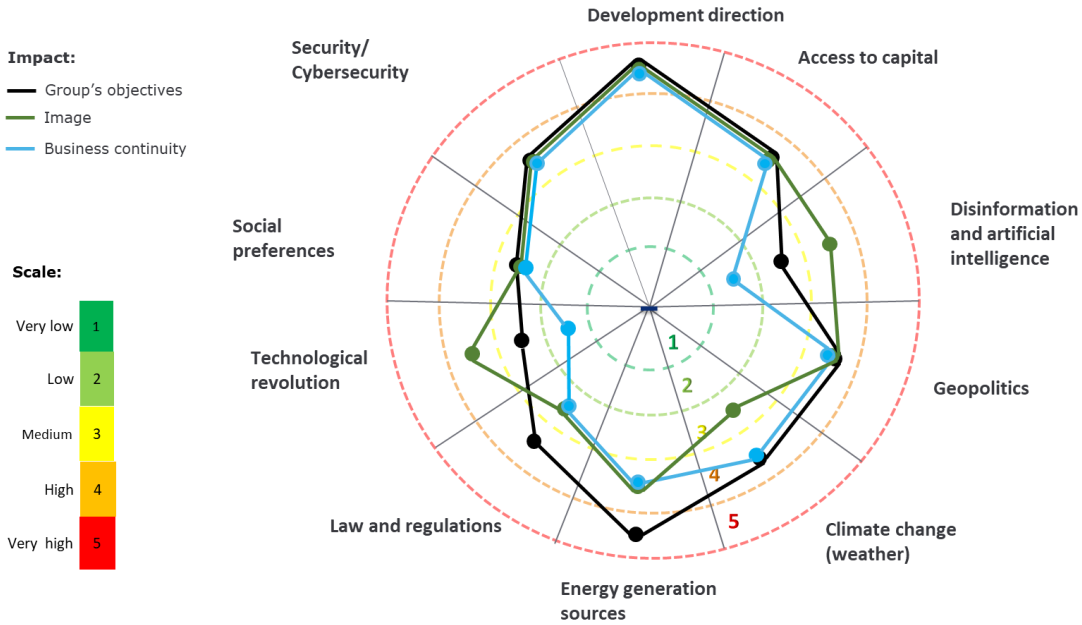
Challenges and threats are assessed, that will arise for the PGE Group in the next decade. Each of the long-term risks is assessed in terms of its impact on the achievement of business goals, the company's image and business continuity. The presented result is the dominant (value most often appearing in the results) of these three aspects.

### AREAS OF LONG-TERM RISKS

- **Development directions** – the risk that the PGE Group will not be able to maintain its leading position if coal assets are not carved out.
- **Access to financing** – the risk that the PGE Group will not obtain financing necessary to realise planned investments.
- **Disinformation and artificial intelligence** – the risk that the use of “fake news” and artificial intelligence creating an alternative reality will threaten the functioning of the PGE Group.
- **Geopolitics** – the risk of changing geopolitical factors (EU policy, divergence of interests, political conflicts, wars) resulting in limited access to raw materials used by the PGE Group.
- **Climate change** – the physical climate risk associated with the frequency of extreme weather conditions that may result in damage to the PGE Group's assets and climate change affecting demand for electricity and heat.
- **Generation sources** – the risk that new energy sources will not deliver the expected energy volumes and expected EBITDA levels.
- **Law and regulations** – the risk related to changes in the legal system and uncertainty in the regulatory environment, including the future shape of support schemes and regulatory burdens resulting from environmental requirements affecting the PGE Group.
- **Technological evolution** – the risk that technological changes will be so significant that the energy market will be adjusted (e.g. ways of generating energy).
- **Social preferences** – the risk that social preferences in terms of mass customer expectations, employer attractiveness ratings and public opinion will have a negative impact on the PGE Group.
- **Security/cybersecurity** – the risk that the international situation will negatively affect the physical security and cybersecurity of the PGE Group's assets.

Diagram: Map of long-term risks

Aggregation of the result on map is **a dominant** - value most frequently occurring in the sample



Source: own work

The location on the map based on the assessment of significance level shows the impact of a given risk in three different aspects:

- the achievement of business goals,
- the company's image,
- business continuity.

## 2.3. Climate risk

The PGE Capital Group is aware of the impact of its operations on the climate, as well as the threats resulting from climate change for the Group's operations. This interdependence generates both risks and opportunities for development. Therefore, the expectations of stakeholders in terms of reporting the impact of activities on the environment are understandable, recognising climate risk management as a key element of strategic management, with a direct impact on financial aspects.

Chart: Interdependencies between climate and PGE Group's activities



The PGE Capital Group focuses not only on risks, but also on opportunities to ensure resilience to threats and increase the Group's sustainable revenues. PGE Capital Group undertook a number of actions aimed at achieving climate neutrality in 2050.

The Group has also stepped up its efforts to meet the regulatory requirements, both national and European. This applies in particular to the EU Environmental Taxonomy Regulation<sup>7</sup> and the Corporate Sustainability Reporting Directive (CSRD)<sup>8</sup>. In addition, necessary actions are taken to meet the expectations of financial institutions, investors and customers.

Issues related to climate risk are subject to the rigors and guidelines resulting from the corporate risk management process. The body responsible for overseeing the corporate risk management process in the PGE Group, including climate risk, is the Risk Committee as in the case of financial risks. The establishment of a Risk Committee at the highest management level, reporting directly to the Management Board, ensures supervision over the effectiveness of risk management in the Group. Such a location of the risk function allows for an independent assessment of individual risks and their impact on the PGE Group as well as mitigation and control of significant risks using dedicated instruments

The assessment of climate and environmental risks is carried out on the basis of the General Procedure for Corporate Risk Management. In the PGE Group, climate-related risk is analysed both in the context of the impact of climate change on the business and the impact of business on these changes. Identification and analysis of climate-related risk and continuous improvement of pro-environmental solutions as well as control tools allow for effective management and minimisation of climate impact, while caring for the PGE Group's financial results. The solutions developed by the PGE Group are aimed at its development and sustainable transformation in accordance with climate requirements and care for all stakeholders.

<sup>7</sup> Regulation 2020/852 of June 18, 2020 on establishing a framework to facilitate sustainable investments, amending Regulation 2019/2088 and with the Delegated Regulations on establishing a framework to facilitate sustainable investments.

<sup>8</sup> CSRD - Corporate Sustainability Reporting Directive; Directive (EU) 2022/2464 of the European Parliament and of the Council of December 14, 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU.

Chart: Interdependencies between climate and PGE Group's activities



Climate issues are assessed centrally at PGE S.A. taking into account all types of activities of the Capital Group and entities that are part of it. This means that the result of the provided assessment is joint, at the PGE Capital Group level.

The approach to the issue of climate risks is inspired by the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), however, the adopted method for the inventory and assessment of risks is an internal concept of PGE.

In 2023 PGE Group once again participated in the Carbon Disclosure Project - CDP (<https://www.cdp.net/en>), an international study on corporate environmental impact. The Group responded to enquiries from global investors about the impact of its operations on climate and water resources and identified both risks and opportunities related thereto.

There is an interdependence between the risks and opportunities for businesses associated with the climate. Any business is affected by two types of climate risks:

- physical risk, related to the physical effects of climate change i.e. real threats in the form of extreme weather events, drought, flooding,
- risks associated with the transition (so called transition risks) to a low-carbon and climate-resilient economy, which relate to meeting regulatory requirements, implementing new technologies or impact on the reputation of a business.

The changing climate and efforts to combat climate change, i.e. to mitigate and adapt to its effects, provide at the same time new opportunities and chances to develop business. This is why PGE Group focuses not only on risks but also on opportunities so as to ensure resilience to risks and to increase sustainable earnings.

Table: Climate-related opportunities in the PGE Group

Area	Example
Effective resource management	Work on solutions in the field of waste management and recovery of valuable products from wind turbine blades.
New sources of electricity	Investments in: <ul style="list-style-type: none"> <li>▪ offshore and onshore wind farms,</li> <li>▪ photovoltaic farms,</li> <li>▪ construction of zero-emission hybrid electricity storage.</li> </ul>
New products	<ul style="list-style-type: none"> <li>▪ expansion of the product portfolio with PRO EKO initiatives - products that fit into low-emission heating systems,</li> <li>▪ development of products / offers promoting low-emission activities,</li> <li>▪ following changes in consumer preferences,</li> <li>▪ development of insurance solutions in offshore area.</li> </ul>



Table: Climate risks in the PGE Group

Area	Example
Operations	Extreme weather events or changes in climate conditions, which could negatively influence PGE Group's assets and operating activities.
CO <sub>2</sub> emissions	Rising costs of emission allowances, which could adversely affect the profitability of generating assets or ultimately bring these assets to a halt due for economic reasons.
Investments	Failure by PGE Group to fulfil investment commitments aimed at the green transition, at the EU and domestic level and for own strategic purposes.
Raising support funds and investment incentives in domestic regulations	Growing impact of climate requirements relevant to the granting of aid funds and investment incentives in domestic regulations.
International regulations	EU legislation as regards energy and climate policy, in particular the Fit for 55 package.

Each of these areas of climate risk is assessed on a short, medium and long horizon. The adopted timeframes are aligned with external analyses.

**ASSESSMENT OF THE IMPACT OF PHYSICAL CLIMATE RISKS ON THE OPERATIONS**

Global warming, changing precipitation patterns, rising sea levels and extreme weather events are increasingly challenging the resilience of power systems, increasing the likelihood of disruption. Climate change directly affects every segment of the power system: production potential and efficiency, demand for heating and cooling, resilience of transmission and distribution networks, as well as demand patterns.

Being aware of the threats arising from climate change, as part of the first stage of the climate risk management process in 2023, the PGE Group once again carried out an assessment of significant physical (material) climate risks that may have a negative impact on its operations, supporting adaptation to climate change and increasing resistance to climate threats. Climate factors, primarily temperature, precipitation and wind, were assessed and their negative impact on key activities in the Group was examined.

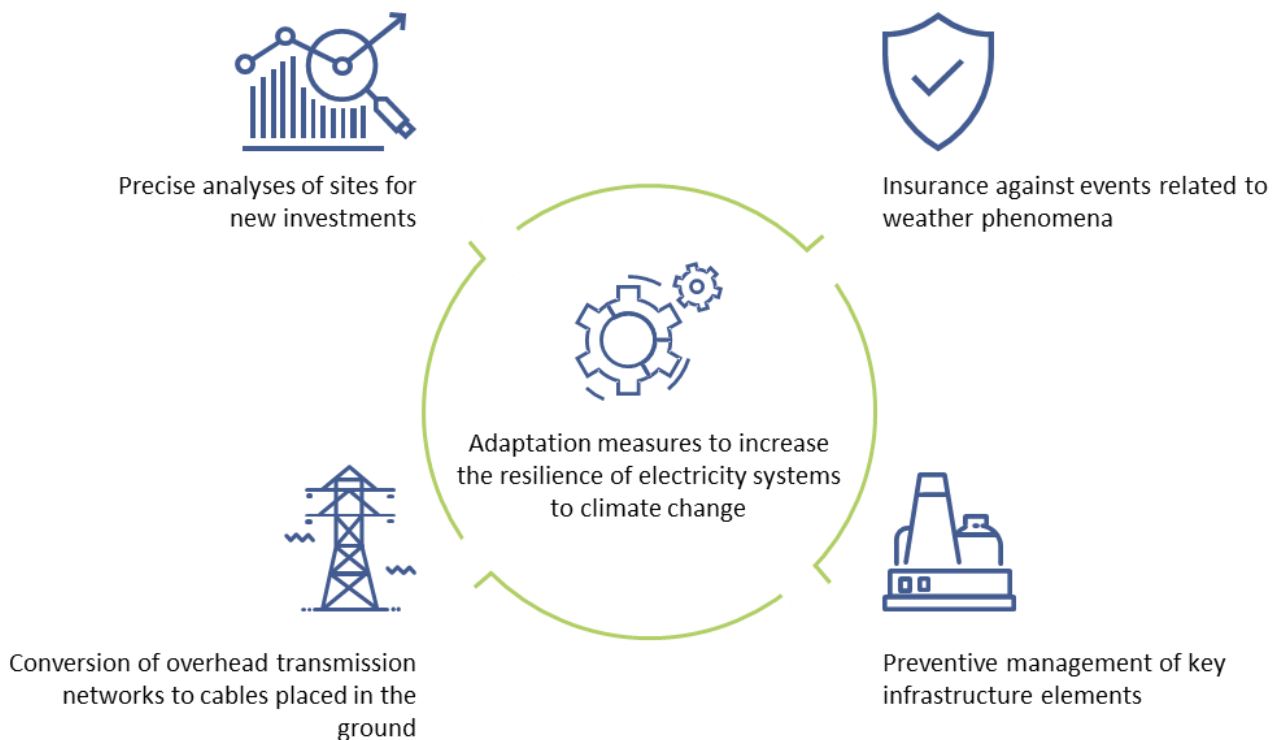
The assessment of the risk related to climatic physical threats in PGE Capital Group in 2023 was carried out in the current and long-term perspective using scientific models describing possible climate scenarios.

Table: Climate scenarios

Scenario	Type of scenario	Assumptions	Global temperature rise	Impact of the risk
RCP 4.5	optimistic	introduction of new technologies in order to achieve a higher reduction of greenhouse gas emissions than at present	2.5°C	low/medium
RCP 8.5	pessimistic	current growth rate of greenhouse gas emissions will be maintained, in the "business as usual" formula	4.5°C	low/medium

The assessment carried out showed a low or medium impact of risks related to physical climatic hazards on the key activities of the Capital Group in 2023. In accordance with the adopted criterion, risks whose assessment showed a high impact were tested. An important role in the impact assessment process is played by e.g. implementation of adaptive measures developed in the PGE Capital Group.

Chart: Adaptation measures in the PGE Capital Group



**IMPACT OF TRANSITIONAL CLIMATE RISKS ON OPERATIONS**

Transformational climate risks in the PGE Capital Group relate primarily to areas affecting the change towards achieving climate neutrality planned by 2050, i.e., among others: requirements and regulations of existing products and services (area: policy and law), replacement of existing products and services their low-emission and zero-emission counterparts (technology area) and stakeholder concerns/negative opinions (reputation area). Examples of risks from the above areas are listed below, divided into categories:

▪ **Politics and law**

Climate regulations have a direct impact on energy companies. PGE Capital Group companies, like other entities in the energy sector, are exposed to risks and threats resulting from the nature of their operations and functioning in a specific market and regulatory and legal environment. The PGE Capital Group operates in an environment that is significantly influenced by domestic and foreign regulations. The risk of current regulations is particularly important in the context of raising capital, subsidies and support from aid funds.

The PGE Group undertakes a number of activities related to the monitoring of available sources of support, reliable preparation of application documentation and the use of expert know-how. The PGE Capital Group has extensive experience in obtaining preferential support, and has the knowledge and staff to successfully implement this process.

▪ **Arising regulations**

The arising regulations are important from the point of view of implementing the strategy and supporting the effective transition to low- and zero-emission technologies. The PGE Capital Group strives to fully use the available financing options for green investments. Emerging regulatory changes, such as EU infrastructure support for sustainable investments, the inclusion of lack of financing, penalties for climate-negative transactions, may raise significant risks. These changes will affect the credit risk and may affect the financial flows generated by assets belonging to the PGE Capital Group and thus affect their income value.

The risk of rising costs of greenhouse gas emission allowances, including the reduction of the limit of free emission allowances for the district heating sector, reduces the ability to finance low- and zero-emission investments.

The Group invests in the modernisation of assets and development investments, including the optimisation of combustion processes and the introduction of solutions aimed at improving production efficiency, higher efficiency of fuel and raw material consumption, and reducing the energy intensity of production processes and internal needs.

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▪ **Technology**

A permanent reduction in emission intensity is to be achieved in the PGE Capital Group by changing the generation technology, investing in new technologies, expanding the portfolio of renewable energy sources, developing the circular economy and enabling customers to participate in the energy transformation. Technological risk also includes the selection of optimal and effective new technologies, the use of the potential by the Group.

▪ **Reputation**

Reputation risk in the case of the PGE Group is very important, because the energy sector plays an important role in supporting the effective transition to a low-carbon economy, and ultimately a zero-carbon one. The Group focuses on reducing its impact on the natural environment. A permanent reduction in emission intensity is to be achieved by changing the generation technology, expanding the portfolio of renewable energy sources and enabling customers to participate in the energy transformation by offering them attractive products. Lack of due attention to the low-carbon economy and ESG issues can cause problems with access to capital.

## 3. Electricity market and regulatory and business environment

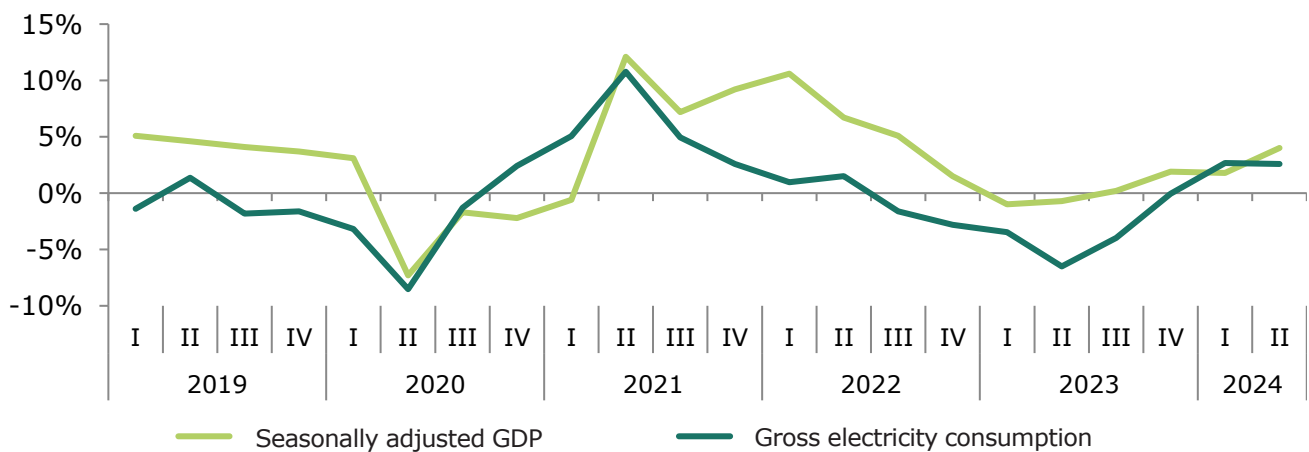
### 3.1. Macroeconomic environment

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

In the first half of 2024, gross electricity consumption increased by 2.6% y/y. The increase was a result of low consumption last year as the economy slowed due to higher commodity prices caused by the war in Ukraine.

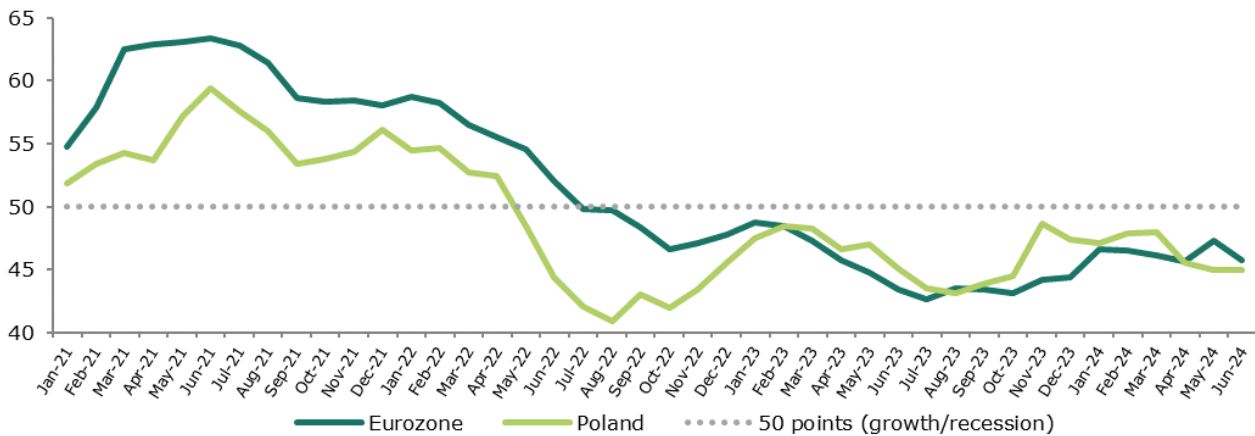
Chart: Seasonally adjusted GDP change vs. change in domestic gross electricity consumption.



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

The PMI in June 2024 was at 45.0 points - similar to the reading in May 2024. The situation of the Polish industrial sector has not improved - after a high reading for March 2024 (48.0 points), there has been a significant decline in the PMI for three months. This is the twenty-sixth month with readings below the 50-point level. June 2024 saw a deterioration in the manufacturing sector. Demand for Polish industrial products and consequently exports also declined - mainly a drop in demand from Germany. In June 2024, however, inflationary pressures declined. In the first half of 2024, the PMI for Poland averaged 46.4 points. The deterioration in the performance of the industrial sector occurred across the Eurozone. A rise in May 2024 to 47.3 points was followed by a weakening in June to 45.8 points. In the first half of 2024, the Eurozone index was lower than the index for Poland, averaging 46.3 points. Manufacturing fell sharply. The strongest declines were recorded by the strong Eurozone economies. The economic recovery in Europe may come later than expected.

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



Source: Market Economics

Despite the continued economic slowdown and weakened exports, industrial production sold was 0.3% higher in June 2024 compared to June 2023. In the first half of 2024, industrial production sold was 0.1% higher compared to the same period in 2023. According to preliminary data, in June 2024, an increase in sold production was recorded, among others, in the production of other transport equipment - by 30.4%, chemicals and chemical products - by 11.2%. Among the selected industrial divisions, compared to June last year, the largest decrease was recorded for the manufacture of electrical equipment (29.2%). In the first half of 2024, mining and quarrying recorded the largest decline (4.1%) compared to the same period in 2023.

## 3.2. Market environment

### 3.2.1 Situation in the National Power System (NPS)

Table: Domestic electricity consumption (TWh).

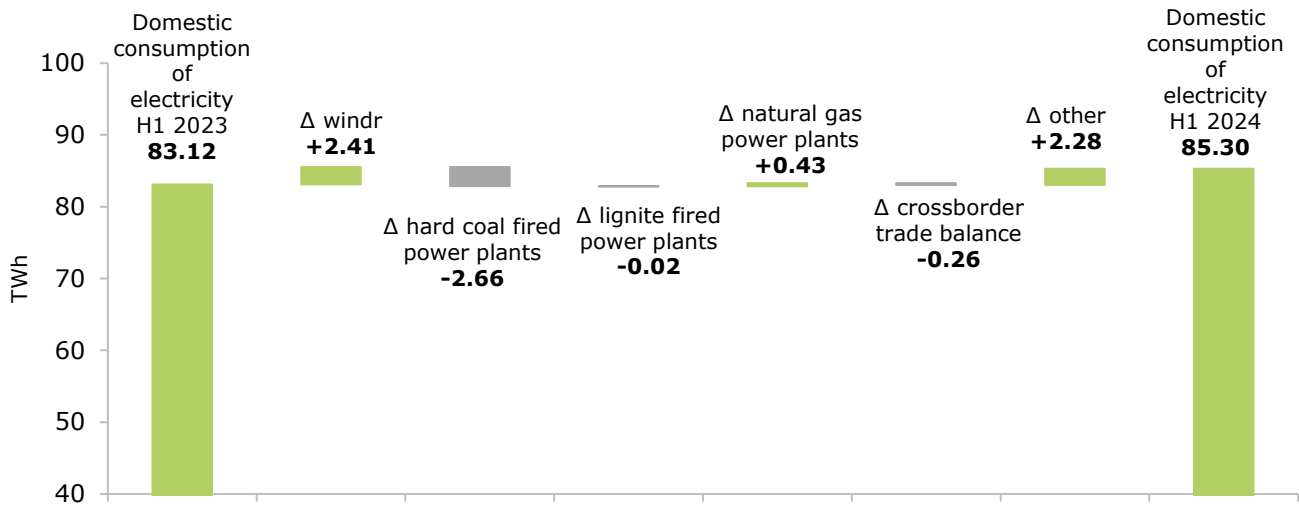
	H1 2024	H1 2023	% change
<b>Domestic electricity consumption, including:</b>	<b>85.30</b>	<b>83.12</b>	<b>3%</b>
Wind farms	12.81	10.40	23%
Industrial thermal hard-coal fired power plants	34.91	37.57	-7%
Industrial thermal lignite fired power plants	17.35	17.37	0%
Industrial gas-fired power plants	7.36	6.93	6%
International exchange balance	2.09	2.35	-11%
Other (hydro power plants, other RES)	10.78	8.50	27%

Source: PSE S.A. data.

#### First half of 2024

In the first half of 2024, domestic electricity consumption increased by 2.18 TWh y/y. The increase was the result of lower consumption last year as a result of the slowing economy due to higher commodity prices caused by the war between Russia and Ukraine. As a result of the increase in installed capacity and more favourable wind conditions, wind generation increased by 2.41 TWh compared to the same period last year. In the first half of 2024, as a year ago, Poland was a net importer of energy with imports being lower than last year by 0.26 TWh. There was a decrease in generation in coal-fired power plants (- 2.66 TWh) and in lignite-fired power plants (-0.02 TWh) due to an increase in the level of generation from RES. Furthermore, the fall in natural gas prices led to an increase in power generation based on this type of fuel (+0.43 TWh). There was also an increase in generation from other electricity sources (+2.28 TWh), most notably photovoltaic plants, due to an increase in installed capacity.

Chart: Energy balance in the NPS (TWh).



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

### 3.2.2 Electricity prices – domestic market

Table: Day-Ahead market (RDN, SPOT market)<sup>1</sup>

Market/measure	Unit	H1 2024	H1 2023	% change
RDN – average price	PLN/MWh	389	594	-35%
RDN – trading volume	TWh	23.49	27.20	-14%

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

Table: Selected price factors affecting RDN quotations

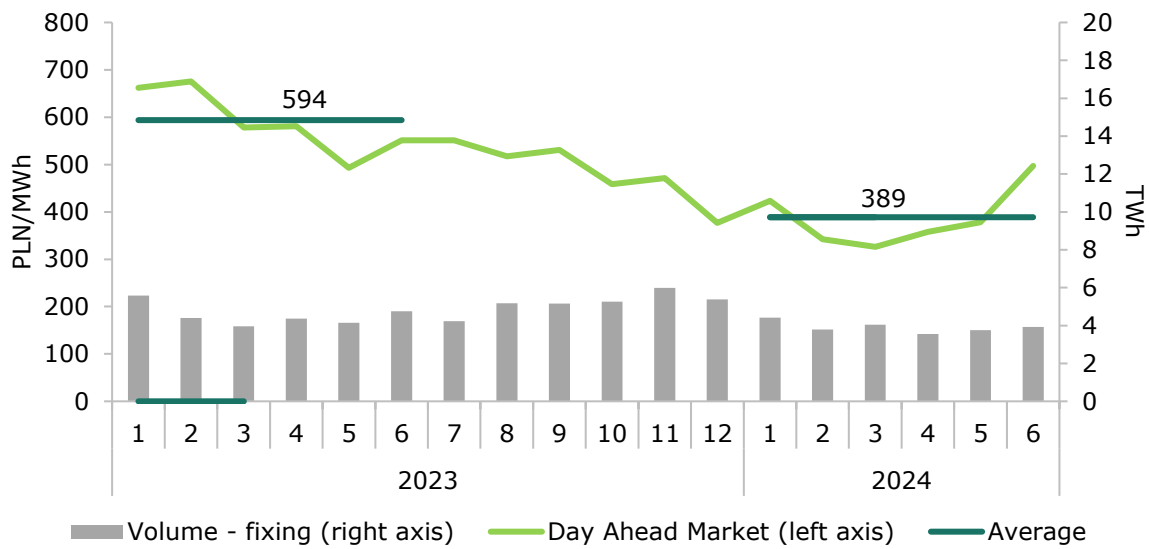
Factor	Unit	H1 2024	H1 2023	% change
CO <sub>2</sub> emission rights <sup>1</sup>	EUR/t	65.33	89.36	-27%
Polish Steam Coal Market Index PSCMI-1	PLN/GJ	22.78	33.02	-31%
Wind generation NPS	TWh	12.81	10.40	23%
Ratio: wind generation/ NPS consumption	%	15%	13%	
Ratio: international trading/ NPS consumption	%	2%	3%	

<sup>1</sup>Source: own work based on ICE quotations.

In the first half of 2024, the average electricity price on the day-ahead market was PLN 389/MWh and was lower by 35% than average price (PLN 594/MWh) in the analogical period of the previous year. Increased generation from RES sources and higher average daily temperatures y/y contributed to the price drop.

Average level of PSCMI-1 in the first half of 2024 was PLN 22.78/GJ, i.e. lower by 31% than in the base period.

Chart: Average monthly prices on the day-ahead market in 2023–2024 (TGE).<sup>1</sup>



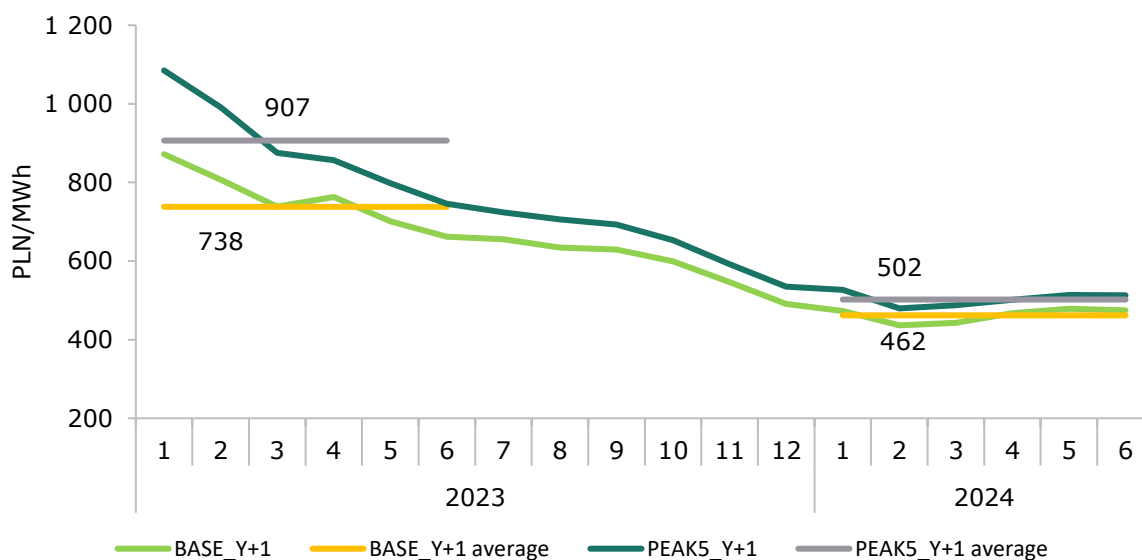
<sup>1</sup> Data from TGE, include weighted average monthly BASE prices.

Table: Forward market (RTT)

Market/measure	Unit	H1 2024	H1 2023	% change
BASE Y+1 – average price	PLN/MWh	462	738	-37%
BASE Y+1 – trading volume	TWh	16.62	11.42	46%
PEAK5 Y+1 – average price	PLN/MWh	502	907	-45%
PEAK5 Y+1 – trading volume	TWh	2.21	1.69	31%

Energy prices on the forward market in the first half of 2024 fell significantly for both BASE and PEAK5 contracts in comparison to the analogical period of the previous year. The decrease was due to the high base of the previous year, when increases were influenced by the market situation related to the limited supply of hard coal and natural gas due to the ongoing conflict in Ukraine.

Chart: Average monthly prices on the forward market in 2023–2024 (TGE).<sup>1</sup>

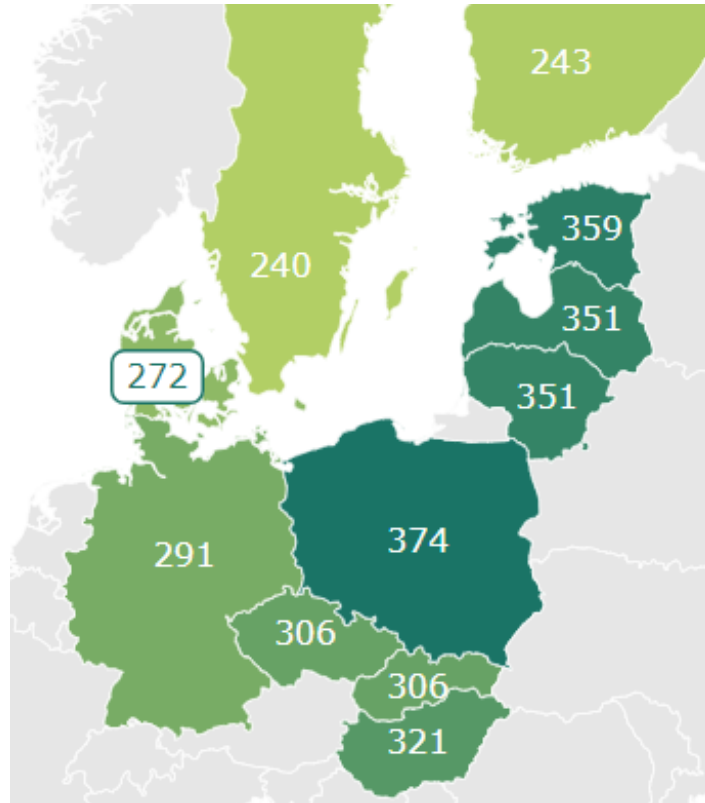


<sup>1</sup> Monthly average index level for forward contracts for the next year (Y+1), baseload and peak, weighted by the trading volume.

### 3.2.3 Electricity prices - international market

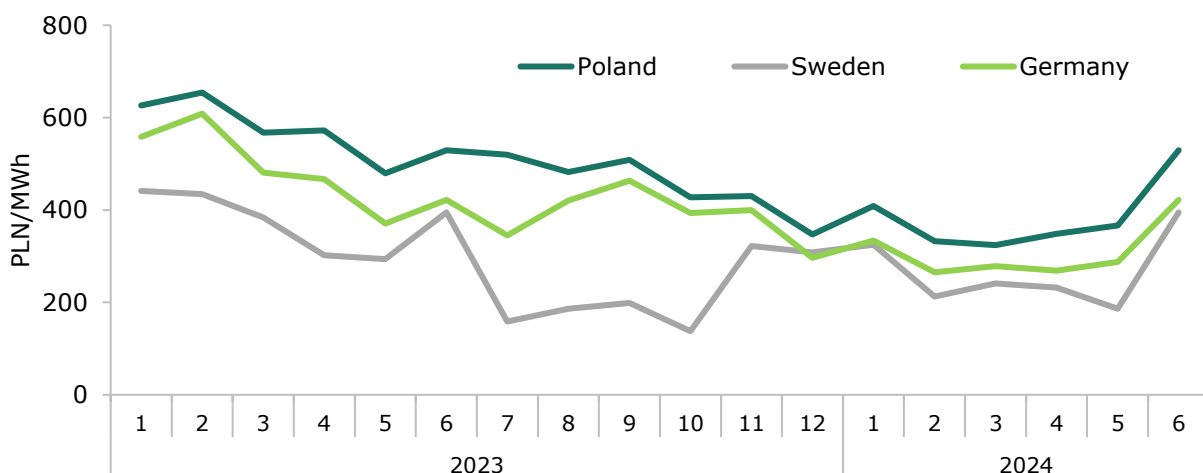
#### WHOLESALE MARKET (COMPARISON OF SPOT MARKETS)

Chart: Comparison of average electricity prices on Polish market and on European markets in the first half of 2024 (prices in PLN/MWh, average exchange rate EUR/PLN 4.32).



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

Chart: Evolution of spot market prices.



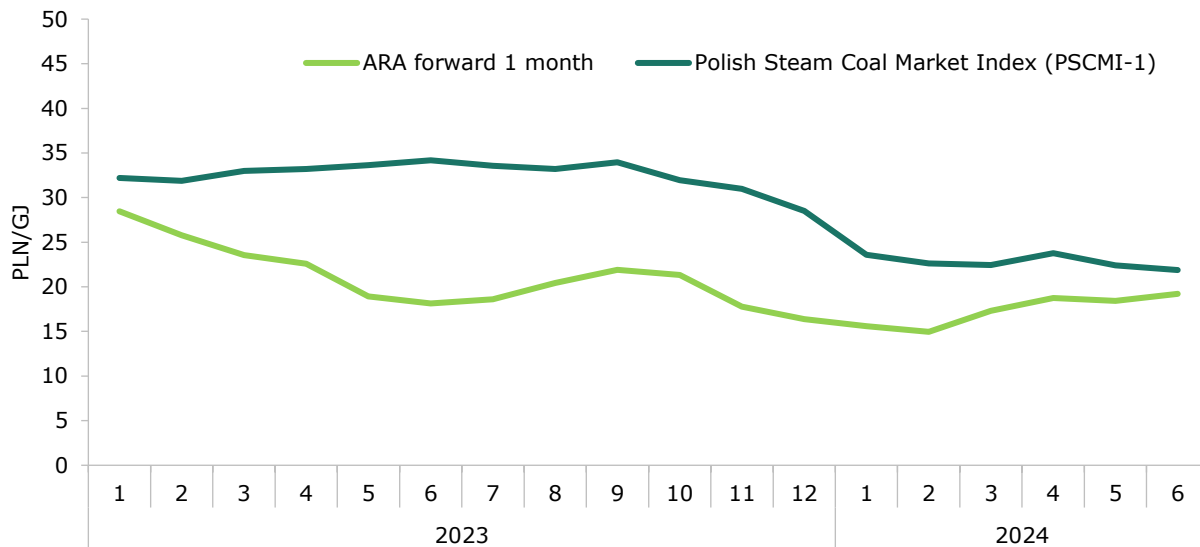
Source: TGE, EEX, Nordpool

There was a year-on-year fall in prices in neighbouring markets in the first half of 2024. The largest y/y declines were recorded in Hungary (PLN -221/MWh), and the smallest in Finland (PLN -39/MWh). The differentiation of energy prices results from a higher 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 and also to prices of natural gas at home and abroad. The reason for the price drop was a change in the market situation – in the analogical



period of the previous year the supply of hard coal and natural gas were limited due to the ongoing conflict in Ukraine.

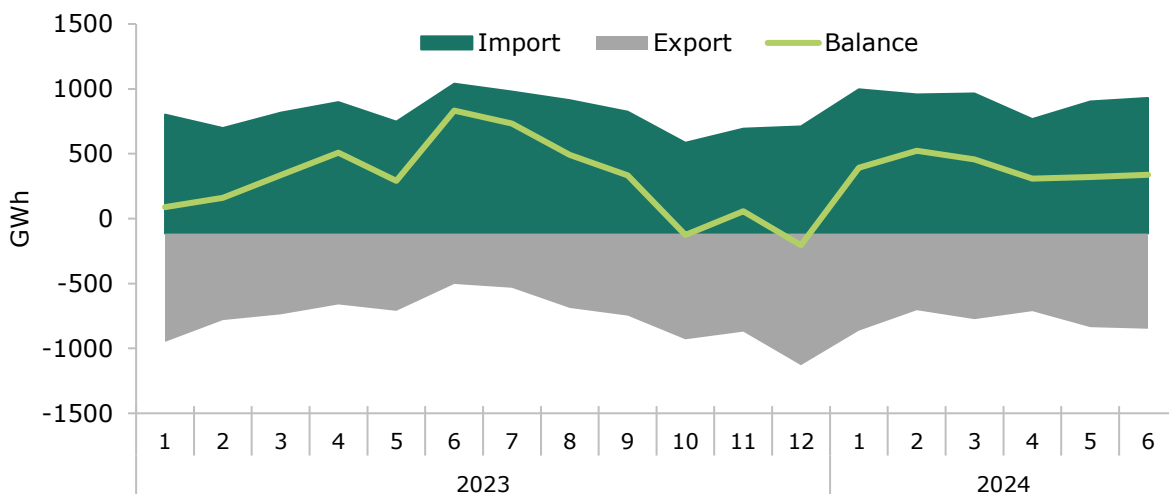
Chart: Hard coal indices ARA vs PSCMI-1<sup>9</sup>.



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

### INTERNATIONAL TRADING

Chart: Monthly imports, exports and cross-border exchange balance in 2023-2024.

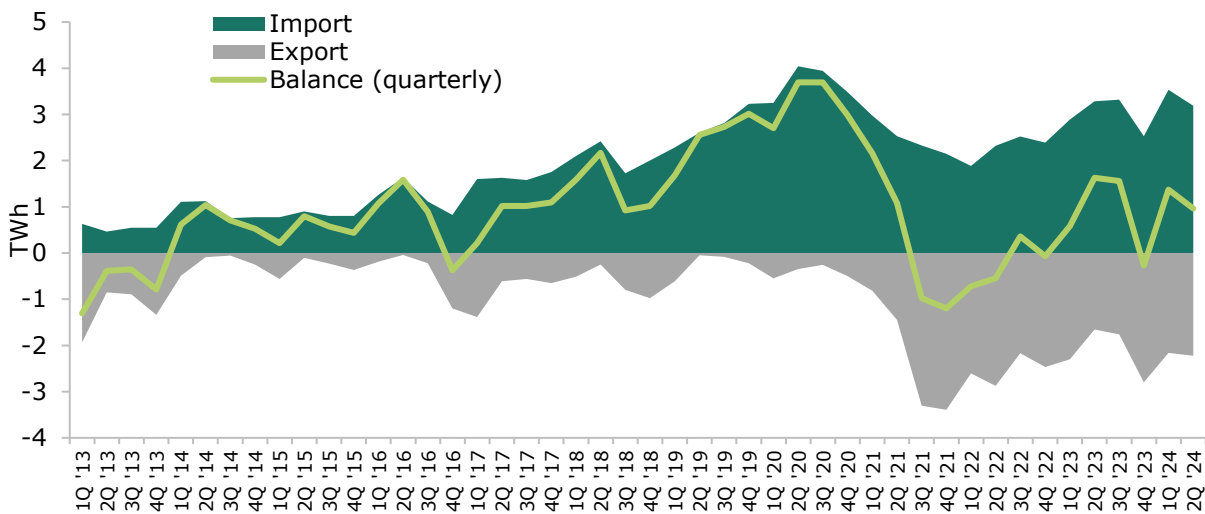


Source: own work based on data from PSE S.A.

Global decline in fuel prices (which translate into a decrease in the costs of electricity production) translated into a decrease in energy prices in neighbouring countries, which in turn increased electricity import to Poland in the first half of 2024.

<sup>9</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 2013 - 2024.



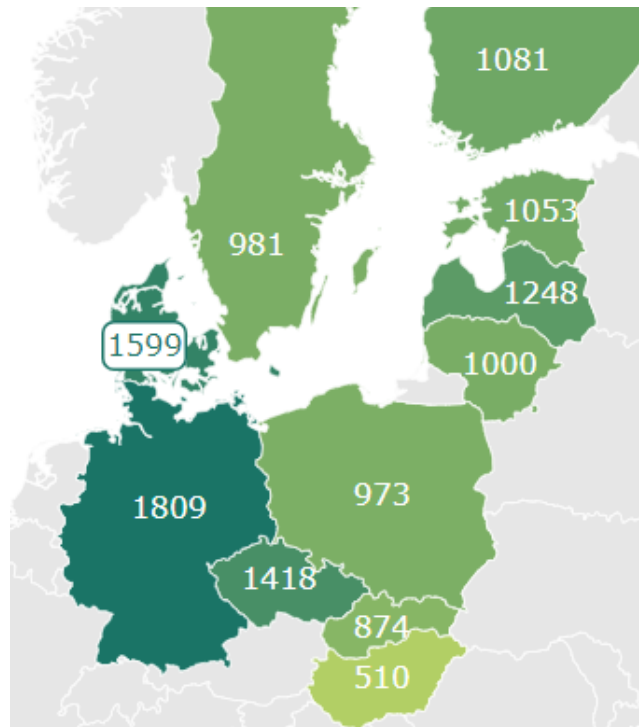
Source: own work based on data from PSE S.A.

In the first half of 2024, Poland was a net importer of electricity, with a trade balance of 2.3 TWh (import 6.7 TWh, export 4.4 TWh) up y/y by 0.7 TWh. Imports from Germany (2.8 TWh), Sweden (1.8 TWh) and Czechia (1.0 TWh) had the greatest impact on the trade balance. At the same time, we exported the most electricity to Slovakia (1.6 TWh), Lithuania (0.9 TWh) and Germany (0.7 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 2023<sup>10</sup> an additional burden (over sale price and cost of electricity distribution) for individual customers accounted for 46% of the electricity price. The Germans paid the most for electricity, for whom additional charges also accounted for 28% of the final price.

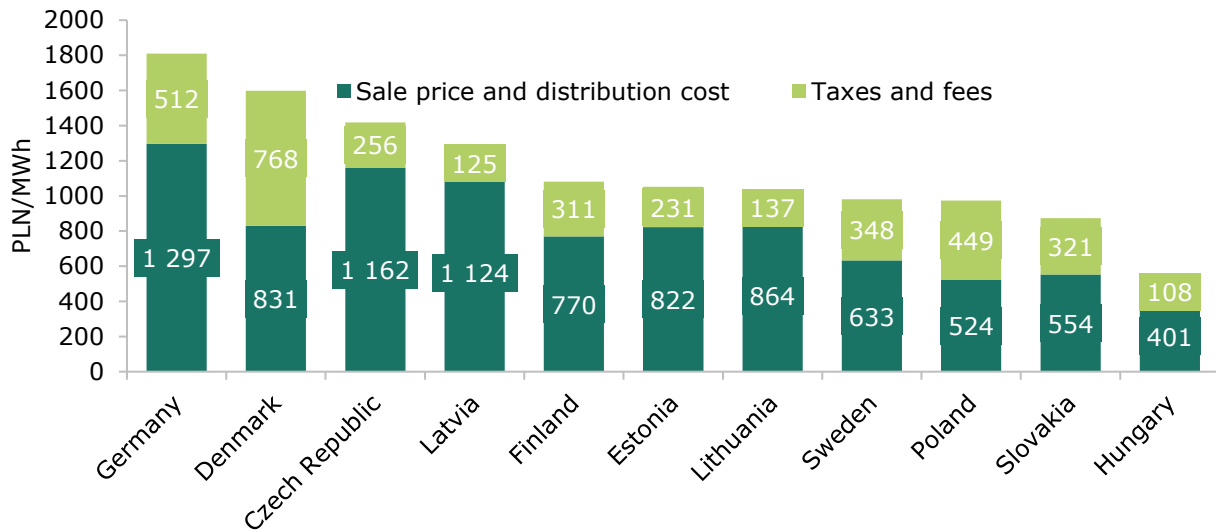
Chart: The share of additional charges in electricity prices for the individual customers in selected EU countries in the second half of 2023 (prices in PLN/MWh, average exchange rate EUR/PLN 4.50).



Source: own work based on Eurostat data.

<sup>10</sup> Eurostat data on retail market are published in semi-annual intervals.

Chart: The share of additional charges in electricity prices for the individual customers in selected EU countries in the second half of 2023 (prices in PLN/MWh, average exchange rate EUR/PLN 4.50).

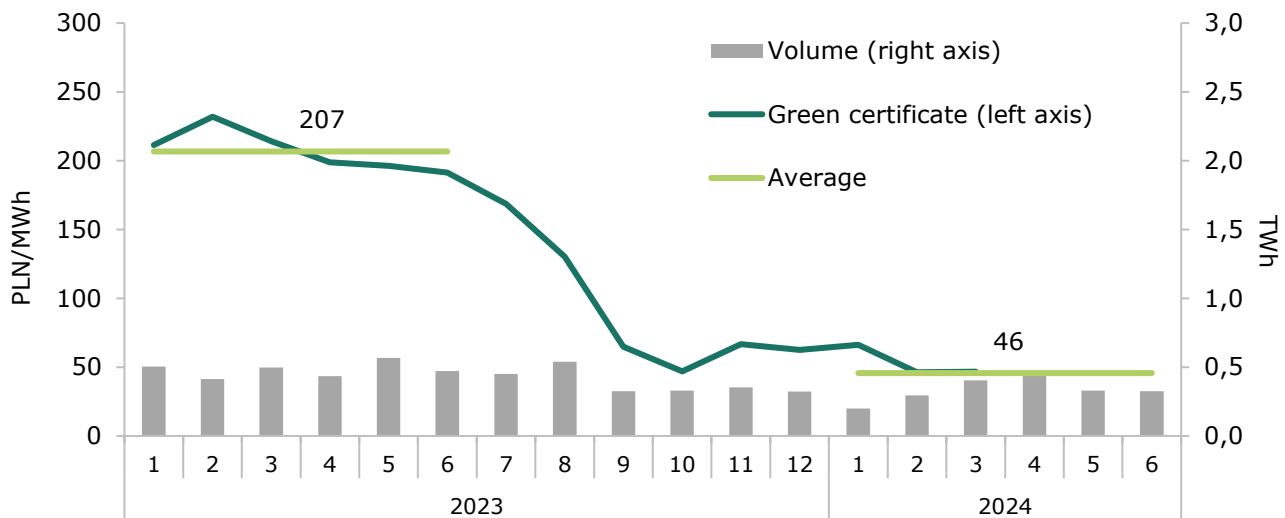


Source: own work based on Eurostat data.

### 3.2.4 Prices of certificates

In the first half of 2024 the average price of green certificates (index TGEoza) reached PLN 46/MWh and was lower by 78% compared to the analogical period of the previous year. An obligation to redeem green certificates changed as compared to 2023 (12%) and stands at 5% for 2024.

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



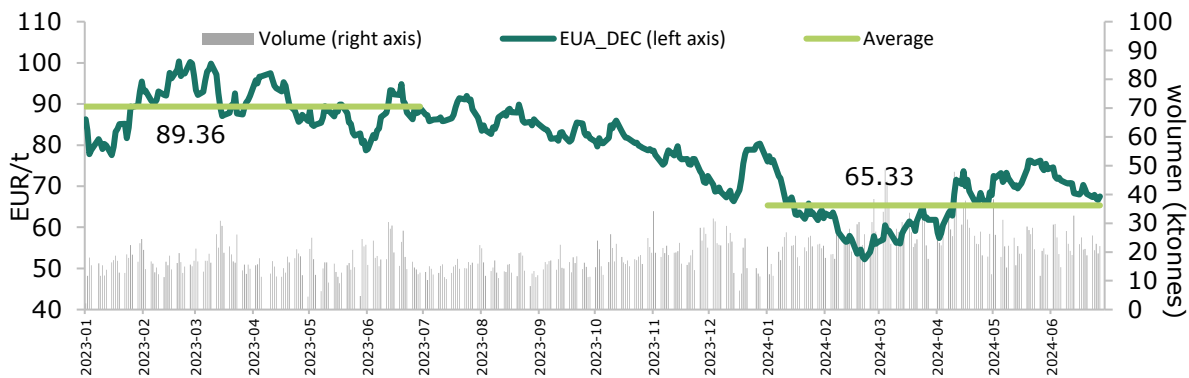
Source: Own work based on TGE quotations.

### 3.2.5 Prices of CO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> 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 half of 2024 the weighted average price of EUA DEC was EUR 65.33/t and was lower (by approx. 27%) than the average price of EUR 89.36/t 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.

### 3.3. 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 CO<sub>2</sub> 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. Due to the amendment of Directive (EU) 2023/959 of the European Parliament and of the Council of May 10, 2023, amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Union, the deadline for issuing emission allowances has changed from February 28 to June 30 each year, following the publication of information in the Public Information Bulletin on the website of the office serving the Ministry of Climate and Environment (MKiŚ).

In accordance with legal requirements, activity level reports for individual installations have been submitted, with a deadline of March 31, 2024 for 2023. A further adjustment will be made during 2024 to reflect increases and decreases in production volumes resulting from revised activity level reports submitted for individual installations.

Table: Emission of CO<sub>2</sub> vs allocations of allowances for 2024 (in tons).

Product	CO <sub>2</sub> emissions in H1 2024	Allocation of CO <sub>2</sub> emission rights for 2024 <sup>1</sup>
Electricity	24 891 114	-
Heat	2 448 076	595 229
<b>Total</b>	<b>27 339 190</b>	<b>595 229</b>




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



## 3.4. 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 5.1.3 of this report in the section Regulatory changes.

### 3.4.1 Domestic regulatory environment

Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
	The draft regulation on substances particularly harmful to the aquatic environment and conditions to be met when discharging waste water into waters or into the ground, and when discharging rainwater or snowmelt into waters or into water facilities.	The aim of the draft is to bring the regulation into line with the changes introduced through the Oder River Revitalisation Act, with regard to the monitoring of industrial waste water (chlorides and sulphates).	Work on the draft regulation is in progress. On <b>December 21, 2023</b> , the project developer published a consultation report.	The regulation introduces new obligations for operators of facilities in the area of water and waste water management, which applies to the Conventional Generation and District Heating segments.
	The regulation of the Minister of Climate and Environment on the requirements for calculating, measuring and recording the amount of electricity, heat and cold generated in renewable energy source installations.	The regulation is fulfilment of the statutory delegation contained in the Renewable Energy Sources Act. It sets out the requirements concerning the manner of calculating, measuring and registering the amount of electricity, heat and cold generated in renewable energy source installations, the manner of measuring the amount of electricity for the purpose of determining the actual fulfilment of the producer's obligation to generate electricity from renewable energy sources, the manner of converting the amount of heat or cold generated into an amount of energy expressed in MWh, as well as the place and manner of measuring the amount of heat or cold for the purpose of issuing a guarantee of origin.	The regulation came into force on <b>March 30, 2024</b> .	The regulation provides the basis for the producer to measure the amount of electricity for the purpose of determining the actual fulfilment of the producer's obligation to generate electricity from renewable energy sources, and thus enable it to benefit from the support provided for such generation.
	The Act on energy vouchers and on changes of other acts in order to temporary cap the price for electricity, natural gas and system heat.	Among other things, the Act regulates electricity prices from July 1, 2024 to December 31, 2024. With regard to electricity, the Act imposed an obligation on electricity traders in the form of submitting an application for a change in the existing tariff for 2024 within seven days of the date of entry into force of the Act, or at the request of the ERO President. The revised tariff, according to the bill, is effective from July 1, 2024 to December 31, 2025. The bill also provides for an extension of the maximum price mechanism for electricity. This price is in effect in the second half of 2024, and is set at PLN 500/MWh for household consumers and at PLN 693/MWh for local government units and public utilities (including schools, hospitals, social welfare units), as well as micro, small and medium-sized entrepreneurs.	The Act came into force on <b>June 13, 2024</b> .	The Act affects the financial results of power utilities with respect to their settlement with electricity consumers and the resulting level of compensation. It also provides for the application of heat prices and tariffs at a level not higher than that indicated in the Act in return for compensation.




Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
		<p>In addition, according to the law, an energy voucher has been introduced, which is a one-time cash benefit intended for lower-income households, to be paid in the second half of 2024. In addition, the Law provides for a temporary exemption from the power fee for households. The new legislation also refers to limiting the increase in the cost of heat, but with a gradual increase in maximum prices and rates.</p>		
	<p>Draft Act amending the Renewable Energy Sources Act and certain other acts.</p>	<p>The draft law envisages accelerating the issuance of permits in the area of RES by shortening the existing maximum time limits for proceedings concerning the issuance of conditions for connection to the electricity grid, the district heating grid, the issuance of a construction permit decision and the issuance of a licence for electricity generation, as well as a licence for electricity storage for RES installations and heat pumps. In addition, it assumes the recognition of activities concerning the construction or modernisation of RES installations and the equipment and installations necessary for the connection of a given RES installation to the grid, as well as heat pump installations with a capacity of up to 50 MW, as being of overriding public interest. The bill also introduces changes to the net-billing system for prosumers by maintaining after July 1, 2024 the possibility to settle based on the monthly market price of electricity and increasing the value of funds for energy injected into the grid and recognised in the prosumer deposit in the event of a change to settlement based on the market price of electricity applicable during imbalance settlement periods.</p> <p>The draft regulation also aligns aid schemes for energy-intensive consumers with CEEAG - the European Commission's guidelines on state aid for climate, environment and energy, by waiving the possibility to support coal-fuelled cogeneration and updating the list of sectors eligible for relief for energy-intensive consumers in line with the catalogue set out in CEEAG. The regulation envisages the alignment of national legislation with the GBER - the EC Exempted Aid Regulation and the Electricity Internal Market Regulation by amending the FIT/FiP support schemes for RES and biomethane producers.</p>	<p>Legislative process underway. public consultation was held in <b>June 2024</b>. PGE S.A. submitted comments on the draft law.</p>	<p>The bill is of significant importance for the Trading segment due to the need to adapt to changes in settlements with prosumers, as well as for the Distribution segment due to changes in the deadlines for issuing connection conditions.</p> <p>The project is also important for the district heating segment and the Renewable Energy segment due to the introduction of procedural facilitations for investments in RES and heat pump installations.</p>
	<p>Draft Act amending the act - Environmental Protection Law and certain other acts.</p>	<p>The draft provides for climate change adaptation to be taken into account in documents related to spatial planning and development, the sustainable design of urban spaces, as well as clarifying the provisions on climate risk analyses in environmental impact assessment proceedings, by indicating that these analyses, in accordance with Directive 2014/52/EU of the European Parliament and of the Council of April 16, 2014 amending Directive 2011/52/EU on the assessment of the effects of certain public and private projects on the environment, include an analysis of the vulnerability of projects to climate change.</p>	<p>Legislative process underway. public consultation was held in <b>June 2024</b>. PGE S.A. submitted comments on the draft law.</p> <p>The draft law was considered by the</p>	<p>The draft law is important in view of the foreseen need to take into account during the environmental impact assessment of any project implemented, its vulnerability to climate change and the projected inclusion of adaptation plans as part of local spatial development plans or other planning documents.</p>




Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
	<p>Draft Act amending the Energy Law and certain other acts.</p>	<p>The project is an implementation of provisions for the implementation of the Polish Hydrogen Strategy until 2030 with an outlook until 2040. The regulation introduces in the Energy Law a grid of concepts necessary for the development and operation of the hydrogen market in Poland, as well as provisions on the rights and obligations of hydrogen market participants and the President of the Energy Regulatory Office by introducing the principle of certification and designation of hydrogen system operators, defining the scope of their obligations and the principles of ownership unbundling, introducing the obligation to provide hydrogen transmission and storage services by energy companies.</p>	<p>European Affairs Committee.</p> <p>Legislative process underway.</p> <p>A consultation was held in <b>June 2024</b>. PGE S.A. submitted comments on the draft law.</p> <p>The draft law was considered by the European Affairs Committee.</p>	<p>The draft law introduces a strategic framework for the implementation of the hydrogen economy in Poland with a particular focus on the use of low-carbon and renewable hydrogen in energy, heating, transport and industry.</p>
	<p>Draft law amending the Agricultural Tax Act, the Local Taxes and Fees Act, the Forest Tax Act and the Stamp Duty Act.</p>	<p>The bill provides for a change in the legal definition of a building and a structure by creating autonomous definitions for the purposes of the Act - Construction Law, as well as the introduction of the concept of a technical-utility whole and taxation as a structure of installations and equipment, if they constitute a technical-utility whole with this object.</p>	<p>PGE S.A. submitted comments during the consultation of the draft. An MF reference to the comments was published in <b>August 2024</b> and a reconciliation conference was held.</p> <p><b>On September 3, 2024</b>, a new version of the project was submitted for public consultation</p>	<p>The entry into force of the legislation as proposed could lead to a significant increase in the property tax burden for all PGE Group assets.</p>
	<p>Draft Act amending the Act on stocks of crude oil, petroleum products and natural gas and the principles of proceeding in situations of threat to the state's fuel security and</p>	<p>The main objective of the project is to change the current model for the creation and maintenance of strategic stocks of natural gas - the regulation imposes on the Government Strategic Reserve Agency the exclusive obligation to create and maintain strategic stocks of natural gas, and obliged entities will bear the cost of their maintenance through a gas fee.</p>	<p>Legislative process underway.</p> <p>PGE S.A. submitted comments during</p>	<p>The entry into force of the legislation will result in the PGE Group paying a gas levy as an obligated entity from the gas year 2024/2025.</p>

Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
	disturbances on the oil market and some other acts.		the public consultation on the draft.	
	Draft Decree of the Minister of Climate and Environment on specific qualitative and dimensional characteristics of energy wood.	The purpose of the proposed regulation is to define the specific qualitative and dimensional characteristics of energy wood, to indicate the characteristics of wood raw material that is not suitable for industrial use or has limited potential for use in the non-energy sector.	Legislative process underway. PGE S.A. submitted comments during the public consultation on the draft.	The entry into force of the legislation as proposed will tighten the criteria for wood used in the energy sector.
	Draft Regulation of the Minister of Climate and Environment on the maximum price for electricity generated at offshore wind farms and injected into the grid that may be indicated in bids submitted by generators in an auction.	The draft regulation determines the maximum price for electricity generated in offshore wind farms and introduced to the grid in PLN per 1 MWh, which may be indicated in bids submitted in the auction by generators. According to the draft, this price has been set at 472 PLN/MWh.	Legislative process underway. PGE S.A. submitted comments during the public consultation of the draft.	The entry into force of the legislation as proposed may affect the viability of investment in offshore wind farms.
	Decree of the Minister of Climate and Environment on the revision of the quantitative share of the sum of electricity resulting from redeemed certificates of origin confirming the generation of electricity from renewable energy sources in the period 2025-2027.	The regulation concerns a change in the quantitative share of the sum of electricity resulting from cancelled certificates of origin confirming the generation of electricity from RES in 2025. This level has been set at 8.5%. The purpose of the draft is to provide support to energy generators in RES installations and to provide obliged entities with the possibility to fulfil the redemption obligation imposed on them.	The regulation was published in the Official Gazette on <b>August 30, 2024</b> with an effective date of <b>August 31, 2024</b> .	The adopted level of the certificate obligation is a compromise between the interests of the RES sector (additional revenues) and energy consumers (additional burden included in the energy price). From the point of view of the PGE CG, compared to the current obligation level, it increases the level of support for RES installations that participate in the certificate system.










### 3.4.2 International regulatory environment

Segments	Regulation	Regulation objectives	Latest conclusions and next stages	Impact on PGE Group
	Directive 2023/959 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 on the establishment and operation of the market stability reserve.	Combating climate change. Development of investment incentives through a CO <sub>2</sub> price signal to develop low-emission sources .	The EC is currently implementing the reform of the ETS system. <b>On April 4, 2024</b> an amendment to the Delegated Regulation on the rules for free allocation of allowances was published. <b>On May 21, 2024</b> , the EC amended the guidance on climate neutrality plans for installations or district heating companies as a condition for the free allocation of allowances. The EC is currently working on an amendment to Implementing Regulation 2019/1842, which lays down rules for the application of Directive 2003/87/EC with regard to further arrangements for adjustments to the free allocation of emission allowances due to changes in activity levels (determination of the allowance allocation method). This revision is scheduled for adoption in <b>the first quarter of 2025</b> . The EC is also working on a revision of Implementing Regulation 2018/2066 on monitoring and reporting of greenhouse gas emissions, with amendments scheduled for <b>Q3 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 additional free allocation of allowances to district heating.
	Directive 2010/31/EU on the energy performance of buildings (EPBD).	Alignment of legislation related to improving the energy performance of buildings with respect to the 2050 climate neutrality target and the new higher 2030 EU GHG reduction target.	<b>On May 8, 2024</b> , Directive (EU) 2024/1275 was published in the Official Journal of the EU. It entered into force on the twentieth day after publication and thereafter Member States will have 24 months to transpose it into their national legal systems.	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.
	Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control – IED).	Introduction of new requirements determining emission levels 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 July 15, 2024</b> , Directive (EU) 2024/1785 of the European Parliament and of the Council amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste was published in the Official Journal of the EU and entered into force on the 20th day after publication. Member States have 22 months to implement the provisions into national law.	The entry into force of the agreed solutions involves additional administrative costs due to the need to adapt the environmental management system (including in relation to the need to prepare a transformation plan). The role of the public in permitting and in monitoring the implementation of IED obligations by operators of installations will be enhanced.

	<p>Directive of the European Parliament and the Council on corporate sustainability due diligence (CSDDD). To establish a framework that encourages companies to contribute to the pursuit of respect for human rights and environmental legislation in their operations and through their value chains.</p>	<p>Directive (EU) 2024/1760 was published in the Official Journal of the EU <b>on July 5, 2024</b> and entered into force on the 20th day after publication. The deadline for transposition of the directive was <b>July 26, 2026</b>.</p>	<p>Increasing reporting obligations for PGE Group's value chain in terms of environmental impact and respect for human rights. Incorporating the due diligence policy on sustainability in the activities of the PGE Group.</p>
	<p>Regulation of the European Parliament and the Council amending Regulations (EU) 2019/943 and (EU) 2019/942 and Directive (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; empowering end consumers in the market, simplifying the implementation of CFD agreements.</p>	<p>On <b>April 11, 2024</b>, the plenary session of the European Parliament adopted the final versions of the Regulation and Directive. A formal approval of the Directive and Regulation by the Council took place on <b>May 21, 2024</b>. Regulation (EU) 2024/1747 and Directive (EU) 2024/1711 were published in the Official Journal of the EU <b>on June 26, 2024</b>. Both regulations entered into force on the twentieth day after publication. The deadline for transposition of the Directive into national law is <b>January 17, 2025</b> and <b>July 17, 2026</b> for a few selected articles.</p>	<p>The agreed content of the reform introduces a number of changes concerning the shape of contracts for difference (and analogous solutions), which could potentially have a positive impact on the development of investments in RES and new nuclear units. Significant regulatory changes will affect companies in the Supply segment (strengthening the position of consumers, changes regarding tariffs and offers) and the Distribution segment (a new way of shaping tariffs, flexibility incentives). In the context of challenges to the stability of the Polish electricity system, the introduction of the possibility (with the EC's consent) of a temporary derogation for coal sources in the Capacity Market should be assessed positively.</p>
	<p>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 a fair and competitive supply-demand relationship and no profits can be made from market abuse.</p>	<p>On <b>April 17, 2024</b>, Regulation (EU) 2024/1106 was published in the Official Journal of the EU and entered into force on the twentieth day after publication.</p>	<p>Increased reporting obligations concerning inside information, as well as obligations related to the management, recording and monitoring of such information.</p>

## 4. Activities of PGE Capital Group and operational segments

Basic operational data of PGE Capital Group							
	<b>Renewables</b>	<b>Gas-fired Generation</b>	<b>Conventional Generation</b>	<b>District Heating</b>	<b>Distribution</b>	<b>Railway Energy Services</b>	<b>Supply</b>
<b>Key assets of the segment</b>	21 wind farms 41 photovoltaic power plants 29 run-of-river hydro power plants 4 pumped-storage power plants, including 2 with natural flow	1 gas-fired power plant <sup>1</sup>	5 conventional power plants 2 lignite mines	16 CHP plants	302.3 th km of distribution lines	18.4 th km of distribution lines	-
<b>Installed capacity electricity/heat</b>	2 526 MWe/-	1 366 MWe <sup>1</sup> -	12 392 MWe/958 MWt	2 477 MWe/6 197 MWt	-	-	-
<b>Electricity volumes</b>	Net electricity generation 1.83 TWh	Net electricity generation 0.44 TWh	Net electricity generation 21.30 TWh	Net electricity generation 3.94 TWh	Electricity distribution volume 17.97 TWh <sup>2</sup>	Electricity distribution volume 2.14 TWh; Sales to final off-takers 1.50 TWh	Sales to final off-takers 15.51 TWh <sup>3</sup>
<b>Heat volumes</b>	-	-	Heat production (net) 1.64 PJ	Heat production (net) 25.30 PJ	-	-	-
<b>Market position</b>	PGE Group is the largest electricity producer from RES with market share of approx. 6% (excluding co-combustion of biomass and bio-gas)	-	PGE Group is the leader of lignite mining in Poland (96%)  PGE Group is a national leader in electricity and district heat generation	-	Second domestic electricity distributor with regard to number of customers	Leader of energy services for railway infrastructure and the largest distributor and seller of electricity to the traction grid	Leader in wholesale and retail trading in Poland

<sup>1</sup> Unit no. 9 commissioned on August 14, 2024, commissioning of the unit no. 10 planned for September 30, 2024.

<sup>2</sup> Data for PGE Dystrybucja S.A.

<sup>3</sup> Data for PGE Obrót S.A.

## 4.1. Key operating results of PGE Group

### KEY OPERATING RESULTS OF PGE GROUP

Table: Key operating results.

Key operating results	Unit	H1 2024	H1 2023	% change
Electricity generation, net	TWh	27.51	28.02	-2%
including RES generation	TWh	1.46	1.44	1%
Sales of electricity outside the PGE Capital Group	TWh	33.79	39.34	-14%
Sales of electricity to final off-takers <sup>1</sup>	TWh	17.04	17.48	-3%
Heat production	PJ	26.94	29.14	-8%
Heat sales	PJ	26.35	28.38	-7%
Electricity distribution	TWh	20.11	18.82	7%

<sup>1</sup> After eliminating sales within the PGE Group, sales carried out mainly by PGE Obrót S.A. and additionally by PKP Energetyka Kolejowa 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	H1 2024	H1 2023	% change
<b>A. Sales of electricity outside the PGE Capital Group:</b>	<b>33.79</b>	<b>39.34</b>	<b>-14%</b>
▪ Sales to end-users <sup>1</sup>	17.04	17.48	-3%
▪ Sales on the wholesale and balancing market	16.75	21.86	-23%
<b>B. Purchases of electricity from outside of PGE Group (wholesale and balancing market)</b>	<b>8.61</b>	<b>13.39</b>	<b>-36%</b>
<b>C. Net production of electricity in units of PGE Capital Group</b>	<b>27.51</b>	<b>28.02</b>	<b>-2%</b>
<b>D. Own consumption DSO, lignite mines, pumped-storage power plants (D=C+B-A)</b>	<b>2.33</b>	<b>2.07</b>	<b>13%</b>

<sup>1</sup> sales carried out mainly by PGE Obrót S.A. and additionally by PKP Energetyka Kolejowa 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 higher share of RES production and higher share of electricity imports. The lower purchase on the wholesale market is mainly the result of PGE Obrót's lower sales to end customers in the corporate client and large business segments, who tend to diversify energy sources, mainly with greater use of RES. At the same time, an increase was recorded in sales to the end customers as an effect of the recognition of electricity sales realised by PKP Energetyka Kolejowa S.A. in the first half of 2024 that in the similar period of the previous year took place only in the second quarter of 2024.

Table: Net production of electricity (TWh).

Production volume	H1 2024	H1 2023	% change
<b>NET ELECTRICITY PRODUCTION IN TWh, including:</b>	<b>27.51</b>	<b>28.02</b>	<b>-2%</b>
Lignite-fired power plants	14.99	14.82	1%
Coal-fired power plants	6.31	6.61	-5%
Including co-combustion of biomass	0.02	0.00	-
Gas-fired power plants	0.44	0.00	-
Coal-fired CHP plants	1.77	2.27	-22%
Gas-fired CHP plants	1.98	2.31	-14%
Biomass-fired CHP plants	0.18	0.26	-31%
Communal waste-fired CHP plants	0.01	0.01	0%
Pumped-storage power plants	0.58	0.57	2%
Hydroelectric plants	0.27	0.28	-4%
Wind power plants	0.93	0.89	4%
PV plants	0.05	0.00	-
including RES generation	1.46	1.44	1%

The level of electricity production in the first half of 2024 was 2% lower compared to the first half of 2023.

The lower level of electricity generation in the PGE Group is mainly due to high coverage of domestic demand by renewables and gas and effect of higher imports in meeting demand.

Lower production in coal-fired CHP plants and gas-fired CHP Plants (a total decrease of 0.8 TWh) is the effect of lower combined heat and power production due to weather conditions (higher average temperatures).

Lower production in hard coal-fired power plants took place at the Opole Power Plant and the Dolna Odra Power Plant (a total decrease of 0.3 TWh) with production at Rybnik Power Plant similar to the first half of 2023. The change was caused by lower average load factor of units at the Opole Power Plant (by 19 MW) and Dolna Odra Power Plant (by 4 MW). Opole and Dolna Odra power plants were in reserve downtime longer by 2 031 hours while simultaneously shorter time in overhauls by 1 249 hours.

Units at Gryfino Power Plant produced 0.4 TWh of electricity as part of the implementation of the investment process.

Higher generation at lignite-fired power plants (increase by 0.2 TWh) is due to higher production at Bełchatów Power Plant (increase by 0.6 TWh) caused by higher average load factor of units by 19 MW. At the same time, there was lower production at the Turów Power Plant (decline by 0.4 TWh), which remained in reserve downtime for 563 hours longer and operated with average load factor of units lower by 22 MW.

Production in biomass CHP plants, communal waste – fired CHP plants, pumped storage power plants, hydro power plants, wind farms and PV plants remained at the level of the comparable period.

### HEAT PRODUCTION

Table: Net production of heat (PJ).

Heat production volume	H1 2024	H1 2023	% change
<b>Net production of heat in PJ</b>	<b>26.94</b>	<b>29.14</b>	<b>-8%</b>
Lignite-fired power plants	1.29	1.40	-8%
Coal-fired power plants	0.35	0.36	-3%
Coal-fired CHP plants	19.57	20.84	-6%
Gas-fired CHP plants	4.27	5.41	-21%
Biomass-fired CHP plants	1.09	0.86	27%
CHP plants fuelled by municipal waste	0.05	0.07	-29%
Other CHP plants	0.32	0.20	60%

External temperatures contributed more than any other factor to lower net generation of heat in the first half of 2024 (y/y). The average temperatures in the first half of 2024 were by 1.0° C higher y/y, which translated into decreased production of heat.

### HEAT SALES

In the first half of 2024 the heat sales volume in PGE Capital Group totalled 26.4 PJ and was lower by 2.0 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 half of 2023.

## 4.2. PGE Group's key financial results

The best way to measure the profitability of energy companies is recurring EBITDA. 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. Additionally, recurring EBITDA is adjusted for one-offs.

PGE Group's consolidated EBITDA is 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 H1 2024: Distribution (46%), Supply (27%), District Heating (16%), Renewables (13%) and Railway Energy Services (12%). Conventional Generation segment negatively affects the Group's recurring EBITDA result, while other segments have an insignificant share in recurring EBITDA.

Chart: Recurring EBITDA of PGE Capital Group (PLN million)

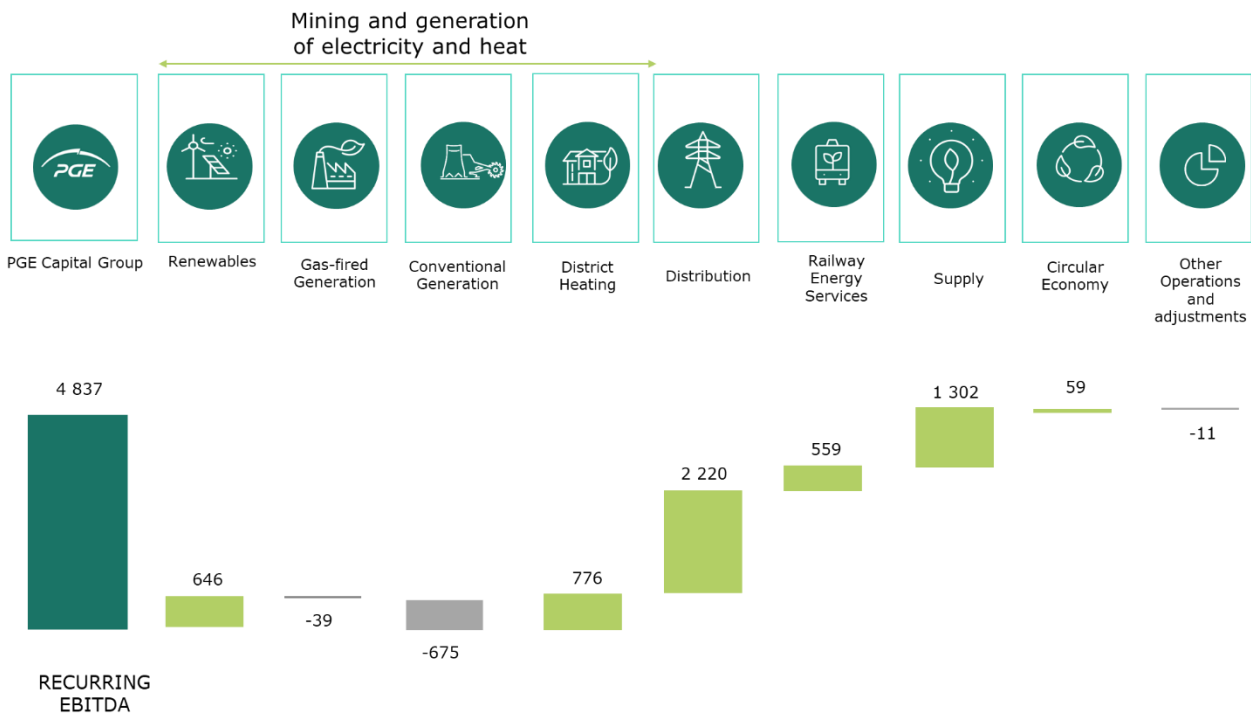
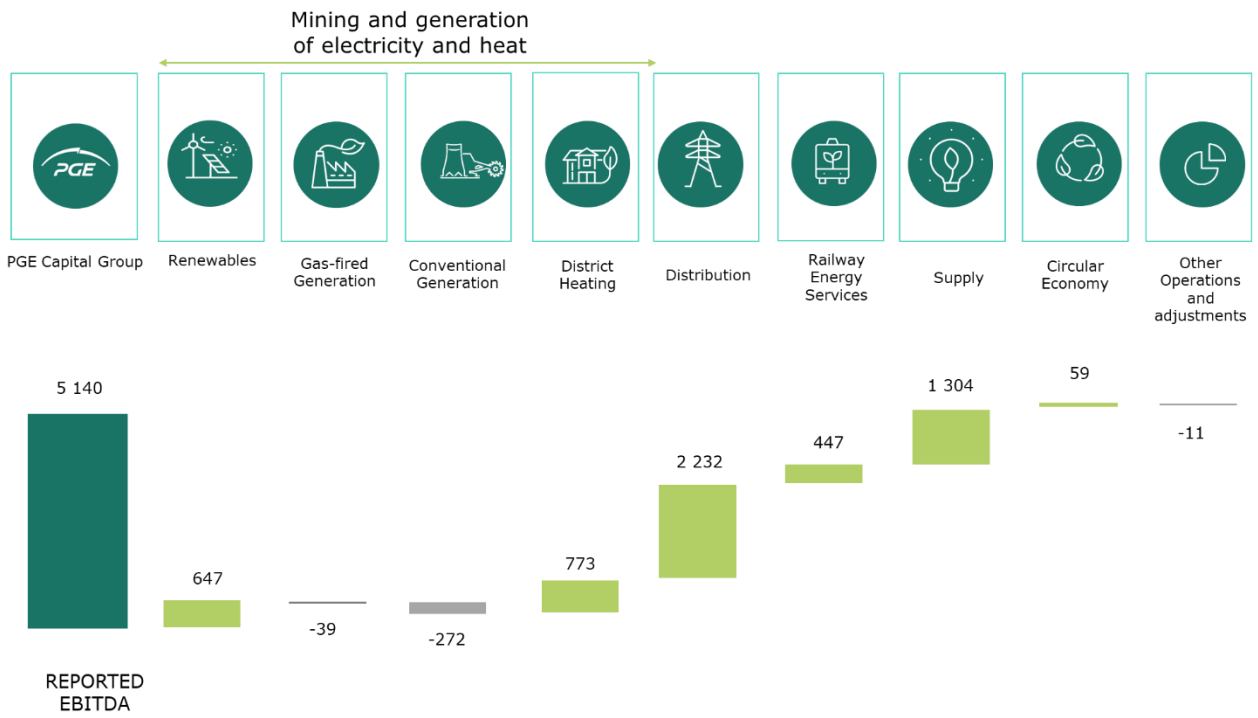
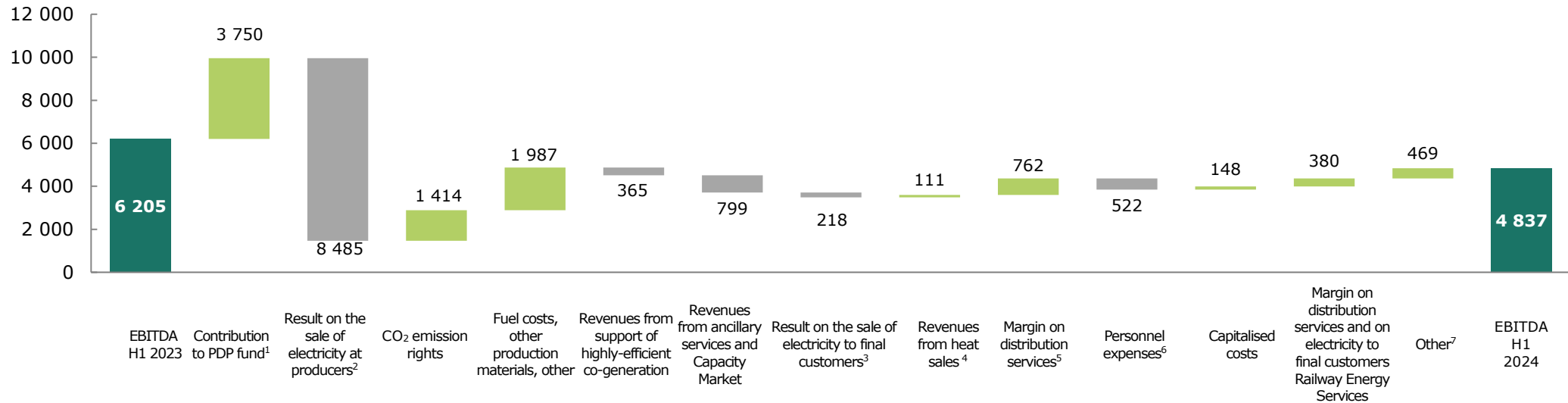


Chart: Reported EBITDA of PGE Capital Group (PLN million)



Management Board's report on activities of PGE Capital Group  
for the 6-month period ended June 30, 2024

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



Change	3 750	-8 485	1 414	1 987	-365	-799	-218	111	762	-522	148	380	469	
Reported EBITDA H1 2023	<b>5 872</b>													
One-offs H1 2023	<b>-333</b>													
Recurring EBITDA H1 2023	<b>6 205</b>	3 727	24 125	11 964	6 493	408	2 571	460	2 583	2 748	3 419	500	328	1 915
Recurring EBITDA H1 2024		-23	15 640	10 550	4 506	43	1 772	242	2 694	3 510	3 941	648	708	1 446
One-offs H1 2024														<b>303</b>
Reported EBITDA H1 2024														<b>4 837</b>
														<b>5 140</b>

<sup>1</sup> Without impact of correction of estimated contribution to the fund for 2022 (one-off).

<sup>2</sup> Revenue from the sale of electricity reduced by the purchase cost of electricity.

<sup>3</sup> Including compensation, margin adjustment on certificates at PGE Group; without additional estimation of the cost of the balancing difference.

<sup>4</sup> Including compensations.

<sup>5</sup> Including revenues from distribution services, compensations, 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> Without impact of the change in the actuarial provision (one-off).

<sup>7</sup> without LTC compensations, change in the reclamation provisions and write-down of receivables from PKP Cargo S.A. (one-offs).



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

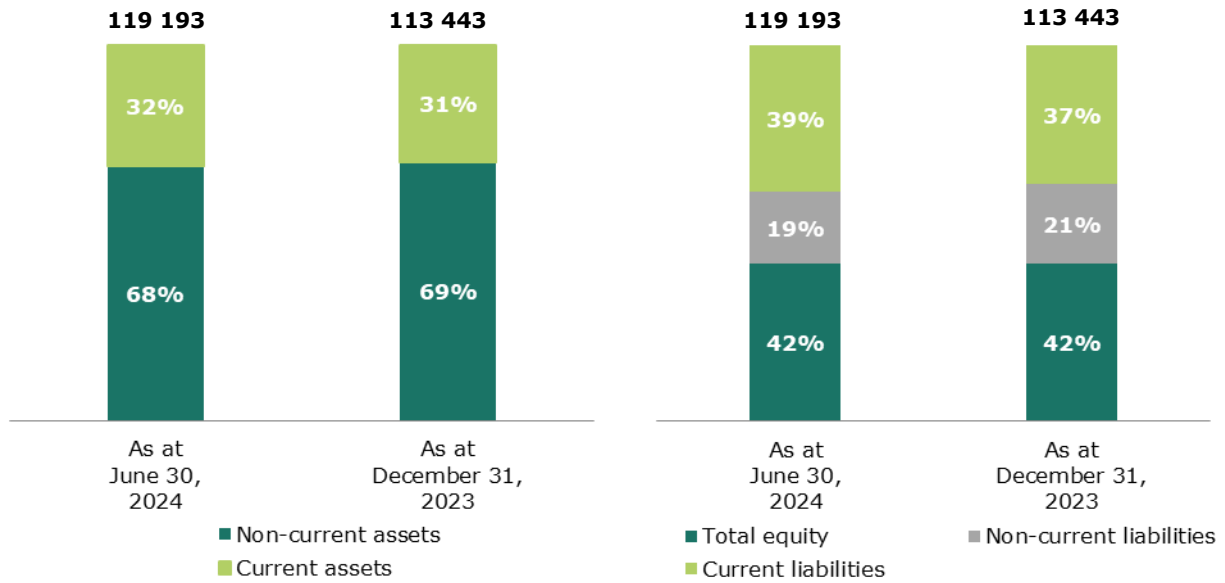
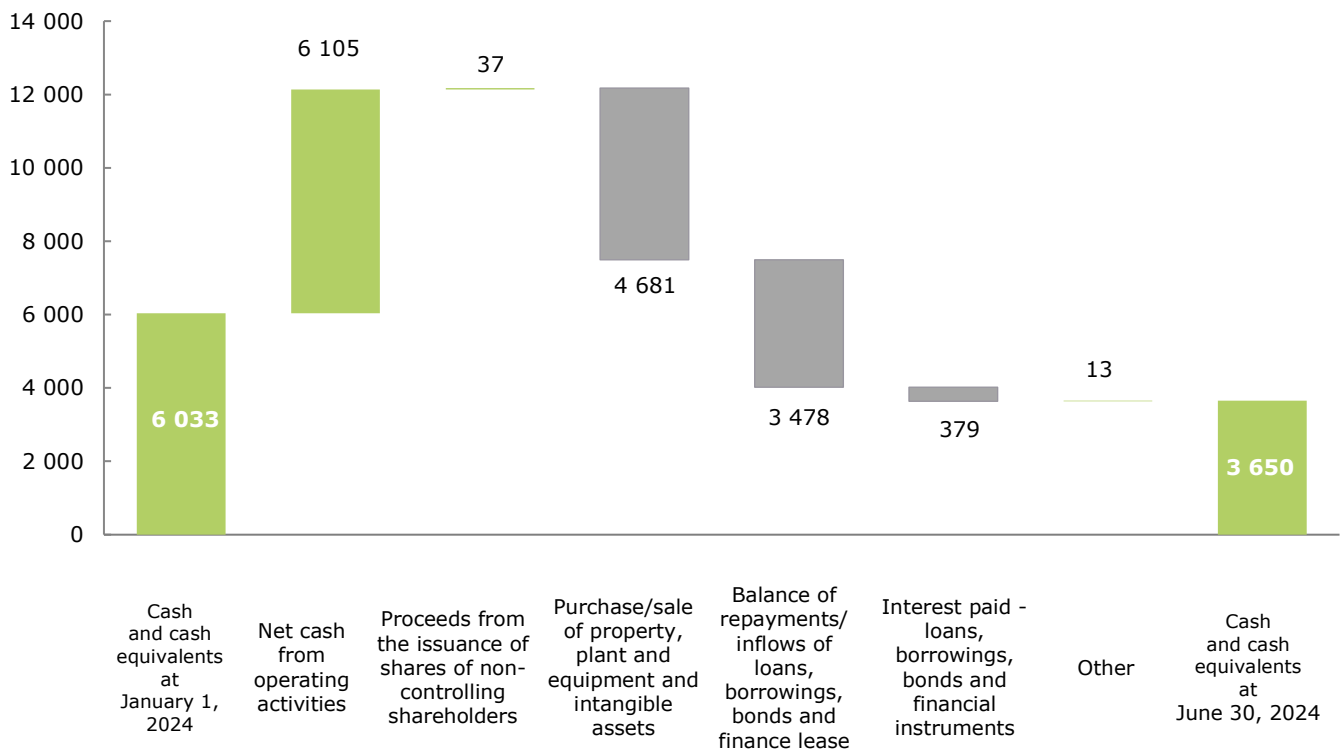
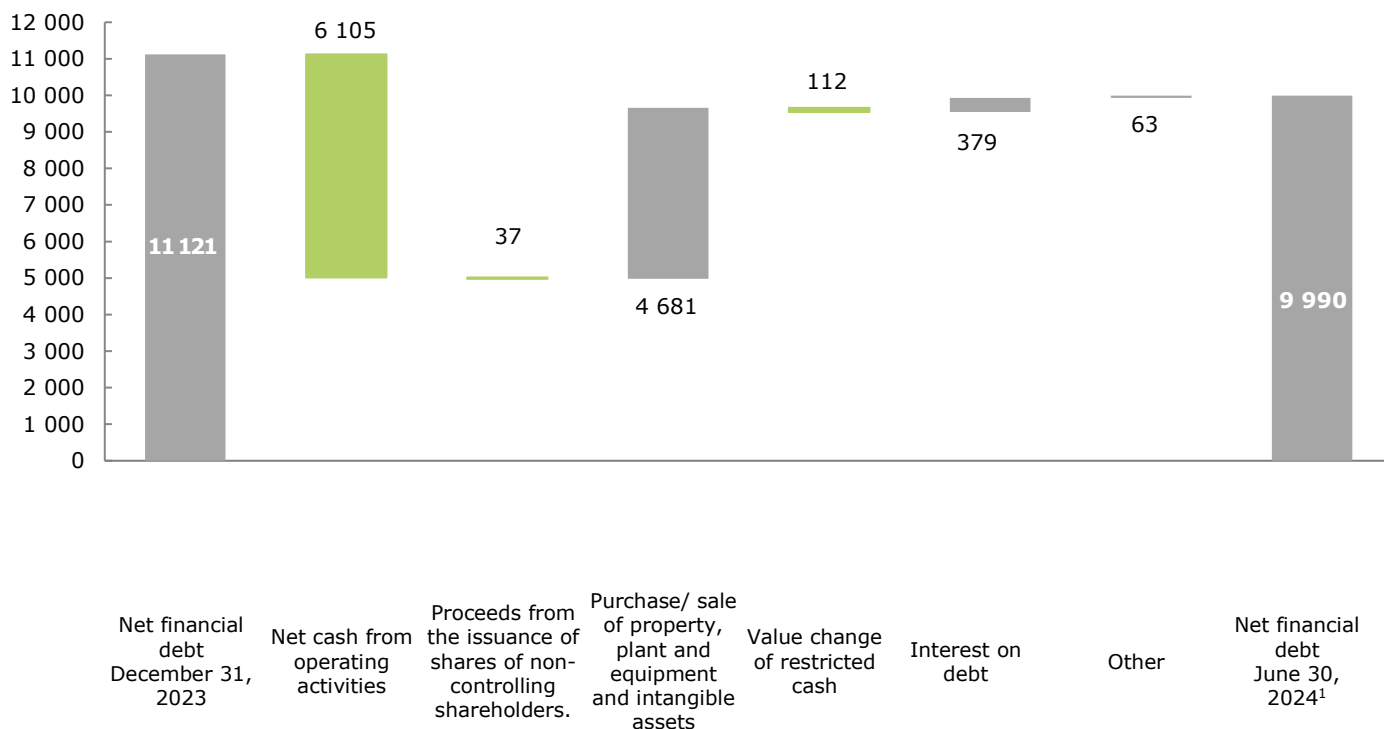


Chart: Net change in cash (in PLN million).



Impact on level of cash	6 105	37	-4 681	-3 478	-379	13	
Cash and cash equivalents	<b>6 033</b>						<b>3 650</b>

Chart: Net financial debt (in PLN million).

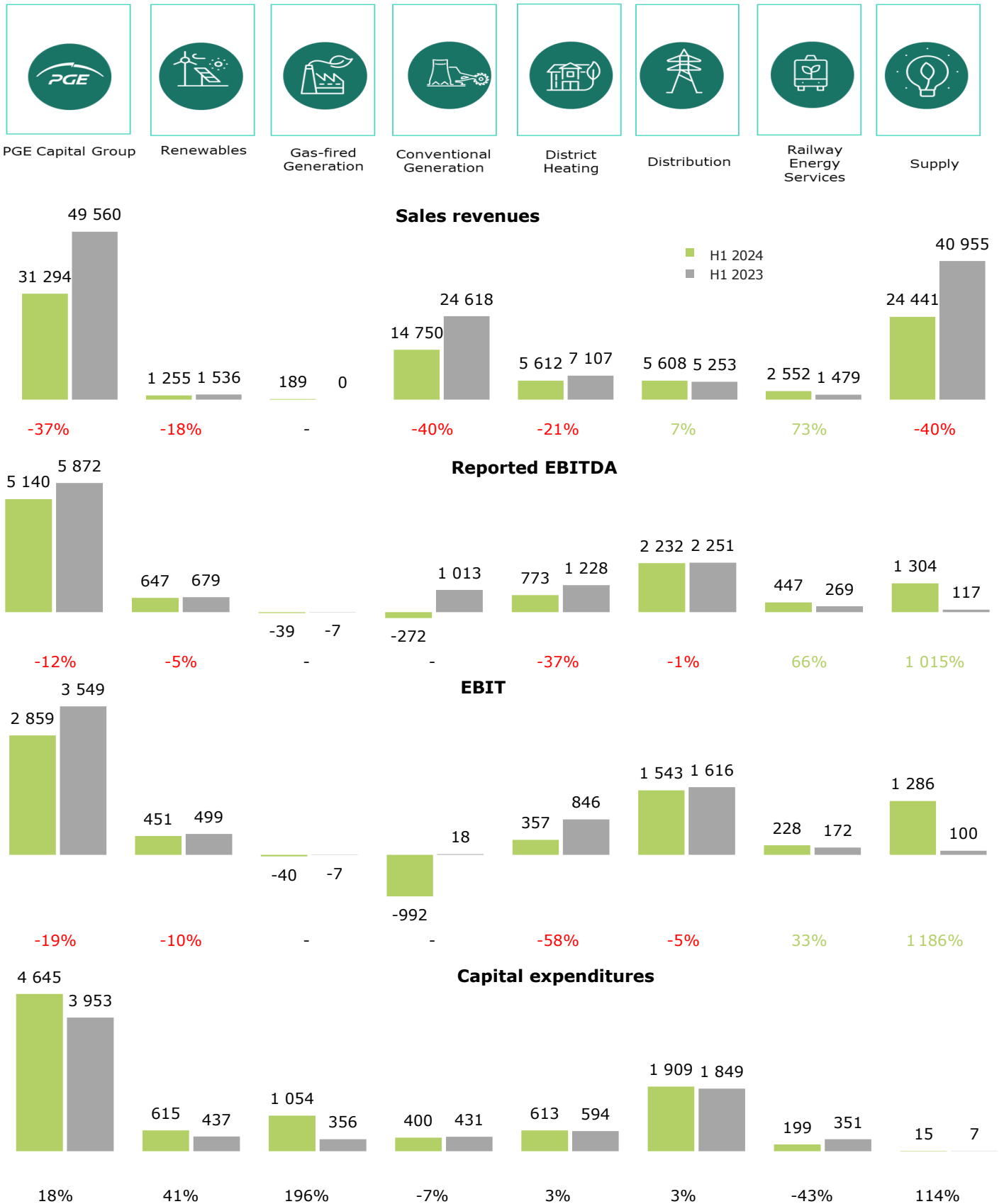


Impact on level of net debt	Net cash from operating activities	Proceeds from the issuance of shares of non-controlling shareholders.	Purchase/ sale of property, plant and equipment and intangible assets	Value change of restricted cash	Interest on debt	Other	Net financial debt June 30, 2024 <sup>1</sup>
Financial net debt	-6 105	-37	4 681	-112	379	63	<b>9 990</b>

<sup>1</sup> Estimated level of net economic debt (taking into account forward payment for CO<sub>2</sub> emission rights) amounts to PLN 20 126 million.

## 4.3. Characteristics of business segments

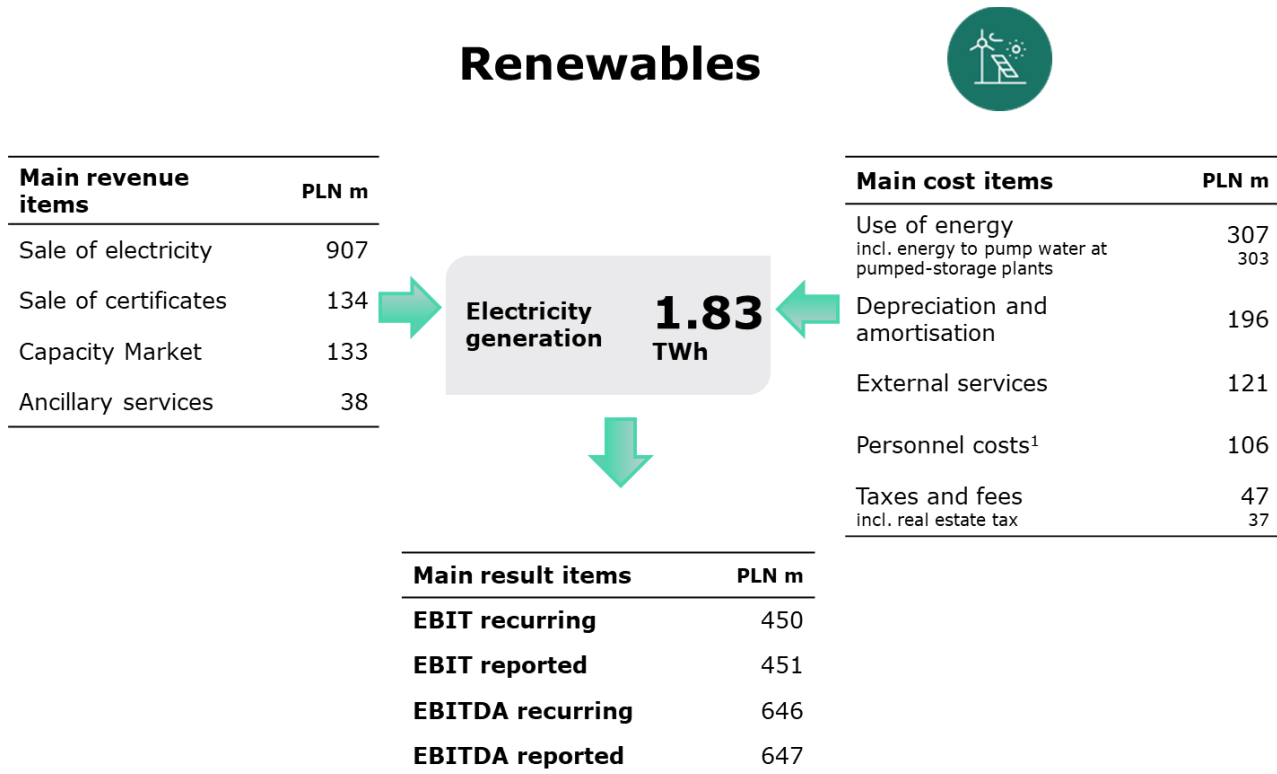
### 4.3.1 Key results in business segments (in PLN million)<sup>1</sup>



<sup>1</sup> From 2024 a Gas-fired Generation segment was established and the data of the Other Operations segment for the first half of 2023, which in previous reporting periods included companies transferred to the newly created segment, were adjusted for comparability.

## 4.3.2 Renewables

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



<sup>1</sup> Adjusted for one-offs.

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 production of 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. Since mid-June 2024, the next phase of the Balancing Market reform has been implemented. As a result of the above reform, power plants have the possibility to offer balancing energy and balancing capacity. The new catalogue of balancing services includes: frequency maintenance reserve, frequency restoration reserve and replacement reserve.

The significant cost items of the segment's operations are: **use of energy to pump water at pumped-storage plants, depreciation of segment assets** and **third-party services**, mainly the repair and maintenance services. Property tax and labour costs also constitute a significant cost item in this segment. Under the provisions of the Emergency Measures in 2023 Act, electricity generating entities were required to make a contribution to the **Price Difference Payment Fund**.

**ASSETS AND OPERATIONAL DATA**

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:

- 21 wind farms,
- 41 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.

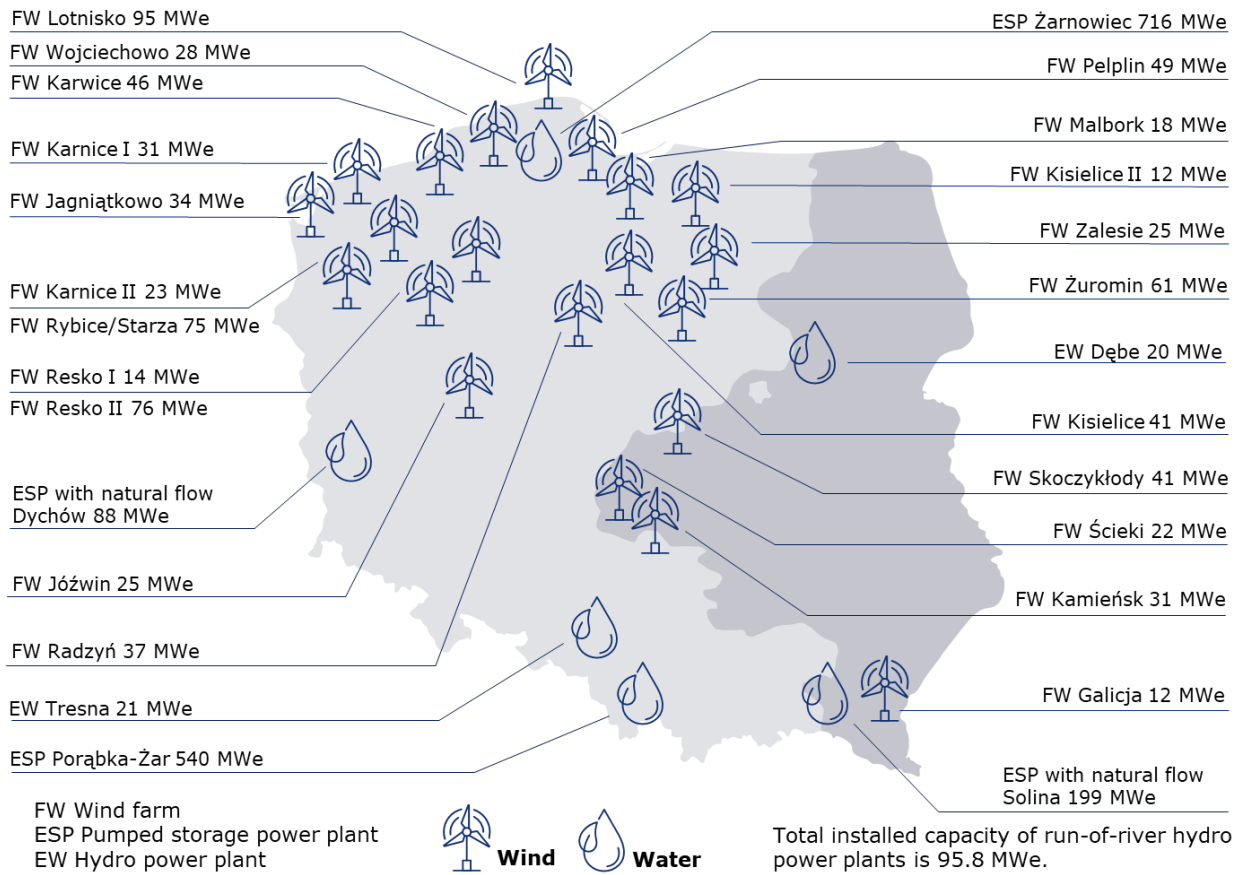
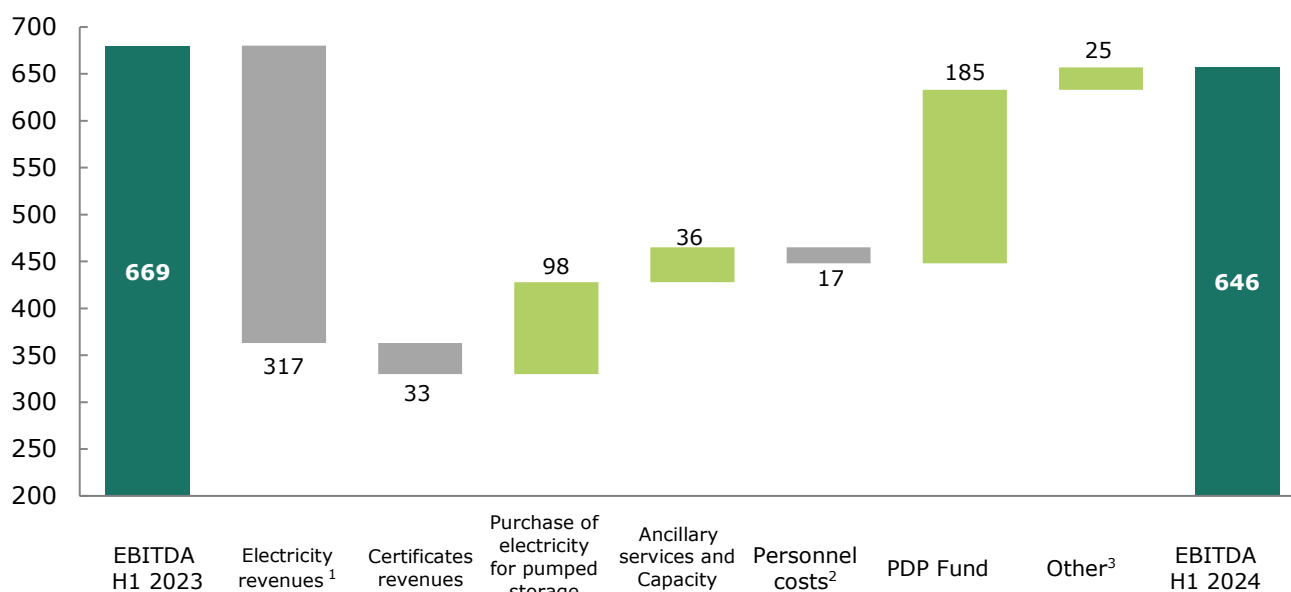


Table: Energy production (TWh).

Type of power plant	H1 2024	H1 2023	% change
Pumped-storage power plants	0.58	0.57	2%
Run-of-river hydro power plants	0.27	0.28	-4%
Wind farms	0.93	0.89	4%
PV	0.05	0.00	-
<b>Total</b>	<b>1.83</b>	<b>1.74</b>	<b>5%</b>

**KEY FINANCIAL FIGURES IN THE SEGMENT**

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



Change	EBITDA H1 2023	Electricity revenues <sup>1</sup>	Certificates revenues	Purchase of electricity for pumped storage plants	Ancillary services and Capacity Market	Personnel costs <sup>2</sup>	PDP Fund	Other <sup>3</sup>	EBITDA H1 2024
<b>Change</b>		<b>-317</b>	<b>-33</b>	<b>98</b>	<b>36</b>	<b>-17</b>	<b>185</b>	<b>25</b>	
Reported EBITDA H1 2023	<b>679</b>								
One-offs H1 2023	<b>10</b>								
Recurring EBITDA H1 2023	<b>669</b>	1 224	167	401	135	89	187	180	
Recurring EBITDA H1 2024		907	134	303	171	106	2	155	<b>646</b>
One-offs H1 2024									<b>1</b>
Reported EBITDA H1 2024									<b>647</b>

<sup>1</sup> Electricity revenues include revenues from main generation technologies (wind, water, PV, pumped storage).

<sup>2</sup> Includes one-off (actuarial provision).

<sup>3</sup> Includes one-off (reclamation provision).

Table: Data on one-offs in Renewables segment (in PLN million).

One-offs	H1 2024	H1 2023	% change
Change in reclamation provision	0	11	-100%
Change in actuarial provision	1	-1	-
<b>Total</b>	<b>1</b>	<b>10</b>	<b>-90%</b>

Key factors affecting the y/y results of Renewables:

- **Lower revenues from electricity sales** results from: lower average electricity sale price by PLN 160/MWh y/y, what translated into decrease of revenues by PLN 369 million, higher sales volume by 94 GWh, what caused revenues increase of PLN 52 million.
- **Decreased revenues from sales of certificates** resulting from lower average electricity sale price by PLN 43/MWh y/y, as a result revenues decreased by PLN 34 million, higher sales volume by 7 GWh, what caused revenues increase of PLN 1 million.
- **The decrease in electricity purchase costs** for pumping in pumped storage power plants results from: lower average electricity purchase price by PLN 176/MWh y/y, what translated into a decrease in costs by PLN 186 million and higher purchase volume by 192 GWh, contributing to an increase in costs by PLN 88 million.
- Higher revenues from the Capacity Market and ancillary services result mainly from higher utilization of production units in the power system.
- **The increase in personnel costs** is mainly a result of higher employment due to the development of the Offshore Energy and Renewable Energy areas and concluded wage agreements.
- **Lack of contribution to PDP Fund**, which occurred in 2023.
- **Value change in item Other** results mainly from higher revenues from the sale of guarantees of origin for electricity and a lower adjustment to the settlement of the RES auction with Zarządca Rozliczeń.

#### CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Renewables segment.

PLN million	H1 2024	H1 2023	% change
Investments in generating capacities, including:	609	432	41%
▪ Development	498	354	41%
▪ Modernisation and replacement	111	78	42%
Other	6	5	20%
<b>Total</b>	<b>615</b>	<b>437</b>	<b>41%</b>

#### KEY EVENTS IN RENEWABLES

##### ▪ **Offshore wind farms construction program**

The strategic goal of the PGE Group in the offshore energy area is to build at least 6.5 GW of capacity by 2040.

The group has 8 location permits for an offshore wind farms in the Baltic Sea. 5 proceedings (with a total capacity potential of 3.9 GW) were resolved in favour of the PGE Group in 2023 and 3 location permits were obtained by the Group 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). Commissioning of the first project carried out jointly with Ørsted - Baltica 2 with a capacity of 1.5 GW is planned by 2030.

**The Baltica 1 project** (approximately 0.9 GW) is in the early stages of preparation for implementation. In the first half of 2024, environmental and geotechnical studies were conducted and wind measurements were implemented.

**The Baltica 2 project** (approx. 1.5 GW) is at the contracting stage with contractors. Key contracts for construction and installation works and the supply of components have already been concluded. As part of the contract for the construction of the power derivation system in the onshore section, a work order was issued on June 28, 2024. Work is currently underway to prepare the construction site - including logging, relocation of existing infrastructure.

**The Baltica 3 project** (approx. 1 GW) is in the pipeline. In the first half of 2024, geotechnical investigations were completed as part of the preliminary and intermediate campaigns.

##### ▪ **PGE Group PV Development Program**

So far, projects with a total capacity of approx. 95 MW have been commissioned under the programme, including 47 MW in farms commissioned in the first half of 2024 (inter alia PV Augustynka of 25 MW, PV Pasterzowice – 8 MW, PV Krotoszyn – 5 MW and PV Ruchocinek – 2 MW as well as projects of up to 1 MW).

Projects with a capacity of approx. 320 MW are under development, including PV Jeziórko (100 MW), PV Żółtańce (15 MW), PV Pokrzywnica (7 MW) and PV Jedlanka Stara (5 MW), where commissioning is planned in the second half of 2024.

In the first half of 2024, activities for the development of further PV farm projects continued, including the acquisition of land rights and the required administrative decisions aimed at obtaining construction permits.

▪ **Modernisation of technological equipment at the Dębe hydro power plant**

To date, the modernisation of three of the four hydro-sets of the Dębe Hydroelectric Power Plant has been completed. In the first half of 2024, the advanced modernisation works were carried out on the last (fourth) hydrosystem. The modernisation works are scheduled for completion in the second half of 2024.

▪ **Comprehensive modernisation program of Porąbka-Żar pumped-storage power plant**

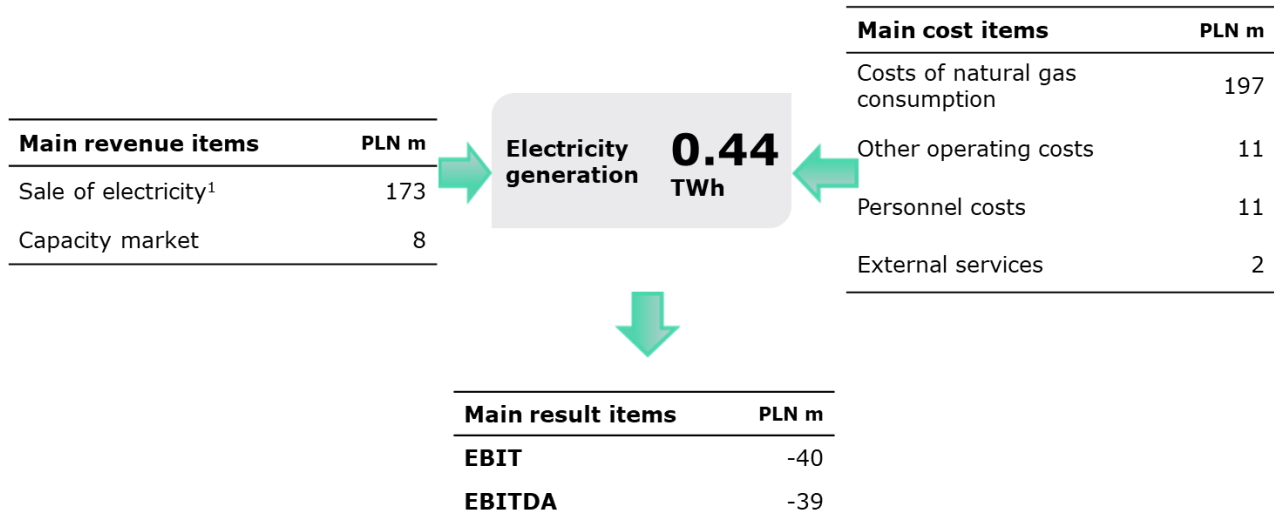
The scope of works includes the modernization of the technological part of the upper reservoir and the construction facilities of the waterway. Advanced work is underway to replace the asphalt layer on the upper reservoir. At the beginning of May 2024, the complete shutdown of the power plant began and is scheduled to last until the end of September 2024. This will enable modernization works to be carried out at the upper and lower water intakes and in the power plant chamber. Works on the technological part (modernisation of the hydrosystems) are scheduled for Q4 2024. Design works are underway for this part of the scope of works.



### 4.3.3 Gas-fired Generation

The segment's business is the generation of electricity in gas-fired sources.

## Gas-fired Generation



<sup>1</sup> Managerial perspective

In the first half of 2024, commissioning works were underway at units at the Gryfino Power Plant. Thus, the segment received revenue from the sale of electricity to the Balancing Market and incurred the costs of natural gas consumption. At the same time, in accordance with the Greenhouse Gas Emission Trading Scheme Act of June 12, 2015, the segment does not incur any CO<sub>2</sub> emission charges until the unit is eventually commissioned.

Ultimately, the primary source of revenue for the Gas-Fired Generation segment will be **revenue from the sale of electricity** on the wholesale market based on the price of electricity determined by supply and demand balancing mechanisms, taking into account the variable costs of generation. At the same time, the most significant cost items of the segment, by virtue of their size and volatility, and therefore impact on the operating result, will be the **costs of CO<sub>2</sub> emission charges** and **the costs of natural gas consumption**.

A significant item in the segment's revenue will be **revenue from the Capacity Market**, a mechanism introduced to prevent a shortage of electricity in the NPS. The segment's power plants will be remunerated for the fulfilment of the capacity obligation (the Capacity Market unit's remaining ready to supply electricity to the system and its commitment to supply a certain capacity to the system during an emergency period). An additional item in the segment's revenue will be **revenue from for the provision of ancillary services**.

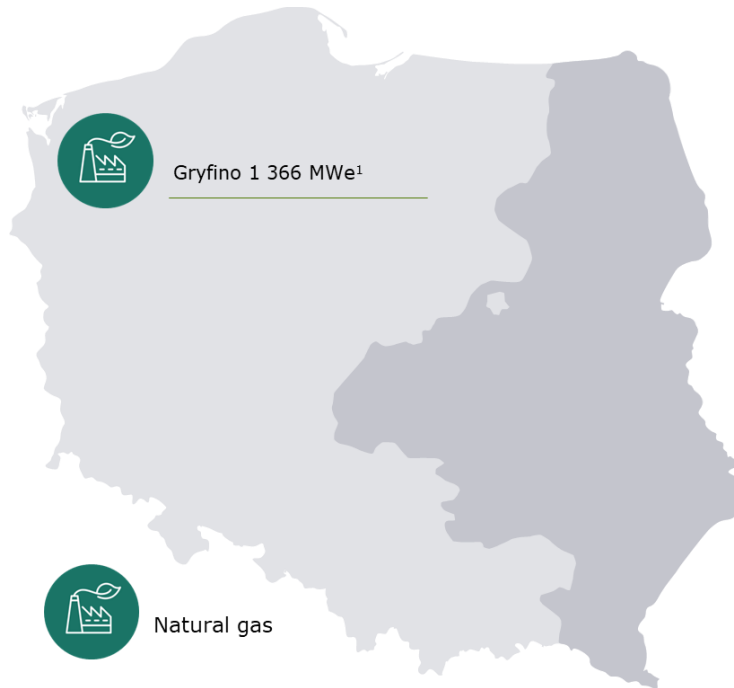
#### ASSETS

The Gas-fired Generation segment will ultimately comprise 2 gas-fired power plants: the Gryfino Power Plant (2 units, each with an installed capacity of 683 MW) and the Rybnik Power Plant (1 unit with a capacity of 882 MW).

At the beginning of March 2024, unit no. 9 at the Gryfino Power Plant was synchronised with the NPS and commissioning works were underway as at June 30, 2024. In mid-June, the 720-hour trial run of the unit began. On August 14, 2024 the unit was commissioned.

Unit no. 10 at the Gryfino power plant was synchronised with the NPS on May 22, 2024 and commissioning work has been ongoing since then.

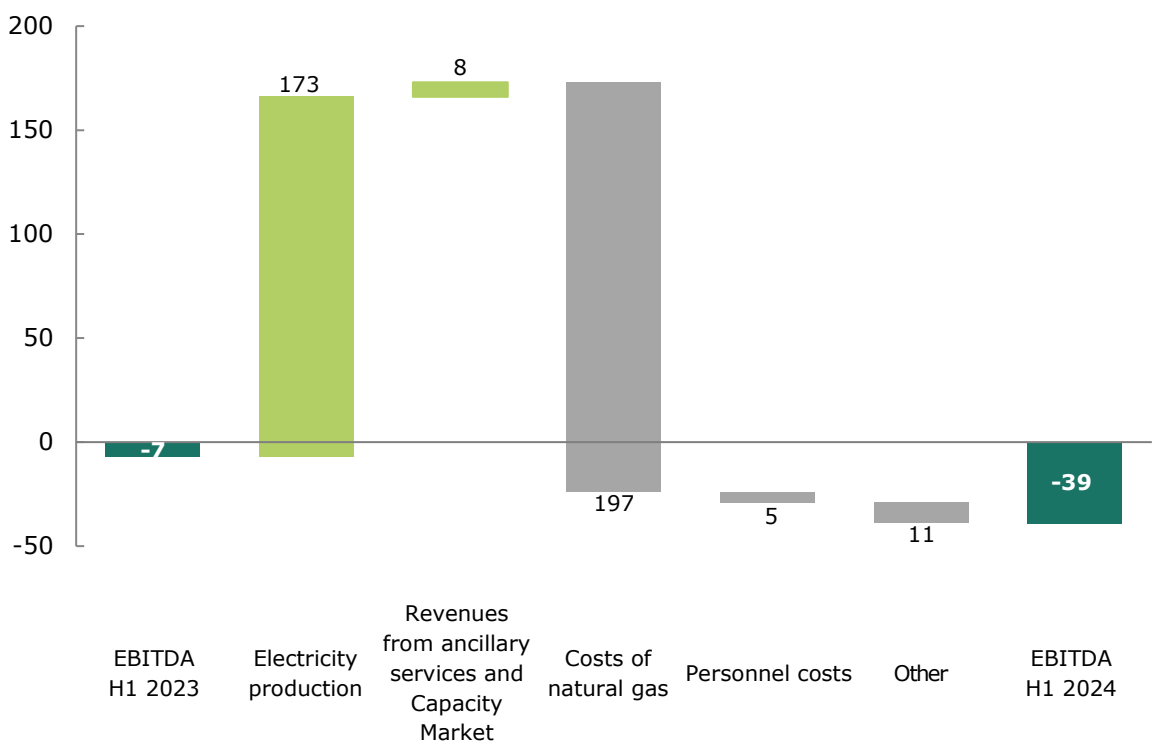
Diagram: Main assets of the Gas-fired Generation segment and their installed capacity.



<sup>1</sup> Unit no. 9 commissioned on August 14, 2024, while commissioning of the unit no. 10 is planned for September 30, 2024.

**KEY FINANCIAL FIGURES IN THE SEGMENT**

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



Change	173	8	-197	-5	-11	
EBITDA H1 2023	-7	0	0	6	1	
EBITDA H1 2024	173	8	197	11	12	<b>-39</b>

<sup>1</sup> Due to separation of the Gas-fired Generation segment from Other Operations segment data for H1 2023 were restated for comparability.

Key factors affecting EBITDA of Gas-fired Generation segment y/y:

- **Revenues from the sale of electricity**, as a result of the sale of 0.44 TWh of electricity in the Balancing Market.
- **Costs of natural gas consumption**, as a result of consumption of 0.98 PJ of the fuel in the production process.
- **Higher personnel costs**, mainly due to the start of the production process at the Gryfino Power Plant.
- **The item Other** mainly includes costs of not meeting the Operational Milestone (OKM) for the Capacity Market of PLN 11 million, which were charged to other operating expenses of PGE Gryfino 2050 sp. z o.o. in connection with the postponement of the start of the power generation process.

### CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Gas-fired Generation segment<sup>1</sup>

PLN million	H1 2024	H1 2023	% change
Investments in generating capacities, including:	1 054	356	196%
▪ Development	1 054	356	196%
<b>Total</b>	<b>1 054</b>	<b>356</b>	<b>196%</b>

<sup>1</sup> Segment separated from the Other Operations segments as from 2024.

### KEY EVENTS IN GAS-FIRED GENERATION

- In the first half of 2024, work continued on the project to build a **CCGT unit** with a gross capacity of 882 MW in Rybnik (**Rybnik 2050 sp. z o.o.**). A construction permit decision with a clause of immediate enforceability was obtained on March 12, 2024. In May 2024, piling for the foundations of the main facilities (gas turbine engine room, steam turbine, recovery boiler room) was completed and foundation work for the listed facilities began. The contractor is completing the procurement of the main components of the power plant (turbineset, boiler plant, auxiliary equipment) and is signing contracts with further subcontractors for the performance of works and delivery of equipment.
- In the first half of 2024 work continued also on the construction of two **new gas-and-steam units** of 683 MWe each (**PGE Gryfino 2050 sp. z o.o.**). In January 2024, the chemical cleaning process (so-called etching) of unit 10 was successfully completed. In February 2024, the preparations for the commissioning of unit 9 were completed. On February 27, 2024, the first ignition of the gas turbine of unit no. 9 (TG9) took place, while the first synchronisation with the NPS was carried out on March 4, 2024. On April 12, 2024, the decision on the Integrated Permit with immediate enforceability was obtained for the units. Commissioning and system optimisation work was carried out on both units. Following the successful regulatory movement on unit no. 9, a 720-hour trial run started on June 11, 2024. On May 18, 2024, the first firing of the gas turbine of unit no. 10 took place, followed by the regulatory run of unit no. 10 on May 27, 2024 after achieving synchronisation with the NPS.

On July 23, 2024 a settlement with the General Contractor was concluded in front of the mediator of the arbitration court at the Solicitor's Office of the Republic of Poland, in which the commissioning dates of the units were set: August 15, 2024 for unit no. 9 and September 30, 2024 for unit no. 10. Unit no. 9 was commissioned on August 14, 2024. As part of the Settlement the Contractor has committed to pursue additional works. The change of completion date of the contract does not cause a change of the contractual remuneration.

**KEY PROJECTS IN GAS-FIRED GENERATION SEGMENT**

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	PLN 4.3 bn	PLN 3.5 bn	PLN 340 m	Natural gas / 63.2 %	Syndicate of companies:	Unit no. 9 – August 14, 2024 <sup>2</sup>
					General Electric (consortium leader) and Polimex Mostostal	Unit no. 10 – September 30, 2024
Construction of gas-steam unit at Rybnik 2050	PLN 4.0 bn	PLN 656 m	PLN 556 m	Natural gas / 63.9 %	Syndicate of companies:  Polimex Mostostal S.A. (consortium leader), Siemens Energy sp. z o.o., Siemens Energy Global GmbH & Co. KG	December 2026

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

<sup>2</sup> completed

#### 4.3.4 Conventional Generation

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

### Conventional Generation



Main revenue items	PLN m			Main cost items	PLN m
Sale of electricity <sup>1</sup>	12 332	<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;"> <b>Electricity generation</b>    <b>21.30 TWh</b> </div> <div style="border: 1px solid gray; padding: 5px;"> <b>Heat generation</b>    <b>1.64 PJ</b> </div>		Fees for CO2 emissions	9 119
Capacity market	1 053			Cost of production fuels used	1 898
Revenues from ancillary services	375			Personnel costs <sup>1</sup>	1 862
Sale of heat <small>Including contracted capacity and heat distribution</small>	84			External services	979
				Depreciation and amortisation, liquidation, write-offs <small>Including capitalised depreciation</small>	717 -3
Main result items				Main result items	
				<b>EBIT recurring</b>	-1 341
				<b>EBIT reported</b>	-992
				<b>EBITDA recurring</b>	-675
				<b>EBITDA reported</b>	-272

<sup>1</sup> Managerial perspective

<sup>2</sup> Adjusted for one-offs.

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. Since mid-June 2024, the next phase of the Balancing Market reform has been implemented. As a result of the above reform, power plants have the possibility to offer balancing energy and balancing capacity. The new catalogue of balancing services includes: frequency maintenance reserve, frequency restoration reserve and replacement reserve.

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

Under the provisions of the Emergency Measures Act in 2023, electricity generating entities were required to make a contribution to the **Price Difference Payment Fund**.

## ASSETS

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

Conventional Generation segment is the leader of lignite mining (its share in the extraction market of this raw material accounting for 96%<sup>11</sup> of domestic extraction), it is also the largest generator of electricity as it generates approx. 29%<sup>12</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.

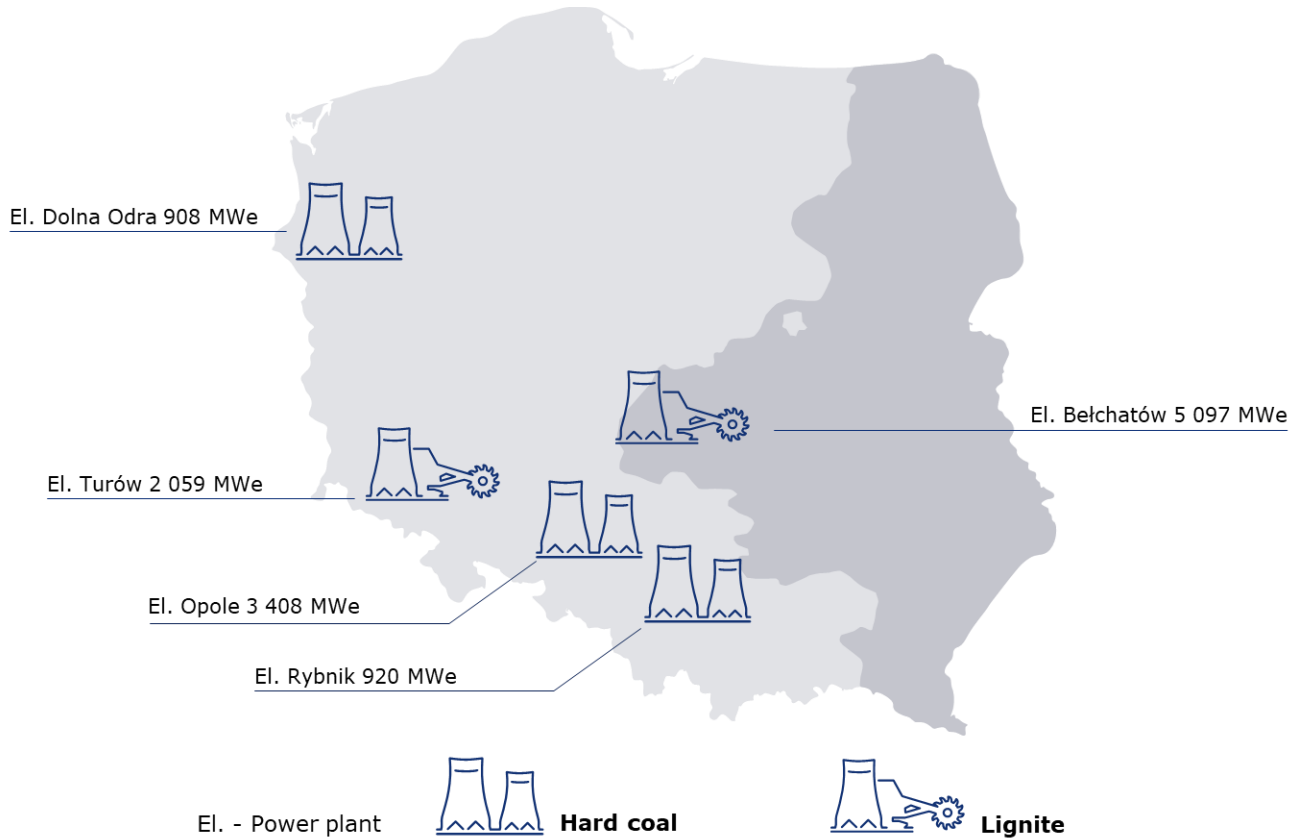


Table: Electricity production (TWh).

Main fuel types	H1 2024	H1 2023	% change
Hard coal	6.29	6.61	-5%
Lignite	14.99	14.82	1%
Biomass	0.02	0.00	-
<b>Total</b>	<b>21.30</b>	<b>21.43</b>	<b>-1%</b>

Table: Heat production (PJ).

Main fuel types	H1 2024	H1 2023	% change
Hard coal	1.29	1.40	-8%
Lignite	0.35	0.36	-3%
<b>Total</b>	<b>1.64</b>	<b>1.76</b>	<b>-7%</b>

<sup>11</sup> Own calculations based on data from Central Statistical Office of Poland.

<sup>12</sup> Own calculations based on data from PSE S.A.

**KEY FINANCIAL FIGURES IN THE SEGMENT**

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



Change	EBITDA H1 2023	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>	Costs of ZHZW <sup>2</sup>	Personnel costs <sup>3</sup>	Other <sup>4</sup>	EBITDA H1 2024
<b>Change</b>		<b>-106</b>	<b>-7 111</b>	<b>-881</b>	<b>3 188</b>	<b>1 556</b>	<b>1 286</b>	<b>240</b>	<b>-177</b>	<b>-42</b>	
Reported EBITDA H1 2023	<b>1 013</b>										
One-offs H1 2023	<b>-359</b>										
Recurring EBITDA H1 2023	<b>1 372</b>	19 549		2 309	3 186	3 454	10 405	712	1 685	1 044	
Recurring EBITDA H1 2024		12 332		1 428	-2	1 898	9 119	472	1 862	1 086	<b>-675</b>
One-offs H1 2024											<b>403</b>
Reported EBITDA H1 2024											<b>-272</b>

<sup>1</sup> Managerial perspective.

<sup>2</sup> ZHZW – agreement for Commercial Management of Generation Capacities.

<sup>3</sup> Personnel costs without impact of the change in actuarial provision (one-off).

<sup>4</sup> Item Other without impact of the change in reclamation provision (one-off).

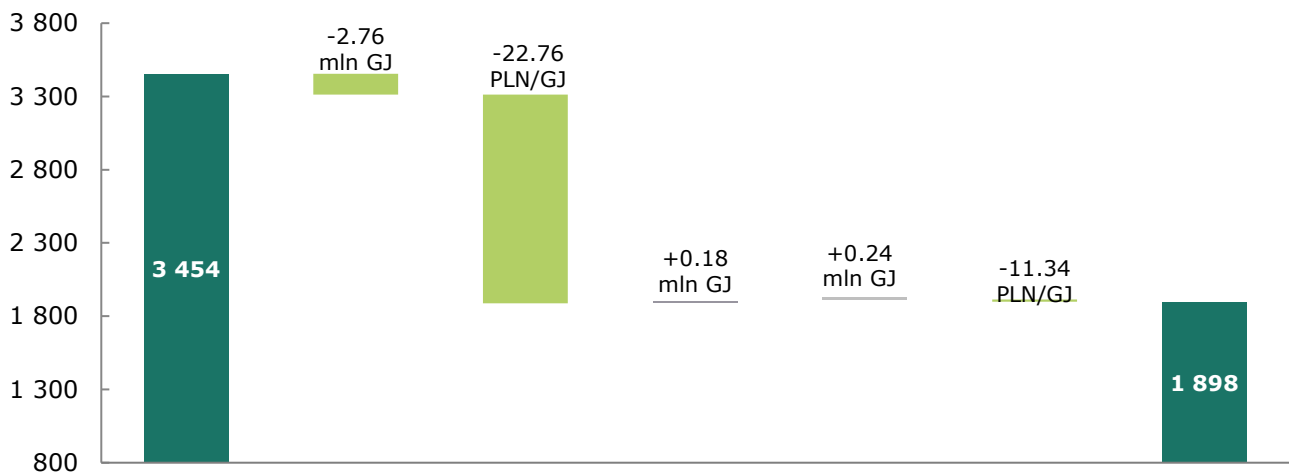
Table: Data on one-offs in the Conventional Generation segment (PLN million).

One-offs	H1 2024	H1 2023	% change
Change in reclamation provision	389	-334	-
Change in actuarial provision	14	-25	-
<b>Total</b>	<b>403</b>	<b>-359</b>	-

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

- **Decrease in revenues from the sale of electricity**, which results from: lower average selling price of electricity by PLN 342/MWh y/y, which translated into a decrease in revenues by approx. PLN 7 111 million; lower sales volume by 0.1 TWh, which resulted in a decrease in revenues by approx. PLN 106 million.
- **Lower revenues from ancillary services**, mainly as a result of the high 2023 base, i.e. revenues from settlements with the TSO due to the reallocation of electricity production between PGE GiEK branches within the Balancing Market and **lower result obtained from the Capacity Market**, as a result of the lower Capacity Obligation volume offset by the growth of average price and as a result of the lower share of units of PGE GiEK S.A. in total of dispatchable capacities of PGE Group.
- **Lack of contribution to PDP Fund**, which occurred in 2023.
- **Lower fuel consumption costs**, mainly hard coal as a result of the lower price of this fuel (by PLN 22.8/GJ) and lower consumption of this fuel due to lower electricity production. Main changes on different types of fuel are presented in the chart below.
- **Lower CO<sub>2</sub> costs** as a result of lower average cost of CO<sub>2</sub> by PLN 50.4/t and lower CO<sub>2</sub> emissions as a result of lower electricity production. Main changes are shown in the chart below.
- **Lower ZHZW costs** results mainly from lower average price of electricity.
- **Higher personnel costs** 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).



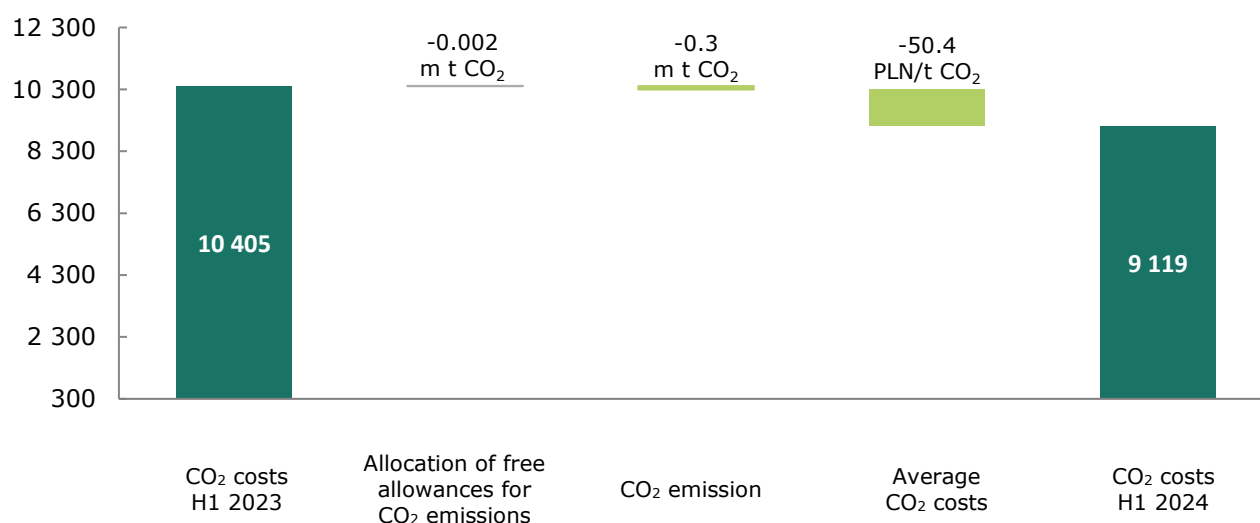
Change	-142	-1 425	8	18	-15	
Cost of fuels H1 2023	3 454	3 363	0	91		
Cost of fuels H1 2024		1 796	8	94		1 898

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

Fuel type	H1 2024		H1 2023	
	Volume (tons ths)	Cost (PLN million)	Volume (tons ths)	Cost (PLN million)
Hard coal	2 807	1 796	2 931	3 363
Biomass	11	8	0	0
Fuel oil – light and heavy	35	94	29	91
<b>Total</b>		<b>1 898</b>		<b>3 454</b>



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



Change	1	-111	-1 176
CO <sub>2</sub> costs H1 2023	<b>10 405</b>		
CO <sub>2</sub> costs H1 2024			<b>9 119</b>

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

Data on CO <sub>2</sub>	H1 2024	H1 2023	% change
Allocation of free allowances for CO <sub>2</sub> emissions (tons)	29 877	31 379	-5%
CO <sub>2</sub> emission (tons)	23 357 593	23 609 209	-1%
Average CO <sub>2</sub> costs (PLN/t CO <sub>2</sub> )	390.9	441.3	-11%

### CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Conventional Generation segment

PLN million	H1 2024	H1 2023	% change
Investments in generating capacities, including:	370	394	-6%
▪ Development	4	6	-33%
▪ Modernisation and replacement	366	388	-6 %
Other	30	37	-19%
<b>Total</b>	<b>400</b>	<b>431</b>	<b>-7%</b>

### KEY EVENTS IN CONVENTIONAL GENERATION

- As part of the construction of the start-up station at the **Dolna Odra Power Plant**, on January 17, 2024, the acceptance procedure for stage 8, i.e. "The performance of assembly works on the auxiliary installations", was performed. On March 27, 2024, stages 9 and 10, i.e. "The performance of assembly works in the field of electricity, as well as control and measurement instrumentation and automation" and "The performance of other assembly works" were officially accepted. In addition, two Annexes (nos. 3 and 4) were signed concerning changes to the scope of additional works, the completion date from February 13, 2024 to April 6, 2024 and the value of the contract to a final amount of PLN 40 million. On April 17, 2024, the regulatory movement and measurements of the guaranteed parameters were completed, while in May 2024 a shutdown test of all units and restart from the generator was carried out successfully. On June 27, 2024, an updated Integrated Permit was obtained and became effective in July 2024. On August 7, 2024, the Commission of Acceptance accepted the investment and the start-up station was commissioned. Administrative procedures are currently underway to obtain a heat generation licence.

- A hydrostatic leakage test of the ZOM1 tank was carried out successfully in January 2024 as part of the task called The construction of a steam generator at the **Rybnik Power Plant**. A pressure test of the steam pipelines was carried out on 28 February 2024. Furthermore, annex no. 1 to the contract with the company Energopomiar sp. z o.o. for the performance of guarantee measurements was signed in February 2024. On March 29, 2024, the parties signed a takeover and commissioning report together with a list of non-limiting defects. In April 2024, the new Integrated Permit with the generator emitter became valid. In May 2024, the required acceptance tests were completed and the equipment was registered with the Office of Technical Inspection. On July 12, 2024, the operating permit was obtained and the Commissioning Protocol was signed.
- On February 19, 2024, the law firm representing PGE GiEK S.A. received a letter from the court extending the withholding of further proceedings and again obliging the Project Owner to present, by May 14, 2024, information on the effects of mediation between PGE GiEK S.A. and the Contractors of unit no. 7 at the **Turów Power Plant**. On April 30, 2024, a law firm, acting on behalf of PGE GiEK S.A., filed a document with the Regional Court in Łódź requesting further suspension of the case until August 14, 2024.

The above resulted from a lawsuit filed with the court on October 24, 2023 against the Contractor, related to the possibility of using the performance bond or receiving the payment of damages of PLN 200 million, due to taking incorrect and insufficient actions to repair the main defects during the warranty period, in particular those related to the replacement of lignite mills, increased CO<sub>2</sub> emissions and erosion of flue gas water heaters.

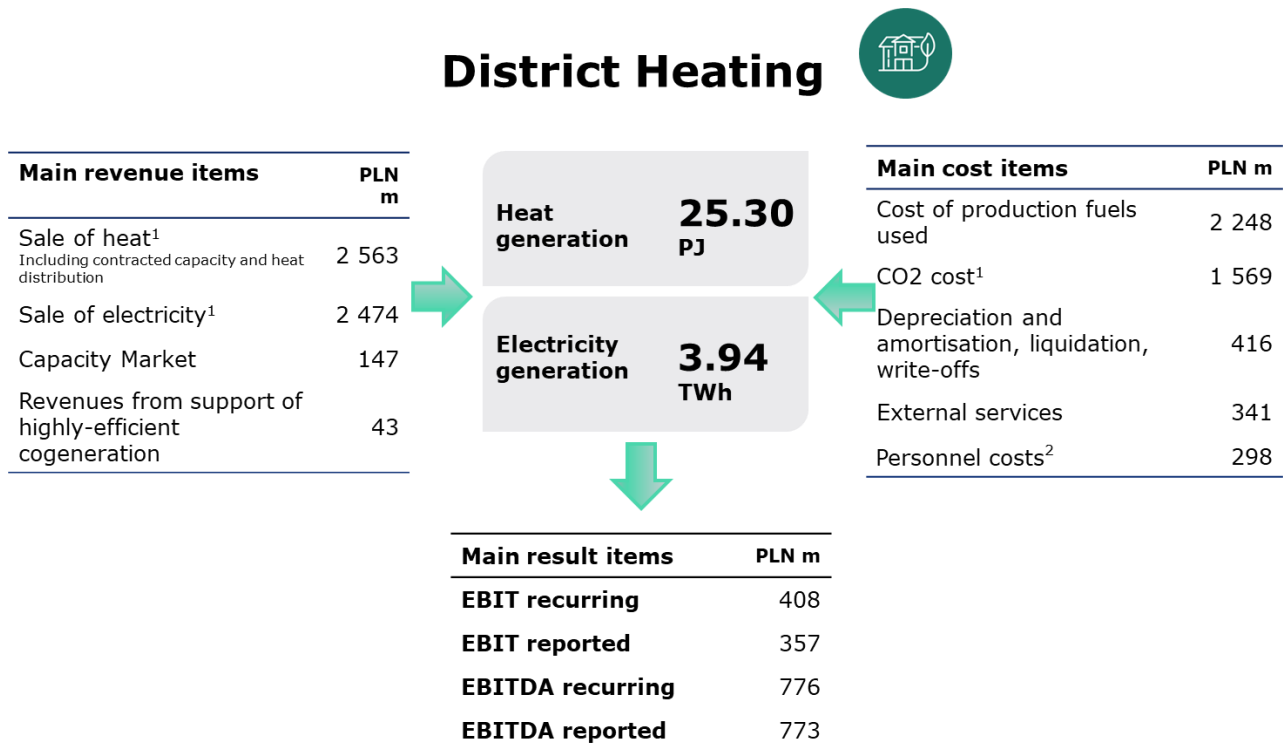
The settlement proposal approved by the Management Board of PGE GiEK S.A. was submitted on May 15, 2024 to mediators from the Court of Arbitration at the General Prosecutor's Office of the Republic of Poland.

The contracting authority rejected the Contractor's submitted negotiating proposal, which undertook to submit a new tender that included, among other things, the scope of work that the Contractor would undertake to carry out at its own expense to rectify the defects in the unit.

On June 21, 2024, the Ordering Party delivered to the bank requests for payment of amounts under the Performance Guarantee and the Advance Repayment Guarantee, after which payments to Turów Power Plant were made.

### 4.3.5 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

<sup>2</sup> Adjusted for one-offs

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 cogeneration units) in the previous calendar year. The cost approach is applied in the case of tariffs for heat distribution, which allows to cover justified costs (mainly the costs of heat losses and property tax) and a return on invested capital, in line with guidelines from the ERO President. Distribution tariffs for heat are in place at branches in Gorzów and Zgierz, as well as by KOGENERACJA S.A., PGE Toruń and Zielona Góra CHP.

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

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 co-generation, which is an additional source of revenues that decisively affects the CHP plant's profitability.

Under the provisions of the Emergency Measures in 2023 Act, electricity generating entities were required to make a **contribution to the Price Difference Payment Fund**.

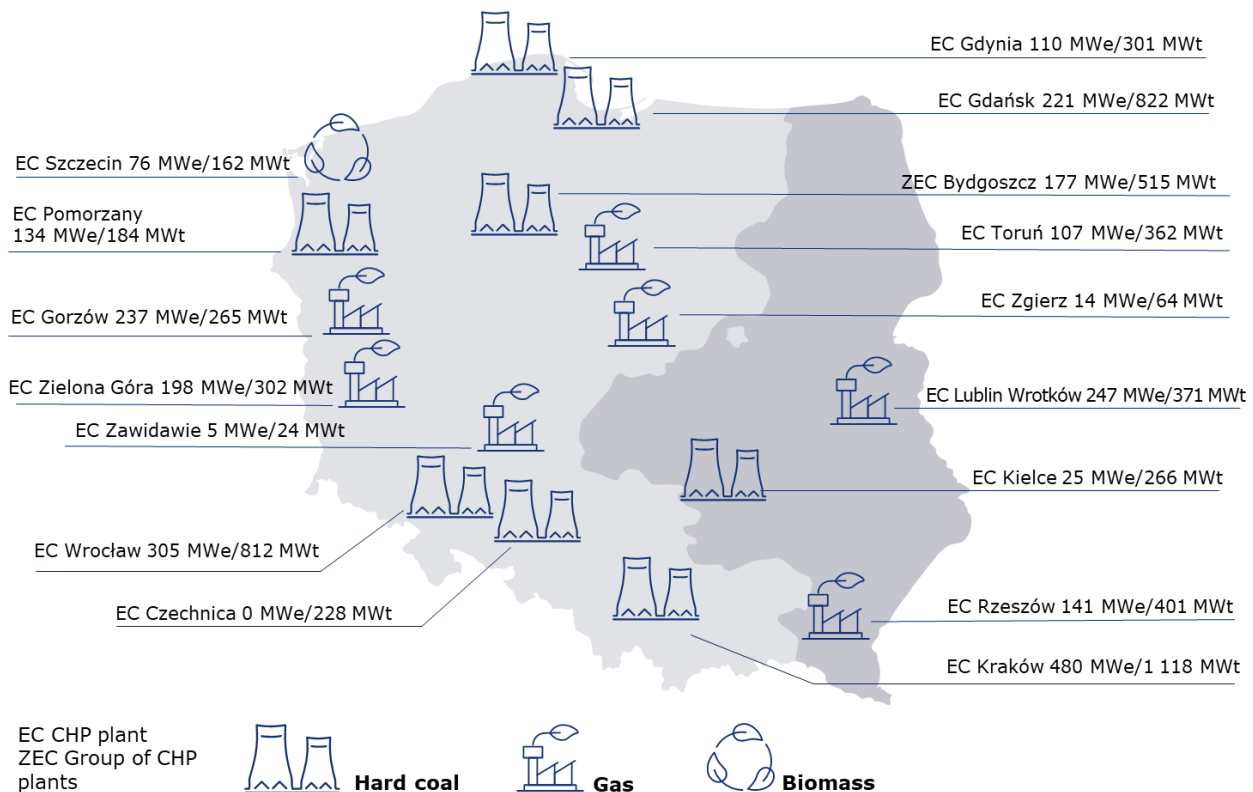
**ASSETS**

The following companies are included in the segment: PGE Energia Ciepła S.A., KOGENERACJA S.A., EC Zielona Góra S.A., PGE Toruń S.A., MEGAZEC sp. z o.o. 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.

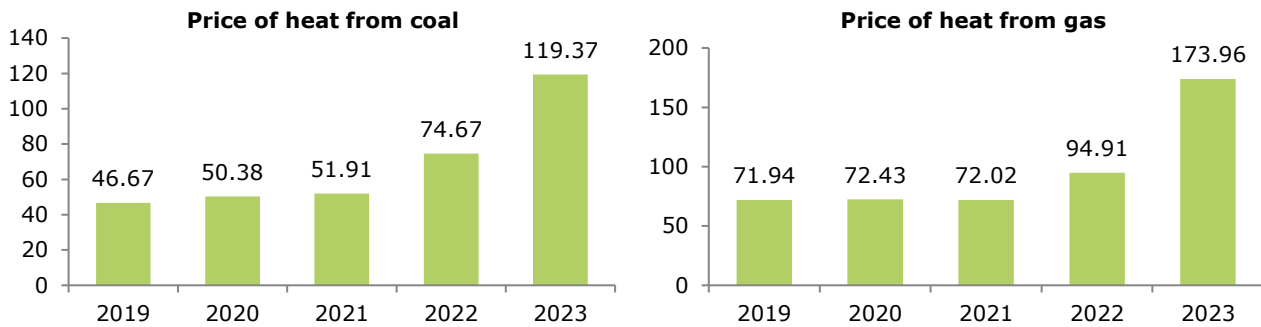
Diagram: Main assets of the District Heating segment and their installed capacity.



**TARIFFS IN DISTRICT HEATING**

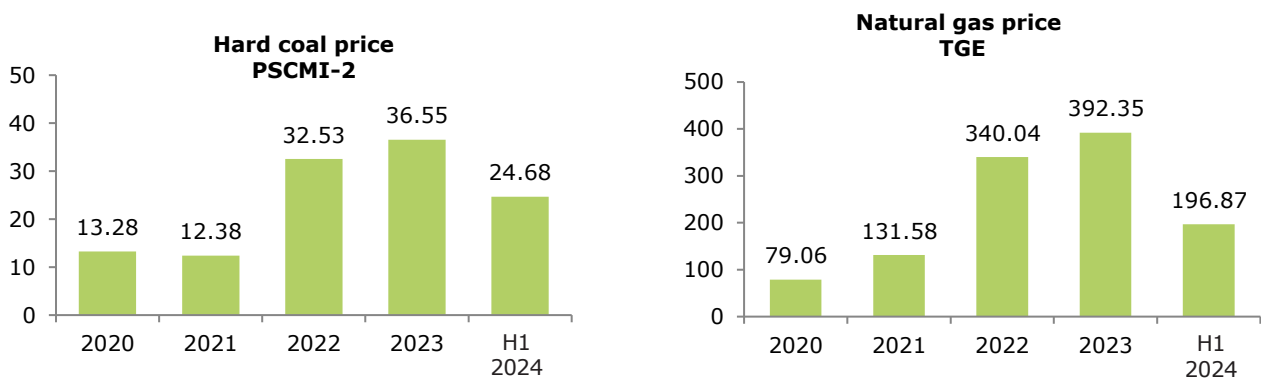
Due to the fact that the income on heat sales for CHP plant are tariffed as part of the so-called simplified method, they are characterised by a relative delay in the transfer of costs (annual or two-year). They are based on the year-to-year dynamics of average costs (including fuels used) incurred by 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).



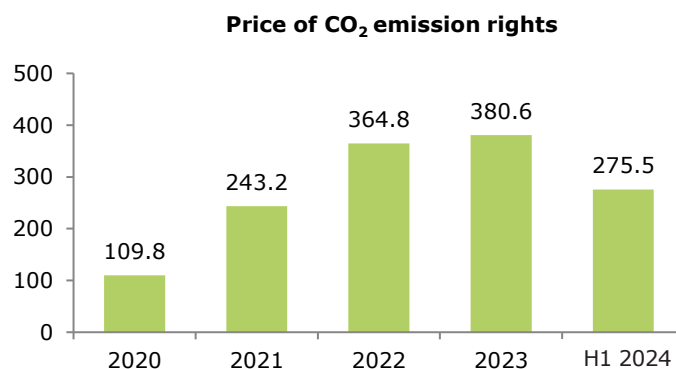
Source: ERO.

Wykresy: Zmiany kosztów paliw – węgla kamiennego (PLN/GJ) – PSCMI-2<sup>13</sup> i gazu (PLN/MWh) - TGE.



Source: ARP, TGE.

Chart: Changes in price of CO<sub>2</sub> emission rights<sup>14</sup> (PLN/t).



Source: ICE.

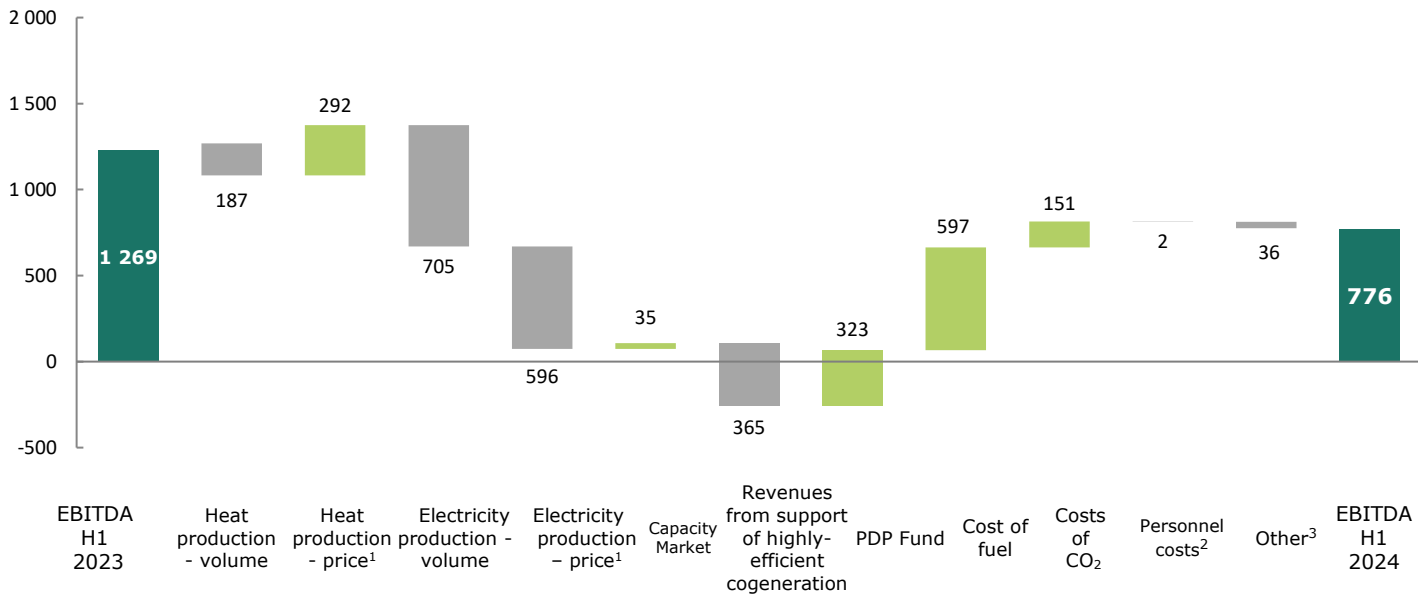
Reflecting previous cost increases, the reference price of heat produced from hard coal increased by 60% in 2023. It is a base to the increase in heat prices for co-generation entities establishing the tariff during 2024. In 2024 the average market price of coal decreased by 32%, while the average price of CO<sub>2</sub> emission rights decreased by 28% in comparison to 2023.

Tariffs for the production of heat from gas in 2024 are set based on an change in the reference price, whereas in 2024 gas prices are lower than in previous periods. Prices of gas in TGE forward contracts stood at approx. PLN 197/MWh (i.e. decrease by 50%).

<sup>13</sup> PSCMI-2 Polish Steam Coal Market Index 2 - the average prices for pulverised coals sold on the domestic heating market.

<sup>14</sup> Arithmetic average of the daily and monthly records in a given period (spot price).

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



Change	-187	292	-705	-596	35	-365	323	597	151	-2	-36	
Reported EBITDA H1 2023	<b>1 228</b>											
One-offs H1 2023	<b>-41</b>											
Recurring EBITDA H1 2023	<b>1 269</b>											
Recurring EBITDA H1 2024	2 458		3 775		112	408	307	2 845	1 720	296	316	
One-offs H1 2024	2 563		2 474		147	43	-16	2 248	1 569	298	352	<b>776</b>
Reported EBITDA H1 2024	<b>773</b>											

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

<sup>2</sup> Personnel costs without taking into account of change in the actuarial provision (one-off).

<sup>3</sup> Item Other without taking into account the impact of changes in the LTC compensations and change in the reclamation provision (one-offs).

Table: Data on one-offs in District Heating (PLN million).

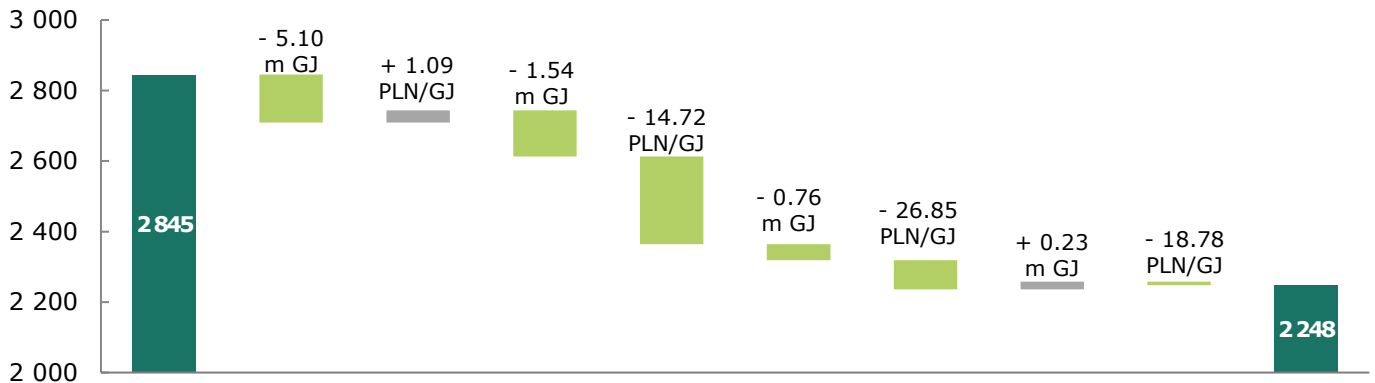
One-offs	H1 2024	H1 2023	% change
Change in the reclamation provision	3	-8	-
Change in the actuarial provision	1	-2	-
LTC compensations	-7	-31	-77%
<b>Total</b>	<b>-3</b>	<b>-41</b>	<b>-93%</b>

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

- **Lower volume of net heat production** in the first half of 2024 y/y is a result of higher outside temperatures compared to analogical period of 2023. The average temperatures were by 1.0° C higher, what translated into decreased heat production (by 2.1 PJ).
- **Increase of heat sale price** is a result of increased tariffs for heat for the CHP plants in the second half of 2023 following the publication by the ERO of reference prices for heat production in units not being cogeneration units.
- **Decrease in revenues from the sale of electricity**, which results from: lower average selling price of electricity by PLN 151/MWh y/y, which translated into a decrease in revenues by approx. PLN 596 million; lower sales volume by 0.9 TWh, which resulted in a decrease in revenues by approx. PLN 705 million.
- **Higher revenues from Capacity Market**, due to the higher volume of dispatch capacity.
- **Lower revenues due to support for high-efficiency cogeneration** due to the granting of a lower individual cogeneration bonus for gas-fired units.

- **Lack of contribution to PDP Fund**, which occurred in 2023. In 2024, the final settlement of the contribution took place.
- **Lower fuel consumption costs** which are caused by lower prices of natural gas. The details are shown in the chart below.
- **Lower CO<sub>2</sub> costs** are mainly a result of lower volume of emissions. The details are shown in the chart below.
- **Higher level of personnel costs** mainly in connection with realization of agreements with the social party.

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

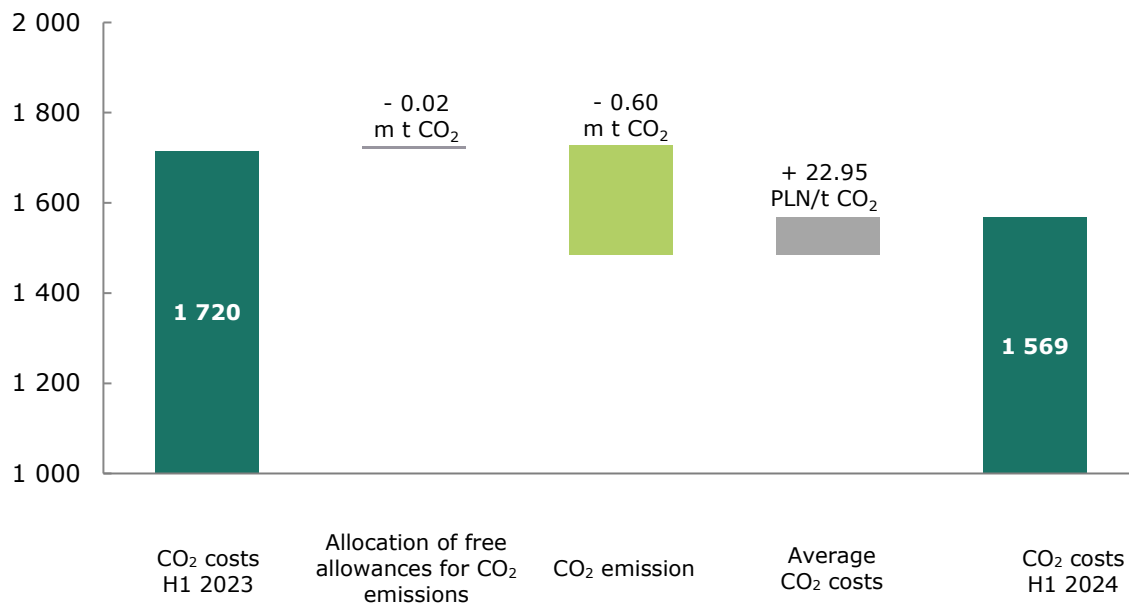


	Costs of fuel H1 2023	Hard coal volume	Hard coal price	Gas volume	Gas price	Biomass volume	Biomass price	Fuel oil and other raw materials volume	Fuel oil and other raw materials price	Costs of fuel H1 2024
<b>Change</b>		<b>-136</b>	<b>35</b>	<b>-131</b>	<b>-249</b>	<b>-45</b>	<b>-83</b>	<b>22</b>	<b>-10</b>	
Costs of fuel H1 2023	<b>2 845</b>	994		1 578		229		44		
Costs of fuel H1 2024		893		1 198		101		56		<b>2 248</b>

Table: Data on production fuels consumption in District Heating.

Fuel type	H1 2024		H1 2023	
	Volume (tons ths)	Cost (PLN million)	Volume (tons ths)	Cost (PLN million)
Hard coal	1 436	893	1 691	994
Gas (cubic metres ths)	561 200	1 198	612 357	1 578
Biomass	359	101	428	229
Fuel oil and other raw materials	-	56	-	44
<b>Total</b>		<b>2 248</b>		<b>2 845</b>

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



Change	6	-242	85
CO <sub>2</sub> costs H1 2023	<b>1 720</b>		
CO <sub>2</sub> costs H1 2024	<b>1 569</b>		

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

Data on CO <sub>2</sub>	H1 2024	H1 2023	% change
Allocation of free allowances for CO <sub>2</sub> emissions (tons)	320 232	335 742	-5%
CO <sub>2</sub> emission (tons)	3 981 597	4 578 966	-13%
Average CO <sub>2</sub> costs (PLN/t CO <sub>2</sub> ) <sup>1</sup>	428.40	405.45	6%

<sup>1</sup> Managerial perspective.

### CAPITAL EXPENDITURES

Table: Capital expenditures incurred in District Heating segment.

PLN million	H1 2024	H1 2023	% change
Investments in generating capacities, including:	609	570	7%
▪ Development	478	482	-1%
▪ Modernisation and replacement	131	88	49%
Other	4	24	-83%
<b>Total</b>	<b>613</b>	<b>594</b>	<b>3%</b>

### 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 water boiler plant, which was commissioned on November 16, 2023, operates as a part of the district heating system of Siechnice and Wrocław. As far as the unit is concerned, in the first half of 2024, the installation works were focused on the cabling of the electrical, automation and instrumentation systems. In addition, the commissioning procedures for a cold initiation of the start-up system continued. The contractual deadline for completing the investment is the second quarter of 2024, but mediation is currently underway in this regard at the Arbitration Court at the General Prosecutor's Office of the Republic of Poland.



- The works on **peak-reserve boiler** construction projects with a total capacity of 430 MWt were continued at the CHP plants in **Gorzów Wielkopolski, Lublin and Rzeszów**. In February 2024, the start-up phase was completed at the Gorzów CHP Plant, while the boiler plant with a capacity of 62 MWt was commissioned on March 15, 2024. The boiler plant at Rzeszów CHP plant consisting of six gas boilers with a total capacity of 186 MWt was commissioned on April 30, 2024. At Lublin CHP plant, a boiler plant consisting of four gas boilers and five gas-oil boilers with a total capacity of 182 MWt is under construction. Assembly work has been completed and the project is at the stage of commissioning work.
- 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. During the first half of 2024, installation works were carried out on the main equipment and auxiliary installations, including, among other things, the installation of a turbine unit and chimney. Commissioning is planned for the first quarter of 2025.
- At **Bydgoszcz CHP plant** (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 half of 2024 all generating units were delivered, including, among others, cogeneration units, and construction works on the engine house were being continued. A commissioning procedure is planned for the first quarter of 2025.
- At **Kielce CHP plant** the start-up and regulation run of the cogeneration system was carried out based on a 7.32 MWe and 12.42 MWt gas turbine with a recovery boiler took place in the first half of 2024. The plant was commissioned in August 2024.
- PGE Energia Ciepła S.A. began the implementation phase of the programme for **the construction of photovoltaic power plants** to meet part of particular facilities' own needs at selected locations. The programme includes the construction of PV installations with a total capacity of approximately 13 MW and is being carried out in eight locations. In the first half of 2024, projects under construction included: PV Rzeszów I and II, PV Kielce, PV Zgierz and PV Lublin with a total capacity of approximately 4 MW. Simultaneously, the required administrative decisions are being obtained and tenders are being conducted for the selection of general contractors for the remaining sites.
- Design work is underway at **Gdynia CHP plant** for the construction of new generation sources - gas engines of up to 50 MWe and a 30 MWt biomass boiler. Construction work is scheduled to start in the fourth quarter of 2024 (engine scope) and in the first quarter of 2025 (biomass boiler scope).

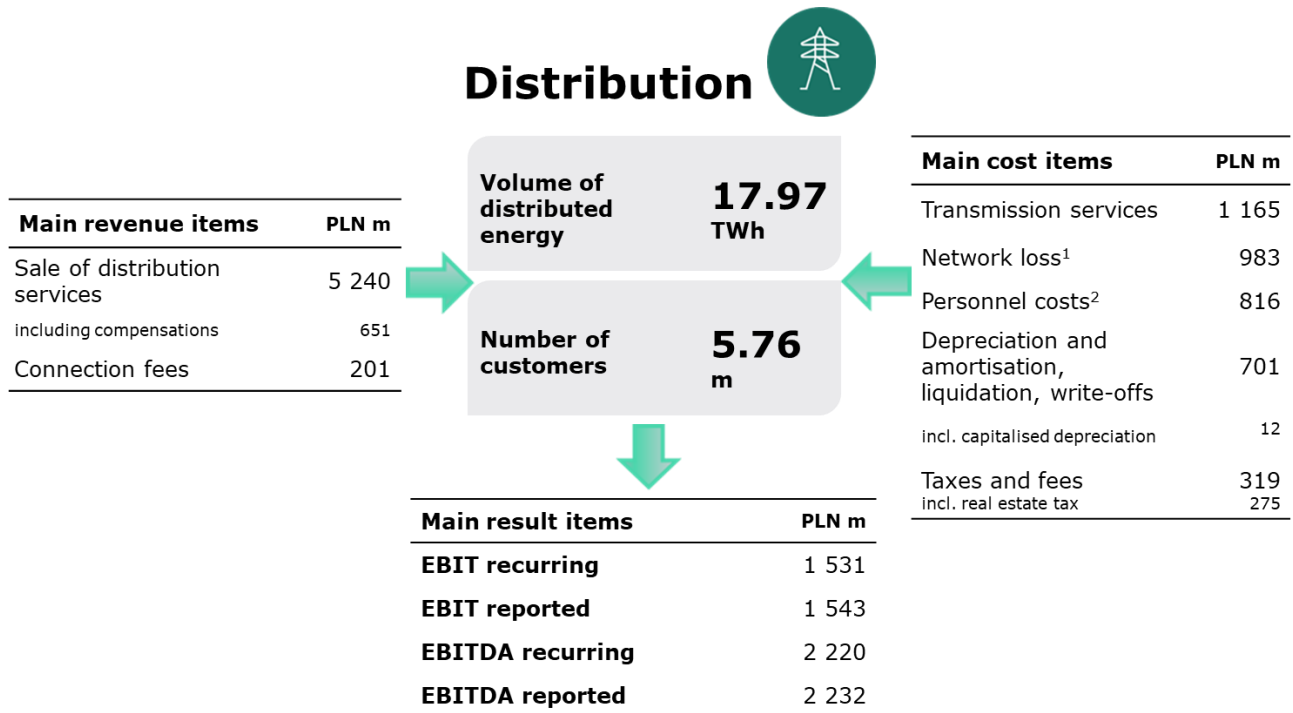
#### KEY PROJECT IN DISTRICT HEATING

Aim of the project	Budget <sup>1</sup>	Expenditures incurred <sup>1</sup>	Capital expenditures in H1 2024 <sup>1</sup>	Fuel/ Net efficiency	Contractor	Investment completion date
Construction of New Czechnica CHP Plant	PLN 1.2 bn	approx. PLN 1 bn	PLN 64 m	Natural gas/ 85% in cogeneration	Syndicate of: Polimex Mostostal S.A. (Leader) / Polimex Energetyka sp. z o.o.	Contractual date: Q2 2024 (mediation in progress)

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

### 4.3.6 Distribution

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



<sup>1</sup> Managerial perspective

<sup>2</sup> Adjusted for one-offs

**Segment revenue is based on a tariff for electricity distribution services**, which is approved by the ERO President every year at company request what means that it is regulated. The tariff takes into account reasonable operating costs related to the distribution system operator's activities, depreciation costs, costs of taxes on distribution assets, costs related to the necessity to cover network 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.

The key element shaping the Distribution segment's result is **return on company's invested capital**. For this purpose, the so-called Regulatory Asset Base (RAB) is determined and calculated on the basis of incurred investment costs including depreciation of assets. The RAB is the basis for calculating the return on capital employed, using the weighted average cost of capital (WACC), which is determined by the ERO President in the tariff process. It is within the competence of the ERO President to differentiate the remuneration from capital employed, taking into account the prioritisation of the DSO's development objectives, so that priority investment projects can be remunerated using an additional reinvestment bonus mechanism. 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 and connection time for years 2018-2025.

As part of the government's Solidarity Shield, a package of laws was adopted in 2022 to protect consumers, including with respect to the pricing of electricity distribution services. Under its terms, for some eligible customers, within certain limits, the prices of electricity distribution services in 2023 were frozen at the 2022 price level, which was in force until the end of June 2024. As a result of the entry into force of the Energy Voucher Act from July 1, 2024, prices for electricity distribution services have been unfrozen, with the result that rates from the current tariff apply. DSOs are entitled to compensation to cover the application of reduced prices for distribution services. The compensation constitutes the difference between the amount of charges billed for electricity distribution services resulting from the 2023 tariff rates for electricity distribution services and the amount of charges billed for electricity distribution services resulting from the 2022 tariff rates for electricity distribution services up to the maximum limit. The entity responsible for the payment of compensation is the company Zarządca Rozliczeń S.A. As a result of the entry into force of the Energy Voucher Act from July 1, 2024 the settlement deadline for compensation for 2023 was also postponed from June 30, 2024 to October 31, 2024.

### AREA, VOLUME, CUSTOMERS

PGE Dystrybucja S.A. operates in the area<sup>15</sup> of 129 938 sq. km and delivers electricity to approximately 5.8 million customers.

Diagram: Area of PGE distribution grid.



■ PGE's distribution network area

Table: Volume of distributed energy (TWh)

Tariff	H1 2024	H1 2023	% change
A tariff group	2.53	2.45	3%
B tariff group	7.01	6.90	2%
C+R tariff groups	3.15	3.16	0%
G tariff group	5.28	5.31	-1%
<b>Total</b>	<b>17.97</b>	<b>17.82</b>	<b>1%</b>

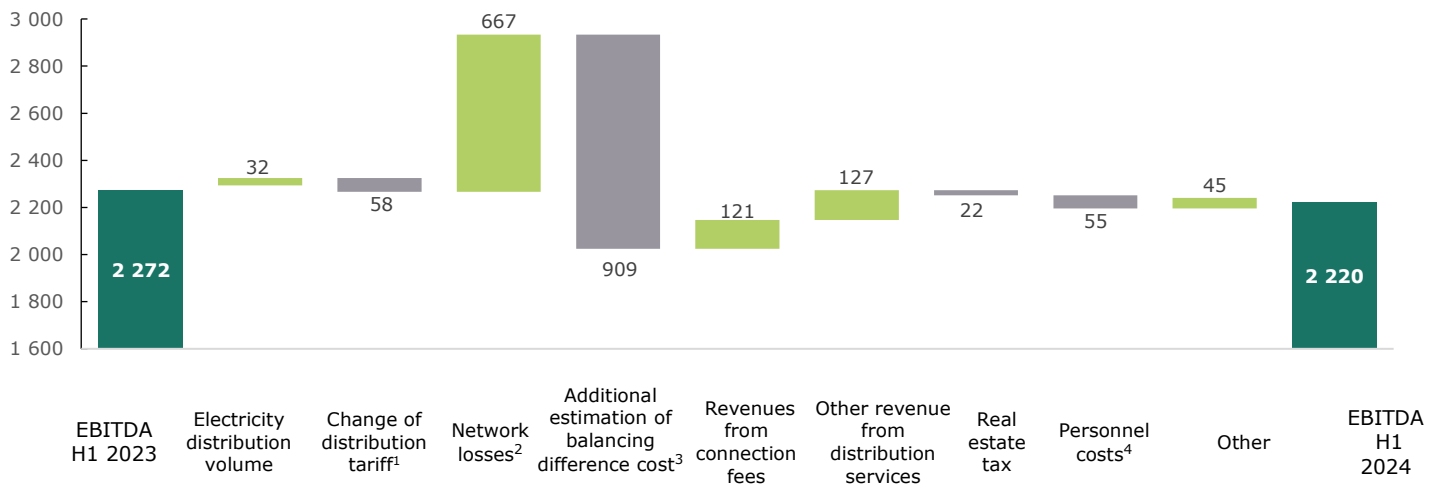
Table: Number of customers according to power take-off points.

Tariff	H1 2024	H1 2023	% change
A tariff group	157	140	12%
B tariff group	14 357	13 718	5%
C+R tariff groups	475 047	475 967	0%
G tariff group	5 270 420	5 202 166	1%
<b>Total</b>	<b>5 759 981</b>	<b>5 691 991</b>	<b>1%</b>

<sup>15</sup> The area of municipalities in which PGE Dystrybucja S.A. operates.

## KEY FACTORS FOR THE RESULTS OF THE SEGMENT

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



Change	Electricity distribution volume	Change of distribution tariff <sup>1</sup>	Network losses <sup>2</sup>	Additional estimation of balancing difference cost <sup>3</sup>	Revenues from connection fees	Other revenue from distribution services	Real estate tax	Personnel costs <sup>4</sup>	Other	EBITDA H1 2024
Reported EBITDA H1 2023										2 251
One-offs H1 2023										-21
Recurring EBITDA H1 2023	3 793		1 245	-504	80	180	253	761	-26	
Recurring EBITDA H1 2024	3 767		578	405	201	307	275	816	19	
One-offs H1 2024										12
Reported EBITDA H1 2024										2 232

<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 neutral for PGE Capital Group.

<sup>4</sup> Personnel costs without impact of the change in the actuarial provision (one-off).

Table: Data on one-offs in Distribution segment (PLN million).

One-offs	H1 2024	H1 2023	% change
Change in actuarial provision	12	-21	-
<b>Razem</b>	<b>12</b>	<b>-21</b>	<b>-</b>

Key factors affecting results of Distribution segment y/y:

- **An increase in the volume of distributed** electricity by 0.15 TWh, resulting mainly from higher demand for electricity from households and high- and medium-voltage consumers. Additionally, there was an increase in the number of energy consumption points by 68.0 thousand, mainly in households tariff (+68.3 thousand) offset by the decrease in the tariff of small-sized businesses and farms (- 1.0 thousand).
- **Decrease in rates in tariff for 2024** taking into account the provisions of the Act on Emergency Measures in 2024 - by an average of PLN 3.23/MWh compared to the tariff for the previous year.
- **Lower costs of electricity purchases** to cover network losses mainly as a result of significant drop in electricity prices.
- **Negative impact of the additional estimation of the cost of the balancing difference** as a result of changes in electricity prices. The additional estimation has a neutral impact on the results of the PGE Capital Group.

- **Increase in connection fee revenue** as a result of large connection projects and early completion of investment work.
- **Increase in other revenue from distribution services** mainly due to reactive power fees.
- **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 investments and expansion of the power grid.
- **Increase in personnel costs** mainly due to realisation of agreements concluded with the social party.
- **Value change in item Other**, resulting mainly from increased capitalised costs, partially offset by higher repair and operating costs.

#### CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Distribution segment.

PLN million	H1 2024	H1 2023	% change
Investments in generating capacities, including:	1 909	1 848	3%
▪ Development	889	798	11%
▪ Modernisation and replacement	1 020	1 050	-3%
Other	0	1	-100%
<b>Total</b>	<b>1 909</b>	<b>1 849</b>	<b>3%</b>

#### KEY EVENTS IN DISTRIBUTION

##### ▪ **Connecting new customers**

The Customer Connection Program to the distribution network was implemented, under which in the first half of 2024 expenditures were incurred in the amount of PLN 806 million.

##### ▪ **Program LTE450**

The objective of the Programme is the construction of a modern Special Communications Network in the LTE450 technology for the provision of services such as critical communication, control of energy infrastructure and remote reading for PGE Dystrybucja S.A. The entity responsible for the execution of this task within the PGE Capital Group is PGE Systemy S.A.

In the first quarter of 2024, according to contractual schedules, implementation works were carried out in the main streams of the Programme, comprising further components of the CORE network, the RAN radio network. Installation work at the Processing Centres has been completed. The application layer was installed and the development of test scenarios began. In another project related to the tele-transmission part, network equipment was installed and implementation work continued according to the schedule from the contract.

At the same time, the upgrading of own facilities (the first phase of the telecommunications towers required for the foundation of the radio elements of the RAN system) continued and the bulk of the upgraded facilities were taken over. The tender for phase two (of three planned) has been completed.

The final selection of the Contracting Authority in two public tenders for the purchase of Power Systems and for the lease of space on commercial operators' towers to complement the backbone of the LTE450 network under construction has been published.

The input documents to the National Recovery Plan proposal for co-financing the implementation of LTE450 were updated.

The launch of the LTE450 service is planned for the fourth quarter of 2024 and the full coverage of the PGE Dystrybucja S.A. operating area by the end of 2025.

##### ▪ **Cabling program**

In the first half of 2024 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 224 million.

4 406 kms of MV cable lines were completed from the start of the Program in 2019 what constitutes 25% of the MV grid.

#### ■ **Installation program for Remote Reading Meters**

This project implementation is mandatory and results from the requirements imposed on Distribution System Operators (DSO) by the legislator in the amended Energy Law. In the first half of 2024, the tasks with a value of PLN 316 million were realized in order to:

- supply of meters for end customers connected to the LV network and for MV/LN substations,
- modernisation of MV/LN substations with regard to ensuring the possibility of installing remote reading balancing meters,
- installation of meters at off-takers and at substations,
- selection of suppliers of remote reading meters for end off-takers for the years 2024 – 2025.

According to the provisions of the law, the DSO until December 31, 2028 is to install remote reading meters connected to a remote reading system at power take-off points, representing at least 80% of the total number of end-customer energy consumption points.

#### ■ **Implementation of central systems CRM and Billing (NCB Program)**

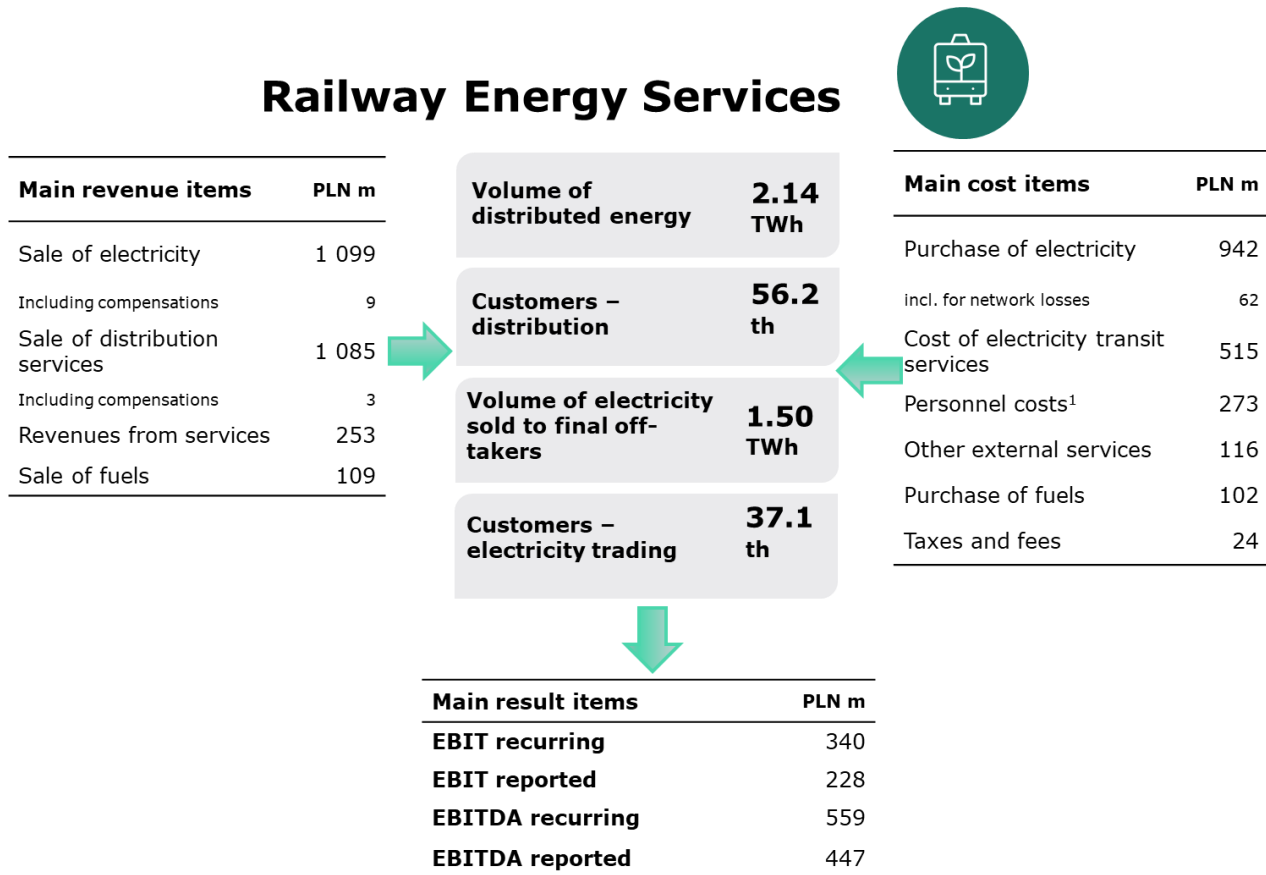
The aim of the NCB Program is the implementation of a comprehensive, central IT solution to support key business processes at PGE Group being performed by PGE Obrót S.A. and PGE Dystrybucja, consisting of two billing systems – separate for each of the companies – and a CRM system for PGE Obrót S.A. The entity responsible for the execution of this task within the PGE Capital Group is PGE Systemy S.A.

In the first half of 2024 implementation works of the pilot stage were continued, covering selected local billing systems. At the same time, as part of dedicated accompanying projects included in the Programme, works were carried out to ensure the necessary integration of the new solution with other components of the IT environment in the PGE Capital Group. In the stream dedicated to the adaptation of the PGE Capital Group's IT environment to the requirements of the Central Energy Market Information System (CSIRE) currently under construction, the implementation analysis phase for the communication module was completed. At the same time, the data for the initial charge was successively prepared and verified.

According to the current annexes to the executive contract, the start of the system within the pilot phase is planned for the third quarter of 2024, and the entire Program is scheduled to be completed in 2025.

### 4.3.7 Railway Energy Services

The segment include activities by the PGE Capital Group mainly in field of distribution and sale of electricity to railway operators and customers functioning within the railway system, the sale of fuels, as well as the maintenance and modernisation of overhead contact line network, together with other auxiliary services.



<sup>1</sup> Adjusted for one-offs

One of the primary sources of revenue in the Railway Energy Services segment is the **sale of electricity**. This revenue is derived from the supply of energy to railway operators and entities connected to the segment's distribution network. Rail operators are additionally the recipients of fuel sales services.

Another important source of revenue is the **revenue form the distribution of electricity**. Similarly to the Distribution segment, this revenue is subject to applicable regulations and based on a tariff approved by the ERO. In principle, this tariff ensures a transfer of reasonable costs and a return on the capital invested in the distribution network. The activities of the Railway Energy Services segment as a distribution network operator are limited to the areas along railway lines throughout the country.

The most significant cost items of the segment include the purchase of the distribution services, as well as the purchase of electricity and fuels for resale.

The scope of the Railway Energy Services segment's activities comprises works related to the maintenance of the overhead contact line network and the performance of local modernisation works on this network. The segment also provides power engineering services outside the ranges of the overhead contact line network, such as equipment maintenance, as well as the construction and maintenance of railway traffic control systems. In this type of activity, the most significant costs are **personnel costs**.

Additionally, on the basis of the provisions of the Act of December 7, 2023 amending the acts to support consumers of electricity, gas fuels and heat, the system of compensation for trading companies for the application of capped prices and discounts was extended until June 30, 2024. In addition, as a result of the Act of May 23, 2024 on the energy voucher and amendments to other acts, from July 1, 2024, maximum prices for households, SMEs and local authorities were introduced.

### VOLUMES, CUSTOMERS AND OPERATING DATA

The main part of the segment's assets consists of electricity distribution assets held by PGE Energetyka Kolejowa SA. Among other elements, these assets include 543 overhead contact line network substations supplying power to railway lines throughout the country. The total length of the company's network lines is 18.4 thousand kilometres. The network serves approximately 56 thousand customers.

Table: Volume of electricity sold to final off-takers (TWh).

Tariff	H1 2024	H1 2023 <sup>1</sup>	% change
B tariff group	1.42	0.68	109%
C+R tariff groups	0.06	0.03	100%
G tariff group	0.02	0.01	100%
<b>Total</b>	<b>1.50</b>	<b>0.72</b>	<b>108%</b>

Table: Number of retail sale customers by power take-off points.

Tariff	H1 2024	H1 2023 <sup>1</sup>	% change
B tariff group	293	310	-5%
C+R tariff groups	7 324	8 071	-9%
G tariff group	29 441	27 309	8%
<b>Total</b>	<b>37 058</b>	<b>35 690</b>	<b>4%</b>

Table: Volume of distributed electricity (TWh).

Tariff	H1 2024	H1 2023 <sup>1</sup>	% change
B tariff group	1.81	0.87	108%
C+R tariff groups	0.30	0.12	150%
G tariff group	0.03	0.01	200%
<b>Total</b>	<b>2.14</b>	<b>1.00</b>	<b>114%</b>

Table: Number of distribution customers by power take-off points.

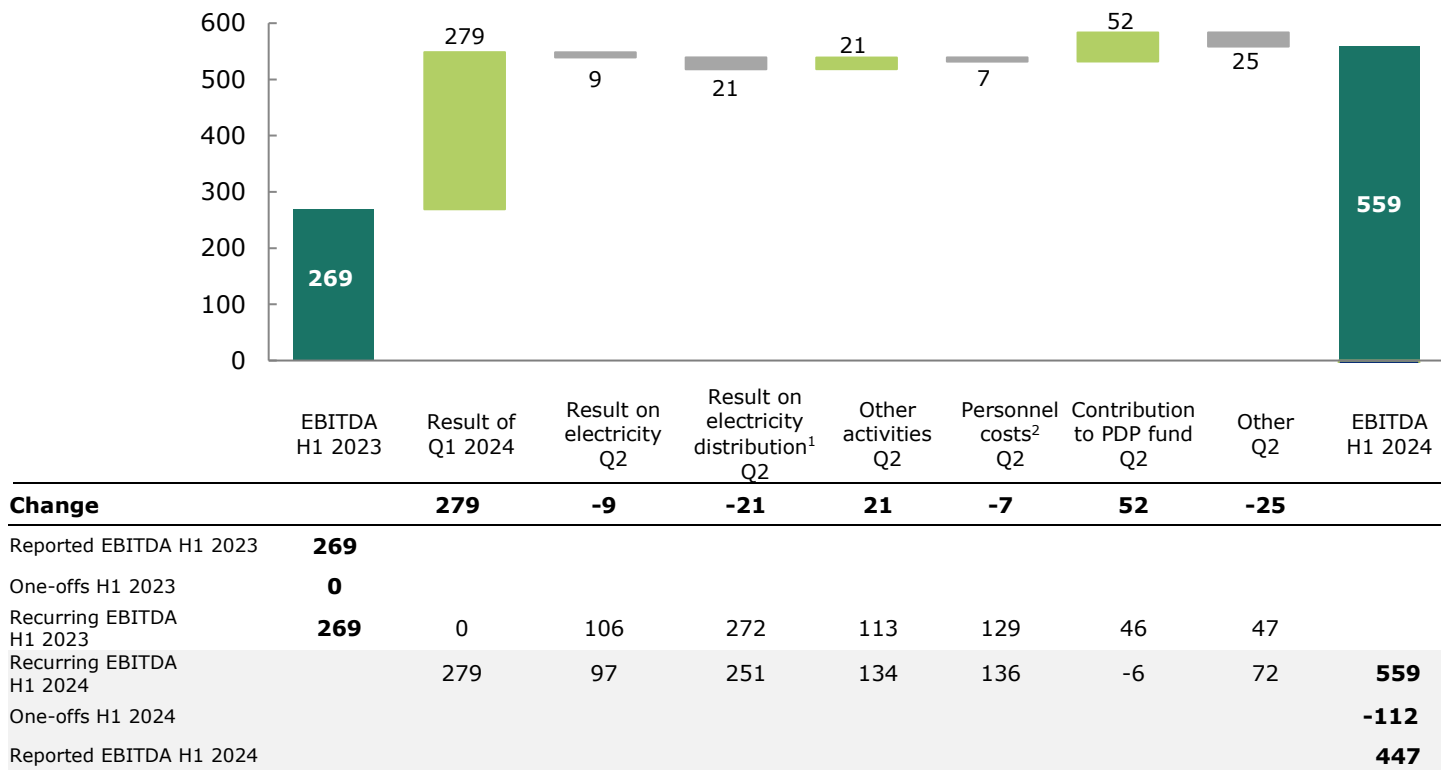
Tariff	H1 2024	H1 2023 <sup>1</sup>	% change
B tariff group	663	629	5%
C+R tariff groups	25 775	25 825	0%
G tariff group	29 734	27 561	8%
<b>Total</b>	<b>56 172</b>	<b>54 015</b>	<b>4%</b>

<sup>1</sup> Data for period April 3, 2023 - June 30, 2023.



### KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key changes of EBITDA in Railway Energy Services (in PLN million) – managerial perspective.



<sup>1</sup> Excluding the costs of transmission services from PSE S.A., including compensation revenues, connection revenues, resumption of supplies and adjusted for the cost of the balancing difference.

<sup>2</sup> Adjusted for one-offs

Table: Data on one-offs in Railway Energy Services segment (PLN million).

One-offs	H1 2024	H1 2023	% change
Recognition of write-down of receivables from PKP Cargo S.A.	-114	0	-
Change in actuarial provision	2	0	-
<b>Total</b>	<b>-112</b>	<b>0</b>	<b>-</b>

Key factors affecting results of Railway Energy Services segment y/y:

- **Result of the Q1 2024** in amount of PLN 279 million separated in connection with lack of comparable data in 2023 (acquisition from April 3, 2023), is a consequence of PLN 263 million result on electricity distribution, PLN 127 million on other Operations related to traction, electroenergy services and sale of fuels and PLN 103 million margin on sale of electricity compensated by personnel costs in amount of PLN 137 million, costs of external services at PLN 53 million related mainly to traction grid maintenance and railway contracting agreements and other costs at PLN 24 million.
- **Lower result on electricity sale** in the second quarter of 2024 due to lower sales volume and lower margin on sales of products to traction customers.
- **Lower result on distribution** in the second quarter of the year is mainly a result of decline in revenues from connection fees partly compensated by lower cost of purchase of energy for network losses due to decrease of electricity prices.
- **Higher result on other activities** in the second quarter mainly relates to Operations in area of traction services in connection with the indexation of contracts with contractors.

- **Higher personnel costs** in the second quarter of the year mainly in connection with realization of the agreements with the social party.
- **Lack of contribution** to the PDP Fund, which occurred in 2023.
- **Change in item Other** in the second quarter of the year mainly due to higher costs of material consumption and burdens within the PGE Capital Group.

#### CAPITAL EXPENDITURES

Table: Capital expenditures in Railway Energy Services segment

PLN million	H1 2024	H1 2023 <sup>1</sup>	% change
Investment in generation capacities, including:	199	351	-43%
▪ Development	180	323	-44%
▪ Modernisation and replacement	19	28	-32%
<b>Total</b>	<b>199</b>	<b>351</b>	<b>-43%</b>

<sup>1</sup> Data for period April 3, 2023 June 30, 2023.

#### KEY EVENTS IN THE SEGMENT

- **MUZa Program** - Power Supply Systems Modernisation programme

The MUZa programme was continued, that is being implemented on the basis of the "Agreement on the principles of establishing a connection to the distribution network" entered into with PKP Polskie Linie Kolejowe S.A. (PKP PLK) and its objectives are the following:

- enabling an increase in the capacity of railway lines (increase in train traffic),
- introducing locomotives with higher power (of the order of 6 MW) allowing for an increase in speed up to 200 km/h,
- electrifying railway lines,
- reducing the distribution network and equipment failure rate as well as improving the quality parameters of electricity,
- meeting the power supply requirements according to the standards set out in the Technical Specifications for Interoperability (TSI) of the "Energy" subsystem – obtaining authorisation from the President of the Railway Transport Office (RTO).

On the part of the Railway Energy Services segment, the programme consists in the modernisation and construction of overhead contact line network substations in accordance with the agreements for network connections entered into with PKP PLK. In the first half of 2024 expenditures incurred amounted to PLN 105 million. Since the start of the programme in 2012, 296 connection agreements were signed, of which 264 were completed.

On July 29, 2024 a term loan agreement in amount of PLN 1 billion was signed with the European Investment Bank for financing of MUZa Program.

- **Connection of new electricity consumers**

The program for connecting new customers to the distribution network was realised, under which expenditures of PLN 32 million were incurred in the first half of 2024.

- **ZUBI project** - project aimed at installing remote reading balancing meters

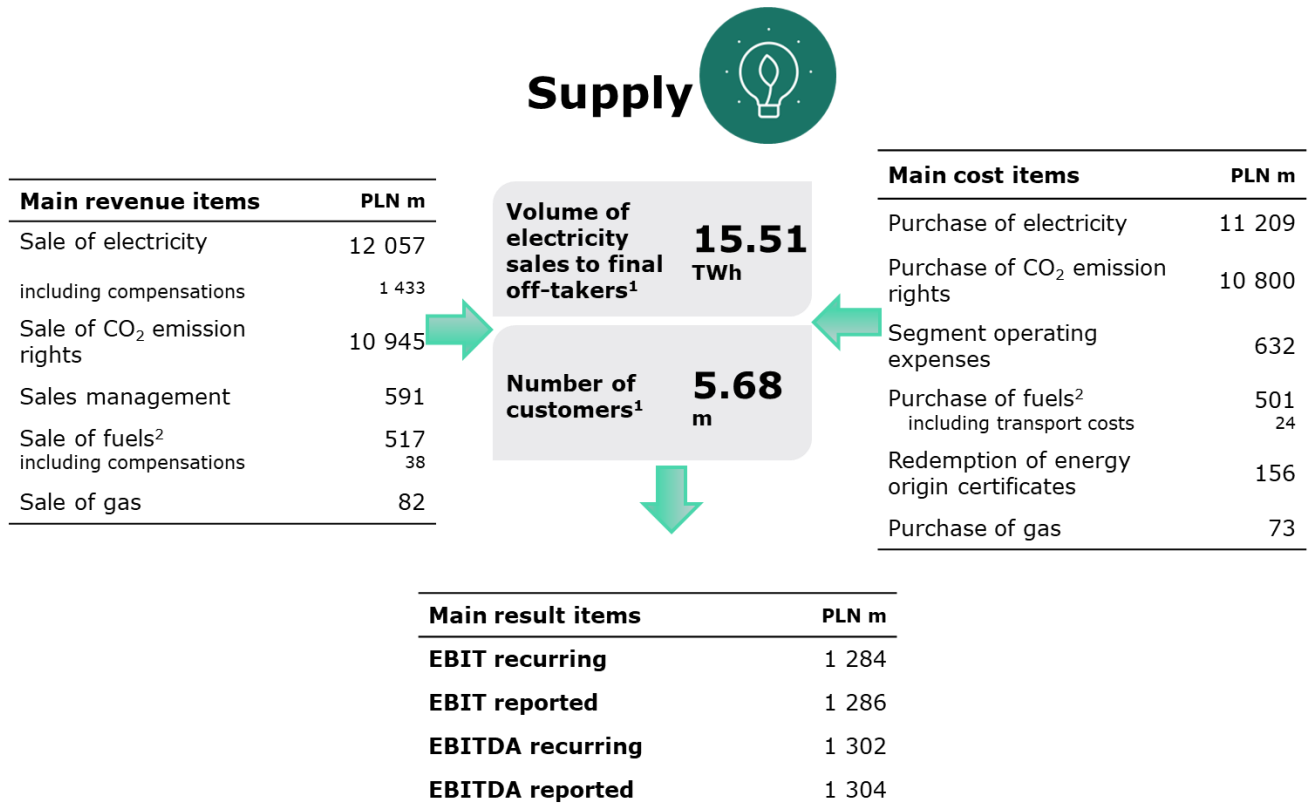
Project aimed at installing remote reading balancing meters (Balancing Systems Installation – BSI ) was continued. The implementation of the project is mandatory under the requirements imposed on DSOs by the Legislator in the Energy Law of May 20, 2021. The deadline for the completion of the task is December 31, 2025. In the first half of 2024, tasks were carried out aimed at:

- purchase of balancing cabinets with installed remote reading metres for MV/LV substations,
- purchasing current transformers for MV/LV substations,
- purchasing installation services for balancing cabinets at MV/LV substations,
- installing 1 254 balancing cabinets at MV/LV substations.

Expenditures of PLN 28 million were incurred in the first half of 2024.

### 4.3.8 Supply

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.



<sup>1</sup> Data for 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 almost 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, on the basis of the provisions of the Act of December 7, 2023 amending the acts to support consumers of electricity, gas fuels and heat, the system of compensation for trading companies for the application of capped prices and discounts was extended until June 30, 2024. In addition, as a result of the Act of May 23, 2024 on the energy voucher and amendments to other acts, from July 1, 2024, maximum prices for households, SMEs and local authorities were introduced.

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<sub>2</sub> 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 operations of the Group's corporate centre.

VOLUME, CUSTOMERS AND OPERATING DATA

Table: Volume of electricity sales to final off-takers (TWh)<sup>1</sup>.

Tariffs	H1 2024	H1 2023	% change
A tariff group	2.08	3.14	-34%
B tariff group	5.59	5.67	-1%
C+R tariff groups	3.09	3.09	0%
G tariff group	4.75	4.80	-1%
<b>Total</b>	<b>15.51</b>	<b>16.70</b>	<b>-7%</b>

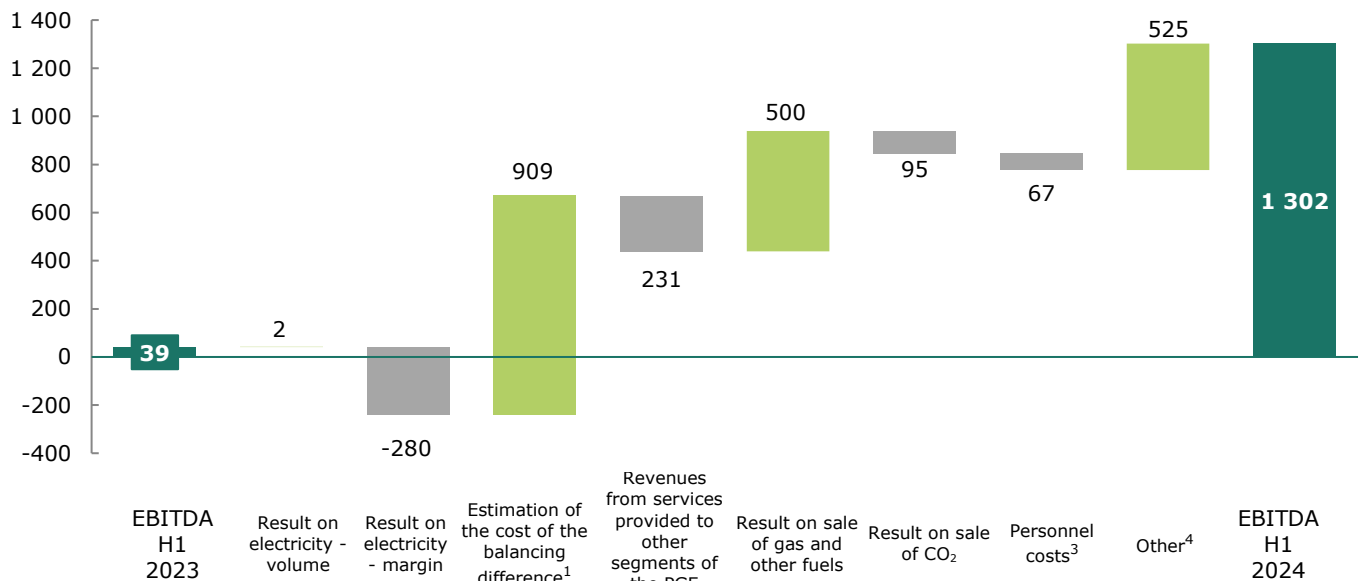
<sup>1</sup> Data for PGE Obrót S.A.

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

Tariffs	H1 2024	H1 2023	% change
A tariff group	149	162	-8%
B tariff group	11 112	11 237	-1%
C+R tariff groups	399 871	420 885	-5%
G tariff group	5 267 220	5 201 566	1%
<b>Total</b>	<b>5 678 352</b>	<b>5 633 850</b>	<b>1%</b>

<sup>1</sup> Data for PGE Obrót S.A.

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



Change	2	-280	909	-231	500	-95	-67	525	
Reported EBITDA H1 2023	<b>117</b>								
One-offs H1 2023	<b>78</b>								
Recurring EBITDA H1 2023	<b>39</b>	493	504	959	-474	240	296	-379	
Recurring EBITDA H1 2024		215	-405	728	26	145	363	146	<b>1 302</b>
One-offs H1 2024									<b>2</b>
Reported EBITDA H1 2024									<b>1 304</b>

<sup>1</sup> Position neutral for the PGE Capital Group.

<sup>2</sup> This item does not include the margin on CO<sub>2</sub> transactions with PGE Group companies.

<sup>3</sup> Item without taking into account impact of the change in actuarial provision (one-off).

<sup>4</sup> Item without taking into account correction of the contribution to the PDP Fund for 2022 in PGE Obrót S.A. (one-off).

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

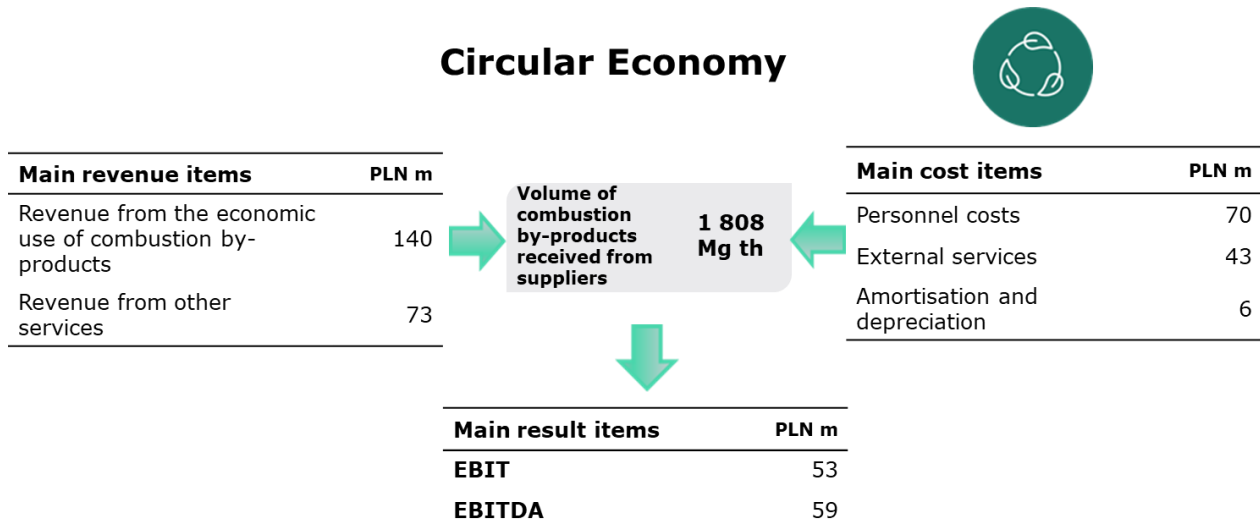
One-offs	H1 2024	H1 2023	% change
Correction of estimated contribution to Price Difference Payment Fund for 2022 at PGE Obrót	-	81	-
Actuarial provision	2	-3	-
<b>Total</b>	<b>2</b>	<b>78</b>	<b>-97%</b>

Key factors affecting EBITDA of Supply segment y/y:

- **The lower result on sale of electricity** is mainly the result of a lower margin on sales of tariff.
- **Positive 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.
- **Decrease of revenues from services performed within the Capital Group** resulting from the decrease in revenues under the ZHZW agreement, which is a consequence of the lower value of trade in electricity under management.
- **Higher result on sale of gas and other fuels** is a result of low base in the previous year due to recognition of the impairment allowance for coarse coal stocks and correction of result of PGE Paliwa sp. z o.o. for 2022.
- **Lower result on sale of CO<sub>2</sub>** mainly as a result of mainly as a result of lower volume of allowances sales.
- **Higher personnel expenses** as a consequence of organisational changes and in connection with the implementation of wage agreements.
- **Change of value of other operating activities** mainly as a consequence of releasing the provision for onerous contracts, which relates to the lack of coverage of part of justified operating costs in the household tariff for 2024 approved by the ERO President.

### 4.3.9 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.



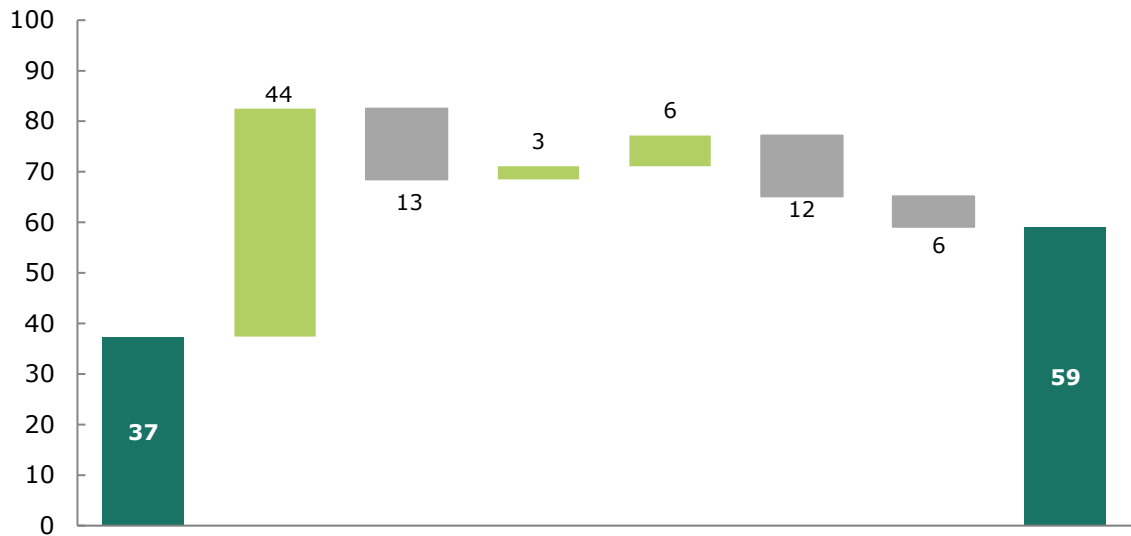
Segment includes companies: PGE Ekoserwis S.A. and ZOWER sp. z o.o. On October 2, 2023, PGE Ekoserwis S.A. acquired the company EPORE S.A., which had previously belonged to the segment.

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 heat-and-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 H1 2023	Revenues from sale of combustion by-products	Revenue from sale of services	Personnel costs	External services	Value of goods and materials sold	Other	EBITDA H1 2024
<b>Change</b>		<b>44</b>	<b>-13</b>	<b>3</b>	<b>6</b>	<b>-12</b>	<b>-6</b>	
EBITDA H1 2023	<b>37</b>	96	86	73	49	18	5	
EBITDA H1 2024		140	73	70	43	30	11	<b>59</b>

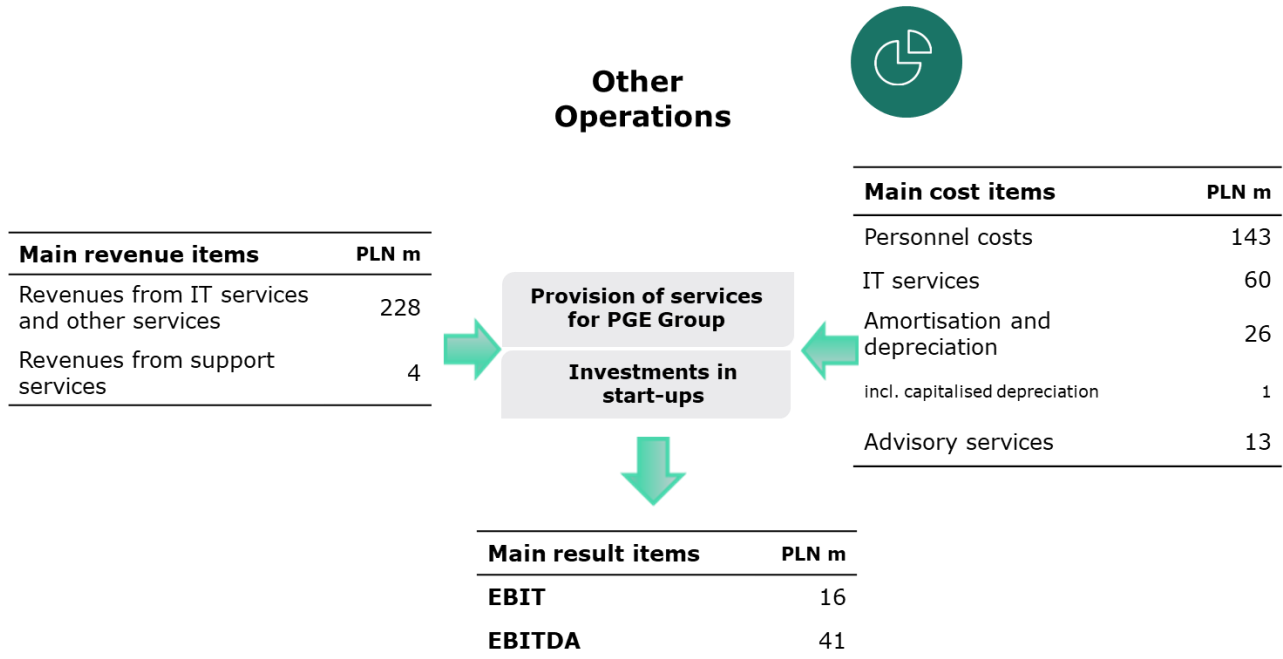
Key factors affecting EBITDA of Circular Economy segment y/y:

- **Higher revenues from sale of combustion by-products**, due to the higher sales volume by 176 thousand tons and a 59% higher sales price.
- **Lower revenue from sales of services**, due to lack of work carried out under the signed coal sorting contract.
- **Lower level of personnel costs** mainly related to payment of the one-time bonus in 2023.
- **Lower external services costs**, resulting mainly from the creation of a provision for the dismantling of the suction unit and production building and the demolition of the cube drying hall in 2023.
- **Higher costs of goods and materials sold**, mainly due to higher combustion by-products purchase costs and higher sales volume.
- **Value change of item Other**, due to the change in stock.

### 4.3.10 Other Operations

Core activities of the segment include provision of services to PGE Capital Group, inter alia organisation of capital raising in form of Eurobonds (PGE Sweden), provision of IT and transportation services.

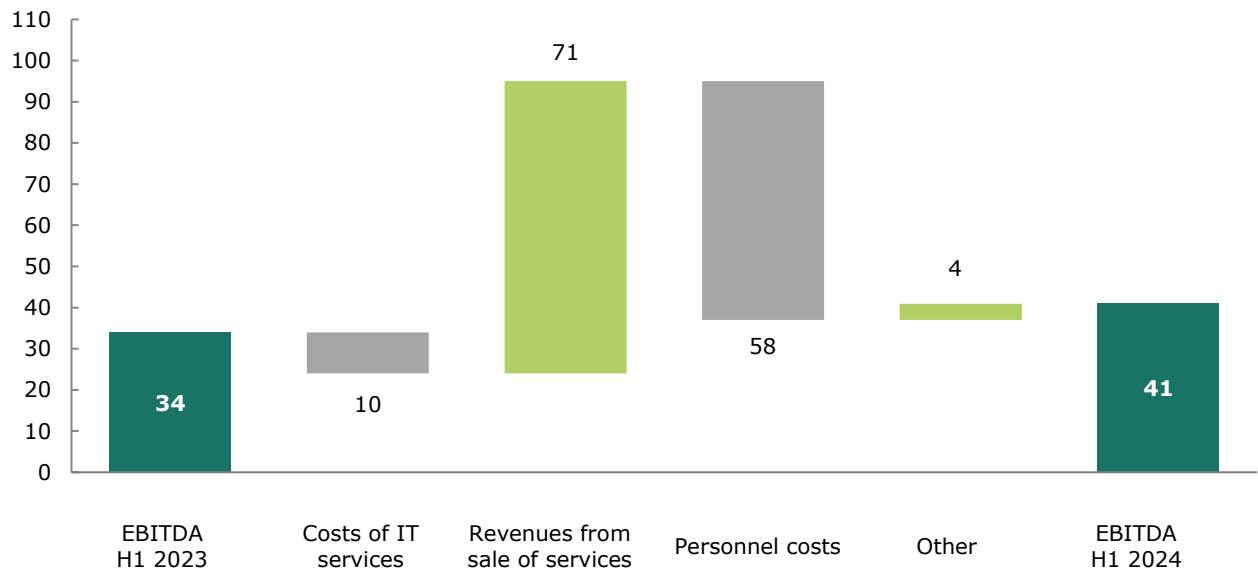
The segment also includes the company PGE Ventures sp. z o.o., which is responsible for investments in start-ups at every stage of the investment cycle: from projects in the earliest phase of development, through projects in the early growth phase, to mature start-ups in the late growth and expansion phase. PGE Ventures sp. z o.o. and its satellite funds invested in a total of 55 start-ups, of which the funds are responsible for 47 and PGE Ventures sp. z o.o. for 8 equity investments.





### KEY FACTORS FOR THE RESULTS OF THE SEGMENT

Chart: Key factors affecting EBITDA in Other Operations segment (in PLN million) – managerial perspective<sup>1</sup>.



Change	-10	71	-58	4	
EBITDA H1 2023	34	50	161	85	8
EBITDA H1 2024	60	232	143	12	41

<sup>1</sup> Due to the separation of the Gas-fired Generation segment from the Other Operations segment, data for the first half of 2023 have been adjusted for comparability.

Key factors affecting EBITDA of Other Operations segment y/y:

- **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 and higher prices of services provided by the external companies.
- **Higher revenues from the sale of services** due to a wider range of services provided by PGE Systemy S.A. for companies in the PGE Group and moving Elbest Security sp. z o.o. to Other Operations segment as from the beginning of 2024. In 2023 company was reported in Conventional Generation segment. In addition, PGE Asekuracja S.A. achieved higher revenues than in the analogical period of the comparable year.
- **Higher costs of advisory services** due to a smaller range of advisory services contracted by Elbis sp. z o.o and PGE Inwest 12 sp. z o.o. (Młoty PSP plant) with a wider range of projects being implemented by PGE Systemy S.A.
- **Higher personnel costs** due moving Elbest Security sp. z o.o. to Other Operations segment, the increase in the minimum wage, inflation pressure and hiring of new employees in PGE Systemy S.A. in connection with the development of the LTE450 program and the takeover of PGE Energetyka Kolejowa S.A. employees.
- **Change of value on item 'Other'** mainly as a result of postponed settlements of project costs in PGE Systemy S.A.

## CAPITAL EXPENDITURES

Table: Capital expenditures incurred in Other Operations segment<sup>1</sup>

PLN million	H1 2024	H1 2023	% change
Investments in generation capacities, including:	31	36	-14%
▪ Modernisation and replacement	31	36	-14%
Other	1	0	-
<b>Total</b>	<b>32</b>	<b>36</b>	<b>-11%</b>

<sup>1</sup>Due to the separation of the Gas-fired Generation segment from the Other Operations segment, data for the first quarter of 2023 have been adjusted for comparability.

## KEY EVENTS IN OTHER OPERATIONS

- At company **PGE Inwest 14 sp. z o.o.** work is in progress on a Battery Electricity Storage System (BESS) project in Żarnowiec, which will be one of the largest energy storage facilities of its kind in Europe. Currently, the project is in the implementation preparation phase. A tender for the selection of a General Contractor for the construction of the storage facility including the power derivation system was published in July 2024. In parallel, work is being carried out to prepare the site for construction (logging, dividers, geotechnical studies).
- At **PGE Inwest 12 sp. z o.o.**, work is underway on the project **Construction of the Młoty pumped storage power plant**. Currently, the project is at an early stage of preparation for implementation. In June 2024, efforts were formally initiated to issue a decision on environmental conditions by submitting an application to the Regional Directorate of Environmental Protection together with the Project Information Sheets for Młoty PSP plant and the power derivation.

## 5. Other elements of the report

### 5.1. Significant events of the reporting period affecting operation in the first half of 2024 and subsequent periods.

#### 5.1.1 Changes in the Management Board and Supervisory Board

A detailed description of the changes in the composition of the Management Board and the Supervisory Board can be found in p. 1.4 of this report.

#### 5.1.2 Project of carve-out of coal generation assets

##### BENEFITS OF COAL ASSETS SALE

The discontinuation of Conventional Generation's operations based on coal combustion results from the strategy of the PGE Capital Group, published on October 19, 2020, which assumes climate neutrality by 2050. The spin-off coal assets will bring measurable benefits for the Group, among others, in the following areas:

- greater and more favourable access to sources of debt and equity financing, lower financing costs;
- greater and more favourable access to the insurance market;
- lower cash requirements for hedging CO<sub>2</sub> emission costs and stocks of production raw materials;
- release of credit limits in financing institutions as a result of reducing the demand for EUA allowances;
- increasing the possibility of using financial resources for investments in distribution networks and green technologies, with a higher rate of return;
- reducing the risk of exposure to the price of CO<sub>2</sub> emission allowances.

All the above actions, in the opinion of the Management Board, will increase the attractiveness of the Company for shareholders.

##### ACTIVITIES FOR THE CARVE-OUT OF GENERATING COAL ASSETS

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 National Energy Security Agency (NABE).

On July 14, 2023 PGE received from the State Treasury, represented by the Minister of State Assets, proposal of a non-binding document summarising terms and conditions for acquisition by the State Treasury of all shares held in PGE GiEK S.A. On August 10, 2023 PGE and the Minister of the State Assets, signed a document summarising terms and conditions for acquisition by the State Treasury of all shares held by PGE in PGE GiEK S.A. in order to set up NABE.

Conclusion of the sale transaction of PGE GiEK S.A. to the State Treasury depended on the fulfilment of number of conditions precedent.

As of the date of preparation of this report, the above conditions precedent have not been met therefore, it should be assumed that a transaction on the terms of the proposal of July 14, 2023 will not take place. In addition, in February 2024, the Council of Ministers withdrew from the Parliament a draft law on the principles of guaranteeing the National Energy Security Agency's liabilities by the State Treasury.

According to statements by government institutions, the process of spinning off coal assets will continue. On May 9, 2024, a team was set up by order of the Minister of State Assets with a view to spinning off coal assets from energy sector enterprises in which the State Treasury holds shares.

The team's tasks include:

- analysis of the conditions for a spin-off of coal assets from state-owned companies in the energy sector;
- cooperation with state-owned companies in the energy sector to develop guidelines, directions and methods for conducting the spin-off process;
- development of recommendations for necessary or recommended legislative changes aimed at the execution of the planned spin-off;

- identification of the circle of entities responsible for the execution of the spin-off and the distribution of tasks among these entities.

In the second quarter of 2024, the aforementioned team started work.

At the same time, PGE S.A. together with its advisor PwC Advisory sp. z o.o. started work on a new concept for the separation of coal assets, taking into account current economic and market conditions.

#### RECOGNITION OF ASSETS RELATED TO PGE GiEK S.A. IN THE FINANCIAL STATEMENTS

In the opinion of the PGE Capital Group, as at the reporting date, the conditions of IFRS 5 concerning operations held for sale regarding assets and liabilities as well as revenue and expenses for the described coal-fired units are not met.

Consequently, as at June 30, 2024, assets related to PGE GiEK S.A. are not reclassified to discontinued operations. PGE S.A. also did not make adjustments bringing the value of assets related to PGE GiEK S.A. to the values required by IFRS 5. The values of assets, liabilities, revenue, costs and results of the Conventional Generation segment, showing the data for PGE GiEK S.A. and its subsidiaries, are presented in note 6.1 to the financial statements.

The book value of the consolidated net assets of PGE GiEK S.A. and its subsidiaries was PLN 744 million on June 30, 2024. The book value of the shares of PGE GiEK S.A. in the stand-alone financial statements was PLN 0 on June 30, 2024.

### 5.1.3 Regulatory changes

#### SUPPORT MECHANISMS FOR ELECTRICITY CONSUMERS

Due to the electricity market crisis, the legislator decided to introduce regulations that temporarily introduced 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 of October 27, 2022 on Emergency Measures in 2023 entered into force.

Pursuant to the Act for households, in 2023 an electricity trading company was 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. On the other hand, once the Act of August 16, 2023 amending the Act for Households entered into force, the consumption limits for each category of customer were increased by an additional 1MWh. Once the consumption limits for household consumers were exceeded, a maximum price of PLN 693/MWh (price excluding VAT and excise duty) was 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 Energy Regulatory Office did 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 was set at PLN 785/MWh (price excluding VAT and excise duty). After the Act of August 16, 2023 amending the Act for households and certain other acts entered into force, the maximum price was, similarly to that for households, PLN 693/MWh. This price, in principle, applied from December 1, 2022, however, the changed amount applied from October 1, 2023 to December 31, 2023. The maximum price limit for eligible customers also applied to electricity sales agreements concluded or amended after February 23, 2022, in which case the maximum price also applied to settlements for the period from the date of conclusion or amendment of these agreements until November 30, 2022. Electricity companies were 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, was entitled to compensation for applying electricity prices in their settlements with household customers at the same level as on January 1, 2022. The compensation was 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 were 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 was 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 was 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.

In accordance with the provisions of the Act of December 7, 2023 on amending laws to support consumers of electricity, gaseous fuels and heat, which came into force on December 31, 2023 (the Act for 2024), the mechanisms for freezing tariff prices and the maximum price were extended until June 30, 2024.

On June 13, 2024 the Act on energy vouchers entered into force. It regulates electricity prices from July 1, 2024 to December 31, 2024. The Act imposed an obligation on electricity traders in the form of submitting an application to change the existing tariff for 2024 within seven days of the entry into force of the corresponding Act or at the request of the President of the ERO. The revised tariff applies from July 1, 2024 to December 31, 2025. In a decision dated June 28, 2024, the President of the Energy Regulatory Office approved a change in the electricity tariff of PGE Obrót S.A. for the period from July 1, 2024 to December 31, 2025. The approved price of electricity for G tariff group customers in the G11 tariff group is PLN 628/MWh. The Act also provides for an extension of the period for the functioning of the capped electricity price mechanism. This price will apply in the second half of 2024 and was set at PLN 500/MWh for household consumers, and at PLN 693/MWh for local government units and public institutions (including schools, hospitals, social welfare units), as well as micro, small and medium-sized entrepreneurs.

Electricity customers who have concluded contracts for the sale of electricity with a dynamic price have been excluded from the possibility of taking advantage of the capped price. If the tariff approved by the ERO President is higher than the capped price for households, household customers will be billed according to the capped price of PLN 500/MWh. By virtue of the application of a capped price in settlements with customers, trading companies will be entitled to compensation amounting to the difference between the tariff price in force from July 1, 2024 and the capped price.

In the first half of 2024, compensation revenue amounted to PLN 2 206 million. The amounts of compensation received by the sales companies were intended to compensate for the losses these entities suffered due to the price freeze.

The above values concerning due compensation are estimates determined in accordance with the best knowledge available to the PGE Capital Group as at the date of the preparation of this report.

#### PDP FUND

From December 1, 2022 PGE Group's financial position was 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 was 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 CO<sub>2</sub> emission allowances, the efficiency of the generating units, a margin and a certain level of investment allowance and for coverage of fixed costs of PLN 50/MWh.
- for units generating energy from RES, the price limit was 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 is 40% of this reference price.

For electricity trading companies, on the other hand:

- for energy sold to final consumers, the price limit was 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 was the product of the volume-weighted 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 calculated the amount of the contribution to the Fund for the calendar month to which the settlement related, 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.

On March 1, 2023 and September 1, 2023, amendments to the Act on Extraordinary Measures in 2023 came into force, determining the rules for paying contributions to the PDP Fund.

The amendment concerned, among other things, the extension of the catalogue of revenue items that constitute the basis for calculating the contribution to the PDP Fund. As a result, the amount of contributions transferred by the PGE Capital Group increased.

In connection with doubts concerning the interpretation of the provisions and the qualification of revenue from additional cash settlements, which should be taken into account in the calculation of contributions to the Fund, PGE S.A. applied to the President of the Energy Regulatory Office for an individual interpretation confirming the applied interpretation of the Act, as a result of which revenue from selected agreements should not be taken into account in the calculation of contributions to the Fund. The President of the ERO did not share the Company's position. PGE S.A., disagreeing with the adverse decision of the President of the ERO, appealed against it to the Regional Court in Warsaw.

In 2023, the contribution due to the Fund amounted to PLN 6 569 million (including the adjustment for 2022) reducing the financial result. In turn, compensation income for 2023 amounted to PLN 7 658 million. Compensation revenues are independent of the amount of contributions to the PDP Fund. As described above, the funds received by the sales companies were intended to compensate for the losses these entities suffered due to the price freeze. In turn, the contributions to the PDP Fund limited the margins realised by individual energy companies to the detailed levels indicated in the regulations.

The system of contributions to the PDP Fund was not closed by December 31, 2023. Contributions to the Fund have to be transferred also in 2024 in the case of sales made in the last weeks of 2023. In the Act for 2024, the legislator did not decide to extend the obligation to make contributions to the Fund to 2024, which means that the last month for which a contribution to the Fund should have been paid was December 2023. In the first half of 2024, an adjustment to the contribution to the Fund for the previous period in the amount of PLN 23 million was recognised as a reduction of costs.

#### REGULATION OF THE MINISTRY OF CLIMATE AND ENVIRONMENT OF SEPTEMBER 9, 2023

At the same time, on September 11, 2023, the regulation of the Ministry of Climate and Environment of September 9, 2023 was published, amending the regulation on the method of shaping and calculating tariffs and the method of settlement in electricity trading and entered into force on September 19, 2023. This regulation reduced electricity bills for household consumers by PLN 125 on average in 2023, provided that one of the conditions mentioned was met. Power utilities conducting business activities related to electricity trading are obliged to make the reduction at the latest in the last electricity invoice in 2023. No compensation has so far been granted to trading companies for this reduction due to the lack of legislation that would provide a basis for it.

On December 31, 2023, taking into account the number of recipients who met at least one of the conditions set out in the regulation, revenue was reduced by PLN 535 million (of which PLN 230 million is an estimate). As at June 30, 2024, an amount of PLN 5 million remains to be paid out to customers out of the PLN 230 million estimate at the end of the reporting period.

On June 10, 2024, PGE CG received a tax interpretation granting the right to reduce the tax base and the amount of output tax in connection with the above-described reduction of bills by PLN 125. In the first half of 2024, the estimate of sales revenue was increased by approximately PLN 97 million on this account.

### 5.1.4 Environmental decision on the Turów Lignite Mine

On May 31, 2023, the Provincial Administrative Court in Warsaw suspended – pending an analysis of the relevant complaint – the enforceability of the environmental decision on lignite mining for the Turów Mine. The environmental decision sets out the conditions for the implementation of the project: "Continuation of the exploitation of the Turów lignite deposit, carried out in the commune of Bogatynia". The complaint against the environmental decision was filed by, among others, the Frank Bold Foundation, Greenpeace and the EKO-UNIA Ecological Association.

On June 12, 2023, PGE GiEK S.A. filed a complaint with the Supreme Administrative Court in Warsaw against the decision concerning the Turów Mine and issued by the Provincial Administrative Court on May 31, 2023. This was the company's response to the Provincial Administrative Court's suspension of the enforceability of the environmental decision issued by the General Directorate of Environmental Protection in September 2022.

On July 18, 2023, the Supreme Administrative Court overturned the decision of the Provincial Administrative Court of May 31, 2023 to suspend the enforceability of the environmental decision concerning the Turów Mine. The complaints filed by the General Directorate of Environmental Protection, PGE GiEK S.A. and the National Public Prosecutor's Office were taken into consideration.

On August 31, 2023, the Provincial Administrative Court suspended the proceedings on the environmental decision issued by the General Directorate of Environmental Protection and concerning the Turów Mine until the formal conclusion of the proceedings relating to the application of PGE GiEK S.A. for amending the

environmental decision. Proceedings at the request of PGE GIEK S.A. to change the environmental decision ended with a final and legally binding decision to discontinue the proceedings.

On March 13, 2024, the Regional Administrative Court overturned the decision of the General Directorate of Environmental Protection, specifying the environmental conditions for the further exploitation of the Turów lignite deposit. As the Regional Administrative Court stressed, this does not mean either closure or suspension of work at the Turów Mine. The ruling is not legally binding.

On April 30, 2024, PGE GiEK S.A. was served with a copy of the judgment with a statement of reasons. The ruling is not legally binding. On May 29, 2024 PGE GiEK S.A. filed a cassation complaint against the above judgment to the Supreme Administrative Court.

The same judgment was also appealed in its entirety on May 17, 2024 by General Directorate of Environmental Protection. PGE GiEK S.A., after serving the cassation appeal of General Directorate of Environmental Protection, filed a response to the cassation appeal on July 2, 2024 and requested that it be upheld and that the appealed verdict of the Provincial Administrative Court be revoked.

### 5.1.5 Impact of war between Russia and Ukraine on PGE Group's activities

The war between Russia and Ukraine may affect the PGE Capital Group's operations and future financial performance. There were no significant changes in the issues reported compared to the latest published financial statements. In particular, the following items may be assessed/changed: the recoverable amount of selected asset items, the level of expected credit losses and the valuation of financial instruments. The PGE Group monitors the course of the war, the macroeconomic consequences and the market implications on an ongoing basis. Any events that occur will be reflected accordingly in the Group's future financial statements.

### 5.1.6 Restructuring proceedings at ENESTA sp. z o.o.

In 2021 ENESTA sp. z o.o. (currently ENESTA sp. z o.o. in restructuring) 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 sp. z o.o. applied for restructuring proceedings. On June 21, 2022, restructuring proceedings were opened. In September 2023, ENESTA's capital was increased by PLN 32 million. All shares in the increased capital were acquired and paid by PGE Obrót S.A. In December 2023, another resolution was passed regarding a capital increase of PLN 34 million.

As at June 30, 2024, the value of assets and equity and liabilities of ENESTA sp. z o.o. amounts to PLN 98 million and the value of equity to PLN (-)130 million.

### 5.1.7 Implementation by PGE Paliwa sp. z o.o. of the decision of the Prime Minister concerning the purchase of coal

In years 2022-2024, PGE Paliwa sp. z o.o. was implementing the decisions of the Prime Minister issued in mid-2022 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 (the Decision). In connection with a significant decrease in market prices of coal and continued low coal prices in the first quarter of 2024 the company realised a negative result on sales of coal purchased in order to implement the Decision and which was not sold by April 30, 2023.

The total result on the sale of this coal, together with other costs incurred to implement the decision, recognised in the financial results in the first half of 2024 amounted to PLN -216 million. Coal that was sold by June 30, 2024 was subject to an impairment write-down of PLN 239 million as of December 31, 2023. The write-down was partially utilised in amount of PLN 188 million, including PLN 178 million in period until April 30, 2024.

An agreement signed in 2023 with the Ministry of Climate and Environment for the financing of the implementation of the Prime Minister's decision provides for the reimbursement of costs incurred in connection with the implementation of the decision. A report on the implementation of the decision as at April 30, 2023, as required by the provisions of the agreement, was submitted on time by PGE Paliwa sp. z o.o. to the Ministry of Climate and Environment. The company submitted an update to the Report as at April 30, 2024 in accordance with the deadlines set out in the Agreement. On July 30, 2024, the update to the Report was accepted by the Ministry of Climate and Environment and on August 7, 2024, the company received a request for funds in the net amount of PLN 483 million.

In 2023, revenue of PLN 849 million was recognised under the Agreement. This revenue consisted of PLN 406 million received in 2023 and an estimate of the remaining compensation of PLN 443 million. In the first half of 2024, the estimate was increased to PLN 481 million and an amount of PLN 38 million was recognised in the results of the current period.

### 5.1.8 Recommendation not to pay dividend for 2023

On April 3, 2024 the Management Board of PGE S.A. decided on the recommendation not to pay dividend for 2023 to the PGE's shareholders. Decision was taken in accordance with the dividend policy and is a result of analysis of total Company's indebtedness and expected capital expenditures, in the context of lack of implementation of coal assets carve-out project and deteriorating operational conditions of the coal-fired power plants that are reflected in results of the impairment tests of property, plant and equipment in the Conventional Generation segment. The Ordinary General Meeting of the Company of June 28, 2024 agreed with the recommendation.

### 5.1.9 Impairment tests

Property, plant and equipment is the most significant asset item of the PGE Capital Group. Due to the changing macroeconomic and regulatory environment, the PGE Group periodically reviews indications that the recoverable value of its assets may be impaired. In assessing the market situation, the PGE Capital Group uses both its own analytical tools and the support of independent analytical centres. In previous reporting periods, the PGE Capital Group recognised significant impairment losses on non-current assets.

In the current reporting period the Group analysed indications and identified factors that could significantly contribute to change of value of the non-current assets.

Results of the impairment tests on property, plant and equipment are described in note 3 to the consolidated financial statements.

### 5.1.10 Nuclear power plant construction project

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-Konin area. The planned capacity of the plant is 2 800 MWe, based on the use of two PWR (Pressurised Water Reactor) nuclear reactors with the Korean APR 1400 technology. The cooperation also includes field and environmental studies, the implementation of a feasibility study and the obtainment of all necessary administrative decisions.

In the Polish Nuclear Power Programme (PNPP), the Pątnów-Konin area is recommended as one of the possible locations for the construction of a nuclear power plant in Poland. The investment project is also in line with the principles of the development of nuclear technologies contained in Poland's Energy Policy until 2040.

On May 22, 2023, PGE PAK Energia Jądrowa S.A. was registered in the National Court Register. PGE S.A. and ZE PAK S.A. each hold 50% of the shares in PGE PAK Energia Jądrowa S.A.

On August 11, 2023, PGE S.A., ZE PAK S.A. and PGE PAK Energia Jądrowa S.A. entered into a shareholders' agreement setting out the rules of this company's corporate governance and business activity.

On August 16, 2023, PGE PAK Energia Jądrowa S.A. filed an application with the Ministry of Climate and Environment for the issuance of a fundamental decision for the construction of a nuclear power plant in the Konin region.

On November 24, 2023, the Ministry of Climate and Environment issued the fundamental decision for the construction of a nuclear power plant in the Konin region.

### 5.1.11 Signing of an annex to the syndicated loan

On February 6, 2024 an annex was signed to the revolving loan agreement which was signed on March 1, 2023 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., Industrial and Commercial Bank of China (Europe) S.A., Alior Bank S.A. and Santander Bank Polska S.A. As a result of the annex China Construction Bank (Europe) S.A. with its seat in Luxembourg joined the agreement and the amount of the Loan was increased from PLN 2 330 million to PLN 3 150 million.

The subject matter of the agreement includes granting by the banks of the revolving loan which 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 March 1, 2027. Interest rate of the loan is 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 hold investment grade credit rating. The loan is not secured on any of the assets of PGE or of the PGE Group.

[Signing of an annex to the syndicated loan](#)

### 5.1.12 The impact of the approval of the G tariff on the financial results of the PGE Capital Group

On June 28, 2024 the ERO President approved the electricity sale price for G tariff off-takers for the period July 1, 2024 – December 31, 2025 for PGE Obrót S.A. at an average level of PLN 628 per MWh. The sales price for electricity approved by the ERO President is significantly lower compared to the tariff approved in December 2023 which was to be applicable throughout the entire year 2024 and which resulted in creation by PGE Obrót S.A. of a provision for onerous contracts for December 31, 2023. The analysis conducted by the Group did not indicate the need to update the provision as at June 30, 2024.

[The impact of the approval of the G tariff on the financial results of the PGE Capital Group](#)

### 5.1.13 Estimation of electricity imbalance

At the end of the current reporting period, the Group has estimated an imbalance of electricity fed into the grid by prosumers. The energy generated and fed into the grid by prosumers enters the grid during periods of overproduction, thereby reducing the Group's need to purchase energy in the market. However, during the autumn and winter period, when prosumers consume energy in the absence of production covering their own demand, the Group has to purchase the missing electricity from the market. For this reason, the Group created an estimated liability of PLN 248 million. The estimate of the liability most closely reflects the Group's interim results, which stabilise at the end of the year during the winter period and reduce to negligible values.

In the previous period, the Group was not able to reliably make such an estimate, as it did not have sufficient information and tools. Using current knowledge, the estimate of the liability would be approximately PLN 240 million as at June 30, 2023. The figures for the comparative period were not restated.

### 5.1.14 Conclusion of the agreement by Elektrociepłownia Zielona Góra S.A. for the supply of gas fuel

On July 1, 2024 Elektrociepłownia Zielona Góra S.A. (company from PGE Group) concluded a framework agreement with ORLEN S.A. for the comprehensive sale of gas fuel in the distribution system together with an individual contract to the Agreement.

The framework agreement was concluded for an indefinite period, while the individual contract provides for gas fuel deliveries from July 2, 2024 to January 1, 2037.

The estimated value of the individual contract during its validity period, determined on the basis of gas market prices and distribution rates, amounts to a total of PLN 6.3 billion net. The basis for calculating the price formula in the individual contract will be variable components based on quotation of gas price indexes, taking into account the conditions of gas supplies from local deposits.

The agreement is secured by a bank guarantee for the amount of PLN 33 million and a surety provided by PGE in the amount of PLN 40 million.

[Conclusion of the agreement for the supply of gas fuel](#)

### 5.1.15 The Ordinary General Meeting

The Ordinary General Meeting was held in June 28, 2024 and on July 25, 2024 (after the break in the proceedings). The content of adopted resolutions is presented in the locations on the PGE S.A. website indicated below:

[Content of OGM resolutions from June 28, 2024](#)

[Content of OGM resolution from July 25, 2024](#)

### 5.1.16 Setting new commissioning dates of CCGT units in PGE Gryfino 2050 sp. z o.o.

On July 23, 2024 PGE Gryfino 2050 and the syndicate of General Electric Global Services GmbH (leader of syndicate), Polimex Mostostal S.A. and GE Vernova LLC concluded before the mediator of the arbitration court at the Solicitor's Office of the Republic of Poland a settlement regarding the realisation of the contract for construction of two CCGT units with a capacity of 683 MWe each in PGE Gryfino 2050.

As a consequence of the Settlement, the commissioning date of unit no. 9 was set at August 15, 2024 and of unit no. 10 at September 30, 2024.

Unit no. 9 was commissioned on August 14, 2024.

[New commissioning dates for units at PGE Gryfino 2050](#)

### 5.1.17 Signing of a loan agreement with the European Investment Bank

On July 29, 2024 PGE signed a term loan agreement with the European Investment Bank ("EIB"). The value of the loan agreement amounts to PLN 1 billion and the loan will be intended for financing of capital expenditures of PGE Energetyka Kolejowa S.A. for the Modernisation of Power Supply Systems implemented in years 2023-2028 which will ensure modernisation of railway network power supply systems throughout Poland.

The loan will be drawn in instalments. Each instalment may be drawn in PLN or EUR. The final maturity date will be maximum 18 years from the drawing date of the last instalment whereby the last instalment may be drawn no later than 24 months from the Agreement signing date. The interest rate will be determined before the payment of the each instalment. The Agreement does not provide for tangible collaterals. After signing of the Agreement, total nominal value of the financing from the EIB amounts to PLN 6 663 million.

[Signing of a loan agreement with EIB](#)

## 5.2. 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 24.3 to the consolidated financial statements. This note discusses, inter alia the issue of compensation regarding the conversion of shares, issues related to the request by the Polimex-Mostostal consortium for an increase in remuneration for the construction of a CHP plant in Siechnice and environmental decision on the Turów Lignite Mine.

## 5.3. Information concerning the guarantees for loans granted by the company or a subsidiary

During the first half of 2024 PGE S.A. and subsidiaries did not grant guarantees to other entities or to a subsidiary, where a value of guarantees is significant.

In addition, note 14 of the stand-alone financial statements describes PGE S.A.'s significant liabilities under guarantees and sureties as well as guaranties securing exchange transactions.

## 5.4. Information on issue, redemption and repayment of debt securities and other securities

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

## 5.5. Transactions with related entities

Information about transactions with related entities is presented in note 26 to the consolidated financial statements. In addition, note 6 to the consolidated financial statements indicates that PGE CG accounts for inter-segment transactions as if they related to unrelated parties - on an arm's length basis.

## 5.6. Publication of financial forecasts

PGE S.A. did not publish financial forecasts.

## 5.7. Significant off-balance sheet items

Significant off-balance sheet items are described in notes 24 and 11 to the consolidated financial statements.

## 5.8. Factors which, in the issuer's opinion, will have an impact on its results over at least the next quarter

In the first half of 2024, apart from the events indicated in the other sections of this report, there were no other factors that, in the issuer's opinion, will affect its results in the perspective of at least the next quarter.

## 5.9. Agreements and other information important for the assessment of the personnel and financial situation, financial result of the PGE Capital Group and their changes, as well as information important for the assessment of the Group's ability to fulfil its obligations

In the first half of 2024, apart from the events indicated in the other sections of this report, there were no other events that are important for the assessment of the personnel and financial situation, financial result of the PGE Capital Group and their changes, as well as for the assessment of the Group's ability to fulfil its obligations.

## 6. 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 half-yearly financial report, containing interim condensed consolidated financial statements of PGE Capital Group, interim condensed standalone financial statements for PGE S.A. and comparative data were prepared in accordance with the governing accounting principles, present a fair, true and reliable view of the material and financial situation of PGE Capital Group and its financial result.

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

## 7. Statement on the entity authorised to audit the financial statements

The Management Board of PGE S.A. declares that the auditing company, which reviews the interim consolidated financial statements and interim condensed standalone financial statements for PGE S.A., was appointed in accordance with provisions of the law. The entity and the statutory auditors, who performed the review, fulfilled all the requirements for issuing an unbiased and independent report on the review, in accordance with the governing provisions and professional standards.

## 8. 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 September 10, 2024.

Warsaw, September 10, 2024

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

**President  
of the Management  
Board**

**Dariusz Marzec**

**Vice-President  
of the Management  
Board**

**Maciej Górski**

**Vice-President  
of the Management  
Board**

**Przemysław Jastrzębski**

**Vice-President  
of the Management  
Board**

**Robert Kowalski**

**Vice-President  
of the Management  
Board**

**Marcin Laskowski**

## 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	Energy Regulatory Office (pol. URE).
EUA	European Union Allowances: transferable CO <sub>2</sub> emission allowances; one EUA allows an operator to release one tonne of CO <sub>2</sub> .
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 GW = 10 <sup>9</sup> W.
GWe	one gigawatt of electric capacity.
GWt	one gigawatt of heat capacity.
HCl	hydrogen chloride.
Hg	mercury.
HICP	Harmonised Index of Consumer Prices
High Voltage Network (HV)	a network with a nominal voltage of 110 kV.
IED	Industrial Emissions Directive
IGCC	Integrated Gasification Combined Cycle.
Installed capacity	the formal value of active power recorded in the design documentation of a generating system as being the maximum achievable capacity of that system, confirmed by the acceptance protocols of that system (a historical value, it does not change over time).
IRGiT	Izba Rozliczeniowa Giełd Towarowych S.A. (commodities clearing house)
IRZ	Cold Intervention Reserve Service – service consisting of maintaining power units ready for energy production. Energy is produced on request of PSE S.A.
ITRE	European Parliament Committee on Industry, Research and Energy
KRI	Key Risk Indicator
KSE	the National Power System, a set of equipment for the distribution, transmission and generation of electricity, forming a system to allow the supply of electricity in the territory of Poland.
KSP	the National Transmission System, a set of equipment for the transmission of electricity in the territory of Poland.
kV	kilo volt, an SI unit of electric potential difference, current and electromotive force; 1kV= 103 V.
kWh	kilowatt-hour, a unit of electric energy in the SI system defined as the volume of electricity used by the 1 kW equipment over one hour. 1 kWh = 3,600,000 J = 3.6 MJ.

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 MW = 10 <sup>6</sup> 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 of 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 m <sup>3</sup> 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 Scheduling Units (JGWa) in operation or layover, representing excess capacity over electricity demand available to the TSO under the Energy Sale Agreements and on the Balancing Market in the unforced generation
Peak, peakload	a standard product on the electricity market; a constant power supply from Monday to Friday, each hour between 7:00 a.m. and 10:00 p.m. (15-hour standard for the Polish market) or between 8:00 a.m. and 8:00 p.m. (12-hour standard for the German market) in a given period, for example week, month, quarter or year.
Peak power pumped storage plants	special type of hydro-power plant allowing for electricity storage. It uses the upper reservoir, to which water is pumped from the lower reservoir using electricity (usually excessive in system). The pumped storage facilities provide ancillary control services for the national power system. In periods of increased demand for electricity, water from the upper reservoir is released through the turbine. This way, electricity is produced.
PJ	Petajoule, a unit of work/heat in the SI system, 1 PJ = approx. 278 GWh
Property rights	negotiable exchange-traded rights under green and co-generation certificates
Prosumer	end customer who purchases electricity under a comprehensive agreement and generates electricity only from renewable sources at a micro-installations for own purposes, unrelated to economic activities
PSCMI1	Polish Steam Coal Market Index 1 - average level of prices of coal dust sold to industrial-scale power plants in Poland
RAB	Regulatory Asset Base.
Red certificate	a certificate confirming generation of electricity in co-generation with heat.
Red energy	popular name for electricity co-generated with heat.



Regulator	the President of ERO, fulfilling the tasks assigned to him in the energy law. The regulator is responsible for, among others, giving out licenses for energy companies, approval of 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.
SCR	Selective catalytic reduction
Start-up	early-stage company established in order to build new products or services and characterised by a high level of uncertainty. The most common features of start-ups are: short operational history (up to 10 years), innovativeness, scalability, higher risk than in the case of traditional businesses but also potential higher returns on investment
Tariff	the list of prices and rates and terms of application of the same, devised by an energy enterprise and introduced as binding on the customers specified therein in the manner defined by an act of parliament.
Tariff group	a group of customers off-taking electricity or heat or using services related to electricity or heat supply to whom a single set of prices or charges and terms are applied.
TGE	Towarowa Giełda Energii S.A. (Polish Power Exchange), a commodity exchange on which trading can take place in electricity, liquid or gas fuels, extraction gas, emission allowances and property rights whose price depends directly or indirectly on electric energy, liquid or gas fuels and emission allowances, admitted to commodity exchange trading.
TPA, TPA rule	Third Party Access, the owner or operator of the network infrastructure to third parties in order to supply goods/services to third party customers.
Transmission 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-term security of operation of that system, the operation, maintenance, repair and indispensable expansion of the transmission system, including connections with other gas or power systems. In Poland, for the period from July 2, 2014 till December 31, 2030 Polskie Sieci Elektroenergetyczne S.A. was chosen as a TSO in the field of electricity transmission.
TWh	terawatt hour, a multiple unit for measuring of electricity unit in the system SI. 1 TWh is $10^9$ kWh.
Ultra-high-voltage network (UHV)	an energy network with a voltage equal to 220 kV or higher.
V (volt)	electrical potential unit, electric voltage and electromotive force in the International System of Units (SI), $1 \text{ V} = 1 \text{ J}/1 \text{ C} = (1 \text{ kg} \times \text{m}^2) / (\text{A} \times \text{s}^3)$ .
W (watt)	a unit of power in the International Systems of Units (SI), $1 \text{ W} = 1 \text{ J}/1 \text{ s} = 1 \text{ kg} \times \text{m}^2 \times \text{s}^{-3}$ .
Yellow certificate	a certificate confirming generation of energy in gas-fired power plants and CCGT power plants.
Yellow energy plants	popular name for energy generated in gas-fired power plants and CCGT power plants.
ZHZW	Commercial Management of Generation Capacities.